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FORMER JACKSON BRICKWORKS
TEN ACRES LANE

NEWTON HEATH
GREATER MANCHESTER

R1077/08/3328
INTERPRETATIVE REPORT

FEBRUARY 2008

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(Signature & Date)	
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FOREWORD

This report contains a description of the site at the time of the fieldwork, results of the desk study searches, fieldwork and laboratory testing undertaken, strata encountered, engineering and contamination laboratory test results, ground gas and ground water monitoring and an interpretative assessment of the ground conditions with regards to the proposed redevelopment.

This report is confidential and is written solely for the benefit of KPMG and its representatives and agents. Any comments given are based on the understanding that the any proposed redevelopment will be as detailed within this report. This report has been prepared following a ground investigation which took place as described within this report. Additional information, improved practices, new guidance, changes in legislation or provision of detailed layout and design proposals will necessitate this report having to be reviewed in whole or in part after that date.

The assessment made in this report is based on the information obtained during this investigation. There may be special conditions appertaining to the site, however, which have not been revealed by the investigation and which, therefore, have not been taken into account in this report.

It should be appreciated that any desk study information is not necessarily exhaustive and that further information relevant to the proposed site usage may be available.

The accuracy of any map extracts cannot be guaranteed and it should be recognised that different conditions on site may have existed between and subsequent to the various map surveys.

Whilst the report may express an opinion on possible configurations of strata between or beyond the exploratory holes or on the possible presence of features based on either visual, verbal or published evidence, this is for guidance only and no liability can be accepted for its accuracy.

It should also be noted, that any ground gases and contaminants monitored and analysed for are those most likely to give rise to the principal hazards for the proposed use of the site. However, no liability can be accepted for the presence of contaminants, explosive or toxic gases not analysed for.

The comments on ground conditions are based on observations made at the time of the investigation, unless otherwise stated. It should be noted, however, that ground water levels vary due to seasonal or other effects.

Any qualitative risk assessment included in this report considers the significance of any contamination based on generic standards for the stated end use, together with an assessment of the presence of a pollutant linkage between sources, pathways and receptors. A qualitative assessment of low or insignificant risk does not imply that elevated concentrations of various determinands are not present compared to background or ‘green field’ conditions. A different assessment may apply if a different end use were proposed. It should also be acknowledged that institutional bodies may consider the presence of ‘contaminants’ in other ways regardless of whether an apparent risk is present based on defined sources, pathways and receptors.

EXECUTIVE SUMMARY

Celtic Technologies Limited (Celtic) was commissioned by KPMG to undertake an assessment of the former Jackson Brickworks/The Ten Acres Lane site. The objectives of these works was to provide a report detailing ground conditions and indicate requirements ('Development Abnormals') associated with prospective redevelopment of the site for a residential end use with flats, houses with gardens and some commercial units.

The 18 Ha site is a former brickworks with associated large clay extraction pits. It is now a large area of derelict land in Newton Heath, historic clay pit areas have subsequently been in-filled with variable wastes and two concrete bases remain from former buildings. The site is now generally flat lying with some areas of fly tipped materials, surface cover consist of variable semi mature vegetation as well as significant Japanese Knotweed Stands.

The ground investigation included cable percussive, windowless sampling and rotary drilling methods as well as trial pitting and a geophysical investigation. Data has been subjected to risk assessment and interpretation although no details of development design or layout is known at this stage.

Ground conditions comprised the following:

- Variable surface cover of grasses shrubs and semi-mature trees as well as some fly-tipped materials and areas of hard-standing.
- Significant thicknesses of variable made ground, extending from a minimum of 0.5m to a maximum in some areas of approximately 10m.
- Glacial deposits consisting of Clays, Boulder Clays and Sands and Gravels.
- Deep bedrock of brown mudstone and sandstone

Groundwaters were encountered at shallow depths within made ground and shallow granular glacial deposits, these are thought to be a minor perched water bodies. Deeper groundwater was encountered within the bedrock confined by a significant thickness of low permeability glacial deposits above.

The report should be read in its entirety in order to assess constraints and issues relating to development, but the main issues can be summarised as follows:

- **General setting** – the site derelict with open access to the public (i.e. it is not completely fenced). Issues of health and safety should be considered with respect to public safety given the nature of the site and potential physical and chemical hazards.
- **Invasive Weeds** – the site is significantly impacted by Japanese Knotweed and this may have resulted in large volumes of ground being impacted by Japanese Knotweed rhizomes. This is likely to significantly influence the strategy, phasing and cost of remediation of the site.

- **Chemical Contamination** Ground at the site is impacted by chemical contamination. Laboratory analysis indicates the presence of organic contamination, dominantly TPH, but PAHs also, as well as metals, sulphates and other non-organic contaminants. Contamination was generally found as hotspot areas within shallow made ground deposits whilst some hotspots extended into deeper made ground. Contaminant levels where found to be low or insignificant within deeper natural ground. Water analysis revealed shallow waters on site to be generally clean with some elevated TPH in a small number of wells. Deeper groundwater was found to be generally of good quality.

- **Ground Conditions** The Made Ground on the site in its current state is not considered to be a suitable founding strata due to its variability in composition and state of compaction (both granular and cohesive layers) and therefore unacceptable total and differential settlements are likely under loaded conditions. Based on the nature of the Made Ground encountered on the site, it is considered that ground improvement using dynamic compaction methods could be considered to treat the Made Ground materials across the majority of the site and render it suitable for use of shallow reinforced strip or pad foundations. In addition, depending upon final layout and design, piled foundations may be necessary for parts of the site. Alternative ground improvement methods may be suitable dependant upon finalised development plans and layout.

- **Ground gas levels** at the site were variable but generally low, although high concentrations of methane and carbon dioxide were detected in a few locations. Further ground gas monitoring will be necessary in order to determine possible soil gas protection measures in future buildings.

Development costs will be dependant upon addressing the above issues in cooperation with the Regulators (Environment Agency and Local Authority) who have not been consulted by Celtic to date (with the exception of preliminary Environment Agency discussions prior to the intrusive investigation). Additional issues such as final site levels, drainage, services, phasing, constraints (e.g. ecological), remediation methods, requirements for further monitoring and validation are also likely to significantly influence development costs for the site and these will be further influenced by final site (development) layout.

1 INTRODUCTION AND OBJECTIVES

Celtic Technologies Limited (Celtic) was commissioned by KPMG to undertake a site investigation, risk assessment and evaluation of the Former Jackson Brickworks Site, Newton Heath. The main purpose of the investigation was to aid the assessment of requirements for remediation particularly relating to the potential development of the site for residential and commercial use, although the development layout is not known at this stage.

2 SITE DESCRIPTION

2.1 General

The former Jackson Brickworks site also known as Ten Acres lane, off Ten Acres Lanes, Newton Heath comprises approximately 18 Hectares (45 acres) of derelict land. It is understood that the site will be developed for mixed use including residential (some with gardens), commercial and open space features.

The site is situated in a part-residential, part-commercial setting with a canal and associated toe-path forming its northern boundary. Residential properties, a sports centre (in the south east) and a school (in the south west) exist at the southern boundaries of the site. There are also several industrial buildings and factories, located in an industrialised area on the opposite side of the Rochdale Canal, to the north of the site.

The site is generally flat-lying falling gently from the north east to the south west, with occasional mounds of materials probably associated with fly-tipping. There is some fencing around parts of its boundary, but most of the site is freely accessible to the Public and indeed regularly crossed by children and others. Vegetation including trees and shrubs cover large portions of the site and approximately 10% of the site area is infested with Japanese Knotweed. Small parts of the central area of the site could not be fully investigated due to the presence of thick vegetation.

Construction of the Brick Works occurred at the site in 1908 and housed two relatively large brick built buildings; one building at the eastern site boundary and the other close to the western boundary on Ten Acres Lane. A concrete base slab and tarmac road are the only current evidence of the former buildings which were formerly demolished between the period of 1982 and 1987. From the 1950's, extensive excavation of clay pits to the west and south of these pre-existing brickworks with substantial areas of further dig to the east occurred at the site. These extraction areas can be observed on the historic aerial photograph in Appendix A. A tramway and two reservoirs can also be seen in the photographs in areas south west of the former brick works.

The Celtic desk study (R1077/06/2958) outlines in full detail the historic setting and history of the site. The Desk Study (R1077/06/2958) indicates that the majority of the site was excavated as clay pits for brick-making with brickworks situated at the eastern and western ends of the site. During most of the 20th century these clay extraction pits were in-filled, then other areas excavated and subsequently in-filled, etc. and indeed historical maps and aerial photographs show that the clay pits extended throughout the site (and beyond across the western and southern site boundaries). Indeed the site Waste Management License allowed the site to take 'construction / demolition waste, Foundry Sand, Industrial Non Hazardous Wastes and Boiler / Flue Cleanings wastes.

2.2 Report Structure

This report details the results of the intrusive site investigation and monitoring, including soil, groundwater and gas assessment. A full Japanese Knotweed survey is included (see section 5) Sections 6 to10 comprise a risk assessment of the results whilst later section of the report details remediation requirements

3 SITE WORK

3.1 General

Site works included boreholes and trial pits, field observations and sampling for laboratory analysis. On site testing was also included and following the borehole installation, soil gas and groundwater was monitored. A site level survey was also undertaken in order to determine accurate locations of the sampling points.

Sampling was facilitated by the inclusion of twenty-two windowless sampling borehole positions, twenty cable percussive boreholes, seventy trial pit locations, two trial trenches and 6 rotary boreholes . The locations of the exploratory holes were chosen in order to investigate the ground conditions relatively evenly across the site as well as specifically targeting the boundaries of the site. Final positions of exploratory holes were dependent upon access and avoidance of invasive weed species.

Fieldwork was generally carried out in accordance with BS5930 (1999) "Code of Practice for site investigations", BS10175 (2001) "Investigation of potentially contaminated sites – Codes of Practice", the Association of Geo-Technical and Geo- environmental Specialist Guidelines for Good Practice in Site Investigations (August 1998) and supervised by an experienced Engineering Geologist.

3.2 Surveying

All exploratory hole positions were decided upon approximately before site works began so that an even coverage of the site was achieved. Due to the nature of the site a GPS was used to approximately position exploratory holes.

Following the site works all positions were accurately surveyed by a qualified surveyor from Tower Surveys Ltd. A copy of the site plan is presented in Appendix A D1077/07/3200 A1.

3.3 Cable Percussive Boreholes

Twenty cable percussive boreholes were formed at the site during the period 17th May and 19th June 2007. Fourteen boreholes were positions across the site in such away to fully asses the ground conditions, with emphasis on understanding the maximum depth profile of Made Ground in the back filled clay pits. Six of the borehole positions were targeted around the edge of the site in areas of probable shallow made ground deposits and then re-drilled using rotary drilling in order to facilitate deep boreholes penetrate the full thickness of the clay .

The cable percussive boreholes were formed utilising a Dando rig and were advanced using equipment to bore 150mm diameter boreholes to the base, approximately 10m below ground level.

In situ Standard Penetration Tests (SPT) was undertaken in all of the boreholes to provide a measure of the relative density of granular Made ground deposits and finer natural deposits. This included SPT testing every metre until 5m bgl followed by one every 1.5m until base.

Disturbed and undisturbed samples were taken from all the boreholes at similar intervals as the SPTs. A selection of these there then utilised for both chemical and geotechnical testing.

On completion of drilling, all boreholes, except those six which would later be used for rotary drilling, were utilised for installation of groundwater monitoring and/or ground gas monitoring. The relative proportions of slotted and plain pipe used in installations was dependent upon ground conditions encountered, generally the installations were slotted at the base of the fill to target any perched water within the fill.

Descriptions and depths of various strata recovered are presented on the borehole records reproduced in Appendix B, together with geotechnical sampling chemical sampling and field observations.

3.4 Windowless Sampling Boreholes

Twenty two windowless sampling boreholes were installed on the site between 14th and 18thMay 2007. The positioning of the windowless sampling positions were distributed across the site to gain an general coverage and also around the site boundaries in order to allow an assessment of cross boundary migration of potential ground gasses.

The boreholes were formed using a dynamic probe rig which was advanced to a depth of between 3-5m below ground level. The variable nature of fill meant often recovery was poor at depths below 3m.

In situ Standard penetration Test were undertaken in approximately two thirds of the positions in order to provide a measure of the relative density of the granular Made Ground deposits and the underlying clay (if encountered). When conducted SPTs were undertaken approximately every metre to the base of the borehole.

Samples for chemical testing were taken at several depths within the recovered windowless sampling material. The number of samples was dependent upon the nature, variability and visual contaminant levels in the recovered materials.

On completion of drilling all the positions were utilised to install borehole installations for shallow ground gas monitoring and also ground water level monitoring. Ground gas and groundwater level monitoring results are presented in the Appendix C.

Descriptions and depths of various strata recovered are presented on the borehole records reproduced in Appendix B, together with geotechnical testing, chemical sampling and field observations.

3.5 Trial Pitting

Seventy trial pits and two trial trenches were undertaken on the site as part of the intrusive investigation to better understand Made Ground conditions encountered and to delineate potential contaminant areas. Trial pits TP: 1-35 were positioned across the site to gain an even coverage, Trial pits TP: 35-70 Trial Trenches TT1 and TT2 where then used to target potential contaminant areas and other areas of interest.

Trial pits were excavated to a maximum depth of 4 to 5 meters below ground level (bgl). The pits were reinstated within approximately half an hour of formation.

Shallow samples were taken from Trial Pits for chemical analysis, the number of samples taken was dependent on the nature and variability of the made ground.

Descriptions and depths of various strata recovered are present in the trail pit records, reproduced in Appendix B.

3.6 Sampling

Disturbed soil samples taken for chemical testing were recovered from several points in all windowless sampling locations and also from some of the deeper cable percussive boreholes. Generally an amber glass jar, a small VOC (volatile organic compound) glass jar and a plastic soil pot were taken for each sample. Sampling was undertaken by an experienced remediation engineer, every care was taken to retain the integrity of the samples taken. Once sampled the containers were placed in cool boxes and forwarded to the laboratory. .

Following purging, groundwater samples were recovered from eleven cable percussive and rotary borehole installations on the 27th June. In addition samples were taken from the adjacent Rochdale Canal. The samples were recovered using Watera groundwater sampling bailers. Each sample was taken in two one litre green glass jars and a small VOC vial provided by the laboratory. The sampling was undertaken by an experienced remediation engineer, every care was taken to retain the integrity of the sample. The sample was placed in a cooler box and sent to the lab for analysis on the same day of sampling.

Geotechnical samples were taken by experienced geotechnical drillers, these included U100's, soil pots and bulk bag samples. The final decision on which samples were scheduled for analysis was taken by a trained geotechnical engineer

3.7 Field Monitoring

Ground gas and groundwater level monitoring was carried out on three occasions between the 26th June and 18th July in the 12 cable percussive boreholes BH1 to BH12 , 5 rotary installations and the twenty two window sampling installations. The standpipes were monitored for gas-flow, methane, carbon dioxide, oxygen, hydrogen sulphide and volatile organic content (VOCs) using a Gas Data GFM 430 series landfill gas analyser and a PhoCheck Photo Ionisation Detector.

Following measurement of soil gas concentrations and gas flow readings, the valve head assembly was removed to allow measurement of groundwater levels and collection of purged groundwater samples. Collection of purged groundwater samples was obtained on the 27th June 2007 from boreholes BH1-3, BH6, BH9-11, R1-3 and R5.

The results of the gas concentration measurements, volatile content, gas flow readings and groundwater level data are presented in Appendix C and are summarised in the appropriate sections in the following report.

4 LABORATORY TESTING

4.1 Engineering Laboratory Testing

Engineering laboratory testing was carried out in general accordance with BS1377 (1990) "method of testing for soils for Civil Engineering purposes" at two separate UKAS accredited laboratories. The following test was scheduled with TES Bretby:

- BRE SD1 Concrete suite

The rest of the geotechnical analysis was conducted by GeoLabs:

- Moisture content
- Atterberg Limits
- Particle size distribution
- Compaction Test- CBR 2.5Kg unsoaked

The engineering laboratory test results are produced in Appendix E of this report.

4.2 Chemical Contamination Testing

Laboratory testing of selected shallow made ground and deeper natural clay was under by ALcontrol Laboratories LTD a UKAS accredited laboratory, in accordance with MCERTS accreditation standards. The samples were analysed for a selection, depending on the sample position, of the following determinands:

- pH
- Asbestos screen (ID)
- Metals- Arsenic, Cadmium, Chromium, Copper, Lead, Mercury, Nickel, Selenium and Zinc
- Boron (water soluble)
- Total sulphate
- Chloride (soluble)
- Sulphate (soluble)
- Sulphide (Acid soluble)
- Sulphur Elemental
- Cyanide (Total)

- TOC
- Total TPH
- Fractionated TPH
- VOCs including TICs
- SVOCs including TICs
- Phenols

Leachate testing was undertaken on a number of samples for all the above determinands except pH and asbestos screen (ID).

Eleven shallow and deep groundwater samples were recovered from the borehole and rotary borehole standpipes and two canal samples were analysed for the following determinands:

- pH
- Ammonia
- Ammonium
- ICRCL Metals
- Ferric Iron
- Ferrous Iron
- TPH CWG
- VOC
- SVOC
- Monohydric Phenols
- Total Cyanide
- COD
- BOD
- Sulphate
- Sulphide
- Chloride
- Manganese

5 RESULTS OF LABORATORY DATA AND SITE MONITORING

5.1 Invasive Weeds

Japanese knotweed was observed on site during the Desk study phase investigations and identified as a constraining issue during preliminary walkovers for the Phase II investigation. As a result a specialist contractor was commissioned by Celtic to conduct a detailed invasive weed survey. The results of which and the accompanying conclusion are outlined in Appendix D, the implications of the presence of the weeds on the sites future development is commented upon in the remediation sections of this report.

5.2 Soil Sample Analysis

A large number of soil samples where taken for chemical analysis by the laboratory during the intrusive stages of the works. The majority of the samples were taken at shallow depths within the fill from trial pits and windowless sampling boreholes to identify and areas of chemical contamination across the site. Samples were also taken from cable percussive boreholes to asses if any chemical contaminants where mobile within glacial deposits at depth. Sufficient samples were taken to gain a vertical and lateral understanding of any potential contaminant areas on the site. Samples were tested for a suite of determinands outlined in Section 4. A full list of results can be found in Appendix E.

Contaminants described below are selected samples from the full list found in the appendices. Those highlighted below are where contaminant levels are found to be above guideline levels for residential properties.

5.3 Shallow Soils (≤ 1 m bgl)

Within the upper meter of the site, laboratory analysis indicates that the made ground is impacted by a number of contaminants at elevated concentrations.

5.3.1 Organic Contamination

Total petroleum hydrocarbons (TPH) where found at various concentrations across the site, however no distinct ‘plume areas’ are easily identified from the results. This however is consistent the conceptualisation of the site and its contaminant sources. Contaminants are thought to be the result of the import of made ground which was already potentially contaminated. Therefore contaminants may have no one ‘point source’, such as a fuel tank, with an associated plume. Concentrations of TPH and also some Polycyclic Aromatic Hydrocarbons (PAH) where found in TP 1, 2, 3, 18, 20, 23 and WS 3, 4, 9, 11, 12, 19, and 22. Elevated concentrations of TPH generally range between 400 to 1000 mg/kg however some areas recorded much higher concentrations. TPH concentrations of particular note include TP 20 at depth 0.9 m bgl recorded 5400 mg/kg, TP 1 at depth 0.3 m bgl recorded 3300 mg/kg , WS 3 at depth 0.5 m bgl recorded 3200 mg/kg, WS 12 at depth 0.5 m bgl recorded 3300 m bgl and WS 22 at depth 0.5 recorded 4000 m bgl.

PAHs are also present across the site but where found generally range up to a maximum of 500mg/kg. Elevated concentrations of PAH where found in the upper meter of the site in TP 1, TP 20, WS 19 and WS 22 with a maximum concentration of 260mg/kg in TP 20 at 0.9 m bgl.

No significant concentration levels of Semi Volatile Organic Compounds or Volatile organic compounds where detected in any of the samples taken across the site.

5.3.2 Inorganic (Metal) Contamination

Concentrations of metals were found with Made Ground samples from the upper meter of the site. As with the organic contaminants, these concentrations do not appear as a 'plume' or 'hotspot' area. Arsenic concentrations ranging between 23 and 89 mg/kg where found in TP 18, 20, 22, 23, 24, 35 WS 2, 4, 10 and BH5 with maximum concentrations of 89 mg/kg recorded in TP 23 (at 0.4 m bgl). Cadmium concentrations were found in TP18 (at 2.6 mg/kg , 0.9 m bgl) and TP20 (at 8.2 mg/kg, 0.9 m bgl). Chromium concentrations were found at 360 mg/kg in TP 20 (at 0.9 m bgl). Copper concentrations were found at 710mg/kg in TP 20 (at 0.9 m bgl) and 1100 mg/kg in TP 23 (at 0.4 m bgl). Concentrations of Lead at 1300 mg/kg were recorded in TP 20 (at 0.9 m bgl). Concentrations of Nickel were found in TP 20, 22, 24, WS 2 and WS 11 with maximum concentrations of 98mg/kg in TP20 (at 0.9 m bgl). Zinc was found at 2300 mg/kg in TP20 (at 0.9 m bgl). Only one sample had shown concentrations of water soluble boron tests above detection limits in shallow ground at 0.5 m bgl (at11 mg/kg, WS2).No above detection limit concentrations of mercury or selenium were recorded from samples analysed.

5.3.2.1 Cyanide

No concentrations of cyanide where detected in the upper meter of the site.

5.3.2.2 Sulphate

Concentrations of sulphate where detected across the site within the upper meter with the highest level of 2100 mg/kg detected in TP6 (at 0.7mbgl).

5.3.2.3 Sulphur

Slightly elevated concentrations of Elemental Sulphur were recorded in the upper meter of the site with a maximum concentrations of 620 mg/kg recorded in TP3 (at 0.3mbgl).

5.4 Deeper Soils (≥ 1 m bgl)

Laboratory analysis revealed that deeper Made Ground across the site was also impacted by a number of contaminants.

5.4.1 Organic Contamination

Concentrations of Total Petroleum Hydrocarbons (TPH) where found across the site within the deeper Made Ground. As with shallow Made Ground, no identifiable 'plume' areas were identified solely on chemical analysis; and it should be noted that chemical analysis supports visual and olfactory field observations on potential contaminant areas. However, other contaminant levels where found in other areas to those identified from visual and olfactory evidence alone. Generally, contaminant concentrations below 1 m coincide with contamination seen in shallower soils.

Concentrations of TPH where found in TP 5, 7, 10, 12, 15, 6, 18, 21, 30, WS16, 18, 19, BH7, 11 and 12. Generally, TPH contaminant concentrations encountered ranged between 500 and 2000 mg/kg with a few higher concentrations in TP 12 (at 9600 mg/kg, 1.7mbgl), WS 18 (19000 mg/kg, 2.3 m bgl) and TP 21 (5400 mg/kg, 1.2 m bgl).

Only two samples tested were found to contain concentrations of PAHs, TP 10 (360 mg/kg, 2.4 m bgl) and TP 12 at 1.7 m bgl- 430mg/kg.

No concentrations of Semi Volatile Organic Compounds or Volatile organic compounds where detected in any of the samples taken across the site.

5.4.2 Inorganic (Metal) Contamination

Concentrations of metals where recorded within deeper Made Ground samples. Arsenic concentrations ranged between 20 mg/kg and 190 mg/kg in TP 4, 5, 6, 9, 10, 12, 18, 21, 46, 66, WS 15, 17, R 3, BH 3,4, and 11. Maximum arsenic concentrations were recorded in WS 6 at 190 mg/kg, 1.5 m bgl. Cadmium concentrations were also found in Made Ground at depth as well as within the upper meter. Cadmium ranged between 1.4 mg/kg and 9.5 mg/kg (in TP 4, 12, 18, 21, 66, WS 12 and WS 17); maximum concentrations of 9.5 mg/kg were recorded in TP21 (at 1.2mbgl). Chromium concentrations were found at 170 mg/kg and 730 mg/kg (in TP 21, 1.2 m bgl and WS 19, 2.6 m bgl, respectively). Notably, chromium concentrations in WS 19 decreased to 25 mg/kg at 4.7 m bgl.

Copper concentrations where found to be elevated at concentrations ranging between 300 mg/kg and 870 mg/kg (in TP 4, 5, 12, 21, 66, WS 21 and BH 11). The maximum concentration of 870 mg/kg was recorded in TP 21 (at 1.2 m bgl).

Lead concentrations on site where found between 510 and 4300 mg/kg (in TP 5, 9, 12, 21 and BH3) with the maximum concentrations of 4300mg/kg in BH3 (5.3-6 m bgl).

Nickel concentrations were recorded in several soils (from TP 5, 21, 66 and WS 19) and ranged from 60 to 360 mg/kg with maximum concentrations of 360 mg/kg recorded in WS19 (at 2.6 m bgl).

Zinc concentrations where found in TP12, 21, WS12 and WS 17 with a maximum concentration of 2700mg/kg recorded in TP 12 at 1.7mbgl.

No notable concentrations of Mercury were found in tested soil samples; and Selenium was found below detection limits (of 3 mg/kg) in all samples tested.

No notable concentrations of Water Soluble Boron were recorded in soils, with exception of 43 mg/kg detected in soils from BH 11 (at 5.6-8.3 m bgl).

5.4.2.1 Sulphate

Concentrations of Sulphate ranging from 2000 mg/kg to 5000 mg/kg were recorded in several samples (from TP5, 10, 15, 21, 46, WS18 and BH11); with maximum concentrations of 38000 mg/kg recorded in TP5 (at 2.4 m bgl).

5.4.2.1 Sulphur

Few samples showed concentrations of Elemental Sulphur, with exception of soils sampled from TP9 (at 1.4mbgl.) which showed concentrations of 7400 mg/kg.

5.5 Natural Soil Deposits

Natural glacial till deposits of clays, boulder clays and coarse sands and gravels were observed and sampled in Trial Pits, Windowless Sampling Boreholes and Cable Percussive Boreholes. In total, 21 Glacial Till samples where sampled and analysed; 8 out of the 21 samples were taken in Cable Percussive boreholes at significant depth below Made Ground deposits. The remaining thirteen samples where taken from Trial Pits and Windowless Sampling Boreholes at shallow depths within the glacial deposits.
Most of the samples tested for TPH had shown concentrations below detection limits with highest levels recorded at 440 mg/kg (in TP2, 0.7mbgl). No elevated PAHs, VOCs and SVOCs were recorded in any of the natural samples tested. Most samples tested for metals had shown concentrations close to detection limits, and no significant concentrations were found in soils.

5.6 Asbestos

Thirty made ground samples were analysed for asbestos screen. No asbestos fibres were found in any of the samples tested. From visual observations only one area in the east of the site was identified as potentially containing asbestos. This is around the area of the previous brickworks buildings and is likely to have arisen from its demolition. However it is also likely given the volume of made ground on site that there are other areas of potentially asbestos containing materials on site.

5.7 Leachate Analysis

Approximately, ten samples were analysed for leachate to determine the leachabilty of dissolved concentrations in made ground and potential impact on ground waters. Only three analytes (boron, nickel and sulphate) were detected at concentrations above EQS (freshwater) standards and/or UK Drinking Water Standards. A summary of the leachate analysis is presented in Section 7.4.

5.8 Ground Water

Ground water levels were monitored on two separate occasions on the 11/7/07 and 24/7/07. All installations were monitored by a competent CELTIC site engineer. Shallow perched groundwater was monitored in all Windowless installations and Cable Percussive installations. Installations in rotary holes were used to assess deeper groundwater below the clay. Table 1, below, summarises results from these monitoring rounds.

Table 1- Shallow/Perched Groundwater Data

Borehole	Northing	Easting	Position (AoD)	Ground Water Level (*mbgl*)		Ground Water Level (*m AoD*)	
			Date	11/07/2007	23/07/2007	11/07/2007	23/07/2007
BH1	387497.6	400160.8	78.46	3.05	3.08	75.41	75.38
BH2	387662.4	400238.4	80.06	3.62	3.62	76.44	76.44
BH3	387804.9	400274.9	78.87	4.19	4.19	74.68	74.68
BH5	387778.1	400422	78.22	7.1	6.99	71.12	71.23
BH6	387611.1	400408.5	80.37	3.76	3.75	76.61	76.62
BH8	387390.2	400299.5	77.62	1.79	1.77	75.83	75.85
BH9	387272.6	400187.1	75.32	1.71	1.7	73.61	73.62
BH10	387501.7	400247	80	2.54	2.53	77.46	77.47
BH11	387609.8	400284.6	80.31	4.06	4.06	76.25	76.25
BH12	387775.1	400353.5	81.2	5.1	4.99	76.1	76.21
WS1	387531.8	400052	79.06	0.45	0.44	78.61	78.62
WS2	387638.9	400125.6	80.09	0.52	0.51	79.57	79.58
WS3	387681.4	400161.1	80.82	0.92	0.92	79.9	79.9
WS4	387740.7	400196.5	81.1	0.62	0.62	80.48	80.48
WS5	387765	400213.3	81.14	0.4	0.38	80.74	80.76
WS7	387925.6	400332	84.3	1.2	1.19	83.1	83.11
WS8	387879	400434.3	85.6	0.91	0.91	84.69	84.69
WS9	387795.4	400478.4	85.05	0.72	0.7	84.33	84.35
WS10	387632.7	400453.5	84.07	2.1	2	81.97	82.07
WS11	387502.3	400398.7	83.08	1.5	1.52	81.58	81.56
WS12	387346.6	400328.7	79.12	4.6	4.58	74.52	74.54
WS13	387270.3	400246.3	77.35	1.42	1.42	75.93	75.93
WS15	387300.2	400189.2	77.3	1.6	1.58	75.7	75.72
WS16	387364	400224.6	78.7	2.53	2.5	76.17	76.2
WS17	387440.1	400114.6	79.17	0.73	1.42	78.44	77.75
WS18	387491.5	400181	81.5	1.5	0.78	80	80.72
WS19	387734.1	400314.3	85.62	1.95	1.94	83.67	83.68
WS22	387775.1	400353.5	86.3	3.46	3.4	82.84	82.9

The highest groundwater elevation level recorded above ordinance datum occurred in WS8 in the North East of the site; and the lowest elevation levels were recorded in BH9,in the West South West of the site. Shallow/perched groundwater levels are in consistency with the dip of local site topography. In comparison to Made Ground profiles (*as discussed in section 6.2 and recorded in Appendix G*), it appears that there is a close correlation between ground water elevation levels and Made Ground depths. However, it should be noted that the water depth profiles also include water strikes within shallow glacial till deposits. Therefore, the shallow water depth profile is probably affected by the depth of the Made Ground and the almost impermeable nature of the clay below. However, as the glacial deposits are occasionally granular and not uniformly impermeable, a perched water scenario can not be assumed to occur consistently across the site.

5.8.1 Deep Groundwater

Exact water strikes at depth in the bedrock could not easily be determined due to the nature of the rotary drilling. Water levels rose from 5.5 m bgl to 0.7 m bgl. During well installation suggesting that the major Sandstone/Mudstone aquifer is confined by the above drift deposits.

Table 2, below, summarises the screened soils horizons and water strikes within shallow wells of the drilled Cable Percussive boreholes:

Table 2-Water Strikes

Borehole	Strike and Behaviour	Horizon
BH1	3.9m no rise	SAND+GRAVEL
BH2	5.3m no rise	Ash clay rubble fill
	7.2m rise to 6.8m after 20mins	Sandy CLAY with SAND bands
BH3	5.3 rising to 4.6m after 20mins	Ash rubble fill
BH4	7.1m no rise	SAND with occasional GRAVEL
BH5	No strike	
BH6	3.2m no rise	Soft clay fill
	5.8m rising to 3.9m after 20minutes	Dense SAND and GRAVEL
BH7	3.8m no rise	Ash rubble fill
BH8	No strike	
BH9	2.4m no rise	Ash rubble fill
BH10	3.2m rising to 2m	Brick, stone, ash rubble fill
BH11	4.2m rising to 3.1m after 20minutes	Clay rubble fill
BH12	No strike	
BH13	No strike	
BH14	No strike	
BH15	No strike	

No non-aqueous phase liquid (NAPL) was encountered during the field-works. No visual or olfactory evidence of hydrocarbon contamination was noted within the water strikes.

Eight water samples were taken from the Cable Percussive Boreholes (in BH1, 2, 3, 6 , 8, 9, 10, 11). Of these eight boreholes, four of the installations targeted Made Ground whilst other wells targeted shallow water strikes within granular drift deposits. BH3, 6, 10 and 11 installations extend to the base of the fill and therefore target ground waters perched on top of glacial drift deposits. The rest of the cable percussive installations aimed to target shallow water strikes within granular glacial deposits.

The results of the analysis are summarised in the Table 4, below, whilst the full recording of results can be found in Appendix E.

Table 3-Rotary Groundwater Levels

Rotary Hole	Ground Water mbgl 11/07/2007	Ground Water mbgl 23/07/2007
R1	4.62	4.61
R2	0.92	0.91
R3	5.5	5.4
R4	Blocked	Blocked
R5	0.7	0.7

Table 4-Groundwater Analysis Results

Determinand	Units	BH1	BH2	BH3	BH6	BH8	BH9	BH10	BH11	R1	R2	R3	R5
pH Value	pH Units	7.92	7.51	7.45	7.57	7.80	7.88	7.92	8.08	7.89	7.81	7.77	10.64
Metals													
Arsenic Dissolved (ICP-MS)	ug/l	2	2	11	1	<1	2	4	4	<1	2	2	3
Boron Dissolved (ICP-MS)	ug/l	1600	1100	440	180	160	580	2100	6100	1200	1700	280	86
Cadmium Dissolved (ICP-MS)	ug/l	<0.4	<0.4	<0.4	<0.4	0.5	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4
Chromium Dissolved (ICP-MS)	ug/l	6	13	8	5	5	10	13	10	9	7	6	33
Copper Dissolved (ICP-MS)	ug/l	<1	2	<1	<1	22	2	5	<1	<1	2	<1	64
Lead Dissolved (ICP-MS)	ug/l	<1	1	<1	<1	<1	<1	1	1	<1	<1	<1	<1
Manganese Dissolved (ICP-MS)	ug/l	3100	1700	2100	3100	640	110	400	700	660	230	530	<1
Nickel Dissolved (ICP-MS)	ug/l	8	11	6	10	10	10	4	6	4	9	4	17
Selenium Dissolved (ICP-MS)	ug/l	4	8	<1	2	<1	3	4	1	1	4	<1	29
Zinc Dissolved (ICP-MS)	ug/l	<3	14	5	18	52	<3	<3	<3	<3	34	<3	<3
Mercury Dissolved (CVAA)	ug/l	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Iron Dissolved	mg/l	0.57	0.28	0.25	0.10	0.18	1.2	0.21	0.14	0.17	0.14	0.18	<0.05
Ferric Iron	mg/l	0.6	0.3	0.3	0.1	0.2	1.2	0.2	0.1	0.2	0.1	0.2	<0.1
Ferrous Iron	mg/l	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
BOD	mg/l	6	<1	<1	2	<1	<1	13	9	3	48	<1	32
COD	mg/l	520	100	87	190	370	320	140	170	43	2900	120	120
Sulphate (soluble)	mg/l	140	520	110	47	300	320	51	26	170	150	230	460
Chloride	mg/l	43	73	11	11	9	73	53	28	19	33	23	30
Sulphide	mg/l	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Total Ammonia as NH3	mg/l	1.3	0.4	0.9	0.6	<0.2	<0.2	8.7	5.8	0.5	0.4	0.6	<0.2
Total Ammonium as NH4	mg/l	1.4	0.4	0.9	0.6	<0.2	<0.2	9.4	6.2	0.5	0.4	0.6	<0.2
Phenols Monohydric	mg/l	0.01	<0.01	0.02	0.02	0.01	0.02	<0.01	<0.01	0.05	<0.01	<0.01	<0.01
Total Cyanide	mg/l	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05

Table 5-Groundwater Analysis Results (continued)

Determinand	Units	BH1	BH2	BH3	BH6	BH8	BH9	BH10	BH11	R1	R2	R3	R5
Organics													
GRO (C4-C12)	ug/l	<10	<10	<10	<10	<10	<10	<10	34	<10	<10	<10	<10
TPH (CWG)	ug/l	<10	<10	<10	<10	<10	<10	<10	97	<10	<10	<10	<10
Total PAH	ug/l	<16	<16	<16	<16	<16	<16	<16	<16	<16	<16	<16	<16
Benzo(a)pyrene	ug/l	<1	<1	<1	<1	<1	<1	<1	<1	<1	NDP	<1	<1
Naphthalene	ug/l	<1	<1	<1	<1	<1	<1	<1	<1	<1	NDP	<1	<1
Total SVOC	ug/l	**<24**	**<24**	**<24**	**<24**	**<24**	**<24**	**<24**	**<24**	**<24**	**NDP**	**<24**	**<24**
Total VOCs	ug/l	<61	<61	<61	<61	<61	<61	<61	<61	<61	<61	<61	<61
Benzene	ug/l	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Toulene	ug/l	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Ethylbenzene	ug/l	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
o-Xylene	ug/l	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1

The results of analysis of the water samples from the cable percussive boreholes suggest that there is no significant contaminants leaching from made ground deposits to the shallow and perched groundwaters. Volatile and semi Volatile Organic compounds, PAH's were all below detection limits in all of the installations. Total Petroleum Hydrocarbon was also below detection limits in all the shallow installations except BH11 were a level of 97 microgrammes /l was recorded.

5.9 Ground Gas

Ground Gas data results from three separate monitoring rounds can be found in Table 7, 8 and 9. Currently, there are no statutory threshold limits in the UK for hazardous gases in the ground. However, the CIRIA 659 publication (in 2007) details a risk based approach based on the Wilson and Card 'Reliability and Risk in Gas Protection Design' for the identification of gas protection for a low-rise housing development by comparing the measured gas emission rates to generic 'Traffic Lights.' In Table 6, Typical Maximum Concentrations (TMC) are provided under the Traffic Lights for initial ground gas screening purposes and risk-based Gas Screening Values (GSVs) for consideration for situations where these maximum concentrations are exceeded. These calculations should be carried out for both methane and carbon dioxide and the worse case adopted in order to establish the appropriate protection measures.

Table 6 NHBC Traffic Light System (CIRIA 659)

Traffic Light	Methane[1]		Carbon Dioxide[1]	
	Typical Maximum Concentration (% v/v)	Gas Screening Value, GSV[1,2] (L/hr)	Typical Maximum Concentration (% v/v)	GSV[2] (L/hr)
Green	1	**0.16**	5	**0.78**
Amber 1	5	**0.63**	10	**1.56**
Amber 2	20	**1.56**	30	**3.13**

1. Generic GSVs are based on guidance contained within latest revision of Department of the Environment and the Welsh Office (2004 edition) "The Building Regulations: Approved Document C" and used a sub-floor void of 150mm thickness;
2. The GSV, in litres per hour, is as defined in Wilson and Card (1999) as the bore hole flow rate multiplied by the concentration in the air stream of the particular gas being considered.

The worst ground gas scenario is based on highest concentrations of monitored methane or carbon dioxide levels are screened against the 'Traffic Light' and GSV in the risk assessment. In certain circumstances, however, the TMC concentrations can be exceeded on the basis of professional judgement and understanding of the site specific gas-regime (where monitoring in the worst temporal conditions has occurred) and the conceptual site model.

The method used to develop the GSV's is based on a number of assumptions regarding the proposed structures, and designers should also ensure that these assumptions are appropriate to their site. It is important to recognise that the GSV is only a guideline value and not an absolute threshold. Thus, the GSV quoted in the table above can be exceeded in certain

circumstances with completion of a detailed gas risk assessment taking into account the site-specific conditions.

Table 7-Ground Gas Data 27/06/2007

Borehole	Methane (%)	Carbon Dioxide (%)	PID (ppm) (indicator of VOCs)	Oxygen (%)	Gas Flow Rate (l/h)
Ws1	0	0.3	0	19.7	0
Ws2	0	0.8	0	18.5	0
Ws3	0	1.5	0	12.9	0
Ws4	0	5.5	0	5	0
Ws5	0	4.5	0	12.7	0
Ws6	0	0.7	0	19.6	0
Ws7	0	1.4	0	17.7	0
Ws8	0	1.6	0	18.8	0.6
Ws9	7.4	13.5	0	0	0
Ws10	0	6.3	0	12.6	0
Ws11	0	1.1	0	19.5	0
Ws12	0	5.7	0	9.9	0
Ws13	0	3.1	0	14.9	0
Ws14	0	0.2	0	20.5	0
Ws15	0	1.9	0	17.7	0
Ws16	0	2.6	0	17	0
Ws17	0	1.8	0	17.9	0
Ws18	0.7	8.5	0	10.3	0
Ws19	0	0.6	0	19.6	0
Ws20	0	9.8	0	0	0
Ws21	0.7	1.3	0	6.8	0
Ws22	0	8.4	0	8.9	0
BH1	30.5	1.3	0	3.7	0
BH2	0	1.1	0	18	0
BH3	0	0	0	20.9	0
BH4	0	0	0	21	2.3
BH5	0	0	0	20.6	0
BH6	0.2	0.5	0	18.7	0
BH7	0	1.1	0	18.7	0
BH8	0	0.9	0	18.4	0
BH9	0	0	0	19.1	0
BH10	9	7.6	0	6	0
BH11	5.7	3.4	0	1.2	0
BH12	0	5.7	0	9.9	0

Table 8-Ground Gas Data 11/7/2007

Borehole	Methane (%)	Carbon Dioxide (%)	PID ppm (indicator of VOCs)	Oxygen (%)	Gas Flow Rate (l/h)
Ws1	0	0.2	0	18.3	0.1
Ws2	0	0.5	0	20.1	0
Ws3	0	0.3	0	19.9	0
Ws4	0	0.3	0	7.9	0
Ws5	0	5.2	0	5	0
Ws6	0	4.4	0	12.7	0
Ws7	0	0.2	0	19.3	0
Ws8	0	3.3	0	15.4	0
Ws9	0	9	0	10.6	0
Ws10	0.4	1.3	0	16.6	0
Ws11	0	6.1	0	12.6	0
Ws12	0	1.1	0	19.5	0
Ws13	0	1.9	0	16.3	0
Ws14	0	0.9	0	17	0
Ws15	0	0.1	0	20.3	0
Ws16	0	1.5	0	18	0
Ws17	0	2.4	0	18.1	0
Ws18	0	0.6	0	19.9	0
Ws19	2.3	7.5	0	6.7	0
Ws20	0	0.7	0	19.6	0
Ws21	0	9.6	0	13.2	0
Ws22	0.8	1.3	0	6.8	0
BH1	0	8.4	0	8.9	0
BH2	19.5	2.2	0	4	0
BH3	0	0.2	0	19.7	0
BH4	0	0	0	20.6	0
BH5	0	0	0	21	2.3
BH6	0	0	0	20.6	0
BH7	0.3	0.6	0	17.9	0
BH8	0	0.6	0	18.6	0
BH9	0	0.2	0	19.8	0
BH10	0	1.9	0	16.7	0
BH11	15.4	8.3	0	3.9	0
BH12	6.6	3.2	0	1.4	0

Table 9-Ground Gas Data 23/7/2007

Borehole	Methane(%)	Carbon Dioxide (%)	PID ppm (indication of VOCs)	Oxygen (%)	Gas Flow Rate (l/hr)
Ws1	0	0.4	0	19.3	0.1
Ws2	0	0.8	0	19.1	0
Ws3	0	1.7	0	13.4	0
Ws4	0	5.3	0	7	0
Ws5	0	5.2	0	11.9	0
Ws6	0	0.9	0	19.4	0
Ws7	0	1.5	0	17.4	0
Ws8	0	1.8	0	17.9	0
Ws9	7.6	14.3	0	0	0
Ws10	0	5.5	0	12.9	0
Ws11	0	1.3	0	19.6	0
Ws12	0	5.7	0	10	0
Ws13	0	3.2	0	14.8	0
Ws14	0	0.3	0	20.3	0
Ws15	0	1.9	0	17.8	0
Ws16	0	2.6	0	18	0
Ws17	0	8.7	0	10.7	0
Ws18	0.8	2.8	0	18	0
Ws19	0	0.8	0	14	0
Ws20	0	9.4	0	6.5	0
Ws21	0.8	1.3	0	13.2	0
Ws22	0	8.5	0	3.8	0
BH1	20.9	2	0	19.5	0
BH2	0	0.3	0	20.7	0
BH3	0	0	0	20.8	0
BH4	0	0	0	20.6	0
BH5	0	0	0	17.5	1.9
BH6	0.4	8	0	19.7	0
BH7	0	0.8	0	20.6	0
BH8	0	0.2	0	16.5	0
BH9	0	2.3	0	3.9	0
BH10	15.4	8	0	1.4	0
BH11	6.8	3.1	0	19.1	0
BH12	0	1.6	0	20.2	0

Site monitoring has shown that carbon dioxide concentrations varied between <0.1% and 9.8% by volume in boreholes at positive gas flow rates up to 2.3 l/hr. In accordance with recommendations documented in CIRIA 659, a risk assessment from carbon dioxide ground gas is indicating derived gas screening values (GSV) of 0.225 l/hr which characterises the site as 'Amber 1' in the 'Traffic Light' risk derived system.

Methane concentrations were typically less than <0.1% by volume during the various monitoring phases. A risk assessment from methane ground gas for this borehole, using maximum gas flow rates of 2.3 L/hr and maximum gas concentrations of 30.6% indicate that a GSV of 0.7038 L/hr occurs at this site. In this case, 'Amber 2' measures will be adequate for the measured methane concentrations

More extensive gas monitoring should be undertaken at the site, prior to making a decision on any required gas remediation measures. The gas flow rate used here was experienced in a borehole which was venting only air. The boreholes with highest methane and CO_2 levels were found to have no flow. Therefore it is likely that the GSV calculated here is inaccurate, and likely to be an over-estimating ground gas conditions. Conversely, it is also possible that greater flow rates may occur in wells containing high levels of methane and carbon dioxide. Therefore, increased monitoring is required before any plausible recommendation can be made on dealing with the issue.

5.10 Geophysical Evaluation

Earth Solutions was commissioned by CELTIC to carry out a trial geophysical investigation on land forming part of the former Jackson Brickworks, Newton Heath, Manchester. The method used was Electrical Resistivity Tomography (ERT) this method relies on the electrical properties of natural near-near surface materials being largely controlled by electrolytic conduction through fluids in connected pore spaces and surface conduction associated with the presence of clay particles. Resistivity is an intrinsic property of a material and can be used as a diagnostic tool to predict changes, variations or contrasts in the distribution of subsurface media. Electrical resistivity tomography (ERT) determines the distribution of resistivity below a set of surface electrodes.

In ERT investigations an image or profile of the electrical properties of the ground is built up by transmitting electrical currents using a variety of paths through a cross section of the ground imaged. The depth of investigation depends primarily on the distance between electrodes within the acquisition array. ERT Data were acquired along two survey profiles (A-B and C-D figure 1 Appendix J) positioned in order to avoid dense vegetation and to investigate the margins of a historically excavated pit.

Once data is acquired it is processed using industry standard software to produce a two-dimensional resistivity model for the subsurface. Results of intrusive investigations are also used to make final interpretations on the results of the ERT Data.

5.10.1 Key Findings

Two- dimensional ERT profiles are presented within Figure 2 Appendix J. Resistivity values encountered below the site varied from about 10 ohm meters (relatively conductive) to more than 150 ohm meters (relatively resistive), indicating the presence of media with varying

electrical properties below the ground surface. Coherent Zones were manifest in the data for ERT trial Line 1. Shallow discontinues high resistivity zones were found within about 4 m bgl and were consistent with the presence of laterally discontinuous units of unsaturated, granular Made Ground. Historical Map Data indicate that evidence for excavation fill would likely be found between about 200 m and 290 m chainage between A and B, ERT line 1 (Figure 1 Appendix J).

Between approximate chainage 200 m and about 290 m, a relatively low resistivity (<26 ohm m) or conductive media was present below about 3-4m bgl. In the vicinity of chainage 200 m the presence of strong vertical discordance with a strong contrast in resistivity values (from about 38 ohm meters at chainage 190m to less 12 ohm meters at chainage 210 m) was consistent with the presence of a buried former high wall to a clay pit, coincident to within about 4m of the historical boundary of an excavation present in 1922. The corresponding northern edge of the clay pit could not be confidently interpreted from the data owing to the lack of data continuity at that location.

Borehole R1 was located proximal to the start of ERT Trial line 1 (Figure 1 Appendix J and encountered 2m of Made Ground over Glacial Clay deposits. Windowless sample WS17 similarly encountered 2m of Made Ground over clays. A relatively uniform resistivity distribution (30-46 ohm meters) extending to about 20m bgl was consistent with a significant unit of Glacially deposited Clays underlying the ERT profile between chainages 0m and 200m.

Figure 1 highlights a current absence of boreholes extending to more than a 5m depth from the area ecident as an excavation in the 1922 OS map of the site. Accordingly, direct calibration could not be carried out between ERT and existing direct data within the former excavation area. An interpretation of likely excavation depth was therefore made, based upon the limited resistivity distribution (Figure 2, Appendix J); minimum and maximum likely fill depths were interpreted and predicted a general fill depth of between about 7 and 12 meters within the limits of a plane containing ERT Trial Line1 (A-B).

Coherent Zones were manifest in the data for ERT Trial line 2 (Figure 2, Appendix J). Shallow, discontinuous high resistivity zones were found within about 3m bgl and were consistent with the presence of laterally discontinuous of unsaturated, granular Made Ground. Window sample WS16 was located at approximate chainage 22 m on ERT line 2 and encountered 5m of Made Ground prior to borehole termination.

A zone of low resistivity media (<23 ohm meters) was found between chainage 0-100m, consistent with the presence of a buried excavation. ERT Data indicate that the maximum depth of the former excavation was between 7 and 13 m bgl. At the intersection point of the two ERT profiles, the depth of the excavation was likely to lie between 7 and 12 m bgl. ERT data indicated that the excavation depth may exceed 14m bgl towards chainage 0m on Trial ERT line 2. The full report from Earth Solution can be found in Appendix J along with all relevant figures.

6 STAGE 1: PRELIMINARY (QUALATITIVE) RISK ASSESSMENT (PRA)

The former Jackson Brickworks site, off Ten Acres Lanes, Newton Heath comprises approximately 18 Hectares (45 acres) of derelict land. The site is situated in a part-residential, part-commercial setting with a canal and associated toe-path forming its northern boundary.

The site is located in an industrialised area with Rochdale Canal immediately to the north and a freshwater reservoir approximately located 450m, SW of the site. Historical industries in the area include Ten Acres Mills (across the canal), timber yard and former cotton mill (100m, E) and tannery (to the east); engineering works (3000m, SW); galvanising works and former bleach works (to the north); sawmills and joinery (220 m NE) and substations (120m NE); glass works and dye works (to the north east). The south and south east of the site has been substantially residential since the 1920's; and construction of the school, adjacent to the southern boundary, occurred sometime between 1949 and 1951. Residential expansion across house clearance and demolished industrial areas occurred in all directions of the site boundaries from the 1960's onwards.

6.1 Outline of Geology, Groundwater and Hydrogeology

6.1.1 Surface Cover

Dense vegetation and significant coverage of Japanese Knotweed stands occurs across the site. The central area of the site is covered in semi mature trees and shrubs; with small shrubs and long grasses in the west and south-western areas of the site. Vegetation in the central areas is relatively dense and acts as a visual barrier across the site. There are also areas which consist of fly tipped material. Sections of the central area of the site could not be fully investigated due to the presence of thick vegetation.

Two concrete bases still exist on site from the previous structural foundations of the former brickworks; one slab exists in close proximity to the eastern boundary and a second slab, in the south west area of the site.

6.1.2 Made Ground

Substantial variation in thickness in Made Ground occurs as a result of backfill of previous quarried clay pits across the site. These excavations formerly occupied > 85% of the current site layout and some pits are believed to overlap. Depths in Made Ground are extremely variable over small lateral distances and thus, show no consistent depth across the site. Made Ground extends from 0.5 to 1.5 m bgl in the peripheral areas of shallow clay excavations; whilst ground extends to a depth of approximately 8 m bgl in more central areas.

Beneath surface soil deposits (≈ 0.5 m thickness), Made Ground is dominated by one of the following dominant fill types (see table below). The Site Location Plan (in Appendix A) outlines land associated with dominant fill type; and Site Photos in Appendix H illustrate some of the dominant Made Ground observed at the site.

Table 10- Made Ground Dominant Types

Surface Soil Deposits	Brown sandy slightly gravely clays. Gravels of small angular fragments of brick and concrete. Contains numerous rootlets and dead organic mater.
Ash Fill	Black slightly sandy gravel. Gravel of angular ash and coal fragments with occasional brick and concrete fragments. Rare cobbles and boulders of brick and concrete
Clinker waste	Brown black sandy occasionally clayey gravel. Gravels of clinker and brick with brown medium sands and occasional cobbles of brick and concrete
Landfill Waste	Brown clayey sandy gravels and cobles. Clay is soft and sandy with gravels and cobbles of bricks and concrete. Generally includes wood glass pottery and plastic fragments
Brick Waste	Red brown coarse gravels and cobbles of brick with soft unnatural red clay fraction

6.1.3 Drift Deposits

Made ground is underlain by fine grained drift deposits of glacial deposition and comprise Clays, Boulder Clays and variable Sands and Gravels. Deposits were observed in a significant number of the exploratory holes however the most extensive and reliable profiles where gained through Cable Percussive drilling. Rotary boreholes provided deeper profiles of the glacial deposits however the rate and quality of recovery from such exploratory holes is significantly less than that of Cable Percussive Methods.

Clays from the drift deposits where historically extracted as a commodity in the brick making process, and thus, depth profile of pit extraction is extremely variable across the site. Minimum depth of glacial deposits was observed in TP57 (at 0.45 m bgl). In areas of extensive pitting, these deposits were encountered at much deeper levels (e.g. 10 m bgl, BH10) within made ground deposits. Drift deposits observed generally consisted of three dominant strata as detailed in Table11

Table 11-Drift Deposit Descriptions

Strata	Description
Boulder Clays	Firm to stiff, brown slightly sandy gravely clay. Gravel generally of rounded to sub angular mudstones and sandstones. Sands generally coarse.
Clays	Soft to firm brown to beige occasionally sandy clay
Sands and Gravels	Coarse well sorted yellow to grey sands with occasional coarse angular gravels.

Glacial deposits extend to a depth between 16 m bgl and 22 m bgl; varying between 6 m and 21m in thickness. Table 12, below, summarises the type of glacial deposits which were observed in Cable Percussive and Rotary exploratory holes.

Table 12- Summary of Observed Drift Deposits

Exploratory Hole	Depth Encountered	Depth to Base	Description
BH1	0.5	>10.0	Grey clay passing into sands and gravels underlain by boulder clay
BH2	4.9	>10.0	Boulder clay with thin sand bands and clayey sands
BH3	6.0	>9.6	Sandy boulder clay passing into dense sand
BH4	2.4	>10.0	Boulder clay passing into dense sand
BH5	7.5	>7.9	Dense Sand
BH6	4.8	>10.0	Boulder clay with occasional sand bands
BH7	4.1	>10.0	Boulder clay
BH8	2.0	>8	Boulder clay
BH9	2.7	>10.0	Clay passing into boulder clay
BH10	N/A	N/A	Made ground not bottomed out at 10m
BH11	N/A	N/A	Made ground not bottomed out at 8.5m
BH12	5.2	>10.3	Boulder clay
BH13	N/A	N/A	Made ground not bottomed out at 10m
BH14	N/A	N/A	Made ground not bottomed out at 4.5m
BH15	7.9	<10.3	Sand
R1	1.9	20.0	Boulder clay
R2	3.5	>22	Boulder clay underlain by sands and gravels
R3	12.9	18.0	Sands and gravels
R4	2.0	21.5	Boulder clay over dense sands
R5	0.1	20.0	Clayey sands
R6	1.6	16.5	Boulder clays

Standard Penetration Tests (SPTs) were undertaken in all Cable Percussive Boreholes and the majority of the Windowless sample. N values in the drift deposits ranged between N=3 and N=50.

6.1.4 Solid Geology

The British Geological Survey (BGS) Solid and Drift geological map, Sheet 85, Manchester states glacial drift deposits are underlain by Permo Triassic Sandstones of the Collyhurst Series which are underlain by an extensive sequence of sandstones, shales and coal seams belonging to the Carboniferous (Westphalian) Upper Coal Measures. During site investigation solid geology was observed in rotary exploratory holes at depths between 16.6 and 21.5 meters below ground level. They generally consist of beds of brown and yellow sand stone and brown mudstones.

6.1.5 Hydrogeology

Shallow waters observed during well installations is most probably laterally confined perched ground water and in non-hydraulic continuity with any surrounding water bodies. Site infiltration of precipitation across soft cover is most likely to have contributed to underlying perched waters; and base flow from the Rochdale Canal is an unlikely source to shallow/perched at the site. Elevated ground water levels of 6 m AOD, to the north east is consistent with the natural NE dip of the topography, recorded between monitoring boreholes (WS9, 84.33 m AoD, SW and WS17, 78.4 m AoD, NE). From ground water monitoring results, models of the groundwater movement were produced on a modelling programme, 'SURFER'. Output plots from this model can be found in Appendix F. From these models, it can be seen that the hydraulic gradient of shallow/perched groundwater movement occurs WSW direction, down gradient.

Notably, confined perched waters within variable thickness of backfill may be contributing to differences in elevation of the ground water table (and water strikes) across the site; and within pockets of fill, there may be hydraulic continuity, locally, between shallow groundwater (within glacial deposits and sand lenses) and these confined perched waters. Shallow ground waters are not likely to consist of one interconnected water body but a series of small interconnected perched water bodies.

Due to the nature of rotary drilling, exact water strikes at depth in the bedrock could not easily be determined. However water strikes between 0.7 m bgl to 5.5 m bgl in installed boreholes; suggesting that the Sandstone Mudstone aquifer is confined by the overlying drift deposits.

6.1.6 Hydrology and Drainage

The northern boundary to the site is formed by the Rochdale canal; and the water level in the canal is almost at the ground level with the site. It is thought the canal is naturally clay lined and not in direct hydraulic continuity with shallow or perched ground water. There are several locks along the canal which raise the level of the water towards the east, consistent with the dip of site topography.

The River Medlock, 650m S, is the nearest natural water feature to the site. It is unlikely that shallow ground waters lie within the watershed of this river course. It is expected, however, that the underlying major aquifer may be in hydraulic continuity with this water course. Ground water elevation in the rotary wells shows a hydraulic gradient (to the south) towards the River Medlock.

It is known that certain areas of the site are prone to small-scale flooding events during periods of heavy rainfall. High water table, south west of the site is consistent with local marshy ground conditions and growth of indigenous plant species of waterlogged soils. It is our recommendation that a Hydrological Survey is undertaken to determine the potential for bank flooding from the canal prior the commencement of any proposed building works at the site. Service records indicate that there is no structured drainage system currently present on site.

6.1.7 Visual/Olfactory Evidence of Contamination

During intrusive ground investigation, several areas of potential contaminated areas were identified from visual and olfactory evidence (on contamination). A significant plume area was identified in the west/south west area of the site (in WS13, 14, 15, 16 and TP6, 7, 9, 38 and 39). Strata recovered from this area (at 2 to 4 m bgl.) had shown black staining of soils and hydrocarbon sheens on perched waters extending to a maximum observed depth of 4.7 m bgl (in WS16). It is also noted in this area that some contamination may be present in shallower made ground deposits.

Three other contaminant 'plume' areas where identified in the vicinity of:

- TP 4, TP 2, TP 52 and WS 18, hydrocarbon odours and small amounts of possible free product were noted in dense clinker type Made Ground;

- TP 27, TP 44, TP 43 and BH 4 hydrocarbon odours and sheens on perched groundwater's where noted between 1-3 m bgl.

- TP 20, TP 50, TP51 distinct hydrocarbon odours where noted within Made Ground deposits.

Bright red Made Ground was also identified in the local area of TP 4, TP 5 and TT 2 and TT 2a, possible associated with brick dye from the former brick works on site. Other sporadic areas of potentially contaminated areas of ground are included in the summary tables (below) and have complete commentaries within the trial pit records.

Table 13 – Summary of Visual and Olfactory Evidence of Contamination

Exploratory Hole	Depth	Soil/Contaminant Description
BH4	2.5-10	Stong Hydrocarbon odour on CLAY deposits
WS13	0.4-0.8	Visual and olfactory evidence of contamination within Made Ground
WS14	0.9-2.1	Visual and olfactory evidence of contamination within Made Ground
WS15	0.2-0.8	Visual and olfactory evidence of contamination within Made Ground
WS15	1.7-2	Possible brick dye in Made Ground
WS16	4.5-5	Visual and olfactory evidence of contamination within Made Ground
WS18	2-3.0	Thick oily residue on Made Ground
WS19	1.6-2.7	Thick oily residue on wood fragments in Made Ground
WS20	0-0.1	Visually contaminated surface deposits
TP2	0.4-0.6	Faint solvent odour within Made Ground
TP4	0.2-0.25	Possible brick dye in Made Ground
TP4	2.4-2.8	Strong Hydrocarbon odour on Made Ground
TP6	0.2-2	Visual and olfactory evidence of contamination within Made Ground
TP7	2.2-4.0	Black Organic rich material
TP9	1.4-1.7	Hydrocarbon odour on made ground and sheen on water
TP12	1.5-2.6	Visual and olfactory evidence of contamination within Made Ground
TP14	0-0.5	Olfactory evidence of contamination
TP15	2.5-3	Olfactory evidence of contamination
TP18	0.8-1	Oily residue on Made Ground
TP20	0.8-1.2	Olfactory evidence of contamination
TP21	0.8-1.4	Olfactory evidence of contamination
TP27	2-3.2	Olfactory evidence of contamination
TP38	1-1.6	Olfactory evidence of contamination
TP39	0.2-0.7	Visual and olfactory evidence of contamination within Made Ground
TP43	0.9-2.4	Olfactory evidence of contamination
TP43	2.3	Olfactory evidence of contamination
TP44	1.5-2.9	Hydrocarbon odour on made ground and sheen on water
TP45	2.1-4	Visual and olfactory evidence of contamination within Made Ground
TP50	1.1-4.0	Visual and olfactory evidence of contamination within Made Ground
TP51	3.2-3.9	Olfactory evidence of contamination
TP52	1.5-2.4	Olfactory evidence of contamination

6.2 Conceptual Site Model Framework

The purpose of this preliminary stage of the risk assessment is to develop the conceptual model (CM) based on available site data, local environmental information and literature data. This is used to undertake a pollutant linkage assessment and where appropriate, to undertake a comparison between site data and available Generic Standards. This assessment decides whether further quantitative assessment at CLT-11 Stages 2 and 3 is required.

A CM has been developed to characterise the site in terms of potential contaminant sources (CoC), feasible pathways, sensitive receptors and environmental media (6.1.1 to 6.1.6). A pollutant linkage assessment (i.e. a source-pathway-target analysis) has then been undertaken to identify potentially active pollutant linkages in Table 14.

The preliminary risk assessment process is discussed in the following sections of the report and the assessment includes the following elements:

Selection of Site Specific Priority Substances of Concern ***(see section 6.3)***

↓

Identification of Contaminant Sources ***(see section 6.4)***

↓

Identification of Critical Receptors ***(see section 6.5)***

↓

Identification of Plausible Exposure Pathways ***(Section 6.8, Table 14)***

↓

Pollutant Linkage Assessment ***(see section 6.7)***

↓

Identification of Potentially Active Pollutant Linkages ***(Table 15)***

↓

Comparison with Generic Standards ***(see section 7.0)***

↓

Requirement for Further Risk Assessment at Stage 3 ***(see section 8.8 and 9.5)***

6.3 Site Specific Contaminants of Concern (CoC)

In the Celtic's Desk Study Report Site (R1007/06/2958) and in accordance to CLR8, sampled soils were scheduled for analysis according to the listed contaminant of concerns (CoC); with an extended suite for analysis (as listed in Section 4.2).

6.4 Contamination Sources

Elevated contaminant concentrations occur in the Made Ground and to substantial depth (in backfilled clay pits) across the site. Further assessment of averaged source area (with depth) has been undertaken in Tier 2, GRA. Site data have demonstrated that no linkage pathway exists between residual contaminants (in Made Ground) and controlled waters. Elevated concentrations of boron, selenium, phenol and ammonium in ground water were detected at either analytical limits of detection or below the appropriate GAC values in Made Ground from the unsaturated (≤ 2 m bgl) and saturated (2 – 10 mbgl) zone.

Low concentrations in perched waters demonstrate low leaching potential of solid phase contaminants in Made Ground. Notably, levels of contaminants observed within Made Ground are not reflected within shallow or deep natural deposits. This suggests that contaminants are relatively immobile within Made Ground and that the overlying clay deposits do not provide an active pollutant pathway linkage to deeper natural deposits.

6.5 Identification of Sensitive Receptors

Current sensitive receptors are considered to be offsite residents (from housing developments) and possibly, children and working staff in public/commercial development units across site

boundaries. From a controlled water perspective, the site is underlain by a major aquifer; Rochdale Canal is present adjacent to the northern boundary and the nearest fresh water body is 650m SW.

Potential offsite boundary receptors are summarised below:

At the North Boundary: residential receptors and industrial workers (Ten Acres Mill) present to the north east and north west respectively beyond the canal; the Rochdale Canal is a potential receptor;

Eastern Boundary –commercial/industrial workers from light industrial and engineering works are located to the north east of the site boundary (beyond Mitchell Street);

Southern Boundary – Briscoe Lane Junior and Infants School children, occupying public property directly adjacent to the southern site boundary. Residential receptors occupy properties beyond the school,

Western Boundary – children which occupy open public spaces (sports and recreation areas), at the western boundary. Potential residential receptors are located approximately 800 m to the west of this boundary.

6.5.1 Critical Receptor

In line with CLR-11 Stages 1 and 2, the critical human receptor will be taken as a standard CLR-10 female child, with the duration of the exposure covering 6 years (from the age of 1-6). This receptor has been used to assess potential exposure, in particular from lateral/vertical ground gas and volatile contaminant migration into residential dwellings (onsite and across – site boundaries) in further risk assessment (Tier 3, DQRA).

Although, the River Medlock is the nearest controlled water receptor, down gradient of the site, the river has a water quality of Category E (poor). The Major Sandstone/Mudstone aquifer is confined by the above drift deposits (6 – 21 m in thickness) which were demonstrated by an instantaneous rise in hydraulic head during rotary borehole installation through overlying thick clay deposits (see section 6.1.5); and is therefore not considered as a critical receptor from ground contamination.

Nether less, the river (650 m SW) and deep groundwater abstraction well (700 m SW) have been considered as critical controlled water receptors, down gradient of the site; and remedial targets for treatment/control of contaminated soil sources (from Made Ground and in-situ soils) has been further investigated in Tier 3, DQRA following review of groundwater/soil concentrations against generic risk standards (in Tier 2, GRA).

6.6 Plausible Exposure Pathways

Shallow ground water in Made Ground can be considered as a plausible, but *unlikely* exposure pathway for downward vertical migration of contaminants towards the underlying major aquifer.

Table 14 – Plausible Exposure Pathways - Preliminary Conceptual Site Model

Source(s)	Possible Pathway(s)	Receptor(s)	Plausible Y, N.	Justification
Organic and metal contaminants beneath the site from its former use as a landfill tip site.	Accidental ingestion, dermal contact, inhalation of dust, vegetable up-take	Construction workers and site users. Also neighbouring properties during construction works.	Y	History of contaminative use. Current hard covering mitigates exposure however redevelopment to residential end use would introduce new receptors and pathways.
	Leaching from contaminated soil. Migration of contaminated surface water/groundwater through Made Ground, permeable strata and services	Controlled Waters	N	Site underlain by a Major Aquifer. Sandstone and the underlying mudstone aquifer is confined by the overlying drift deposits of glacial clay (of negligible permeability); preventing a lateral pathway to surface waters.
	Contact with contaminated soil/water	Building materials and services	Y	History of contaminative use and development proposals to residential end use. Further assessment required.
Off-site contaminant sources associated with former dye works/dry cleaners	Lateral migration of ground gas	Site Users	Y	Potential for lateral migration in any Made Ground
	Lateral migration of groundwater	Site Users	N	Intercalated sand lenses in drift deposits may result in hydraulic continuity between perched and shallow ground waters. Base of the Rochale Channel is most likely naturally clay lined and thus, restricting base flow between channel waters and shallow ground waters.
Asbestos	Inhalation of dust	Site Users	Y	Asbestos has been used within building construction, little current risk in its undisturbed state. Asbestos survey and appropriate controls during demolition will be required.
Ground Gases	Migration and accumulation into proposed structures	Site Users	Y	Potential contamination from site's former use as a landfill may give rise to ground gas generation.
		Adjacent Properties	Y/N	Impervious clay soils are potentially continuous across the site boundaries; result in a natural clay barrier of lateral migration of ground gases.

Lateral and upward vertical migration of landfill ground gas through Made Ground (from tipped waste) and natural soils is a potential exposure pathways of concern to critical receptors (*see section 6.5.1, above*). Thus, inhalation exposure pathways of volatile contaminants will be further investigated in Tier 3, DQRA to determine whether 'real' indoor/outdoor exposure risks occur at the site.

6.7 Exposure Pathways & Active Pollutant Linkages

In risk assessment, an identification of site-specific source-pathway-receptor linkages is used to evaluate the existence of any potentially active pollutant linkages from a proposed redevelopment.

A revised conceptual site model (CSM) has been tabulated to establish whether generic criteria, and derived assumptions will satisfactorily assess the severity of the risk and, where appropriate, to mitigate against potentially unacceptable risks from identified linkages (see table . Site specific receptors from potential contaminant migration (i.e. pathways) in soils or groundwater have been summarised in the Table 15.

In this case, site reclamation will involve the removal of all Made Ground (and topsoil capping) across all proposed garden/landscape areas and public open spaces; and pathway linkages will be severed with the placement of hard standing (beneath buildings) and re-engineered fill (for roads) across the site. Thus, human health risks through dermal and ingestion exposure-routes have not been assessed at Tier 3 risk assessment.

It is assumed, however, that soils at depths ≥ 2 m bgl will remain in-situ across the site; and therefore soils (of various source averaging depths) have been assessed for inhalation exposure risks to critical receptors. (Site visitors and trespassers are not considered as separate receptors in DQRA risk assessment). In accordance with CLR-11, further risk assessment will consider 95th percentile values from contaminant concentrations in soils for human health inhalation exposure (in CLEA UK modelling) and remedial action (through the derivation of remedial trigger values, in EA P20 Risk Assessment).

The following contaminant source depths will be considered in human health risk modelling (of outdoor/indoor receptors) for the entire site area:

- **Shallow Source Soils (≤ *0.2 m bgl*):** on the basis of potential inhalation exposure (to the critical receptor) from in-situ soil source vapours/dusts;

- **Deeper Source Soils (≤ *2 m bgl*):** on the basis of potential inhalation exposure from in-situ soil sources (at 1.6 m bgl depth) beneath 600 mm capping;

- **Overturned Ground (≥ *2 m bgl*):** on the basis of potential inhalation exposure from the over turning of ground during site reclamation.

In Controlled water risk assessment, P20 has been used to derive remedial trigger values for Contaminants of Concern that fail the Generic Risk Assessment (GRA. This risk assessment addresses human health and controlled waters risks from treated/in-situ soils from identified 'source areas' (i.e. Made Ground) across the site.

Table 15 – Revised Conceptual Site Model

Source(s)	Possible Pathway(s)	Receptor(s)	Plausible Y, N.	Justification
Organic and metal contaminants beneath the site from its former use as a landfill/quarry site.	Accidental ingestion, dermal contact, inhalation of dust, vegetable up-take	Construction workers and site users. Also neighbouring properties during construction works.	Y	History of contaminative use. Current hard covering mitigates exposure however redevelopment to residential end use would introduce new receptors and pathways.
	Leaching from contaminated soil. Migration of contaminated surface water/groundwater through Made Ground, permeable strata and services	Controlled Waters	N	Low concentrations of CoC in shallow/perched waters demonstrate low leaching potential of residual contaminants in Made Ground. The Major Sandstone/Mudstone aquifer is confined by the above drift deposits (6 – 21 m in thickness) which were demonstrated by an instantaneous rise in hydraulic head during rotary borehole installation through overlying clay.
	Contact with contaminated soil/water	Building materials and services	Y	Elevated concentrations of As, benzo(a)pyrene and heavy range and immobile hydrocarbon fractions, C_{16}-C_{21} and C_{21} – C_{35} above the human health GAC screening values were seen in soils (≤ 1 m bgl). All other COC in shallow ground (≤ 2 m bgl) are below appropriate guideline screening values across the site. Dewatering of perched waters in ground, of low contaminant concentrations, will be required during proposed reclamation/building works.
Off-site contaminant sources associated with former landfill/quarry activities.	Lateral migration of ground gas	Site Users	Y	Potential contamination from site's former use as a landfill may give rise to ground gas generation. Thus, extensive program of further ground gas monitoring is required during site works at site boundaries.
	Lateral migration of groundwater	Site Users	N	Elevated concentrations of CoC in deep ground water were detected at either analytical limits of detection or below the appropriate GAC values in Made Ground from the unsaturated (≤ 2 m bgl) and saturated (2 – 10 mbgl) zone. Down gradient concentrations of all CoC in deep ground waters, with exception of boron, are below the DWS standards. Thus, any elevated concentrations of dissolved phase

Source(s)	Possible Pathway(s)	Receptor(s)	Plausible Y, N.	Justification
				contaminants in deep ground waters are unlikely associated with leached concentrations from Made Ground; and may be indicative of up-gradient industrial activities. Monitoring of ground water table at northern site boundaries suggest that shallow ground waters are not in hydraulic continuity with waters of the Rochdale Channel.
Asbestos/Contaminants	Inhalation of dust	Site Users	N	Made Ground would be excavated to a minimum depth of 0.6 m and a capping layer of 600 mm would be placed in all proposed soft landscaped areas. Asbestos survey and appropriate controls during demolition will be required to control heath risks.
Ground Gases	Migration and accumulation into proposed structures	Site Users	Y	Site is characterised as Amber 1 and, thus, there is a potential for lateral migration of ground gas (in made ground) into proposed housing/buildings.
		Adjacent Properties	Y/N	Impervious clay soils are potentially continuous across the site boundaries which act as a natural clay barrier against lateral migration of ground gases. Also, shallow clay excavations (1.5 m bgl) and limited depth of Made Ground occur in peripheral areas of the site reducing potential off site migration. Nether the less, precautionary practice will require that continuous ground gas monitoring occurs at site boundaries during site works.

6.8 Summary of Human Health Tier 1 PRA (CLR 10, Stage 1)

This site has been formerly used for clay extraction (in brick manufacture) and the site operated as a licensed landfill (1949 – 1990) for inert and non-hazardous waste.

It is understood that Permo-Triassic Sandstone of the Collyhurst Series (*of sandstones, shales and coal seams*), underlie the Sherwood Sandstone across the site. Extensive faulting results in complex geology in Eastern Manchester. Consistent with the northern geology of Collyhurst Sandstones, site intrusive works has shown a relatively thin aquifer (16.6 and 21.5 m bgl); and NE dip (possibly indicative of local faulting) beneath the site. Observed dip of site topography is indicative of local faulting, which has been documented as creating fault zones and barriers to groundwater flow. As when aquifers are thin, fault displacement can break hydraulic continuity (where marlstone outcrop) and locally, have been documented to have divided the major aquifer into isolated aquifer blocks (by aquatard up-throw restricting groundwater flow (*EA R&D Publication//Technical Report WD/97/34, pg. 219*).

Thus, the underlying aquifer may not be contributing substantially towards regional ground water flow (of the Permo-Triassic Sandstones) and limiting impact from contaminated ground on abstraction waters.

Site data has shown that glacial deposits extend to a depth between 16 m bgl and 22 m bgl; varying between 6 m and 21m in thickness Geophysics Surveying has indicated consistent depths of glacially deposited clays to 20 m bgl across the site (in Uniform Seismic/Readings/ERT Profiles). Likely excavation and waste fill depth of 7 to 12 m bgl was estimated from the survey;

Based on the preliminary conceptual site model, source-pathway-receptor linkages are summarised as follows:

Higher Risk:

- Risks to future site users is dependant on the nature of the development; and in residential end-use, it is assumed that the developer would adopt appropriate mitigation measures (such as clean cover systems in garden/landscaped areas/re-engineered roads) to control exposure pathways from ground contaminants;
- Inhalation exposure of migratory ground gases and/or volatile contaminants through Made Ground is currently considered a high risk to off-site/on-site receptors. Methane concentrations were typically less than <0.1% (by volume); however, In accordance with CIRIA 659, high gas flow rates has categorised the as 'Amber 2'. Considering the site's former land use, further ground gas monitoring program should be undertaken to determine whether impervious clay have created localised pockets of ground gas in areas of waste in-filled clay extraction pits;

Lower Risk:

- Low risk to controlled waters from lateral/vertical migration of perched/shallow ground waters. Rochdale Canal, northern site boundary, is likely to be protected by a clay lining. It is our recommendation that a Hydrological Survey is undertaken to determine the potential for bank flooding from the canal prior the commencement of any proposed building works at the site;

- Site data has shown that no linkage pathway exists between residual contaminants (in Made Ground) and controlled waters. Elevated concentrations of boron, selenium, phenol and ammonium in ground water were detected at either analytical limits of detection or below the appropriate GAC values in Made Ground from the unsaturated (≤ 2 m bgl) and saturated (2 – 10 mbgl) zone.

- Low concentrations in perched waters demonstrate low leaching potential of solid phase contaminants in Made Ground. Additionally, levels of contaminants observed within Made Ground are not reflected within natural deposits. This suggests that contaminants are relatively immobile within Made Ground and that the thick beds of overlying clay deposits create an effective natural barrier against contaminant migration;

- Low risks to controlled waters potentially arise from lateral migration of perched waters, however, Rochdale Canal is located immediately adjacent to the site although it is likely to be protected by a clay lining;

Following this section of the report, these PCoC will be identified through Generic Quantitative Risk Assessment (GQRA) which will address human health and controlled waters risks from in-situ soils (at various depths) beneath the site.

The rationale behind not considering the following source-pathway-receptor linkages in further risk assessment is summarised below:

- The site intrusive investigation has shown that perched/shallow ground waters are either restricted to sporadic drift deposits within the fill or confined within variable thickness of fill pockets. Variation in ground water table, rather than being indicative of hydraulic gradient, is associated with variable ground conditions within the fill. Therefore, perched water is unlikely to form an *active pathway linkage* (via an interconnected shallow water body) across the site, and more likely a perched water condition that may overlap into pit excavations. Any residual contamination in shallow/perched groundwater will be pumped and treated from excavations dig into Made Ground as part of site remediation. *Thus, shallow/perched ground waters will not be considered as a separate source to controlled waters by further risk assessment (Tier 3, DQRA).*

- Given the depth to the main groundwater, deeper groundwater will not be treated as a separate source for human health; However, underlying ground waters have been assumed, irrespective of knowledge of local geology, to be in hydraulic continuity with the River Medlock (650 SW). *Thus, it is recommended that Control Waters Risk Assessment (EA P20 Modelling) is undertaken at the site on the basis of deriving remedial trigger values for source contaminated soils.*

7 STAGE 2: GENERIC HUMAN HEALTH RISK ASSESSMENT (GQRA)

7.1 Laboratory Quality Assurance

Chemical analysis was undertaken by an MCERT accredited laboratory at Alcontrol Geochem Ltd.

7.2 Published Guidelines

7.2.1 Human Health

The proposed future land use of this site is unknown; however, residential end-use with plant uptake (from private gardens and landscaped areas) has been considered in this risk assessment as appropriate measures against future risk to human health.

These GAC consider all the standard relevant CLEA pathways. Comparison of soil values with the GAC comprises a generic quantitative risk assessment (GQRA). DEFRA and The Environment Agency published a series of guidelines with regards to the assessment of risks to human health from land contamination. Within these guidelines (CLR7 to CLR10) a series of generic Soil Guideline Values (SGVs) have been produced for the following contaminants: arsenic, cadmium, chromium, lead, nickel, mercury, selenium, ethylbenzene, toluene and phenol (references CLR7 – 10 and CLEA model, March 2002). In this assessment, a land use of residential housing (with plant uptake) has been assumed. Analytical results for total-phenols have been conservatively assessed against CLEA Generic Standards for phenol.

Additional UK specific GACs have been selected from Atkins ATRISK^{SOIL} GACs (and residential end-use) for benzene, xylene and naphthalene concentrations in soil.

7.2.2 Phytotoxicity

In December 2002, DEFRA formally withdrew previous guideline values derived by the Interdepartmental Committee on the Redevelopment of Contaminated Land (ICRCL), commonly referred to as ICRCL 59/83 (1987) "Guidance on the Assessment and Redevelopment of Contaminated Land". The ICRCL values presented were not considered suitable to assess the 'significant possibility of significant harm to human health' in the context of Part IIA of the Environmental Protection Act, and now have broadly been replaced by the DEFRA/EA Soil Guideline Values, as discussed above.

Within the ICRCL guidance document, Threshold Trigger Concentrations (TTC) for a limited number of contaminants that are considered to be potentially phytotoxic (toxic to plants) is documented. In the absence of alternative guidance for phytotoxicity, screening will be made against the relevant TTC values (from the currently withdrawn ICRCL documentation) to allow for initial assessment to be made of potential phytotoxic effects to plant growth from identified contaminant concentrations in the ground.

7.2.3 Controlled Waters

Controlled Waters are defined by Section 104 of Part III of the Water Resources Act, 1991, and amended by the Water Act 2003. This is interpreted to include:

'all rivers, canals, lakes, groundwater, estuaries and coastal waters to three nautical miles from the shore. Groundwaters are defined as water contained in underground strata within the saturation zone, and includes saturated perched water bodies.'

The available relevant UK dissolved-phase controlled waters quality standards that are most commonly adopted as GAC are the UK Drinking Water Standards (DWS) and EQS (Agency freshwater Environmental Quality Standards). There is no relevant UK-specific soil GAC for controlled waters. For the purposes of this assessment, the adopted GAC for deep waters of the major aquifer are the UK DWS; whilst, screening against freshwater EQS freshwater standards were used for shallow waters of shallow/perched groundwater.

A comparison of the current maximum on site concentrations in the groundwater with the adopted groundwater GAC is provided in Table 14. The results of the Stage 2 GQRA indicate that the detected concentrations of metals (except boron and selenium), TPH fractions, benzene, toluene, benzo(a)pyrene, naphthalene and TCE are compliant with the groundwater GACs; and that phenol, ammonium and sulphate will need to be assessed further by a Stage 3 CLR-11 DQRA for controlled waters.

Leachability testing of soils has been undertaken as an initial assessment of the potential risks to groundwater from impacted soils; and leachate concentrations compared to the UK Drinking Water Standards (DWS) on the basis that the site is underlain by a major aquifer (i.e. Permo Triassic Sandstone).

For a given pollutant, if the detected concentrations are below the adopted GAC criteria (which may apply to more than one active pathway), then the risks posed by the pollutant will be considered acceptable for the relevant pathways/linkages. This means that, under the CLR-11 framework, no further assessment is then required for the pollutant pathways/linkages covered by the GAC.

7.2.4 Statistical Analysis

In order to assess potential risks to human health from ground contaminants, a preliminary risk assessment was carried out on sandy based substrate soils from shallow soil samples (≤ 1 m bgl depth). In accordance with CLR7, statistical analyses of concentrations in soils were undertaken using the upper bound 95th Percentile (US^{95}); and the mean and maximum value tests. A mean value test compares the SGV with the upper 95th percentile of the mean measured concentration. In the event that the upper bound value (US^{95}) is less than the Soil Guideline Value (SGV), then, based on the mean value test, it can be concluded that no remedial action is warranted and the site may be considered not to present a significant possibility of significant harm to human health in the context of Part IIA.

Concentrations which may need to be compared against remedial targets for the averaging area will be based on values determined from the 95th percentile concentrations of all soil concentrations which were sampled (≤ 1 m depth) across the site. This approach is more

conservative than using an average or median value assessment. Results of this soil testing are summarised in Table 15 along with US_{95} values and relevant Generic Acceptance Criteria (GAC). The significance of the statistical data has been discussed in Sections 7.2.6 (below).

In the context of chemical analyses of contaminated soils, it is common practice to work with the logarithms of the measured values. This log-transformation usually results in a more or less symmetric (normal) distribution which, and if the outlier test statistic, T is less than a tabulated critical value (i.e. $T < T_{critical}$), then, the maximum value may be accepted (within an acceptable confidence limit) as a value which is reasonably consistent with belonging to the same underlying distribution as other measured values. If $T > T_{critical\ value}$, then, the maximum value is treated as an outlier, which may indicate that a maximum value is a localized area of '*hotspot*' contamination.

To provide a representative indicator of receptor exposure to the contaminant, the concept of averaging areas needs to be applied. An averaging area (or area of interest) is that area (*with consideration given to depth*) of soil to which a receptor is exposed or which otherwise contributes to 'sources' of contaminant conditions. Based on the site investigation work completed to date, the priority contaminants that will be considered by the risk assessment are those that are present above detection limits in soil and groundwater samples from the following averaging area. The averaging area has been considered using depth dependant zones to reflect the remedial measures that will address the upper 0.6 to 2 m above saturated ground. US_{95} contaminant values from saturated soils ($\geq$ 2 m bgl) have been screened separately against adopted GAC as this depth of ground remains in situ following site redevelopment.

The human health Stage 2 GQRA indicates that the following substances (i.e. those that failed the GQRA or are without applicable GAC) should be considered in a CLR-11 Stage 3 DQRA.

7.2.5 Comparison with Generic Standards

Representative solid samples were obtained from window sample locations, trial pits and cable percussion boreholes across the site. Samples were analysed for a range of inorganic and organic determinands. A full record of chemical results of soils is contained in Appendix F and further summarised in Section 6.2 of this report.

Table 16 and 17 present the findings of the Stage 2 GQRA and include a comparison of the adopted GACs with US_{95} values and maximum site values. For Stage 2 assessments, soil results are typically considered compliant with GACs if their US_{95} concentrations are below the relevant GAC, with caveats in relation to exceedances of the adopted GAC by any outliers. Where there was insufficient data to calculate US_{95} values maximum soils values have been compared with GAC.

Table 16 - Adopted Groundwater GAC for CLR-11 Stage 2

Substance of Concern	DWS (mg/l)	Freshwater EQS (mg/l)	Adopted GAC (mg/l)
TPH/PRO/EPH	0.01	-	0.01
PAH (Naphthalene)	0.0001[a]	0.03	0.03
Benzene	0.001	0.03	0.03
Toluene	-	0.05	0.04
Ethylbenzene	-	-	0.05[b]
Xylenes	-	0.03	0.03
MTBE	-	-	0.02[c]
TCE	-	0.01	0.01
Phenol	0.0005	0.03	0.03
Ammonium (Ammonia-as-NH_4^+)	0.5	-	0.5
Free Ammonia (Ammonia-as-NH_3)	-	0.015	0.015
Cyanide	0.05	-	0.05
Arsenic	0.05	-	0.025
Boron	1	2	2
Cadmium	0.005	0.005	0.0025
Chromium	0.05	0.005 – 0.250	0.015
Copper	2	0.001– 0.028	0.005
Mercury	0.001	0.001	0.0003
Nickel	0.05	0.05-0.2	0.03
Lead	0.025	0.004-0.25	0.025
Selenium	0.01	-	0.01

Notes: (a) PAHs compounds specified in the DWS are benzo-b-fluoranthene, benzo-k-fluoranthene, benzo-ghi-perylene, indeno-1,2,3-cd-pyrene; (b) In the absence of a EQS/DWS for ethylbenzene, the EQS for toluene has been adopted as the GAC for ethylbenzene; (c) This value is the lower range of water quality standards detailed in Agency Guidance: "Fuel Additive MTBE: a Groundwater Protection Issue"

7.2.6 Cadmium, Chromium, Lead, Mercury, Selenium.

Samples taken from Made Ground (≤ 1 m bgl) had not shown concentrations above the CLEA SGVs for residential end use (with plant uptake) for the above metals. Site investigation work, however, has identified areas (≤ 1 m bgl) of elevated As, Cu and Ni contamination in shallow soils.

7.2.7 Arsenic

Concentrations of arsenic above the SGV's (for residential end use) of 20 mg/kg were recorded in two out of the nine samples collected from soil depth (≤ 1 m bgl). Maximum concentrations of 130 mg/kg were detected in soils sampled from R3 (at 0.4 m). Using the mean and maximum tests, a statistical assessment was carried out in line with CLR7 for arsenic on results recorded within the top 1.0 m of ground. On the basis of these results, the upper bound 95th percentile mean value of 62 mg/kg calculated for arsenic had exceeded the SGV.

The logarithms of the maximum value (T = 0.14) is less than the 10% critical value of 2.21. Thus, maximum concentrations of arsenic (of 130 mg/kg) can be statistically classified as being a representative value of general contaminant concentrations of arsenic in the upper 1 m of ground across the site.

7.2.8 Phytotoxics (Copper, Nickel and Zinc)

Three samples out of fourteen samples for Copper had exceeded the SGV values (of 250 mg/kg) for residential end use with plant up-take. Highest concentrations of 1100 mg/kg were obtained from TP23 (at 0.4 m bgl). The mean value test was carried out on Cu concentrations recovered from samples of the upper 1.0 m of ground. The results indicate that the upper bound 95th percentile geometric mean of 402 mg/kg exceeded the SGV of 250 mg/kg.

Five samples out of fourteen samples tested for nickel from the top 1.0m of ground had exceeded the SGV for a residential (with plant up take) end use of 50 mg/kg. Maximum concentrations were obtained from soils sampled from borehole TP20 at 0.9 m bgl with a result of 98 mg/kg. Statistical assessment using the mean value test was carried out for nickel concentrations in samples recovered from the top 1.0 m of ground. The results indicate the upper bound 95th percentile geometric mean value (of 56 mg/kg) had shown threshold exceedance above the SGV of 50 mg/kg.

No samples tested for zinc (from the upper 1.0 mbgl) exceeded the ICRCL trigger values for phytotoxicity.

7.2.9 Phenols

Eleven samples were tested for total phenol concentrations recording concentrations below the detection limit (<0.1 mg/kg), and no samples had shown exceedance above the SGV (of 150 mg/kg) for residential end use.

7.2.10 Cyanide (Total)

Neither DEFRA or the EA have published a methodology to assess short-term exposure to contaminants such as cyanide; therefore, concentrations in soils have been screened against other relevant guidance. Reference to the DoE publication 'Problems arising from the Redevelopment of Gas Works and Similar Sites' published in 1987 on behalf of ICRCL identifies a concentration of 25 mg/kg as an appropriate guideline against short-term toxicity arising from cyanide ingestion.

Twelve samples were analysed for cyanide concentrations, and the results obtained show that concentrations did not exceed the above the screening value.

7.2.11 Polycyclic Aromatic Hydrocarbons (PAHs)

Elevated levels of Total PAH were detected in soils sampled from trial pits locations within '*hotspots*' locations of ground contamination. Total PAH concentrations of 1100 mg/kg were detected in TP38 within Made Ground below 1 m bgl. A summary of these results are presented in the section 5.3 of this report.

Seven samples were submitted for analysis of Polycyclic Aromatic Hydrocarbons (PAHs); and total PAH concentrations were recorded at values between 1.9 mg/kg and 260 mg/kg in shallower soils (≤ 1 mbgl). Currently, there are no published SGVs for Total PAH or speciated PAH compounds. Thus, **AT**RISK^{SOIL} screening values for naphthalene and benzo(a)pyrene in shallow soils were screened against the site concentrations for residential end-use.

Of the seven samples tested for naphthalene, one of the results exceeded the **AT**RISK^{SOIL} screening value of 4.4 mg/kg for a residential end-use (with plant uptake). This soil was sampled from TP20 (at 0.9 m bgl.) showing concentrations of 7.6 mg/kg. A statistical assessment was undertaken for naphthalene using the mean and maximum value test and a calculated upper bound 95th percentile mean value of 3.6 mg/kg had not exceeded the appropriate GAC value of 4.4 mg/kg. As the upper bound value (US_{95}) is less than the GAC value, it can be concluded that naphthalene levels across the site may be considered not to present a significant possibility of significant harm to future end users.

For an end-use of residential with plant uptake, **AT**RISK^{SOIL} screening values recommend 'safe' soil concentrations below 0.54 mg/kg for benzo(a)pyrene (BaP). Five samples out of seven soil samples had shown exceedances above this guideline value. Maximum value of 17 mg/kg was detected in TP20 (at 0.9 m bgl). Further statistical assessment has derived an upper bound 95th percentile mean value of 9.8 mg/kg for BaP, above the appropriate screening value.

Logarithms of the maximum value ($T = 3.1$) is higher than the 10% critical value of 1.83. Thus, maximum concentrations of BaP (of 17 mg/kg) can be statistically classified as an outlier, suggesting that this contaminant concentrations in TP20 (0.9 m bgl) are above the relevant SGV encountered within the upper 1.0 m is representative of a localised hotspot area of contamination**.**

7.2.12 Total Petroleum Hydrocarbons (TPH)

In shallow ground, ≤ 1 m bgl, elevated levels of TPH of 1992 mg/kg (geometric mean) and maximum values of 6800 mg/kg were detected in soils. These concentrations of the carbon fraction C_{16}- C_{21} and C_{21} – C_{35} were above the appropriate Atrisk^{soil} guideline values for residential end-use (with garden uptake).

Elevated levels of TPH were detected in soils sampled from trial pits locations within '*hotspots*' locations of deeper ground contamination. Elevated TPH levels of 35,000 mg/kg and 39,000 mg/kg were identified in TP 38 and TP43. However, these concentrations were mainly associated with ground conditions below 1 m bgl; and a summary of these results are presented in the section 5.3 of this report.

7.3 Groundwater Analysis

Groundwater samples were recovered from shallow/perched and deep boreholes. The recovered water samples were analysed for a range of determinants results of which can be found in Appendix F. Statistical calculation of the US^{95} mean value of dissolved phase concentrations in ground water were derived from results of the analytical chemical analysis of these samples and summarised in Table 21-1 and 21-2 (below).

Dissolved phase concentrations of boron, selenium, phenol and ammonium in ground waters of the underlying aquifer are slightly above Drinking Water Standards (DWS). Down gradient concentrations of all CoC in deep ground waters, with exception of boron, are below the DWS standards (Table 18-2). The results of statistical analysis demonstrate that, with the exception of ammonium and boron, all the contaminants of concern (CoC) in shallow/perched waters are below the appropriate generic screening values. Down gradient monitoring at the site can confirm whether impacted perched/shallow waters are impacting deeper ground waters. Elevated levels of dissolved phase contaminant concentrations were not seen in these shallow wells down gradient of the site (see Table 18-2).

7.4 Summary of Human Health Tier 2 DGRA (CLR 10, Stage 2)

The site may be considered not to present a significant possibility of significant harm to human health (in the context of Part IIA) on the basis that mean value test had been passed for the majority of ground contaminants. Notably, elevated concentrations of contaminants in soils of the unsaturated (≤ 2 m bgl) and unsaturated zone have shown concentrations significantly below GAC screening values, thus, suggesting that leached concentrations in Made Ground are most *unlikely* to be contributing towards elevated concentrations in deeper ground waters of the underlying aquifer (Table 17).

Elevated concentrations of As, phytotoxic metals of copper and nickel; benzo(a)pyrene and heavy range carbon fractions, C_{16}- C_{21} and C_{21} – C_{35} were detected above the human health GAC screening values in unsaturated soils.

Detected concentrations of the following contaminants (≥ 2 m bgl) were seen in the soil; and volatile concentrations (of these CoC) will be further investigated in Human Health Risk Assessment (CLEA UK Modelling)

- Metals: *Arsenic;*
- Polyaromatic Hydrocarbons (PAHs): *Benzo(a) pyrene;*
- Total Petroleum Hydrocarbons: *Risk Banded Fractions (TPH fractions).*

Elevated concentrations of the following contaminants of human health (in groundwater of the major aquifer) will be further assessed as part of a Controlled Water Risk Assessment (EA P20 Modelling):

- Metals: *Boron, Selenium;*
- Total Phenol;
- Ammonia (NH^{3+}) and Ammonium (NH^{4+})

Table 17: Comparison of Soils Data (< 1 m bgl).with Generic Standards.

Notes: [1] CLEA SGV Value at 2.5% SOM;[2] ICRCL Phytotoxicity; [3] LQM GAC; [4] Atkins ATRISK^{SOIL} Residential with Plant Uptake/Commercial GAC. It should be noted that CLEA SGVs in that they do not (a) include every potential contaminant of concern and (b) consider phytotoxicity or potential risk to Controlled Waters.

Determinand	Total No. (*Samples*)	Unit	GAC (*Residential, Plant Up-Take)*	GAC (*Commercial)*	Max. Conc.	US_{95} Mean	US_{95} Mean > GAC (*Residential, Plant Up-Take*)
Arsenic	14	mg/kg	20[1]	500[1]	130	62	√
Cadmium	14	mg/kg	2[1]	1 400[1]	8	2	x
Chromium	14	mg/kg	130[1]	5000[1]	360	94	x
Copper	14	mg/kg	250[2]	250[2]	1100	402	√
Lead	14	mg/kg	450[.1]	750[1]	1300	394	x
Mercury	14	mg/kg	8[1]	480[1]	0.8	0.1	x
Nickel	14	mg/kg	50[1]	5 000[1]	98	56	√
Selenium	14	mg/kg	35[1]	8 000[1]	3	3	x
Zinc	14	mg/kg	1 000[2]	1 000[2]	2 300	593	x
Benzene	15	mg/kg	0.012[4]	0.3[4]	0.05	<0.02	x
Toluene	15	mg/kg	3[1]	150[1]	0.1	<0.03	x
Ethylbenzene	15	mg/kg	4.9[1]	48 000[1]	0.01	<0.01	x
O,m & p xylene	15	mg/kg	2.5[4]	60[4]	0.2	0.04	x
Total TPH (*C6-40*)	24	mg/kg	-	-	6 800	1 992	-
TPH (Alip/Arom) C5-6/C5-7	3	mg/kg	8.2/0.012[4]	220/0.3[4]	0.01	0.01	x
TPH (Alip/Arom) C6-8/C7-8	3	mg/kg	19/3[4]	270/150[4]	0.02	0.01	x
TPH (Alip/Arom) C8-10	3	mg/kg	0.87/1.4 [4]	24/210[4]	0.01	0.01	x
TPH (Alip/Arom) C10-12	3	mg/kg	4.1/6.7 [4]	86/210[4]	0.01/2.5	0.01/1.6	x
TPH (Alip/Arom) C12-16	3	mg/kg	20/26[4]	38/290[4]	14/15	13/15	x
TPH (Alip) C16-35	3	mg/kg	72,900[4]	1000 000[4]	188	143	x
TPH (Arom) C16-21	3	mg/kg	70.1 [4]	10 600[4]	200	140	√
TPH (Arom) C21-35	3	mg/kg	64.4[4]	10 600[4]	330	333	√
Naphthalene	7	mg/kg	4.4[4]	98[4]	7.6	3.6	x
Benzo(a)pyrene	7	mg/kg	0.54[4]	29[4]	17	9.8	√

Table 18 Comparison of Soil Data with Generic Standards.

Determinand	Total No. (*Samples*) *Unsaturated/ Saturated Zone*	Unit	GAC (*Residential, Plant Up-Take)*	Range [5] *Unsaturated Zone*	Range[6] *Saturated Zone*	Maximum Value[7] > GAC *Unsaturated Zone*	Maximum Value[7] > GAC *Saturated Zone*
pH (units)	114/19	-	-	5.9 – 11.0	7.5 – 9.4	-	-
Arsenic	38/8	mg/kg	20[1]	11 – 120	< 3 - 120	√[7]	√
Cadmium	38/8	mg/kg	2[1]	< 0.3 – 11	< 0.3 - 4.1	√	√
Chromium	38/8	mg/kg	130[1]	11 – 360	6.4 - 120	√	x
Copper	38/8	mg/kg	250[2]	13 – 1100	20 - 620	√[7]	√
Lead	38/8	mg/kg	450[1]	5 – 2600	5 - 4300	√	√
Mercury	38/8	mg/kg	8[1]	< 0.6 – 4.7	< 0.6	x	x
Nickel	38/8	mg/kg	50[1]	6.0 – 310	8 - 360	√[7]	√
Selenium	38/8	mg/kg	35[1]	< 3.0	< 3.0	x	x
Zinc	38/8	mg/kg	1000[2]	27 – 3000	21 – 440	√	x
Boron	38/8	mg/kg	-	< 3.5 - 14	< 3.5 - 43	-	-
Total Sulphate	47/5	mg/kg	-	< 100 – 5800	110-38 000	-	-
Chloride	36/-	mg/kg	-	< 2 - 330	-	-	-
Phenol	36/9	mg/kg	150[8]	0.1 – 1.9	< 0.1 – 4.1	x	x
Total Cyanide	25/1	mg/kg	-	< 1 - 920	< 1	-	-
Ammonium	3/-	mg/kg	-	< 15	-	-	-
Nitrate	3/-	mg/kg	-	< 1 - 3	-	-	-
Benzene	19/4	mg/kg	0.012[4]	< 0.01	< 0.01	x	x
Toluene	19/4	mg/kg	3[1]	< 0.01	< 0.02	x	x
Ethylbenzene	19/4	mg/kg	4.9[1]	< 0.01	< 0.01	x	x
m & p xylene	19/4	mg/kg	2.5[4]	< 0.01	< 0.01	x	x
Total PAH	36/8	mg/kg	-	2.8 - 1500	0.2 – 360	-	-

Table 19 Comparison of Soils Data with Generic Standards.

Determinand	Total No. (*Samples*) *Unsaturated/ Saturated Zone*)	Unit	GAC *Residential, Plant Up-Take*	*Unsaturated Zone* [5]		*Saturated Zone* [6]		US_{95} Mean > GAC *Unsaturated Zone*	US_{95} Mean > GAC *Saturated Zone*
				Max	US_{95}	Max	US_{95}		
Naphthalene	30/8	mg/kg	4.4[4]	18	3.3	0.6	0.4	x	x
Benzo(a)pyrene	30/8	mg/kg	0.54[4]	22	6.1	0.9	0.5	√	x
TPH (C5 – C35)	89/4	mg/kg	-	9600	266	1010	-	-	
TPH (Alip/Arom) C5-6/C5-7	12/4	mg/kg	8.2/0.01[4]	0.02	0.01	0.02	0.01	x	x
TPH (Alip/Arom) C6-8/C7-8	12/4	mg/kg	19/3[4]	0.01	0.01	0.01	0.01	x	x
TPH (Alip/Arom) C8-10	12/4	mg/kg	0.87/1.4 [4]	0.01	0.01	0.01	0.01	x	x
TPH (Alip/Arom) C10-12	12/4	mg/kg	0.01/2.5 [4]	0.01/2.5	0.01/0.5	0.04/0.06	0.03/0.05	x	√
TPH (Alip/Arom) C12-16	12/4	mg/kg	20/26[4]	67/150	28/14	10/15	10/14	√	x
TPH (Alip) C16-35	12/4	mg/kg	72,900[4]	6300	1619	87	61/73	x	x
TPH (Arom) C16-21	12/4	mg/kg	70.1 [4]	460	172	28	24	√[7]	x
TPH (Arom) C21-35	12/4	mg/kg	64.4[4]	2700	898	31	27	√[7]	√

Notes: [1] CLEA Value, [2] ICRCL Phytotoxicity, [3] CLEA SGV Value at 2.5% SOM (on basis of 2 - 4% Total Organic Matter (TOC) in soils); [4] Atkins ATRISK^{SOIL} Residential with Plant Uptake [5] Unsaturated Zone ≤ 2 m bgl; [6] Saturated Zone, 2 m – 10 m bgl (basis of minimum ground water elevation levels (BH 10) and maximum depth of permeable subsoil strata horizons). [7] √ = In accordance with CLR7, health risk assessment using US95th Percentile Mean Calculations of shallower soils (≤ 1 m bgl) had also shown exceedance above GAC. [8] In accordance with CLR10, CLEA SGV based on monohydric phenol concentration and 2.5% SOM in (sandy substrate) soils.

Table 20: CLR-11 Stage 2 Risk Assessments for Controlled Waters (*Permo-Triassic Aquifer*).

Notes: (1) Freshwater Annual Average Environmental Quality Standard (EQS) with Maximum Allowable Concentrations (in brackets); (2) DWS = Drinking Water Standard from Water Quality (Water Supply) Regulations, 2001(3) BH1,2, 3, 6, 8, 9, 10 and 11 (Shallow Groundwater). (4) RH 1, 2, 3 and 5 (Deep Groundwater). (5) < Minimum (Analytical) Limits of Detection (MDL).

Determinant	Units	GAC					
		EQS(1)	DWS(2)	US_{95} Mean(3) *Shallow Wells*	US_{95} Mean(4) *Deep Wells*	US_{95} Mean > Relevant GAC *Shallow Wells*	US_{95} Mean > Relevant GAC *Deep Wells*
pH	-			-	7.7	7.51	8.5
Arsenic	µg/l	**50(1)**	**10**	6.8	3.2	x	x
Boron	mg/l	**2**	**1**	2.8	**1.7**	√	√
Cadmium	µg/l	**5**	**5**	0.4	0.4	x	x
Chromium	µg/l	**5 (250)**	**50**	12.1	32.6	x	x
Copper	µg/l	**1 (28)**	**2000**	12.0	62.8	x	x
Lead	µg/l	**4 (250)**	**50**	1.0	1.0	x	x
Nickel	µg/l	**50-200**	**20**	10.7	17.5	x	x
Selenium	µg/l	**-**	**10**	5.5	**28.6**	x	√
Zinc	µg/l	**8 (500)**	**5000**	32.6	33.4	x	x
Mercury	µg/l	**1**	**1**	0.1	0.5	x	x
Total Ammonium as NH_4	mg/l	**-**	**0.5**	4.7	0.6	√	√
Sulphate	mg/l	**400**	**250**	307.3	**420**	x	√
TPH	mg/l	**-**	**0.01**	0.04	0.01	-	-
Benzene	µg/l	**30 (300)**	**1**	< MDL(5)	< MDL(5)	x	x
Toluene	µg/l	**50 (500)**	**10**	<10	<10	x	x
Xylene	µg/l	**-**	**10**	<10	<10	x	x
Naphthalene	µg/l	**10(100)**	-	<1	<1	x	x
Total Phenol	µg/l	30 (300)	0.5	< MDL(5)	**2.7**	x	√

Table 21: CLR-11 Stage 2 Risk Assessment for Controlled Waters (*Permo-Triassic Aquifer*).

Notes: (1) Freshwater Annual Average Environmental Quality Standard (EQS) with Maximum Allowable Concentrations (in brackets); (2) DWS = Drinking Water Standard from Water Quality (Water Supply) Regulations, 2001(3). Up Gradient Wells, BH 2 and BH 6 (Shallow Groundwater). (4). Down Gradient Wells, BH 1 and BH 9 (Shallow Groundwater). (5) Up Gradient Wells, RH 3 and RH 5 (Deep Groundwater). (6) Down Gradient Wells, RH 1 and RH 2 (Deep Groundwater); Maximum Values rather than US95th Percentile Mean Values were calculated on basis of Total Number of Wells, N = 2.

Determinant	Units	**GAC**					
		EQS(1)	**DWS(2)**	**US_{95} Values(3)** ***Up-Gradient Shallow Wells***	**US_{95} Values(4)** ***Down-Gradient Shallow Wells***	**Maximum Values(5)** ***Up-Gradient Deep Wells***	**Maximum Values(6)** ***Down-Gradient Deep Wells***
pH	Units			7.7	7.7	10.64	7.89
Arsenic	µg/l	**50(1)**	**10**	2	6	3	2
Boron	mg/l	**2**	**1**	1.1	0.5	0.3	**1.7**
Cadmium	µg/l	**5**	**5**	0.4	0.4	0.4	0.4
Chromium	µg/l	**5 (250)**	**50**	8	6.5	33	9
Copper	µg/l	**1 (28)**	**2000**	1.5	1	3	2
Lead	µg/l	**4 (250)**	**50**	1	1	1	1
Nickel	µg/l	**50-200**	**20**	9	8	17	9
Selenium	µg/l	**-**	**10**	3.5	1.5	29	4
Zinc	µg/l	**8 (500)**	**5000**	3	**11.5**	3	34
Mercury	µg/l	**1**	**1**	0.05	0.05	0.5	0.5
Total Ammonium as NH_4	mg/l	**-**	**0.5**	0.8	0.75	0.6	0.6
Sulphate	mg/l	**400**	**250**	420	78.5	460	460
Naphthalene	µg/l	**10(100)**	-	1	1	10	10
Total Phenol	µg/l	30 (300)	0.5	1	1	10	10

Table 22: CLR-11 Stage 2 Risk Assessment for Controlled Waters (*Rochdale Canal*)

Notes: (1) Standard from Freshwater Annual Average Environmental Quality Standard (EQS) with Maximum Allowable Concentrations (in brackets).

Determinand	Units	Concentration			
		EQS GAC(1)	Upstream	Downstream	Concentrations > Relevant GAC
Arsenic	µg/l	50(1)	1	1	x
Boron	µg/l	2000	<10	<10	x
Cadmium	µg/l	5	<0.4	<0.4	x
Chromium	µg/l	5-250	<1	2	x
Copper	µg/l	1-28	6	9	x
Lead	µg/l	4-250	3	4	x
Nickel	µg/l	50-200	4	<1	x
Selenium	µg/l	-	<1	<1	x
Zinc	µg/l	8-500	<3	<3	x
Mercury	µg/l	1	<0.05	<0.05	x
Total Ammonium as NH_4	mg/l	-	<0.2	<0.2	-
Sulphate	mg/l	-	20	20	-
TPH (C5 – C35)	mg/l	400	<10	<10	x
Naphthalene	µg/l	10	<1	<1	x

Water samples were recovered from the River Irwell ‘upstream’ and ‘downstream’ of the site. The recovered water samples were analysed for a range of determinands, the results of which are summarised in the table (above).

7.5 Leachate Analysis

Leachability testing (NRA method) was carried out on selected solid samples with the subsequent leachate analysed for a range of determinants. The results are detailed in Appendix F and summarised in Table 23 (below).

Table 23: Summary of Leachate Analysis

Notes: (1) Freshwater Annual Average Environmental Quality Standard (EQS) with Maximum Allowable Concentrations (in brackets); (2) DWS = Drinking Water Standard from Water Quality (Water Supply) Regulations, 2001.

Determinant	Units	Concentration			
		Minimum	Maximum	EQS GAC(1)	DWS GAC(2)
pH	units	4.1	8.2	-	-
Arsenic	µg/l	1	3	50(1)	10
Boron	mg/l	<10	**220**	2	1
Cadmium	µg/l	<0.4	<0.4	5	5
Chromium	µg/l	<1	13	5-250	50
Copper	µg/l	<1	7	1-28	2000
Lead	µg/l	<1	3	4-250	25
Nickel	µg/l	<1	**56**	50-200	20
Selenium	µg/l	<1	2	-	10
Zinc	µg/l	<3	110	8-500	5000
Mercury	µg/l	<0.05	<0.05	1	1
Sulphate	mg/l	4	**1000**	400	250
Benzene	µg/l	<10	<10	30 (300)	1(3)
Toluene	µg/l	<10	<10	50 (500)	10(4)
Xylene	µg/l	<10	<10	-	10(4)
Naphthalene	µg/l	<20	100	10(100)	-

8 STAGE 3: DETAILED HUMAN HEALTH RISK ASSESSMENT (DQRA)

8.1 General Overview of CLEA UK Modelling

The CLEA software conceptual models & algorithms (and CLEA Briefing Notes 1 - 4) combine information on the toxicity of contaminants with estimates of potential chronic exposure for critical receptors occupying brownfield land. CLEA UK (2008) is the most recent software tool and estimates human intake of soil contaminants from various exposure pathways. The model can derive whether calculated *Average Daily Exposure* (ADE) output values (on representative contaminant concentrations) could potentially exceed the relevant health criteria values (HCV) at a specific site.

In this risk assessment, CLEA UK has been used to calculate an ADE from an inhalation pollutant pathway. HCVs based on *Tolerable* or *Minimal Dose Intake* (TDI/MDI) has been described in considerable detail in CLR9. In this model, the 95th percentile of the ADE is compared to the HCV for the purpose of deriving an appropriate SGV. The 95th percentile mean calculation of the ADE will generate a limit of confidence that 95% of health exposure scenarios derived from the software simulation will result in ADE value below the appropriate HCV level.

There are two broad categories of assessment criteria, *Generic Assessment Criteria* (GAC) and *Site Specific Assessment Criteria* (SSAC). GAC simulations are based on the use of standard assumptions relating to land-use, receptor behaviour, site, building and soil characteristics. SSACs modelling, on the other hand, are used to simulate site specific imported data through refined default values from the CLEA UK software.

Thus, deriving an assessment criteria using CLEA UK is an iterative process with the following steps:

1. estimating the intake of the contaminant (for a certain initial concentration of that contaminant) by the relevant exposure pathway(s) to *calculate a total average daily exposure* (ADE) for the relevant human critical receptor (*µg.kg bodyweight.day-1*);

2. compare the ADE (in µg.kg bw.day-1) with the relevant HCV; and to establish whether the ADE:HCV ratio is equal to, exceeds, or is less than 1.

As CLEA UK is a probabilistic model, with some input parameters (such as bodyweight) represented by a range rather than a single value. However, values within the range are defined by a shape parameter (known as a probability density function, PDF). In an iterative process of several simulation runs, the derivation of an ADE: HCV ratio ≤ 1 will determine that the concentration of a particular contaminant (in the soils) is not considered to pose an unacceptable human health risk

In the earlier CLEA 2000 Risk Model, each pollutant linkage was assessed separately through the calculation of a pollutant linkage *Provisional Guideline Values* (PVs). In line with CLEA Briefing Note 4, the SSAC for a CoC was calculated from the relevant PVs. Nether the less, the SSAC and PVs were not to be considered as remedial targets**.** The calculated PVs represented intervention values, such that contaminant concentrations above the PV might be

assessed as posing a potentially unacceptable risk (for that pathway) to the health of site users in the CLR-11 risk assessment process. However, the toxicological clinical research literature may be limited such that there may only be a HCV for either the oral or inhalation route of entry. CLEA UK can assess each pollutant linkage simultaneously through the calculation of ADE: HCV ratios. Additionally, CLEA UK will allow the assessor to decide whether to compare exposure by pathways for the exposure route without an HCV to the established route of entry with the known HCV (*in a process known as route-to-route extrapolation).*

The risk assessment should only be used by competent persons and as such, it is beyond the scope of this report to present a detailed summary of the CLR-10 conceptual models, updated CLEA model algorithms and their technical basis. The CLEA documentation (CLR 7 to 11), CLEA model updates and supporting documents detailed in Section 9.2 should be consulted for a full understanding of the methodology, data requirements and approach.

8.2 Site Specific Assessment Criteria (SSAC)

In Site Specific Assessment (SSAC), the CLEA UK software can derive an ADE:HCV ratio. This process is similar to the derivation of assessment criteria, with the exception that instead of establishing a soil concentration of a contaminant (ADE:HCV = 1), the ADE:HCV ratio for the representative site concentration of that contaminant is estimated. In the SSAC, an ADE: HCV ratio ≤ 1, states that the concentration of that particular contaminant in soils is not considered to pose an unacceptable human health risk. However, If ADE: HCV ratio ≥ 1, further risk intervention is required. This intervention may either be further refinement of the conceptual model (using more site detailed information), or risk management action as discussed in CLR7. By its nature, comparison of ADE: HCV can only be performed on a site specific basis.

8.3 Conceptual Exposure Model (CEM) for CLEA Modelling

A site-specific CEM has been developed to provide the necessary parameters for the calculation of indoor and outdoor exposure pathways. The CEM includes parameters that characterise the DQRA contaminants of concern, the critical receptor, the exposure scenario, ground conditions and the source term. These parameters are included in Appendix A.

To match the input requirements of the algorithms, the site-specific CEM consists of the following elements:

1. Residential End Use (with plant uptake) and standard buildings (*based on model default data, CLR10 and CLEA Briefing Notes 1-3*.)
2. Active exposure inhalation pathway (*based on the Revised Conceptual Site Model)*)
3. Critical receptor (*based on 6 year old, female*)
4. Health Criteria Values for CoC (*based on CLEA default/imported toxicological values*)
5. Physical/chemical Parameterization for CoC (*based on CLEA default/imported data*)
6. Soil type and properties (*based on sandy clay, site data*)
7. Source properties (*based on GDRA*)

8.4 Sensitive Receptors

Potentially sensitive receptors are considered to be residents (in mixed housing developments) and possibly, working staff in smaller commercial development units with health risks related to long term chronic exposure.

It is assumed that soils at depths of greater than 2 mbgl will remain in situ. As the risk assessment will consider long-term health risks to the critical receptor, it will also be protective of the long-term health of other potential human receptors, such as site visitors and trespassers who will have shorter term exposures. Given this, site visitors and trespassers will not need to be considered as separate receptors.

8.4.1 Critical Human Receptor

In line with CLR-11 Stages 1 and 2, the critical human receptor will be taken as a standard CLR-10 female child, with the duration of the exposure covering 6 years (from the age of 1-6). This is the same critical receptor used by DEFRA/EA to generate the published residential end use SGVs. The standard CLEA CLR-10 commercial conceptual model and receptor exposure characteristics will be assumed to be suitable for the purposes of the risk assessment.

The DQRA will also be protective of the long-term health of other potential human receptors, such as site visitors and trespassers, who will have shorter-term exposures. Given this, site visitors and trespassers will not need to be considered as separate receptors. However, the standard human receptors within the CLEA model do not include construction workers; and these health risks to ground works will be addressed via their employer under the Health & Safety at Work standards. Thus, the human health risk assessment for the occupied redeveloped site will not address construction ground workers.

8.5 Exposure Pathways & Active Pollutant Linkages

In summary, in accordance with CLR-11, the risk assessment will consider the following sources:

- **Shallow Source Soils (≤ *0.2 m bgl*):** on the basis of inhalation of soil source vapours and dusts to outdoor/indoor receptors. These sources may arise from in-situ soils (placed beneath hardcover) or treated soils placed at shallow depth.

- **Deeper Source Soils (≤ *2 m bgl*):** on the basis of inhalation of soil source vapours from in-situ soils (at 1.6 m bgl) beneath 600 mm capping;

- **Overturned Ground (≥ *2 m bgl*):**: on the basis of inhalation of soil source vapours from natural soils to reflect potential heath risks to offsite receptors during site remediation.

The results of the pollutant linkage assessment for oral and inhalation pathways are presented in the tables 19 and 20 (below).

Under the standard CLEA residential conceptual model, the critical human receptor may be exposed to potential contaminants through direct contact and ingestion or by inhalation of dusts and vapours. For the purposes of this risk assessment, the proposed redevelopment will

include residential/commercial buildings, areas of hard standing, peripheral managed landscaped areas (with imported cover), gardens and public open spaces; as well as the use of treated soils as fill material. It is assumed that passive vapour protection measures will be installed in building structures. Hard standing areas will be covered by a minimum thickness of 75mm of asphalt and an appropriate thickness of chemical validated topsoil's/sub-soil will be placed in the managed landscaped areas.

Table 24 - Stage 1 Linkage Assessment for Oral Pathways

Notes: (1) No Plausible Pathway Linkage on the basis of cover layer in place. Soil Guideline Values have been developed from the CLEA model which assumes that the sensitive receptors will be exposed to the given concentration of contaminant in the soil at the ground surface. Thus, the degree to which the capping layer over the contaminated soil may reduce exposure should be assessed on a site-specific basis.

Source	Direct Contact (Ingestion & Dermal)
Metals	x(1)
Sufficiently Volatile TPH Fractions	x(1)
Insufficiently Volatile TPH Fractions	x(1)
BTEX & MTBE	x(1)
Phenols	x(1)
Sufficiently Volatile PAHs	x(1)
Insufficiently Volatile PAHs	x(1)
Cyanide	x(1)

The standard CLEA CLR-10 residential conceptual model allows for up to eight exposure pathways covering dermal contact with soil & dusts, ingestion of soil & dusts and inhalation of vapours and dusts.

The following human health exposure pathways will be considered in the Stage 3 Risk Assessment of CoC:

- Inhalation of soil-derived outdoor dust (*from shallow soils*);
- Inhalation of indoor generated dusts (*enriched from shallow soils*);
- Outdoor inhalation of organic soil vapors (*shallow and deep soil sources migration)*
- Indoor inhalation of soil vapors (*shallow and deep soil sources migration)*

In this risk assessment, existing default pathways for oral and dermal exposure were removed in the model simulation; and an integrated approach of oral and inhalation assessment criteria was neither simulated in the assessment. On the basis of CLR 2 Risk Assessment (see Table 19 and 20) and site specific CSM, it was considered appropriate that ADE:HCV ratio's were derived for an inhalation exposure pathway only.

Table 25 - Stage 1 Linkage Assessment for Inhalation Pathways

Notes: (1) No Plausible Pathway Linkage on the basis of cover layer in place. (2) No Plausible Pathway Linkage on the basis of contaminant being insufficiently volatile.

Source	Inhalation Dusts	Outdoor Inhalation Organic Vapours	Indoor Inhalation Organic Vapours
Metals	x(1)	x (2)	x(2)
***Sufficiently Volatile* TPH Fractions**	x(1)	✓	✓
***Insufficiently Volatile* TPH Fractions**	x(1)	x (2)	x(2)
BTEX & MTBE	x(1)	x	x
Phenols	x(1)	✓	✓
***Sufficiently Volatile* PAHs**	x(1)	✓	✓
***Insufficiently Volatile* PAHs**	x(1)	x (2)	x(2)
Cyanide	x(1)	x (2)	x(2)

8.6 CoC Consideration at CLR, Stage 3 Risk Assessments.

Based on the results of GDRA (CLR Risk Assessment Stages 1 and 2), the following main contaminants of concern (CoC) will be considered by the DQRA (CLR Risk Assessment, Stage 3):

- Sufficiently volatile TPH fractions;
- Sufficiently Volatile PAHs: *acenaphthylene, naphthalene;*
- MTBE;
- Dichloromethane and 2-Methylnaphthalene.

Detected concentrations of sufficiently volatile TPH, fluorene, acenaphthene, naphthalene, toluene, ethylbenzene, phenol, benzene and xylene, in both of the depth dependant zones, are compliant with the residential guideline values. Thus, the detected concentrations of these compounds are unlikely to pose an unacceptable risk to long-term human health.

TPH fractions (> C_{16}) and the majority of the 16 PAH's being insufficiently volatile were not considered by the vapour inhalation pathways. In line with DEFRA/EA Agency guidance, Total TPH GAC has been calculated from the available GACs using site-specific proportions of speciated TPH fractions under the 'Principle of Additivity'(*Science Report P5-080/TR3).*

8.6.1 Adopted Human Health GAC Criteria

Table 22 summarises the inhalation toxicological data used in the modelling for the Stage 3 substances of concern.

Table 26 - Adopted Inhalation Toxicological Criteria

Substance of Concern	Toxicity Type	Source of Data
Aliphatic TPH C8-C10	Threshold	TPHCWG
Aliphatic TPH C10-C12	Threshold	TPHCWG
Aliphatic TPH C12-C16	Threshold	TPHCWG
Aromatic TPH C8-C10	Threshold	TPHCWG
Aromatic TPH C10-C12	Threshold	TPHCWG
Aromatic TPH C12-C16	Threshold	TPHCWG
Naphthalene	Threshold	Tox 20
Fluorene	Threshold	Tox 20 - See Text
Acenaphthene	Non-Threshold	Tox 2 BaP - See Text
MTBE	Threshold	IRIS
Dichloromethane	Threshold	IRIS
2-Methylnaphthalene	Threshold	IRIS

Phenol (*DEFRA/EA Tox Reports*):

Exposure data for the critical receptor i.e. female child was limited. Thus, ADE was modelled using adult tolerable daily intakes (TDI) for threshold substances (including background exposure) and Index Doses (ID) for non-threshold exposure.

Total Petroleum Hydrocarbons and Speciated Fractions *(TPHCWG documents/Science Report P5-080/TR3/Dutch RIVM 2001 report, 711701-025)**:***

DEFRA has not published health criteria for TPH, thus, indicative health criteria have been selected in line with the recommendations of DEFRA CLR-7, CLR-9 and Agency guidance on Evaluating Human Health Risks from Petroleum Hydrocarbons in Soils (Science Report P5-080/TR3). For these fractions, available inhalation toxicity information for TPH (specifically the TPHCWG documents), information published by the Dutch (specifically Dutch RIVM 2001 report, 711701-025) and the on-line information on the USEPA/ASTDR Integrated Risk Information System (IRIS). Literature inhalation values are often given as a reference concentration (RfC) in mg/m^3.

In P5-080/TR3, the Agency has stated that they intend to adopt the framework laid out by the TPH Criteria Working Group (TPHCWG). The current Agency guidance on TPH (Science Report P5-080/TR3) recommends that additivity of toxicological effects across fractions should be considered by TPH human health risk assessments. The TPHCWG has characterised typical toxicological and physical-chemical properties of hydrocarbon fractions which can be used within a risk-based framework. All the TPHCWG fractions are threshold substances and TPHCWG Volume 3 has been used to assess the volatility of the fractions. These hydrocarbon fraction bandings have been slightly altered, to be consistent with Dutch RIVM 2001 report, 711701-025.

The MDI (mean daily intake) for the TPH Fraction will be considered negligible for the inhalation and oral pathways. This is consistent with RIVM report 711701-025, which has expressed that oral background exposure can be assumed to be negligible and that inhalatory background exposure might be expected only from volatile TPH-based compounds (i.e. $<C_{10}$).

Polyaromatic Hydrocarbons and Surrogate Compounds *(Dutch RIVM 2001 report, 711701-025/DEFRA/EA Tox Reports).*

PAH toxicology has been assessed using a surrogate toxicological approach whereby the relative toxicity of acenaphthene has been derived from relative potency assessments to BaP and naphthalene (Dutch RIVM 2001 report, 711701-025; and DEFRA/EA Tox Reports). The volatility assessment in relation to inhalation pathways is based on USEPA 2003 which is the source document for the updated Agency inhalation model. The assessment of volatility has been based on a categorisation detailed in USEPA 2003. This USEPA document provides an assessment of an extensive list of substances as to whether they are of sufficient volatility to be of concern via inhalation pathways and whether they are likely to pose a risk to long-term human health via vapour inhalation. USEPA 2003 is the same document on which the CLEA Model updates are based, so a volatility assessment within this document is considered to be both appropriate and robust for use in the UK.

Table 27 - Properties of Stage 2 Priority PAHs

Two Ring PAHs	Volatility	Toxicity Type	Relatively Toxicity	Mol Wt (g)	Solubility (mg/l)	Koc
Naphthalene	Sufficient Volatility	Threshold	Naphthalene	128	31	1,288
Acenaphthene	Sufficient Volatility	Non-Threshold	0.001 x BaP	154	3.6	7,079

VOC (2-methylnaphthalene, DCM and MTBE):

DEFRA has not published health criteria for 2-methylnaphthalene, dichloromethane and MTBE. Appropriate indicative health criteria have been selected from IRIS and USEPA (2003) Data. The MDIs for these substances has been be assumed negligible for the inhalation pathways, which is in line with the MDIs for BTEX, chlorinated solvents and PAHs detailed in the published TOX reports.

The chemical specific parameters required for the CLEA modelling (including correction factors of Henry's Constant and Soil Temperature Vapour Pressure) are detailed in the Appendices. The sources of the parameters used in the modelling are summarised in the Table below.

Table 28 - Source of Chemical Parameters for Substances of Concern

Substance of Concern	Primary Source of Parameters
TPH Fractions	TPHCWG Enthalpy of vaporisation at the normal boiling point & Critical temperature estimated using Agency & USEPA recommended methods
PAHs	R&D document P5-079/TR1
BTEX	R&D document P5-079/TR1
MTBE	USEPA 2003
Dichloromethane	USEPA 2003
2-Methylnaphthalene	USEPA 2003

8.6.2 Exposure Scenario

The characteristics of the critical receptor that are applicable for the pathways are presented in the modelling results in Appendix F.

The CLEA approach is intended to be a probabilistic exposure model. The probabilistic parts of the model replace some single-value parameters in the exposure assessment with a family of values selected from a defined probability distribution. There are eight probabilistic parameters and all these parameters relate to human characteristics in the CLEA model algorithms.

Inspection of the algorithms for vapour inhalation presented in CLR-10 reveals that the Body Weight term used in the calculations cancels out and has no effect on the outcome of the calculations. This is a known issue and has been confirmed by the Agency in a FAQ on the Agency CLEA web pages (www.environment-agency.gov.uk). This means that for inhalation pathways, the calculations are independent of body weight, so that there is no need to use the body weight and respiration rate probability density functions (as detailed in CLR-10) and this means that averaged deterministic values can be utilised, although the CEM values are irrelevant as the model output is actually independent of body weight.

8.6.3 Soil Properties and Source Term

For the human health risk assessment, default values for CLEA 2004 sandy soil have been modified to incorporate soil properties for a sandy clay substrate soil (see Table 25, below). The modelling has taken into account the refined site specific CLEA soil parameters and the Henry's Law Constant for CoC have been adjusted to account for soil temperature, where required.

For the purposes of the CLR-11 human health risk assessment, soils have been considered for three different depth-dependant zones:

1. Treated soils at a depth of 0.2m to reflect the likely thickness of asphalt and underlying sub-base in car parks; and shallow source-building separation beneath building footprints;

2. Made ground at depths of 1.4 m bgl are modelled as source depth of vapours in deeper ground beneath 600 mm capping;

3. Natural soils at depths of greater than 2m to reflect that the site may be overturned during the remediation (to a depth of 2m).

Table 29 - Adopted Soil Type and Properties

Parameter Type	Adopted Value & Comment
Soil Type	Sandy Clay
Air Filled Porosity	0.31
Water Filled Porosity	0.15
Total Porosity	0.46
van Genuchten Shape Parameter	0.3473
Residual Soil Water Content	0.03
Soil Saturated Hydraulic Conductivity	6.47E-03 m/s
Saturated Water Content	0.375
Mean Interparticle pore radius	0.044
Ambient Soil Temperature	283 ºK (c. 10 ºC) CLEA 2004 parameter used to correct Henry's Law Constant & Vapour Pressure for the soil temperature
Fraction Organic Carbon	0.0015 (2.5% SOM)

Table 30 - Adopted Source Term

Site Characteristic	CLEA Default	Adopted or Site Specific Values
Depth below ground to shallow vapour generating soil source	1m	0.2 m - Indoor/Indoor Vapour Pathways and Soil generated dusts from shallow source soils; 1.4 m - Indoor/Indoor Vapour Pathways for soils beneath 600 mm capping; 2 m - Outdoor/Indoor Vapour Pathways for in-situ soils;
Length of unsurfaced source in prevailing wind direction	15m	15m
Average ambient air velocity	3 m/s	3 m/s
Average height of mixing zone	50% Body Height	50% Body Height

8.6.4 Building Properties

The building properties used for the Indoor Air Pathway are based on the Standard CLEA commercial buildings detailed in CLEA Briefing Note 3 Version 1.1. The characteristics of the building are presented in the Appendices F (CD Rom).

8.6.5 Saturated Soil Vapour Concentrations

The saturated soil vapour concentrations have also been calculated for each of the sufficiently volatile substances of concern using algorithms provided in the CLEA briefing notes. The $C_{sat-vap}$ concentration is typically expressed as a vapour concentration in mg/m^3, but can also be expressed as a soil concentration in mg/kg. The algorithms to calculate $C_{sat-vap}$ provide an upper limit vapour concentration in the soil pores; alternatively, this can be expressed as the lowest soil concentration capable of generating the upper bound vapour concentration. The $C_{sat-vap}$ vapour concentration (in mg/m^3) for a substance is the same irrespective of whether the source is soil, product or water (the related soil concentration is soil-type dependant). The $C_{sat-vap}$ vapour concentration should not be confused with Soil-C_{sat} soil concentrations calculated by other models, such as RBCA, that use soil properties to predict the soil concentration (in mg/kg) when free product may start to form.

The $C_{sat-vap}$ algorithms are based on saturated vapour pressures of liquids (i.e. the source substances are assumed to be dissolved in water) that have been corrected for ambient soil temperature or one of two methods detailed in a reference provided in SGV 15 & 16 (*Property Estimation Methods for Chemicals*).

Where Agency corrected vapour pressure values are not available, these have been calculated in line with recommendations in Property Estimation Methods for Chemicals. For substances that boil below 200˚C and have vapour pressures above 10 Pa the vapour pressure has been corrected using the Antoine Equation Method for Liquids; for higher boiling, less volatile, substances, the Grain Watson Method for liquids has been adopted. Where the calculated value at ambient soil temperature is above the reference value (typically at 20˚C or 25˚C), then the reference value has been adopted as the vapour pressure at ambient soil temperature. If the calculated vapour pressure at ambient soil temperature is above atmospheric pressure, then atmospheric pressure has been adopted as the vapour pressure at ambient soil temperature.

The results of the saturated soil vapour concentration calculations are presented in the Appendices.

8.7 CLEA Modelling Results

The results of the CLEA compliant modelling are summarised in table 27 and presented in the Appendices F (CD Rom).

Treated soils have been considered at 0.2 m depth below areas of hard-standing, representing the likely minimum thickness of asphalt and sub-base to be placed in car parks.

The model outputs have not taken into account the C_{sat} concentrations and thus. The ADE $_{inhalation}$ values should be considered conservative. The modelling results relate to the adopted conservative soil conditions and ambient soil temperature.

8.7.1 Health Risk from Shallow Soils (≤ 0.2 m bgl.)

A comparison of the CLEA UK Modelled *Average Daily Exposure* (*ADE*) against *Health Criteria Values (HCV)* from shallow soil sources (≤ 0.2 m bgl) is presented in Table 28. The Average Daily Exposure (ADE) values computed from the model has determined that indoor/outdoor volatile concentrations from shallow ground (≤ 0.2 m bgl) do not exceed health criteria values (HCVs); and therefore can be considered not to pose an inhalation risk to human health.

In Table 28, model boundary (indoor/outdoor) ADE concentrations for phenols and indoor concentrations of 2-Methylnaphthalene are above HCV values. The CLEA UK simulation has derived an ADE:HCV ratio ≤ 1 for (indoor/outdoor) vapour exposure from shallow soil sources (≤ 0.2 m bgl). In CLEA UK modelling, a linear slope plot (Figure 1) will determine whether a linear fit exists between successive simulated model runs. In this case, the linear correlation between ADE:HCV(ratio ≤ 1) for phenol and 2-Methylnaphthalene (in Table 28), through the simulated data allows the user to determine that model boundary concentrations (above HCV) are not an inhalation risk.

Indoor and outdoor exposure from soil generated dust fractions are significantly below health criteria values (HCVs) at the site. Notably, the assessor decision not to use soil enrichment fractions in the simulation will have contributed to the low derived values for ADE Mean Dust concentrations.

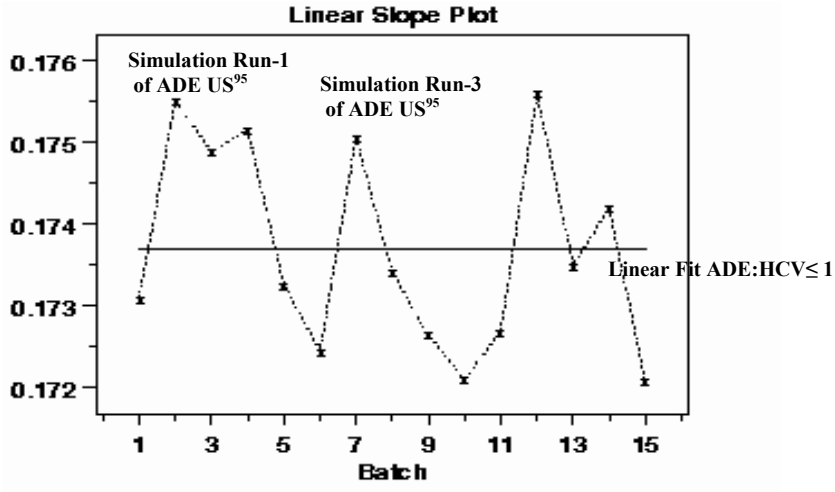


Figure 1- Diagrammatic illustration to explain linear slope plot of ADE:HCV≤1 through simulated model runs.

CLEA UK is a probabilistic model, with some input parameters represented by a range rather than a single value. In the context of simulation modelling, a linear correlation plot through simulated distribution data (of ADE US^{95}) is undertaken in order to derive an approximate correlation between ADE and HCV input values. In an iterative process of several simulation runs, the model may report ADE US^{95} values from the model distribution data that exceed the toxicological health criteria values. These ADE values are being reported as 'model boundary' values in this report. In the model, the derivation of a linear fit (ADE/HCV) through this

simulated data allows the user to determine actual risk. Thus, the linear fit of ADE/HCV≤ 1 (reported in the CLEA UK output data sheets) for a particular contaminant (in the soils) can be considered not to pose an unacceptable human health risk.

Parameterization using enrichment factors (EF) was not used in the simulation on the basis that large uncertainties are associated with the use of this normalizing factor. Enrichment factors are calculated relative to background concentrations using the crustal elements or compounds; whereby these concentrations are used as reference (normalizing) background concentrations in the environment. The EF is defined as C_x/C_N (dust) divided by C_x/C_N (crust), where C_x is the concentrations element X in the dust (or crustal rock); and C_N is the concentration of the normalizing element in dust (or crust).

However, the concept of normalizing concentrations to an average total crust value is of questionable merit due to the variable composition of the earths crust (in any one area) compared to regional averages. In this site specific case, sediment enrichment relative to the effect of mining interference factors (MIF) of natural deposits or the extensive landfill activities across the site would need further correction factors which are not currently part of the CLR10 parameterisation of EF normalization modelling. Although the CLEA model incorporates the optional use of EF factors, CLR10 has documented the potential error uncertainties based on MIF factors, local geology or natural dissolution/fractionation processes in ambient air during biogeochemical, weathering and air dispersion.

8.7.2 Health Risk from Deep Soil Source (≤ 1.4 m bgl.)

A comparison of the CLEA UK Modelled *Average Daily Exposure* (*ADE*) against *Health Criteria Values (HCV)* from deep soil vapour sources (≤ 1.4 m bgl) is presented in Table 30. Mean ADE values for indoor volatile concentrations of Phenols and PAH (*acenaphthene*) had shown model threshold concentrations above Health Criteria Values (HCVs). Computed Mean ADE values for all other volatile concentrations were below the HCV for indoor and outdoor vapour inhalation exposure.

The CLEA UK simulation has derived an ADE: HCV ratio ≤ 1 for indoor/outdoor vapour exposure from soil sources (≤ 1.4 m bgl). Thus, mean threshold concentrations of ADE values above HCV at this soil depth are not considered to pose an unacceptable human health risk.

8.7.3 Health Risk from Deep Soils (≥ 2 m bgl.)

A comparison of the CLEA UK Modelled *Average Daily Exposure* (*ADE*) against *Health Criteria Values (HCV)* from deep soil vapour sources (≥ 2 m bgl) is presented in Table 31. The model boundary ADE values of (indoor) volatile concentrations of Phenols, MTBE and 2-Methylanaphalene from deep soil sources have slightly exceeded the relevant health criteria values (HCVs) for vapour inhalation exposure.

In Site Specific Assessment (SSAC), however, the CLEA UK software has derived an ADE: HCV ratio ≤ 1 for soil concentrations at this depth. This ratio has determined that inhalation exposure of soil concentrations from this source is not considered to pose an unacceptable human health risk.

Table 31: ADE Mean Values for Indoor/Outdoor Soil Derived Dust (*Soil Source, 0.2 m bgl*)

Contaminant	$HCV_{inhalation}$ (*µg.kg bw.day-1*)	ADE:HCV[1]	ADE (Mean) Dust[2] (*µg.kg bw.day-1*)	
			Indoor	Outdoor
Acenaphthene	7.00E-02	1.00E+00	1.94E-05	6.54E-06
Naphthalene	2.00E+01	1.00E+00	7.29E-08	2.46E-08
MTBE	3.00E-02	1.00E+00	5.95E-13	2.01E-13
Phenols	4.00E+01	-	1.69E-02	5.70E-03
2-Methylnaphthalene	2.00E-02	1.00E+00	8.68E-14	2.93E-14
Dichloromethane	6.00E-02	1.00E+00	7.09E-14	2.40E-14
TPH Aliphatic C8-C10	1.00E+00	1.00E+00	1.65E-11	5.56E-12
TPH Aliphatic C10-C12	1.00E+00	1.00E+00	7.93E-11	2.68E-11
TPH Aromatic C8-C10	2.00E-01	1.00E+00	1.67E-11	5.65E-12
TPH Aromatic C10-C12	2.00E-01	1.00E+00	9.22E-11	3.12E-11
TPH Aromatic C12-C16	2.00E-01	1.00E+00	5.14E-10	1.74E-10
Remaining TPH C16 to 35	n/a	n/a	Insufficient volatility	
Total TPH	2.60E+00	n/a	7.19E-10	2.43E-10

[1]ADE:HCV Ratio ≤ 1, contaminant in soils is not considered to pose an unacceptable human health risk. ADE: HCV Ratio ≥ 1, further risk intervention is required. [2] = ADE Mean Values for health risk associated with inhalation of dusts from shallow insitu/treated soils (at ≤ 0.2 m bgl).

Table 32: ADE Mean Values for Indoor/Outdoor Vapour (*Soil Source, 0.2 m bgl*)

Contaminant	$HCV_{inhalation}$ (*µg.kg bw.day-1*)	ADE:HCV[1]	ADE (Mean) Vapour[2] (*µg.kg bw.day-1*)	
			Indoor Air	Outdoor Air
Acenaphthene	7.00E-02	1.00E+00	6.73E-02	2.67E-03
Naphthalene	2.00E+01	1.00E+00	5.13E+00	1.49E+01
Phenols	4.00E+01	-	**5.76E+02**	**1.03E+02**
MTBE	3.00E-02	1.00E+00	8.96E-03	2.10E-02
2-Methylnaphthalene	2.00E-02	1.00E+00	**1.22E-02**	7.78E-03
Dichloromethane	6.00E-02	1.00E+00	2.02E-02	3.98E-02
TPH Aliphatic C8-C10	1.00E+00	1.00E+00	3.34E-01	6.66E-01
TPH Aliphatic C10-C12	1.00E+00	1.00E+00	3.34E-01	6.66E-01
TPH Aromatic C8-C10	2.00E-01	1.00E+00	6.69E-02	1.33E-01
TPH Aromatic C10-C12	2.00E-01	1.00E+00	6.69E-02	1.33E-01
TPH Aromatic C12-C16	2.00E-01	1.00E+00	6.69E-02	1.33E-01
Remaining TPH C16 to 35	n/a	n/a	Insufficient volatility	
Total TPH	2.60E+00	n/a	8.69E-01	1.73E+00

[1]ADE:HCV Ratio ≤ 1, contaminant in soils is not considered to pose an unacceptable human health risk. ADE: HCV Ratio ≥ 1, further risk intervention is required. [2]ADE Mean Values for health risk associated with indoor/outdoor dust inhalation from shallow insitu soils (≤ 0.2 m bgl) beneath hard standing.

Table 33: ADE Mean Values for Indoor/Outdoor Vapour (*Soil Source, 1.4 m bgl*)

Contaminant	$HCV_{inhalation}$ (*µg.kg bw.day-1*)	ADE:HCV[1]	ADE (Mean)[2] (*µg.kg bw.day-1*)	
			Indoor Air	**Outdoor Air**
Acenaphthene	7.00E-02	8.94E-01	**7.00E-02**	1.64E-06
Naphthalene	2.00E+01	1.00E+00	9.02E+00	1.10E+01
Phenols	4.00E+01	-	**6.05E+02**	2.66E-02
MTBE	3.00E-02	1.00E+00	2.99E-02	5.72E-05
2-Methylnaphthalene	2.00E-02	1.00E+00	**1.31E-02**	6.95E-03
Dichloromethane	6.00E-02	1.00E+00	**2.94E-02**	**3.06E-02**
TPH Aliphatic C8-C10	1.00E+00	1.00E+00	9.98E-01	1.95E-03
TPH Aliphatic C10-C12	1.00E+00	1.00E+00	9.98E-01	1.95E-03
TPH Aliphatic C12-C16	2.00E-01	1.00E+00	2.00E-01	3.90E-04
TPH Aromatic C10-C12	2.00E-01	1.00E+00	2.00E-01	3.90E-04
TPH Aromatic C12-C16	2.00E-01	1.00E+00	2.00E-01	3.90E-04
Remaining TPH C16 to 35	n/a	n/a	Insufficient volatility	
Total TPH	2.60E+00	n/a	2.60E+00	5.07E-03

[1]ADE:HCV Ratio ≤ 1, contaminant in soils is not considered to pose an unacceptable human health risk. ADE: HCV Ratio ≥ 1, further risk intervention is required. [2]ADE Mean Values for inhalation health risk associated with soil vapour migration associated with in-situ soils (at 1.4m bgl) beneath 600 mm capping.

Table 34: ADE Mean Values for Indoor/Outdoor Vapour (*Soil Source, ≥ 2 m bgl*)

Contaminant	$HCV_{inhalation}$ (*µg.kg bw.day-1*)	ADE:HCV[1]	ADE (Mean)[2] (*µg.kg bw.day-1*)	
			Indoor Air	**Outdoor Air**
Acenaphthene	7.00E-02	8.94E-01	6.83E-02	1.57E-03
Naphthalene	2.00E+01	1.00E+00	1.02E+01	9.77E+00
Phenols	4.00E+01	-	**4.33E+02**	1.81E+01
MTBE	3.00E-02	1.00E+00	**1.58E-02**	1.42E-02
2-Methylnaphthalene	2.00E-02	1.00E+00	**1.34E-02**	6.61E-03
Dichloromethane	6.00E-02	1.00E+00	3.24E-02	2.76E-02
TPH Aliphatic C8-C10	1.00E+00	1.00E+00	5.39E-01	4.61E-01
TPH Aliphatic C10-C12	1.00E+00	1.00E+00	5.39E-01	4.61E-01
TPH Aliphatic C12-C16	2.00E-01	1.00E+00	1.08E-01	9.22E-02
TPH Aromatic C10-C12	2.00E-01	1.00E+00	1.08E-01	9.22E-02
TPH Aromatic C12-C16	2.00E-01	1.00E+00	1.08E-01	9.22E-02
Remaining TPH C16 to 35	n/a	n/a	Insufficient volatility	
Total TPH	2.60E+00	n/a	1.40E+00	1.20E+00

[1]ADE:HCV Ratio ≤ 1, contaminant in soils is not considered to pose an unacceptable human health risk. ADE: HCV Ratio ≥ 1, further risk intervention is required. [2]ADE Mean Values for inhalation health risk associated with soil vapour migration from overturned ground.

Table 35: ADE Mean Values for Indoor/Outdoor Vapour (*Soil Source, 1.4 m bgl*)

Contaminant	$HCV_{inhalation}$ (*µg.kg bw.day-1*)	ADE:HCV[1]	ADE (Mean)[2] (*µg.kg bw.day-1*)	
			Indoor Air	**Outdoor Air**
Acenaphthene	7.00E-02	8.94E-01	**7.00E-02**	1.64E-06
Naphthalene	2.00E+01	1.00E+00	9.02E+00	1.10E+01
Phenols	4.00E+01	-	**6.05E+02**	2.66E-02
MTBE	3.00E-02	1.00E+00	2.99E-02	5.72E-05
2-Methylnaphthalene	2.00E-02	1.00E+00	**1.31E-02**	6.95E-03
Dichloromethane	6.00E-02	1.00E+00	**2.94E-02**	**3.06E-02**
TPH Aliphatic C8-C10	1.00E+00	1.00E+00	9.98E-01	1.95E-03
TPH Aliphatic C10-C12	1.00E+00	1.00E+00	9.98E-01	1.95E-03
TPH Aliphatic C12-C16	2.00E-01	1.00E+00	2.00E-01	3.90E-04
TPH Aromatic C10-C12	2.00E-01	1.00E+00	2.00E-01	3.90E-04
TPH Aromatic C12-C16	2.00E-01	1.00E+00	2.00E-01	3.90E-04
Remaining TPH C16 to 35	n/a	n/a	Insufficient volatility	
Total TPH	2.60E+00	n/a	2.60E+00	5.07E-03

[1]ADE:HCV Ratio ≤ 1, contaminant in soils is not considered to pose an unacceptable human health risk. ADE: HCV Ratio ≥ 1, further risk intervention is required. [2]ADE Mean Values for inhalation health risk associated with soil vapour migration associated with in-situ soils (at 1.4m bgl) beneath 600 mm capping.

Table 36: ADE Mean Values for Indoor/Outdoor Vapour (*Soil Source, ≥ 2 m bgl*)

Contaminant	$HCV_{inhalation}$ (*µg.kg bw.day-1*)	ADE:HCV[1]	ADE (Mean)[2] (*µg.kg bw.day-1*)	
			Indoor Air	**Outdoor Air**
Acenaphthene	7.00E-02	8.94E-01	6.83E-02	1.57E-03
Naphthalene	2.00E+01	1.00E+00	1.02E+01	9.77E+00
Phenols	4.00E+01	-	**4.33E+02**	1.81E+01
MTBE	3.00E-02	1.00E+00	**1.58E-02**	1.42E-02
2-Methylnaphthalene	2.00E-02	1.00E+00	**1.34E-02**	6.61E-03
Dichloromethane	6.00E-02	1.00E+00	3.24E-02	2.76E-02
TPH Aliphatic C8-C10	1.00E+00	1.00E+00	5.39E-01	4.61E-01
TPH Aliphatic C10-C12	1.00E+00	1.00E+00	5.39E-01	4.61E-01
TPH Aliphatic C12-C16	2.00E-01	1.00E+00	1.08E-01	9.22E-02
TPH Aromatic C10-C12	2.00E-01	1.00E+00	1.08E-01	9.22E-02
TPH Aromatic C12-C16	2.00E-01	1.00E+00	1.08E-01	9.22E-02
Remaining TPH C16 to 35	n/a	n/a	Insufficient volatility	
Total TPH	2.60E+00	n/a	1.40E+00	1.20E+00

[1]ADE:HCV Ratio ≤ 1, contaminant in soils is not considered to pose an unacceptable human health risk. ADE: HCV Ratio ≥ 1, further risk intervention is required. [2]ADE Mean Values for inhalation health risk associated with soil vapour migration from overturned ground.

Table 37 – Exceedance of Modelled ADE Values against Health Criteria Values.

Substance of Concern	Indoor *Vapours* *(≤0.2 m bgl)*	Outdoor *Vapours* *(≤ 0.2 m bgl)*	Indoor *Vapours* *(1.4 m bgl)*	Outdoor *Vapours* *(1.4 m bgl)*	Indoor *Vapours* *(≥ 2m bgl)*	Outdoor *Vapours* *(≥ 2m bgl)*	Indoor *Dusts* *(≤ 0.2 m bgl)*	Outdoor *Dusts* *(≤ 0.2 m bgl)*
TPH Aliphatic C8-C10	x	x	x	x	x	x	x	x
TPH Aliphatic C10-C12	x	x	x	x	x	x	x	x
TPH Aliphatic C12-C16	x	x	x	x	x	x	x	x
TPH Aromatic C8-C10	x	x	x	x	x	x	x	x
TPH Aromatic C10-C12	x	x	x	x	x	x	x	x
TPH Aromatic C12-C16	x	x	x	x	x	x	x	x
Total TPH*	x	x	x	x	x	x	x	x
Naphthalene	x	x	x	x	x	x	x	x
Acenaphthylene	x	x	**MB**	x	x	x	x	x
MTBE	x	x	x	x	**MB**	x	x	x
Phenols	**MB**	**MB**	**MB**	x	**MB**	x	x	x
Dichloromethane	x	x	**MB**	x	x	x	x	x
2-Methylnaphthalene	**MB**	x	**MB**	**MB**	**MB**	x	x	x

Notes 'x' = Computed ADE Concentrations (*μg.kg bw.day-1*) ≤ HCV; MB = Modeled Boundary (ADE) Values ≥ HCV; although there is no human health risk from these concentrations on the basis of ADE: HCV ratio ≤ 1 for all contaminants.

8.8 Summary of Human Health Tier 3 DQRA (CLR 10, Stage 3)

A comparison of the CLEA UK modelled *Average Daily Exposure* (*ADE*) against *Health Criteria Values (HCV)* from shallow and deep soil vapour sources were evaluated in the Risk Assessment. The outcome of the CLEA UK simulation modelling has shown that there is no risk to critical receptors from indoor or outdoor vapour exposure from soil sources. However, this model was based upon risk derived results from ground below a minimum depth of 200 mm and maximum depth of 600 mm capping of clean soils across the site. Given the nature of the site, and the presence of residual contamination at shallow depth, it is assumed that such a capping layer, including topsoil in soft cover/garden areas, will be a requisite for development.

9 STAGE 3: CONTROLLED WATERS RISK ASSESSMENT

9.1 Framework

The Stage 3 risk assessment for sensitive water resources has been undertaken using the Agency P20 methodology and the associated public domain MS Excel spreadsheet system. The iterative stages involved in the controlled water risk assessment are as follows:

1. Identification of potential risk via CLR-11 Stages 1 and 2;

2. Selection of contaminants of concern (CoC) to be assessed at Stage 3;

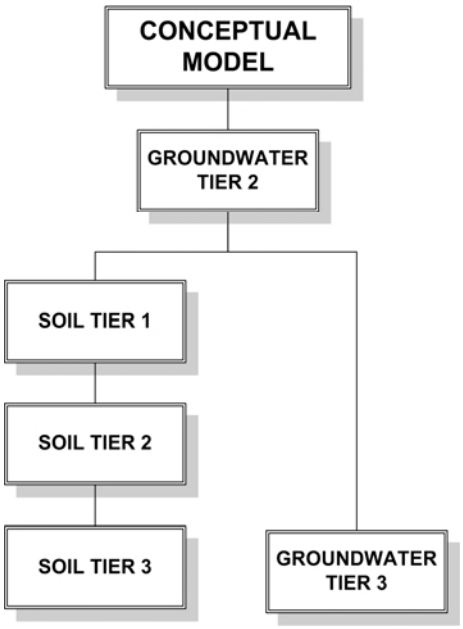
3. Development of a site-specific controlled waters Conceptual Model that includes parameters required for the risk assessment; selection of Point of Compliance and Target Concentrations;

4. A P20 Tiered Risk Assessment process for Priority Contaminates (i.e. those failing the equivalent of the P20 Groundwater Tier 2).

A controlled waters conceptual model has been developed to provide parameters for the calculation of soil and groundwater action levels the Agency P20 Remedial Target Worksheet Version 3.1. The conceptual model includes a numerical data set that characterises the site-specific priority contaminants, the source area, the hydrogeological and hydrological conditions, as well as matching the input requirements of the algorithms used in the P20 methodology.

9.2 Tiered Methodology

Potential guideline soil and groundwater action levels have been calculated for Priority Contaminants using P20 Soil Tiers 1 to 3 and Groundwater Tiers 2 and 3. The methodology provides a process and recommended algorithms for the calculation of the action levels based on a tiered structure that is summarised below:



The rationale for each Tier can be summarised as follow:

Groundwater Tier 2 - The action level is defined as the target value:

Action Level = Target Concentration

Soil Tier 1 - considers whether soil contaminant concentrations are sufficient to affect the receptor, ignoring dilution, dispersion & attenuation, such that:

Action Level = Target Concentration

Soil Tier 2 - considers dilution by the receiving groundwater or surface water. The action level is defined as the target concentration multiplied by a dilution factor (DF). For soil, the DF factor is typically the ratio of the groundwater flow below the site to the infiltration through the modelled area.

*Action Level = Target Concentration * DF*

Soil & Groundwater Tier 3 - considers attenuation in the saturated zone towards the Point of Compliance. The action level is defined as the target value multiplied by a dilution factor (DF) and an attenuation factor (AF).

*Action Level = Target Concentration * (DF + AF)*

The results from the P20 risk assessment represent guideline site-specific soil & groundwater Action Levels, such that contaminant concentrations above the relevant Action Level might pose an unacceptable risk to controlled waters and indicate that further consideration of the risks posed by the contaminants is required.

Consistent with the CLR-11 approach, professional judgement will be made at each step to determine whether unacceptable risks are likely to be posed by the Priority Contaminant. This is consistent with the CLR-11 approach, which allows for judgement and real world checks throughout the process. In addition, any derived remedial targets should also meet the following criteria:

- Be site specific and relate to actual/intended land use and groundwater use;
- Be achievable within a reasonable (agreed) timescale;
- Provide protection to the identified receptors;
- Take into account the likelihood that they can be achieved and the cost of remediation to this target;
- Take into account existing water quality.

9.3 Controlled Water Priority CoC

The groundwater monitoring conducted to date indicates that PAH (BaP), phenol, ammonium and arsenic are present in the groundwater under the site at concentrations above the Stage 2 GACs.

For the purposes of the P20 modelling, the TPH compounds will be modelled using aromatic fractions C_8-$C_{16,}$ and aliphatic C_8-$C_{12.}$ Long-chain aromatic fractions have not been modelled as they are significantly less mobile in the unsaturated and saturated zones than the shorter-chain hydrocarbons. In addition, for the purposes of this assessment and in accordance with Agency guidelines, whole TPH outputs have also been calculated in addition to the model output for each of the modelled fractions, see section 9.3.1 below.

9.3.1 Calculation of Soil Total TPH

Upper bound mean (US^{95}) concentrations in soil depth (≤ 2 m bgl) has been used to estimate typical percentage compositions in the in-situ soils across the site. Thus, remedial trigger values will be modelled using the following derived conservative TPHCWG fractions (from US^{95} soil concentrations) which are biased towards the heavier end fractions.

Upper Bound Percentage Composition (≤ 2 m)

1. Aliphatic Fraction C6-8: <0.1 %
2. Aliphatic Fraction C8-10: <0.1%
3. Aliphatic Fraction C10-12: <0.1 %
4. Aliphatic Fraction C12-16 <1.0 %
5. Aliphatic Fraction C16-40 60 %
6. Aromatic Fraction C6-7: <0.1%
7. Aromatic Fraction C7-8: <0.1%
8. Aromatic Fraction C8-10: <0.1%
9. Aromatic Fraction C10-12: <0.1%

10. Aromatic Fraction C12-16: 0.5%

11. Aromatic Fraction C16-21: 6.2%

12. Aromatic Fraction C21-40: 33%

30. TPH: 100 %

Nether the less, chemical analysis has shown that the heavier and relatively immobile fractions of the aliphatic C_{16}- C_{35} and aromatic C_{21}- C_{40} fraction are predominant in soils.

The minor components of C_6 to C_8 (<1% of the TPH) will not be modelled for either soil or groundwater as they form <1% of the TPH. However, the Aromatic C_7-C_8 fraction has been addressed by the human health risk assessment through consideration of the BTEX compounds.

9.4 Conceptual Model for P20

Given the depth to groundwater and the thickness of the unsaturated zone, groundwater will not be considered a source for human health. Risk to human health will be determined by considering potential soil sources (≤ 2 m bgl depth) from in-situ soils in the unsaturated zone and deeper soils (≥ 2 m bgl depth) of the saturated zone of the redeveloped site.

Thus, the following priority contaminants in the overlying Made Ground will be considered by the Stage 3 Controlled Water Risk Assessment:

- Sufficiently Volatile Aliphatic hydrocarbons, C_{8-10}, C_{10-12} ; and Aromatic TPH Fractions C_{8-10}, C_{10-12} & $C_{12-16;}$
- Phenols;
- Ammonia (NH^{3+}) and Ammonium (NH^{4+});
- Sufficiently Volatile PAHs (*Naphthalene, BaP*).

The results of the pollutant linkage assessment for the controlled waters pathways are presented in the table below. Visibly contaminated perched water will be removed as part of the redevelopment of the site. Treated soils from the site will be utilised as fill materials and soils at depths greater than 1.5m depth will remain in situ.

Table 38 - Identified Potentially Active Controlled Waters Pollutant Linkages

Source	Critical Receptor	Migration Pathways	Potentially Active Pollutant Linkage
Treated Soils & Made Ground in Unsaturated/Saturated Zone (≤ 2m depth and ≥ 2m bgl)	Groundwater	Soils leaching to groundwater and groundwater advection	✓

The following elements of the conceptual model will need to be define in the model parameters:

- Point of Compliance & Target Concentrations
- Adopted chemical and environmental properties for the Priority Contaminants;
- Representative source area characteristics;
- Adopted hydrological & hydrogeological parameters.

9.4.1 Selection of Point of Compliance

The P20 methodology does not provide a prescriptive procedure for the selection of the Point of Compliance (POC) and recommends that the POC be chosen on a site-specific basis. The methodology does provide general guidelines in Section 3.3 of the P20 document.

The Compliance Point is the location along the contaminant migration pathway where the target concentration should not be exceeded. The POC may be at a receptor (e.g. abstraction), the aquifer or pore-water in the soil zone. For Tiers 1 & 2, the POC will be groundwater beneath the site. For Tier 3, the P20 methodology (in section 4.4.2) suggests that in practice the position of the Point of Compliance will normally be set at a distance of between 50m and 500m down hydraulic gradient of the site and can represent the chosen receptor or other point from which water samples can be obtained.

To take into account the two main controlled water sensitive receptors, the assessment of risks to controlled waters (groundwater and fresh water watercourses) will be addressed by complying a 325 m SW POC in down gradient groundwater. It has been assumed that the local groundwater gradient is west south-west. Rochdale is located immediately north and up gradient of the site and River Medlock approximately 650 m to the south. The nearest down-gradient abstraction borehole is 700 m S.

Table 39 - P20 Points of Compliance

POC	Distance to the POC
Soil Tier 1	0m: Pore water & leachate in the unsaturated zone
Tier 2	0m: Groundwater in the natural strata under the site
Tier 3	325 m down gradient of the site boundary; mid way between River Medlock (650 m S) and nearest down-gradient abstraction borehole (700 m S). Groundwater not believed to be in hydraulic continuity with surface water of the Rochdale Canal. 50 m down gradient of the site boundary; to derive the most conservative remedial trigger values of soils considering the former landfill history of the site.

9.4.2 Selection of Target Concentration

The Target Concentration is the concentration of the substance of concern at the Point of Compliance (POC) that should not be exceeded. This will normally be set as equivalent to a water quality standard or to background water quality. The target concentration remains constant during the assessment process.

The UK DWS and where appropriate, the EQS standards (for freshwater) for CoC will be used as target concentrations in the controlled waters risk assessment. Target concentrations adopted in the controlled water assessment are recorded in Table 14.

9.4.3 Source Area Characteristics

The source zone properties have been estimated from the dimensions of the site. Based on this source area, the source zone properties are detailed in Table 16, below.

Table 40 - Source Zone Properties

Property or Parameter	Value	Comments
W Width of contaminant source perpendicular to groundwater flow	325 m x 750 m whole site 243, 750 m^2	Most conservative approach is to assume that the entire site width is contributing up-gradient contaminant source; *Ground water data (BH 11) would suggest that plume width (160 m) be restricted to a zone of influence up-gradient of BH 10 and down-gradient of BH 6.*
L Length of contaminant source in direction of groundwater flow	750 m	Most conservative approach is to assume that the entire site length is contributing up-gradient contaminant source; *Ground water data would suggest that plume length (187 m) be restricted to a zone of influence up-gradient of BH 10 and down-gradient of BH 6.*
da Saturated Aquifer Thickness	5m	Aquifer thickness based on site intrusive data; whereby solid geology of major aquifer is 16.6 -21.5 m bgl.
Average Rainfall Rate	*Literature value* 1257 mm/year 1.47E-04 m/day	EA (local no. 690511); Annual average rainfall of 1257 mm based on monthly rainfall between 1949 – 2003 across the Irwell Catchment area.
Inf Infiltration Rate	0.000015 m/day	Infiltration estimate based on rainfall rate and future site cover: assumes 70% hard cover and 30% recharge in soft cover areas

9.4.4 Hydrogeological Properties

The underlying soils are considered to have the properties detailed in Table 17, below. All soils were conservatively modelled as sandy soils.

Table 41 - Hydrogeological Properties

Hydrogeological Parameter	Typical Range	Adopted Value	Comments
S_z Width of source in aquifer perpendicular to groundwater flow	Site data	325 m x 750 m whole site	Estimate based on site dimensions
P Dry Bulk Density	Literature value	1.6 g/cm^3	Based on silty/sandy clay = 1.8
θ_a Unsaturated Zone Air Filled Porosity		0.31	Literature value for sandy clay soil.
θ_w Unsaturated Zone Water Filled Porosity	0.15 – 0. 32	0.15	Literature value for silty/sandy clay soil; similar to default values recorded in Table 3, CLEA Briefing Note 2.
N Effective Porosity Saturated Zone		0.38	Literature values for total porosity of sandy clay. *Source:* USEPA, User's Guide for Evaluating Subsurface Vapour Intrusion into Building (June 19, 2003),
f_{oc} Fraction Organic Carbon in Unsaturated Zone	0.003 to 0.067	0.018	Average from site data.
f_{oc} Fraction Organic Carbon in Saturated Zone	0.001 to 0.05	0.001	Lower bound estimate based on geological setting of drift deposits.
I Hydraulic Gradient	Variable	0.0027	Calculated from site data.
K Hydraulic Conductivity	Literature values typically <1 to 10 m/day	8.64 x 10 -2 m/d	Field values for Permo Triassic Sandstones /Marlstones (without faulting).
M_z Mixing Zone	Calculated	5m	Calculated by P20 model at Soil Tier 2

9.4.5 Chemical & Environmental Properties

Values for aquifer biodegradation rates for the majority of the substances of concern can readily be found in numerous literature sources. To provide consistency, Agency document R&D P228 (*The Effects of Contaminant Concentration on the Potential for Natural Attenuation*) has been used as the primary reference source for this risk assessment; these values have been supplemented where necessary with data from other reputable sources, such as the New Zealand guidelines. The adopted half-life values are presented in Table 18, below.

Table 42 - Literature Aquifer Values for Biodegradation

Substance	Literature Half Life Values	Reasonable Value	Justification
TPH	New Zealand Guidelines C_7 to C_9 - 2 Years (730 Days) C_{10} to C_{14} - 5 Years (1,825 Days) C_{15} to C_{36} - 10 Years (3,650 Days)	C_7 to C_9 800 Days C_{10} to C_{14} 1,825 Days	Reasonable upper bound values given the BTEX & PAH values
Phenol	Aerobic: 10 - 100 days - Shallow sand/gravel aquifers Anaerobic 50 - 300 days *Shallow sand/gravel aquifers*	300 days	Upper value of anaerobic range from EA P228
BaP	Aerobic: 1.45 years - 57 days *Shallow sand/gravel aquifers* Anaerobic 5.8 years – 228 days Shallow sand/gravel aquifers Aerobic 2.9 years – 114 days - Other literature aquifer studies	256 days	Within aerobic range from EA P228
Naphthalene	Aerobic: 100 - 300 days - Shallow sand/gravel aquifers Anaerobic 200 - 1,000 days Shallow sand/gravel aquifers Aerobic 1 - 108 days - Other literature aquifer studies	125 days	Within aerobic range from EA P228

The Organic Partition Coefficient and Henry Law Constants are taken from the Agency document R&D document P5-079/TR16. The properties of the adopted TPH carbon fractions and the other organic contaminants are detailed in Table 42; and properties of ammonium are listed in table 43, below. The properties of ammonium are taken from the NGWCLC guidance report NC/02/49.

Aerobic half-lives have been used for the soluble compounds that are highly mobile in the dissolved phase. The light TPH Fractions (C_{8-10}) are well known to be the most mobile in groundwater and are usually are degraded relatively quickly (aerobically) at the leading edge of the plume. Ammonium has been assumed to denitrify in aerobic conditions.

Table 43 - Adopted Properties for the Organic Substances

Substance of Concern	Koc Dimensionless	Henry's Constant Dimensionless
Aromatic C_8-C_{10}	1.58E+03	4.80E-01
Aromatic C_{10}-C_{12}	2.51E+03	1.40E-01
Aromatic C_{12}-C_{16}	5.01E+03	5.30E-02
Aliphatic C_8-C_{10}	3.16E+04	8.20E-01
Aliphatic C_{10}-C_{12}	2.51E+05	1.20E+02
BaP	6.01E+00	4.51E-07
Phenol	2.88E+01	1.63E-06

Table 44 - Adopted Properties for Arsenic & Ammonia Compounds

Substance of Concern	Kd Dimensionless	Half Life
Ammonium	0.6	De-nitrification Rate of 1,800 days
Arsenic	F(pH)	Does not degrade

9.4.6 TIER 3 Modelling Options & Assumptions

For the modelling using the public domain MS Excel spreadsheet Version 2.2a, the following assumptions and P20 modelling options were taken into account or adopted for the calculations:

- The modelling assumes that there is an infinite sorbed source of contamination to groundwater. This is conservative as there is likely to be no on-going contaminating processes following site remediation and removal of the bulk of the source materials.

- There is no vertical attenuation or biodegradation in the unsaturated zone. This is a conservative assumption.

- First order biodegradation will occur in the saturated zone and it has been assumed that the decay rate is λ (Option "0" at Tier 3). To ensure an appropriate level of conservatism in the modelling, upper bound surrogate aerobic degradation rates have been selected. Use of Option "1" in the modelling cancels out any retardation effects from the output of the Tier 3 model under steady state conditions by removing the effect of Kd from the target calculations.

- The saturated zone is homogenous and isotropic, with flow dominated by intergranular processes. Adsorption in the saturated zone is linear, instantaneous and reversible.

- It is assumed that the modelled dissolved phase plume has reached steady state conditions and that the Domenico & Ogata Banks steady state solute algorithms are applicable to the hydrogeological conditions. The Domenico & Ogata Banks algorithms are preferred by the Agency.

- Vertical dispersion has been modelled in one direction as the contaminants have entered the saturated zone vertically from the unsaturated zone (Option "1" at Tier 3). For these site conditions, vertical dispersion in one direction is preferred by the Agency. Dispersivity has been calculated according to distance to compliance point (Option "0" at Tier 3).

9.4.7 Selection of Tier 3 Modelling Parameter Values

The data set used in the P20 calculations is drawn from the Controlled Waters Conceptual Model detailed in Section. The input parameters required by the P20 Soil & Groundwater Tiers (based on a groundwater receptor) are summarised in the Table, below.

Table 45 - P20 Parameter Input Requirements

Symbol	Parameter	Soil Tier 1	Soil Tier 2	Soil Tier 3	Groundwater Tier 3
X	Distance to Compliance Point	x	x	✓	✓
K_{oc}	Organic Partition Coefficient	✓	✓	✓	✓
H	Henry's Law Constant	✓	✓	✓	x
Λ	Biodegradation Half Life	x	x	✓	✓
W	Width of contaminant source perpendicular to groundwater flow	x	✓	✓	✓
L	Length of contaminant source in direction of groundwater flow	x	✓	✓	x
S_y	Plume thickness in aquifer at source	x	x	✓	✓
Inf	Infiltration Rate	x	✓	✓	x
Da	Saturated Aquifer Thickness	x	✓	✓	✓
S_z	Width of source in aquifer perpendicular to groundwater flow	x	x	✓	✓
P	Dry Bulk Density	✓	✓	✓	✓
$\theta_a + \theta_w$	Porosity	x	x	x	x
N	Effective Porosity	x	x	✓	✓
θ_a	Air Filled Porosity	✓	✓	✓	x
θ_w	Water Filled Porosity	✓	✓	✓	x
f_{oc}	Fraction Organic Carbon Unsaturated Zone	✓	✓	✓	x
f_{oc}	Fraction Organic Carbon Saturated Zone	x	x	✓	✓
I	Hydraulic Gradient	x	✓	✓	✓
K	Hydraulic Conductivity	x	✓	✓	✓
M_z	Mixing Zone	x	✓	✓	x

9.4.8 Results of the P20 Calculations

The full results of the P20 calculations are presented on the spreadsheet model outputs in the Appendices.

Table 46 - Results of P20 Soil Tiers 1–3 (*325 m POC*)

Contaminant	Soil Tier 1 (*mg/kg*)	Soil Tier 2 (*mg/kg*)	Soil Tier 3 (*mg/kg*)	Max On Site (*mg/kg*)	*Site Values Exceedance of Tier 3*
TPH Aliphatic C_8-C_{10}	1.99E+00	4.10E+00	1.01E+243	1.00E-02	**x**
TPH Aliphatic C_{10}-C_{12}	1.48E+01	3.04E+01	1.63E+161	3.00E-02	**x**
TPH Aromatic C_8-C_{10}	9.35E-02	1.92E-01	3.52E+16	1.00E-02	**x**
TPH Aromatic C_{10}-C_{12}	1.47E-01	3.02E-01	2.86E+10	3.00E-02	**x**
TPH Aromatic C_{12}-C_{16}	**2.92E-01**	**6.00E-01**	**5.69E+10**	**1.50E+00**	✓
Total TPH[1]	Not calculated	Not calculated			
Phenol	2.75E+00	5.66E+00	6.74E+29	4.10E+00	**x**
Benzo(a)pyrene	9.17E+01	9.07E+03	7.41E+80	9.00E-01	**x**
Ammonium as NH_4^+	4.69E-02	1.02E-01	3.02E+06	1.50E+01	**x**
Arsenic	**1.99E+00**	**4.10E+00**	**1.52E+01**	**1.20E+02**	✓

[1] US95 Values for Soil Analysis of Total TPH has estimated Aromatic Fraction, C16-21 and C21-40 at 2% and 37% respectively; and Aliphatic Fraction, C10-12, C12-16 and C16-35 at 5%, 1% and 52%, respectively of TPH (*Section 9.3.1*).

9.4.9 Calculation of ∑TPH Remedial Targets

Within the RTM (Remedial Targets Methodology, revised P20), the purpose of calculating the whole TPH remedial targets (∑TPH) is to ensure that the combined concentration of the individual TPH fractions in the source area does not lead to an exceedance of the target concentration for TPH at the Point of Compliance (e.g. POC target concentration of 0.01 mg/l). Taking into account the combined total of all the fractions provides a more conservative approach than adopting a set of remedial targets based on a range of different TPH fractions.

To make the ∑TPH calculations it is necessary to:

- Understand the site specific composition of the TPH present at the site
- Calculate targets for each of the significant fractions present at the site
- Use the combination of the composition of the TPH and the individual fraction targets to generate a ∑TPH target that ensures the predicted contribution from the each fraction does not exceed the target concentration for TPH.

Using RTM from ∑TPH is clearly a more conservative and pragmatic approach as it provides an upper bound value for the TPH concentration of 355 mg/kg. Under a fraction approach, the remediation contractor would be justified in remediation soils to a remedial trigger value of TPH 355 mg/kg. The full results of the P20 calculations are presented on the spreadsheet model outputs in the Appendices F (CD Rom).

Table 47: Results of P20 for Soils (≤ 2 m bgl) and Conservative POC (200 m).

Fraction	Fraction Percentage of TPH	RTM (P20, 70m POC) Fraction Target	Fraction Soil Conc, TPH of RTM (mg/kg)[2]	Predicted Groundwater Conc. at 50 m POC
TPH Aromatic C_{12}-C_{16}	**1%**	**1.46E+03 mg/kg**	**15 mg/kg**	**<1%**
TPH Aromatic C_{16}-C_{21} and C_{21}-C_{40}	39%	-	569 mg/kg	<1%
TPH Aliphatic C_{16} -$C_{21;}$ and C_{21}-C_{40}	60%	-	876 mg/kg	<1%
∑TPH[1]	100%	-	1460 mg/kg	<3%

[1] ∑TPH target based on fraction percentages of the US[95] TPH fractions in soils (across the averaging area and ≤ 2 m depth). Combined percentage of 1 % was derived for all lighter fractions, C8-C12 of TPH (Aliphatic and Aromatic); and therefore considered of low risk. [2] Based on calculation from Mean (US95) Total TPH from Soils ≤ 2 m bgl (See Section 9.3.1)

9.4.10 Sensitivity Analyses

The P20 methodology recommends a sensitivity analysis for key parameters, where the parameter is varied by a given percentage (e.g. ±20%) to assess the significance of variance of the parameter. The P20 methodology also suggests that it is preferable to select realistic values and then consider a safety margin based on a sensitivity analysis, rather than use an unrealistic combination of worst case values.

Parameters that have the greatest effect on the model output (summarised in Table 32) are hydraulic conductivity, hydraulic gradient, infiltration rate and decay half life values. Where possible, site data/values have been used in the conceptual model and other parameters used in the risk assessment are generally "worst case": this already means that the model output is conservative.

Table 48 Tier 3 Model Output and Parameter Sensitivity

Parameter	Effect of Higher Value	Degree of Effect on Remedial Goal
Effective Porosity	Remedial Target ↑	Moderate to low. Same order of magnitude
Hydraulic conductivity	Remedial Target ↓	Large. Different orders of magnitude
Hydraulic Gradient	Remedial Target ↓	Large. Different orders of magnitude
Bulk Density	Remedial Target ↑	Moderate to low. Same order of magnitude
Infiltration Rate	Remedial Target ↑	Large. Different orders of magnitude; *Lower infiltration rate (m/d) will result in higher concentrations in soils and thus, higher remedial trigger values.*
Decay Half Life	Remedial Target ↓	Large. Different orders of magnitude
Plume Thickness	Remedial Target ↓	Moderate. Same order of magnitude

The Tier 3 model output is also very sensitive to the POC distance. POC distances of 325m have been adopted throughout this assessment based on site conditions. It is considered that a

sensitivity analysis based around the POC distance is appropriate, rather than a detailed analysis using variance of all the parameters, as the majority of the parameters are already site-specific or at typical conservative upper/lower bound values. The soil & groundwater Tier 3 model outputs for POC distances and infiltration rates are presented for Aromatic TPH C_{8-10} and Ammonium in Table 49 and 50, adopting the whole site as the source.

Table 49 - Soil Tier 3 Output Sensitivity (mg/kg) Analysis (*Increased POC)*

Contaminant	50m POC	100m POC	150m POC	200m POC	250m POC
TPH Aromatic C8-C10[1]	6.14E+04	7.32E+07	1.90E+10	2.21E+12	1.42E+14
Ammonium[1]	8.19E+00	2.02E+02	2.88E+03	2.80E+04	2.09E+05

Note: [1]: TPH, non-polar organic whilst ammonium, polar contaminant with higher solubility in groundwater were chosen as appropriate CoC in the sensitivity analysis.

Table 50 - Soil Tier 3 Output Sensitivity (mg/kg) Analysis (*Increased Infiltration Rate, m/d*)

Contaminant	10^2 m/d	10^3 m/d	10^4 m/d[2]	10^6 m/d[3]	10^8 m/d
TPH Aromatic C8-C10[1]	9.32E-02	9.36E-02	9.45E-02	1.92E-01	9.99E+00
Ammonium[1]	8.19E+00	2.02E+02	2.88E+03	2.80E+04	2.09E+05

Note: [1]: TPH, non-polar organic whilst ammonium, polar contaminant with higher solubility in groundwater were chosen as appropriate CoC in the sensitivity analysis. [2]: Actual Infiltration Rate (m/d) for Irwell Catchment Area; [3]: Modelled Infiltration Rate on assumption of 70% Hard Cover across the site.

9.5 Summary of Groundwater Tier 3 DQRA (CLR 10, Stage 3)

In considering the former use of the site, a detailed quantitative risk assessment (DQRA) was used to assess risks to controlled waters from source (contamination) soils (≤ 2 mg/kg) beneath the site. This modelling (EA P20, Version 3.1) was undertaken to derive remedial trigger values for contaminants of concern (PCoC) that had failed the appropriate guideline values for soils in earlier risk assessment (GRA).

A Point of Compliance (POC), 325 m and distance from the site boundary and a centre point distance between the closest down gradient, abstraction well (700 m SW) and River Medlock (650 SW) was parameterised in model; to derive site specific remedial targets for the site. At this point of compliance, statistical derived mean values (US95) for arsenic and C_{12}-C_{16} aromatic fractions had failed the new screening values derived from the model (see Table 47); indicating that current concentrations for the CoC will require further field assessment or treatment (using remedial design methods).

Although, arsenic is elevated in soils, there is no human health risk from this contaminant on the basis on controlling exposure routes (through dermal/digestion and soil derived dust inhalation) with capping in soft areas across the site. Down gradient concentrations in deep wells has also detected maximum arsenic below the relevant guideline screening value (UK

DWS). Notably, derived remedial targets for arsenic (from P20 risk modelling) were also lower (at 15 mg/kg) than the CLEA derived UK Soil Guideline Values (SGV).

In the absence of appropriate UK CLEA derived SGV's for speciated hydrocarbon fractions, site specific remedial trigger values for the aromatic hydrocarbon fraction (C_{12}-C_{16} at POC of 320 m and 200 m) was simulated in the risk model.

A remedial target for the site will be for TPH only, for the more conservative of the two POC (at 200m from the site boundary):

- 200 m POC, down gradient of the site boundary (i.e. and source area of contamination) has identified TPH target concentrations of 1460 mg/kg (*see Table 47*).

All other CoC i.e. Phenol, BaP, Ammonium and hydrocarbon fractions had passed the model derived screening values.

10 ENGINEERING CONSIDERATIONS

10.1 General

There are currently no detailed proposals for the redevelopment of the site however it is understood the proposals are likely to comprise the construction of a variety of residential properties with associated gardens, communal areas and access roads. Given the variability of the existing site levels it is anticipated that some re-levelling of the site will be undertaken as part of the site strip and removal/remediation of any areas of Japanese Knot Weed.

Based on the historical information the site was developed as a brickworks by 1893 and comprised two brick manufacturing plants, one in the most eastern and the other in the most western area of the site. During their existence two large clay extraction pits extended into the site, with the larger eastern pit extending into in the central area of the site. From 1951 the two brickworks were both decommissioned and the two pits were in-filled with variable materials comprising construction and demolition waste, foundry sand, industrial non hazardous waste, slag and boiler/flue cleanings.

Around the periphery of the site (outside of the in-filled clay pits boundaries) and including areas previously occupied by structures associated with the brickworks (in the most western and eastern areas of the site), the general downward succession of materials comprised Made Ground materials to depths between of 0.4m and 2.7m bgl underlain by firm to stiff Boulder Clay deposits which were proved to the base of each exploratory hole.

Within the western clay pit Made Ground materials were encountered to a depth of between 2.0m and 5.0m bgl. The base of the Made Ground materials were only proven in Trial Trench TT2, underlain Boulder Clay deposits at a depth of 5.0m bgl.

Areas of shallow Made Ground (between 0.5m and 2.6m bgl) are located between the two pits, perhaps indicative of the original pit boundaries, underlain by firm to stiff Boulder Clay deposits.

Within the larger eastern clay pit Made Ground materials were proven to typical depths of between 2.8m and 5.2m bgl, overlying stiff Boulder Clay deposits. Deeper Made Ground materials were encountered in borehole BH10 and BH11 at a depth of 10.1m and 8.45m bgl respectively, located in the central area of the site. The base of the deeper Made Ground materials within this central area was not proven in some of the boreholes sunk during this investigation.

SPT "N" values have been plotted against depth and are presented on Plot 1 'SPT N Value versus Depth Profile' in Appendix I and the results of shear strength analysis have been plotted, along with correlated SPT N values (in cohesive strata), are presented on Plot 2 'Shear Strength versus Depth Profile' in Appendix I.

The results of five Atterberg Limit tests on samples of Made Ground materials and natural Boulder Clay deposits taken from depths of between 0.9m and 5.5m bgl are presented in Plot 3 'Liquid limit versus modified plasticity index profile', in Appendix I. The results indicate the materials to be of intermediate plasticity and low to medium shrinkage potential.

10.2 Foundation Assessment

The Made Ground on the site in its current state is not considered to be a suitable founding strata due to its variability in composition and state of compaction (both granular and cohesive layers) and therefore unacceptable total and differential settlements are likely under loaded conditions.

Based on the nature of the Made Ground encountered on the site, it is considered that ground improvement using dynamic compaction methods could be considered to treat the Made Ground materials across the majority of the site and render it suitable for use of shallow reinforced strip or pad foundations. Once suitably treated it is considered that foundations placed within the improved Made Ground materials at an approximate depth of 1.5m could be designed to a net allowable bearing pressure of between 100kN/m^2 to 150kN/m^2 to limit total settlements to less than 25mm and maintain differential settlements to acceptable limits. It is considered that an exclusion zone of between 20m to 40m from any structures, including the canal located on the northern boundary of the site, should be in place to reduce the potential risk to neighbouring structure as a result of vibration resulting from the dynamic compaction. It is recommended that the advice of a specialist contractor is sought regarding the design and installation of any ground improvement solution together with the requirements of any exclusion zone.

Within the exclusion zone around the periphery of the site and within the western and eastern most areas of the site it is considered that were Made Ground materials have been encountered to a depth of less than 2.5m bgl, deep trench foundations could be placed within the underlying Boulder Clay. The foundations could be designed to a net allowable bearing pressure of 125kN/m^2 to limit total settlements to less than 25mm and maintain differential settlements to acceptable limits.

Should higher loads be required within the exclusion zone along the periphery of the site and within the western and eastern most area of the site or within the backfilled pit areas then it is considered that a bored pile foundation solution is likely to be appropriate, transferring the load into the competent Boulder Clay at depth. It is recommended that the advice of a specialist piling contractor is sought regarding the design and installation of any piling solution.

During preparation of layout plans for the site further consideration will need to be given to the location of structures where buildings straddle over areas of improved and unimproved ground to avoid any differential settlements. In these areas it is considered that foundations should be either stepped/deepened to the same depth bgl or a piled foundation solution be adopted or extend the areas over which ground improvement is undertaken to include all areas where buildings are proposed.

10.3 Floor Slabs

Due to the presence of variable Made Ground, it is anticipated that the proposed floor loading would generally not favour a ground bearing slab due to its potential for unacceptable total and differential settlements. It is considered that the use of a suspended floor slab should be adopted across all areas of the site.

10.4 General Construction Advice

10.4.1 Exploratory Hole Positions

Trial pits, trenches or boreholes carried out as part of this or previous investigations may represent soft spots and conduits/sumps for groundwater or surface water. In excavations, such materials may also be loose and unstable. Unless specifically stated exploratory hole locations should be regarded as approximate. Consideration should be given to accurate location of such features where it considered they may impact on the proposed development.

10.4.2 Excavation Plant

Conventional mechanical backhoe excavators should prove suitable for excavation through the materials encountered at the site. However, should occasional large obstructions remain beneath the site, larger capacity excavators and pneumatic/hydraulic breakout equipment may be necessary.

10.4.3 Excavation Stability/Hazardous Gases

The Made Ground is in a loose state of compaction and will be subject to spalling and partial collapse within excavations. Deeper excavations are likely to be prone to rapid, unpredictable, large scale collapse, particularly in the presence of groundwater inflows. Consequently, temporary support should be considered for all excavations where collapse is to be avoided. Heavier duty closed shoring should be provided for any excavation where man entry is necessary, in compliance with statutory requirements to ensure safe working conditions.

Due to a potential for ground gases within the Made Ground materials, care should be taken when personnel enter excavations (or confined spaces), to ensure full ventilation is available and appropriate safety precautions taken.

10.4.4 Dewatering

Groundwater issues are likely to occur at variable depths with the Made Ground. During the investigation perched groundwater has been recorded within the Made Ground materials in the majority of exploratory boreholes at typical depths between 1.0m to 8.2m (recorded as slight/moderate seepages).

It is considered that where groundwater inflows affect foundations or other excavations during construction, groundwater control, such as sump pumping will need to be implemented.

10.4.5 Classification of Buried Concrete

The results of chemical analyses undertaken on samples recovered from the Made Ground and naturally occurring deposits encountered at the site indicate the Design Sulphate Class for the site to be “DS 3” based on the results of analytical testing and reference to BRE Special Digest 1 “Concrete in aggressive ground”, Part I, in association with alkaline pH values. The BRE Digest suggests that buried concrete should be designed to an Aggressive Chemical Environment for Concrete (ACEC) site classification of “AC-3” based on mobile groundwater conditions.

10.5 Road Pavement Assessment

Where the formation level lies within the Made Ground materials, the road pavement design should be based on an equilibrium value of 2%, based on the material properties. It may be possible to adopt a higher CBR value following the ground improvement exercise or providing proof rolling of the formation is carried and any soft, loose, compressible or otherwise unsuitable deposits removed and replaced with a suitable fill compacted in appropriate layers.

It is considered that the Made Ground materials at formation level are likely to be frost susceptible and appropriate precautions and should be taken with regard to road pavement design such as allowing at least 450mm of non frost susceptible material between formation and finished road level.

It is recommended that a protective cover layer is left above the formation until the road construction is carried out to prevent deterioration of the sub-grade.

11 OUTLINE REMEDIAL PLAN

11.1 Introduction and setting

The site investigation has found that chemical contamination is present across much of the site albeit often at low-risk levels. Hotspots of higher concentrations are present and this includes some near-surface contamination.

Whilst it is considered that groundwater is not significantly impacted and can largely be discounted as a significant receptor in the context of contaminant 'source-pathway-receptor linkages, there is some potential risk of shallow perched-water contamination migrating south:south-westerly off-site and impacting third party properties particularly if large-scale / deep excavations are undertaken during development (e.g. this could action could mobilise existing soil contamination). There is also a possibility that shallow groundwater could seep to the surface on occasions leading to possible minor nuisance-odours or minor contamination of near-surface soils.

There are potential human health risks associated with a range of contaminants present at the site (metals, hydrocarbons, etc) but generally these are only of significant risk in terms of direct contact or ingestion (including via plant-uptake, or dust).

Hotspots of contamination exist at shallow and deeper depths at the site and low but significant concentrations of certain contaminants (e.g. PAHs) are present in large areas of made ground.

It should also be of note that the site was a landfill, taking over half a million tonnes of wastes from the Manchester area over many decades. No site investigation can ever detect all of the possible wastes, contaminants, etc, and there is therefore some uncertainty with respect to the presence of hotspots at the site. Given these site conditions and proposed development plans, a remedial strategy is required that will address (a) the significant hotspots of contamination present and (b) the uncertainties associated with its history. In addition the strategy must address the needs of the development allowing for the fact that significant ground excavations will be required, for example in order to undertake:

- Remediation of Japanese Knotweed and associated infested soils;
- Profiling of the site to final development levels
- Installation of services including water, drains, etc.
- Geotechnical improvements, removal of soft-spots and deleterious materials, etc. and installation of appropriate foundations

It is important to recognise that the ground-works listed above are an integral part of any redevelopment and moreover that such ground-works will inevitably involve excavation of both deleterious and contaminated materials. It should be further noted that from a Waste Management perspective, any excavated soils are classified as a Waste and potentially could be Hazardous Waste requiring treatment or pre-treatment prior to landfilling or re-use on site. These are significant uncertainties and potential costs for future developers.

In assessing the remedial options for the site a range of options are possibly for dealing with the contamination including:

- Excavation and off-site disposal (including sorting and re-use of materials on site);
- In situ treatment (such as bioremediation, chemical oxidation, stabilisation and Multi-Phase Extraction);
- Ex situ treatment such as bioremediation and stabilisation.

Off-site disposal is contrary to the EU Landfill Directive and the philosophy of Sustainability. It would also cause significant nuisance to local residence and would take-up valuable landfill space. The cost would also be several times higher than on-site treatment options. It is therefore recommended that any off-site disposal is limited to include untreatable materials (e.g. asbestos) and deleterious materials that cannot be recycled for use on site.

In situ treatment could be used for some of the contaminants present on site but overall it is considered that such techniques would not be appropriate in the context of time-scale, likely long-term monitoring requirements and uncertainties associated with the ground variability. One of the factors influencing the use of in situ techniques at this site is the need to address Japanese Knotweed and the likely requirements for excavations and ground-improvement works during the development programme.

Ex situ treatment methods are considered to be the most appropriate for several reasons including:

- A combination of stabilisation and bioremediation can address all of the significant chemical contamination present at the sire;
- The methods are reliable, proven and can be applied in a reasonable timescale;
- The methods are flexible in the context of application, ground variability and re-use of treated materials on site;
- The methods allow works to be reasonably easily validated and quality control applied to an appropriate degree which will be important to the developers, Local Authority and the future site users / residents.
- Cost effective.

11.2 Likely Remediation Strategy

It is likely that the remediation strategy for the site includes the following:

- Site Clearance including removal of fly-tipped wastes, remove vegetation, addressing the Japanese Knotweed, etc. Further site investigation following this in order to further delineate potential contaminant hotspots.

- Break-out of hard-standings (crush and screen for re-use as appropriate, checking for the presence of chemical contamination), removal of asbestos to appropriate landfill.

- Removal of all deleterious materials and chemical contamination in the upper 1.5 to 2 or 3 m of ground (in relation to final site levels) in order to create a clean 'buffer zone' protecting the site development (services, gardens, human health, etc) from any deeper underlying contamination.

- Also limited removal (for on site treatment and re-use) of deeper contamination (2 – 5 m bgl associated with the perched water smear zone) in certain 'hot-spot' areas. It is proposed that in order to undertake this decontamination exercise, that the site is subjected to a complete over-dig of the upper 1.5 to 2 m in order to ensure that all contaminated materials in this zone are appropriately dealt with.

- It is likely that a significant volume of soils will require treatment and that some deleterious (untreatable) materials, such as asbestos, will require off site disposal.

- Appropriate on site treatment (e.g. bioremediation or stabilisation) of materials associated with (iii) above, or off-site disposal of untreatable materials. Re-use of treated materials in appropriate areas of the site.

- Limited dewatering / perched groundwater treatment during excavations, as necessary.

Whilst it will be possible to produce the shallow soils 'buffer zone' at the site using existing materials or treated soils, it will not be possible to produce topsoil quality materials by treating the existing soils, therefore as part of the remediation strategy it is proposed that a 0.6 m thickness of imported clean subsoil and topsoil is used in soft-cover / garden areas of the site as part of the proposed 1.5 to 2 m buffer zone.

Where future service conduits or foundations require the excavation of soils deeper than the 1.5 – 2 m buffer zone, then these conduits should be installed in such a manner that protects the services and then these soils should be subject to assessment and disposed off-site to an appropriately licensed landfill or, if possible, (dependant partly on programming and phasing of the development in the context of the remediation programme(i.e. the remediation programme may have finished by the time some of the services or foundations ate installed), treated and used on site.

It should be noted that in order to address the Japanese Knotweed at the site, some 45,000 m^3 of potentially rhizome-infested soils will require remedial action (see the following section for details).

11.3 Addressing the Japanese Knotweed Problem

The Environment Agency has produced guidance for dealing with Japanese Knotweed on development sites. Whilst it is not an offence to own land containing Japanese Knotweed, the Environment Agency can prosecute land owners if Japanese Knotweed is not properly addressed during development. The Environment Agency's Enforcement Position is that it will not prosecute if the Japanese Knotweed is appropriately dealt with under an adequate Japanese Knotweed Management Plan.

It should be noted that in addition to the Environment Agency, any developer or house-owner will be concerned about the serious repercussions of Japanese Knotweed on their property because the weed can damage paving, concrete and other hard-cover surfaces. Thus it will need to be validated that the remedial works to address the problem is thorough, robust for the future and quality-checked.

Dealing with the Japanese Knotweed will take time and consideration should be given to early control spraying particularly in order to prevent further spreading of the weed.

The Environment Agency Guidance outlines the options for dealing with Japanese Knotweed and the associated impacted soils. Soils are likely to be impacted in a zone some 7 m peripheral to the vegetated zone and rhizomes can be active in the upper 3 m. Thus it is estimated that approximately 45,000 m^3 of soil may be infested at the site. This includes identifying rhizome-impacted soils and dealing with them in one of several ways:

(i) Off Site disposal to an appropriately licensed landfill.

(ii) Burial on site (note that contaminated soils must be buried beneath at least 5 m depth of uninfected fill).

(iii) Burial beneath at least 2 m on uninfected fill with root barriers protecting the upper margins and lateral margins.

(iv) Treatment in bunds or treatment areas over a prolonged period (at least 18 months) and subsequent checking and re-treatment where necessary.

(v) Processing by picking-out rhizomes and treating the soils (not considered a significant option at Ten Acres due to volumes involved).

It should be noted that to deal with the Japanese Knotweed a detailed Management Plan must be developed together with appropriate monitoring, validation and management of the remedial works themselves. Works will involve protection from spreading of the weed during remediation and this therefore will add time and cost to more typical earthworks.

All of the options cited will require significant investment in time and money and each option has significant drawbacks, not least of which is impact on development programme, because large areas of the site are impacted.

APPENDICES

APPENDIX A

DRAWINGS

APPENDIX B

BOREHOLE AND TRIAL PIT LOGS

APPENDIX C

GROUNDWATER AND GROUNDGAS MONITORING RESULTS

APPENDIX D

JAPANESE KNOTWEED ASSESMENT

APPENDIX E

CHEMICAL ANALYSIS RESULTS

APPENDIX F

GROUNDWATER PLOT

APPENDIX G

MADE GROUND DEPTH PLOT

APPENDICIES H

SITE PHOTOS

APPENDICIES I

GEOTECHNICAL RESULTS

APPENDICIES J
GEOPHYSICS SURVEY

APPENDICIES K
P20 Modelling

London & South East:

22-42 Livingstone Road
Stratford
London
E15 2LJ

t. 0870 850 2974
f. 029 2036 8637
www.celtic-ltd.com

Wales & Midlands

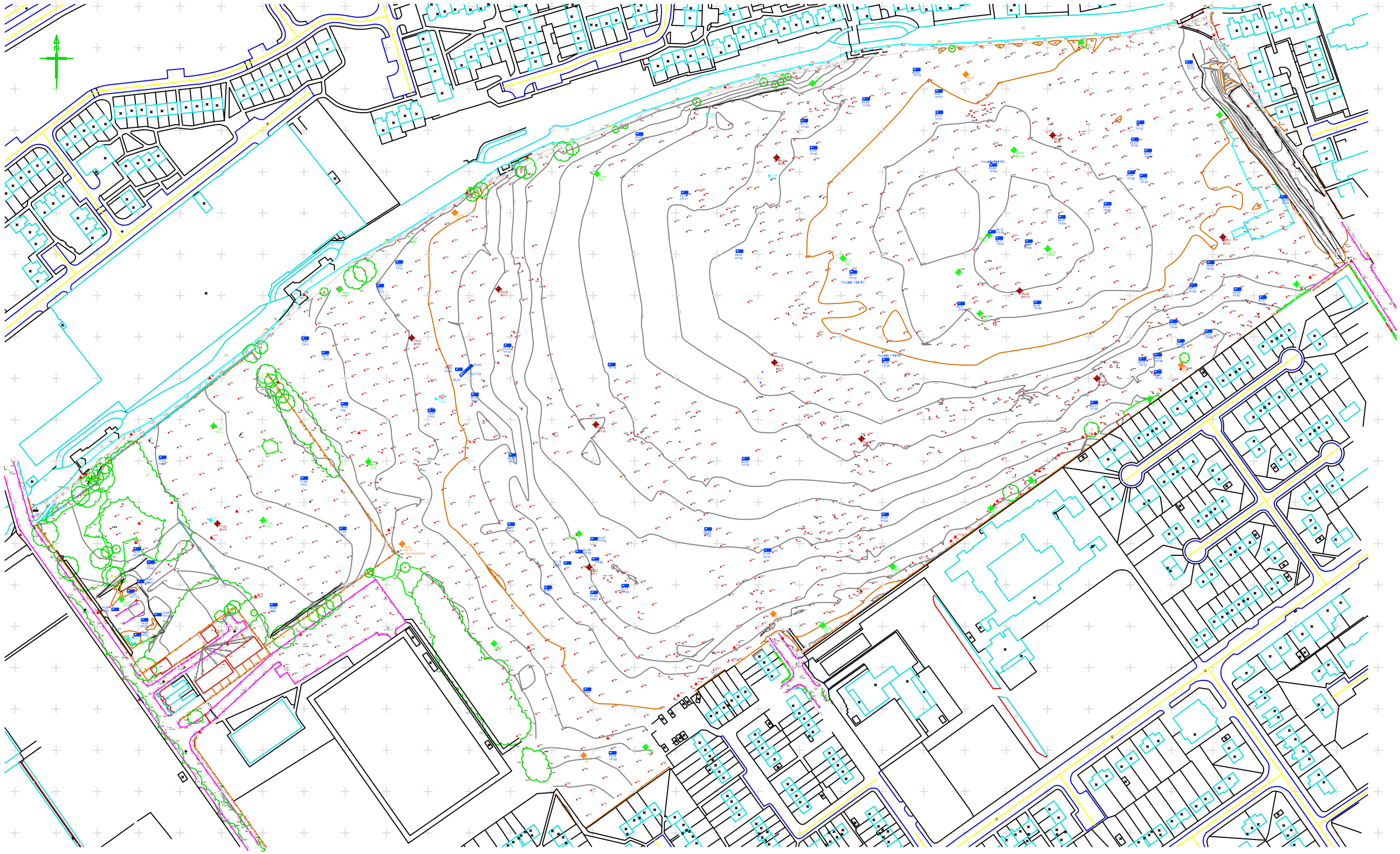
Columbus House
Greenmeadow Springs
Tongwynlais
Cardiff
CF15 7NE

t. 029 2036 8636
f. 029 2036 8637
www.celtic-ltd.com

North West

Centrix House
Crow Lane East
Newton le Willows
St Helens
WA12 9UY

t. 01925 273 222
f. 01925 273 229
www.celtic-ltd.com



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- CABLE PERCUSSION BOREHOLE WITH ROTARY FOLLOW-ON — R3
- CABLE PERCUSSION BOREHOLE — BH/3
- WINDOWLESS HOLE (GAS) — W8
- TRIAL PIT — TP/01

ABBREVIATIONS

BH	BOREHOLE
FH	FIRE HYDRANT
R	ROTARY BOREHOLE
W	WINDOWLESS HOLES (GAS)

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Columbus House
Green Meadow Springs
Tongwynlais
Cardiff
CF15 7NE

Tel. (029) 20368636
Fax. (029) 20368637
E-mail. enquiries@celtic-tech.co.uk
Website. www.celtic-ltd.com

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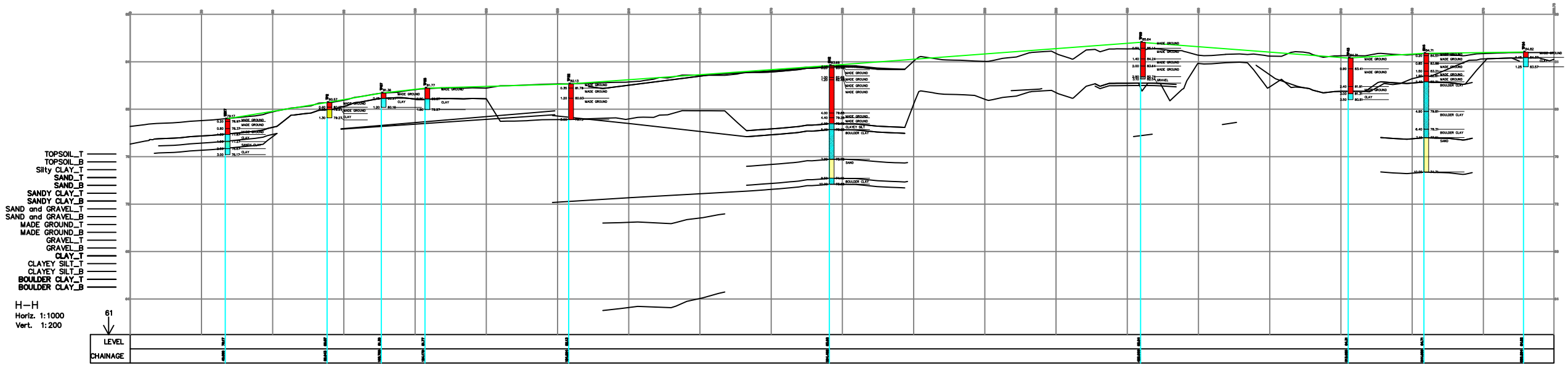
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Green Meadow Springs
Tongwynlais
Cardiff
CF15 7NE

Tel. (029) 20368636
Fax. (029) 20368637

E-mail. enquiries@celtic-tech.co.uk
Website. www.celtic-ltd.com

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Legend

- Rotary Borehole
- Cable Percussive Borehole
- Windowless Borehole
- Trial Pit
- Gravelly household waste and soil
- Ash clinker and brick waste
- House hold and landfill wastes
- Household waste
- Brick waste
- Land fill and clinker wastes
- Ash waste

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Cardiff
CF15 7NE

Tel. (029) 20368636
Fax. (029) 20368637

E-mail. enquiries@celtic-tech.co.uk
Website. www.celtic-ltd.com

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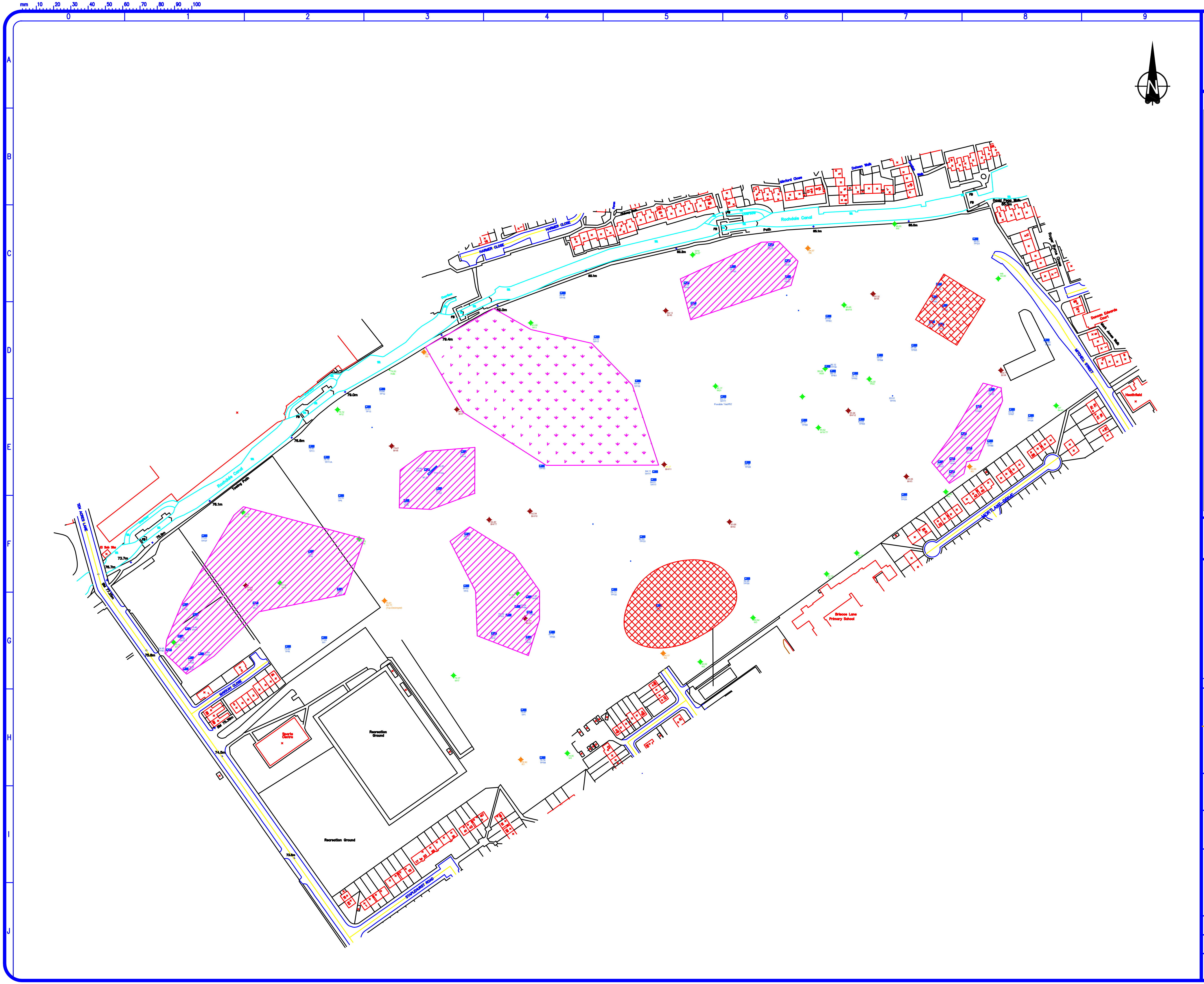
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Made Ground dominant types

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Legend

- ✦ Rotary Borehole
- ✦ Cable percussive borehole
- ✦ Windowless Borehole
- ▬ Trial Pit
- ▨ Area of potentially contaminated ground
- ▩ Area of potentially Asbestos containing materials
- ☐ Area Requiring further ivestigation due to heavy vegetation
- ▩ Area of possible surface seepage

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Fax. (029) 20368637

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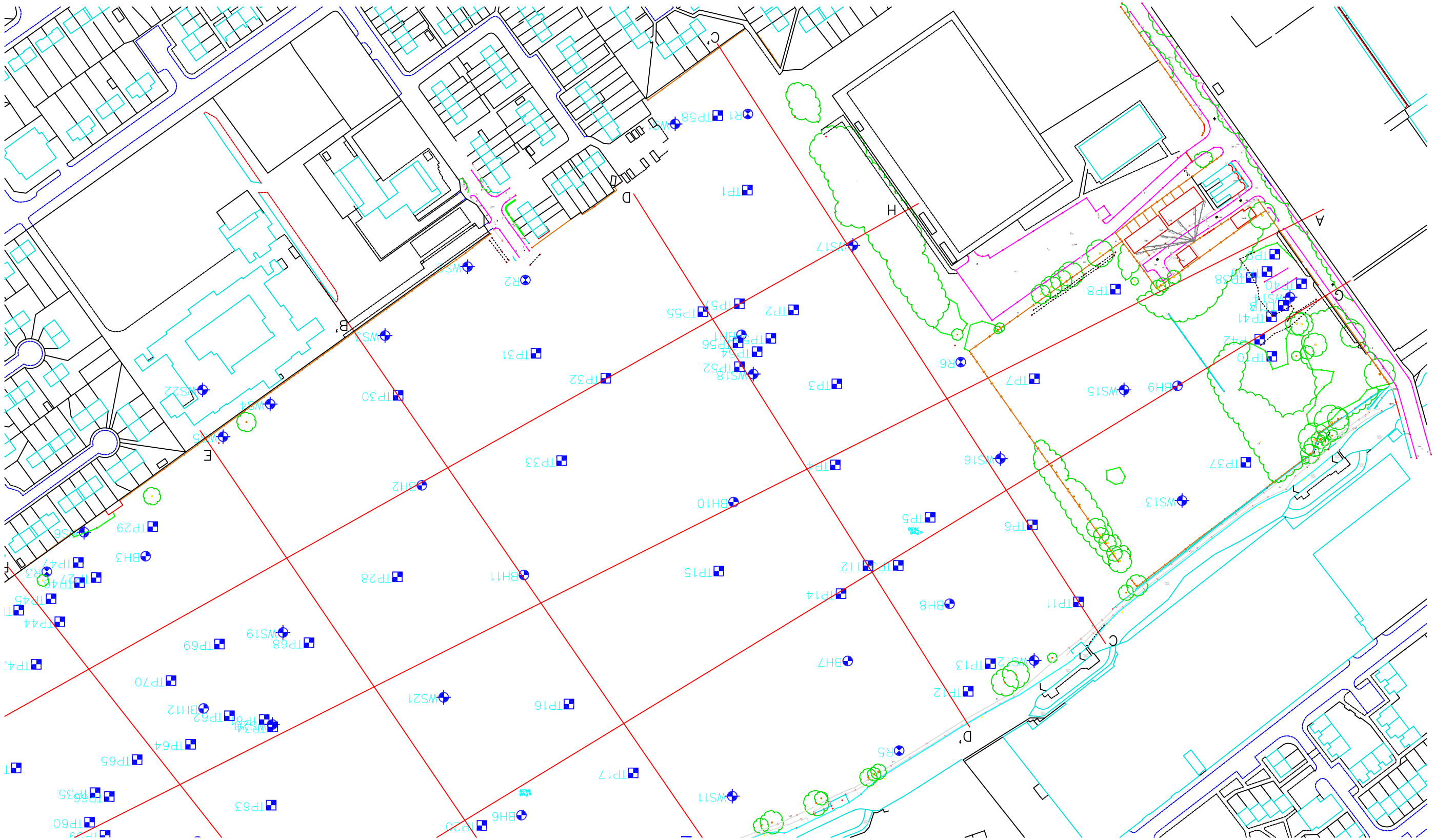
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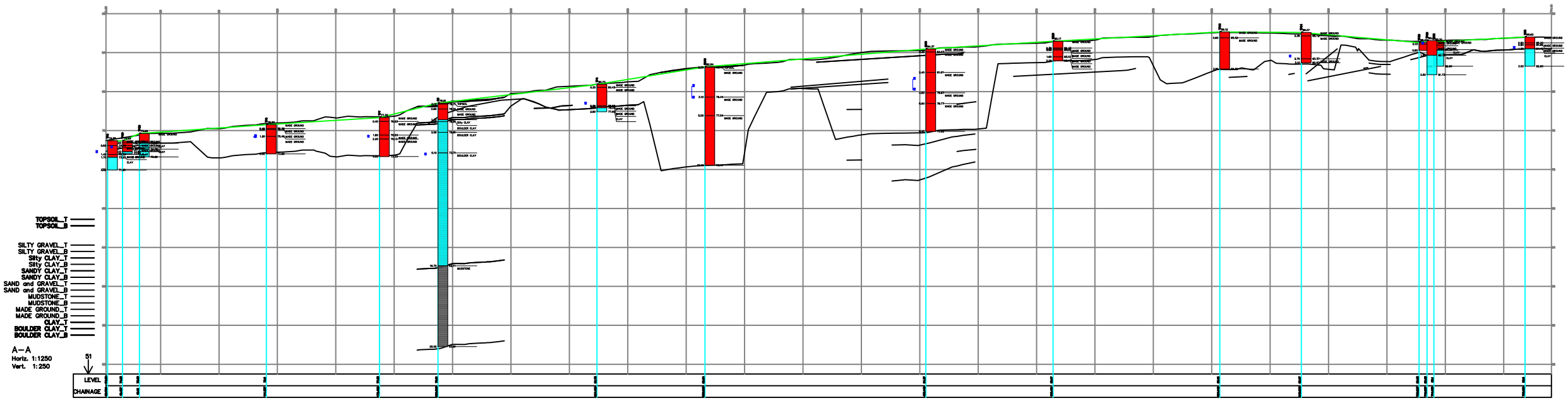
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Columbus House
Green Meadow Springs
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CF15 7NE

Tel. (029) 20368636
Fax. (029) 20368637
E-mail. enquiries@celtic-tech.co.uk
Website. www.celtic-ltd.com

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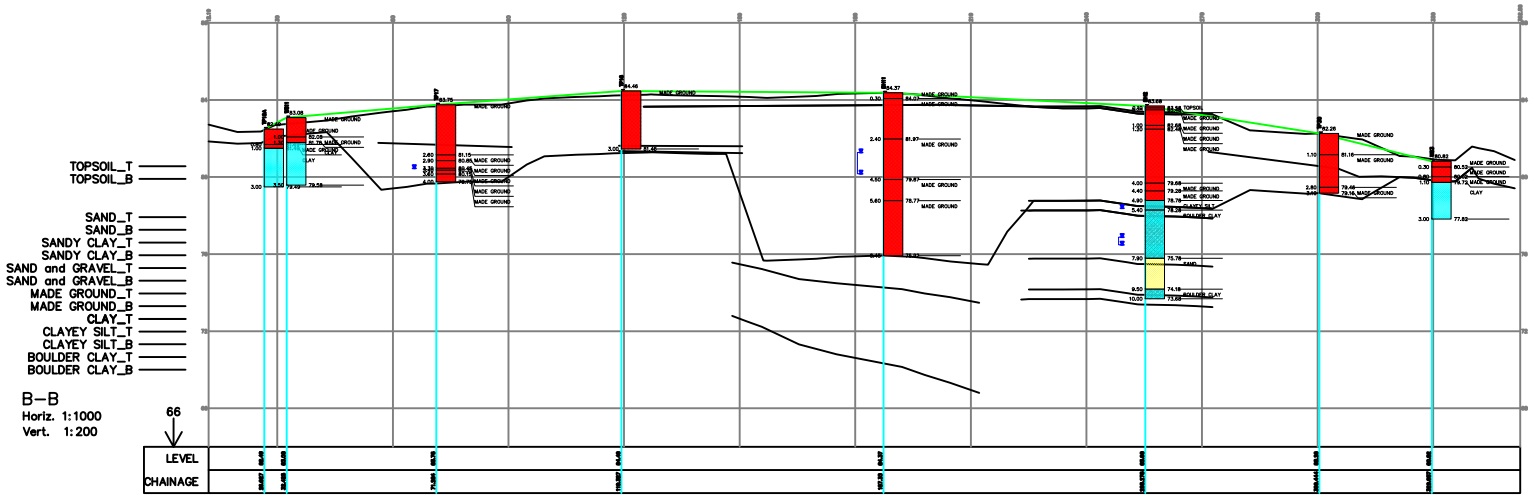
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Green Meadow Springs
Tongwynlais
Cardiff
CF15 7NE

Tel. (029) 20368636
Fax. (029) 20368637

E-mail. enquiries@celtic-tech.co.uk
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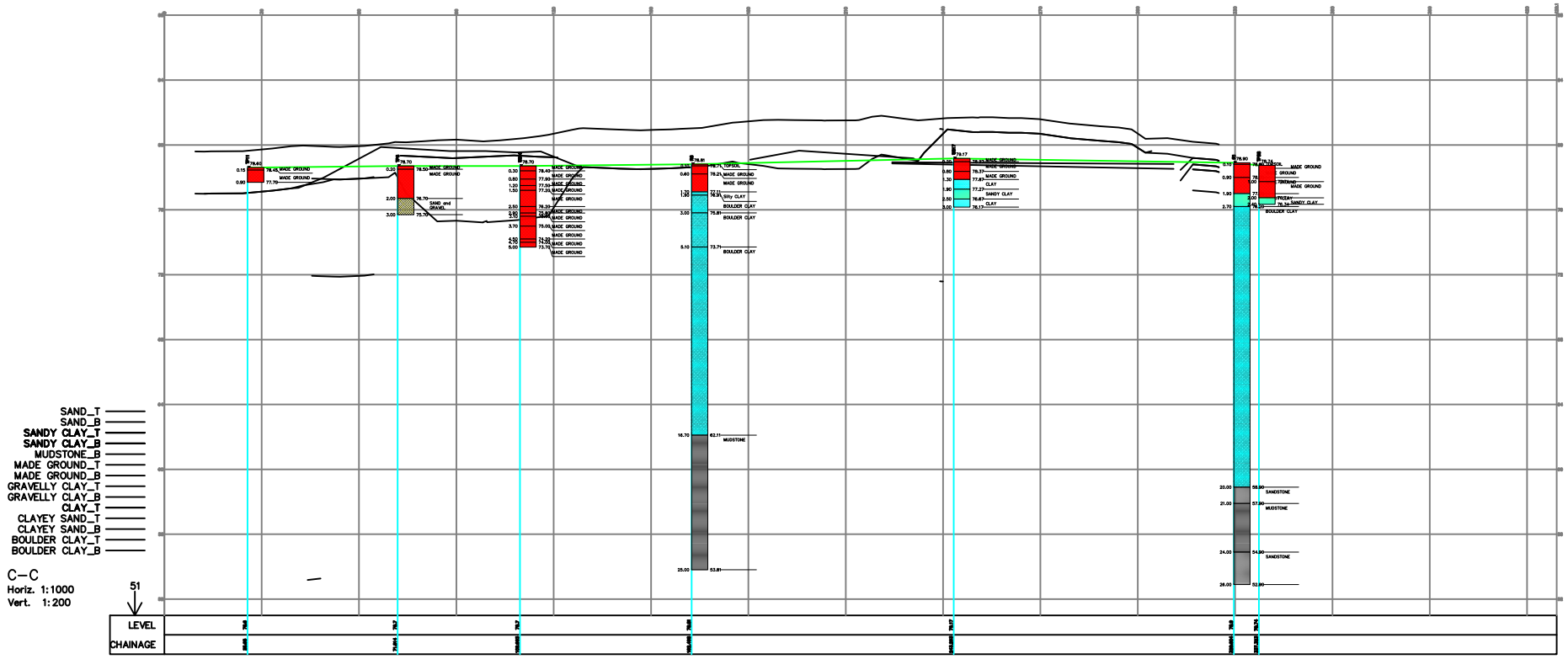
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Columbus House
Green Meadow Springs
Tongwynlais
Cardiff
CF15 7NE

Tel. (029) 20368636
Fax. (029) 20368637
E-mail. enquiries@celtic-tech.co.uk
Website. www.celtic-ltd.com

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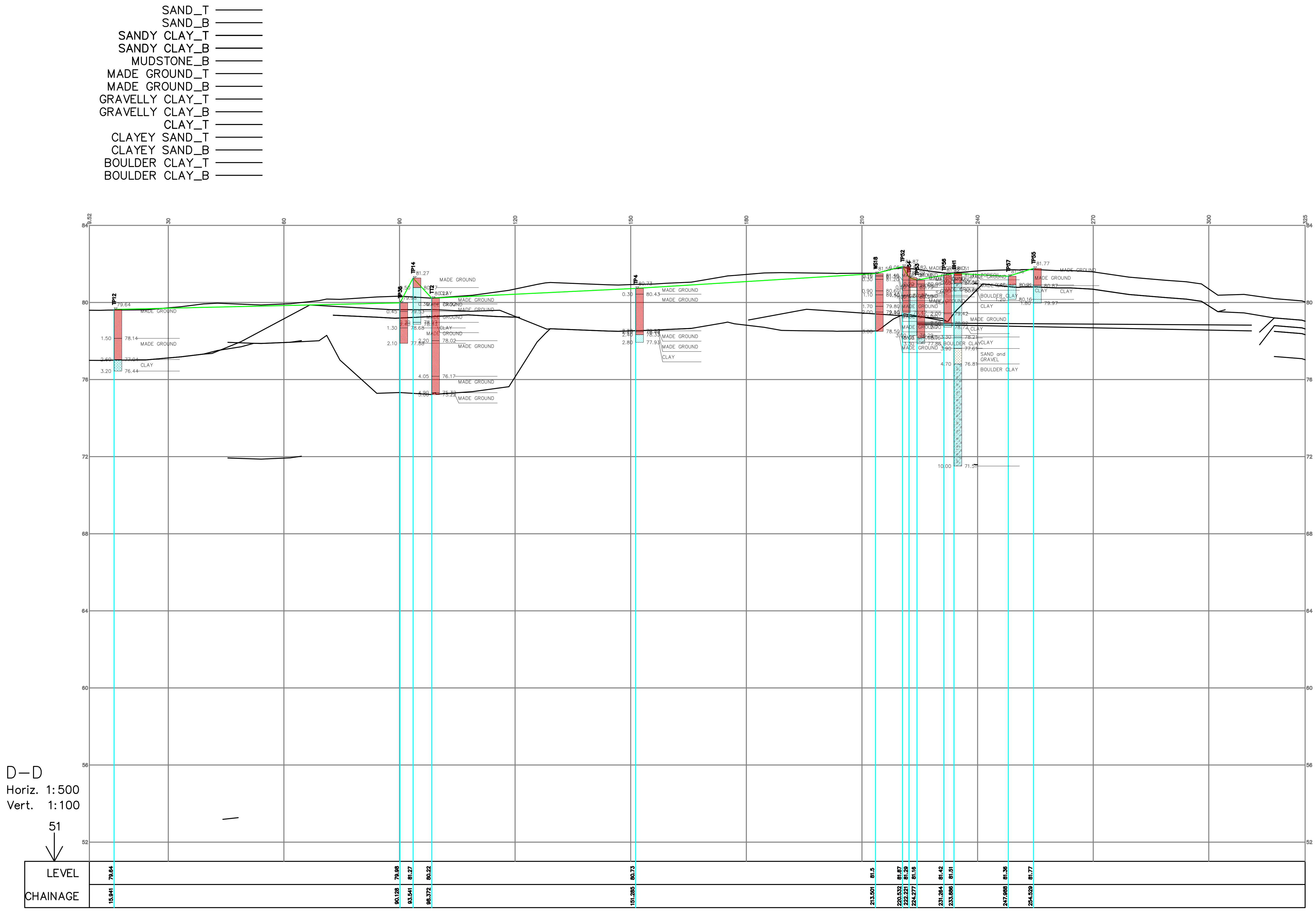
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Cardiff
CF15 7NE

Tel. (029) 20368636
Fax. (029) 20368637

E-mail. enquiries@celtic-tech.co.uk
Website. www.celtic-ltd.com

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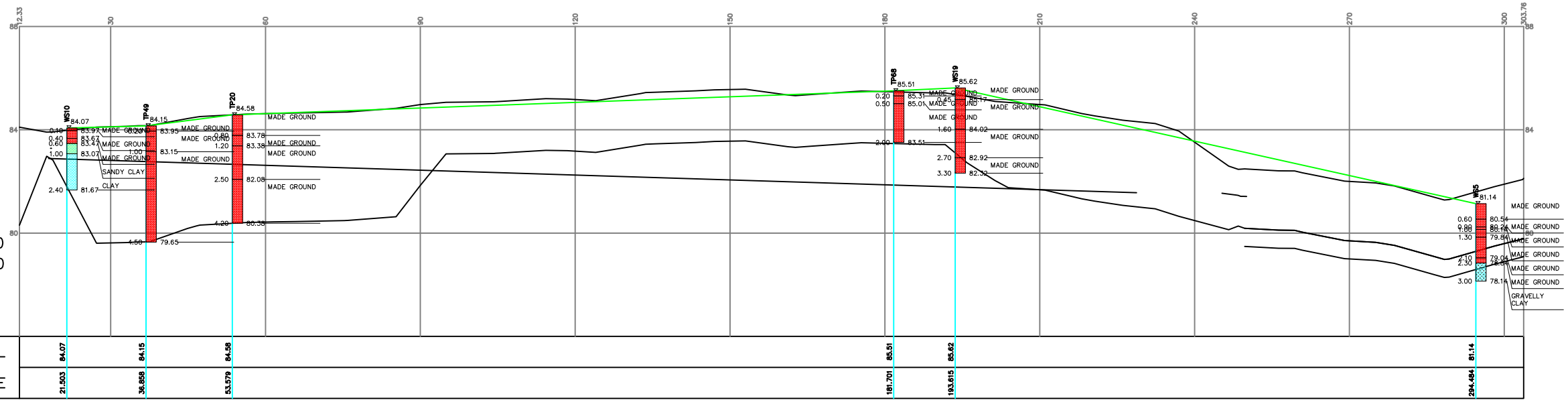
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SANDY CLAY_B
MADE GROUND_T
MADE GROUND_B
GRAVELLY CLAY_T
GRAVELLY CLAY_B
CLAY_T



E–E
Horiz. 1:500
Vert. 1:100
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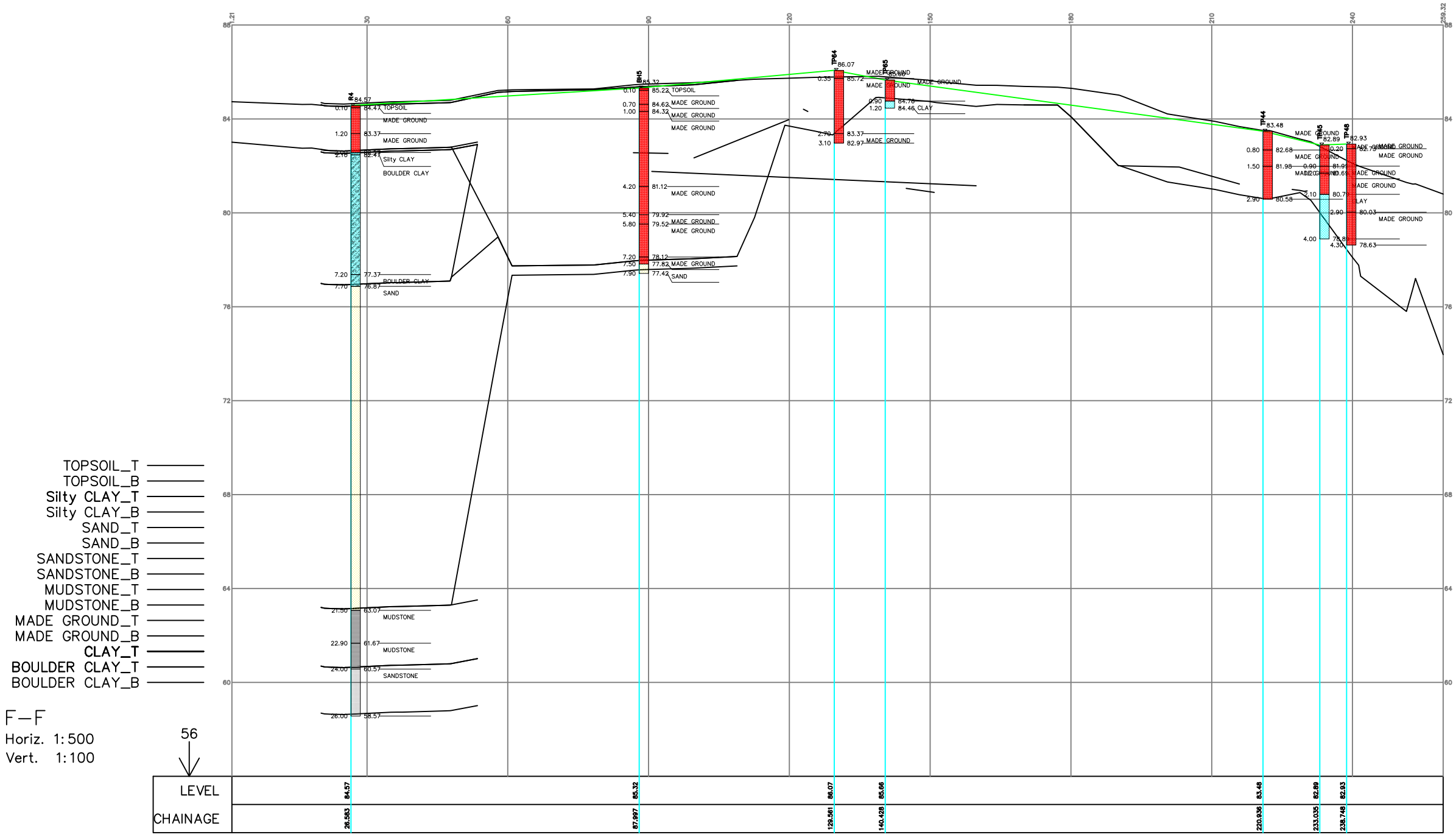
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CF15 7NE

Tel. (029) 20368636
Fax. (029) 20368637
E-mail. enquiries@celtic-tech.co.uk
Website. www.celtic-ltd.com

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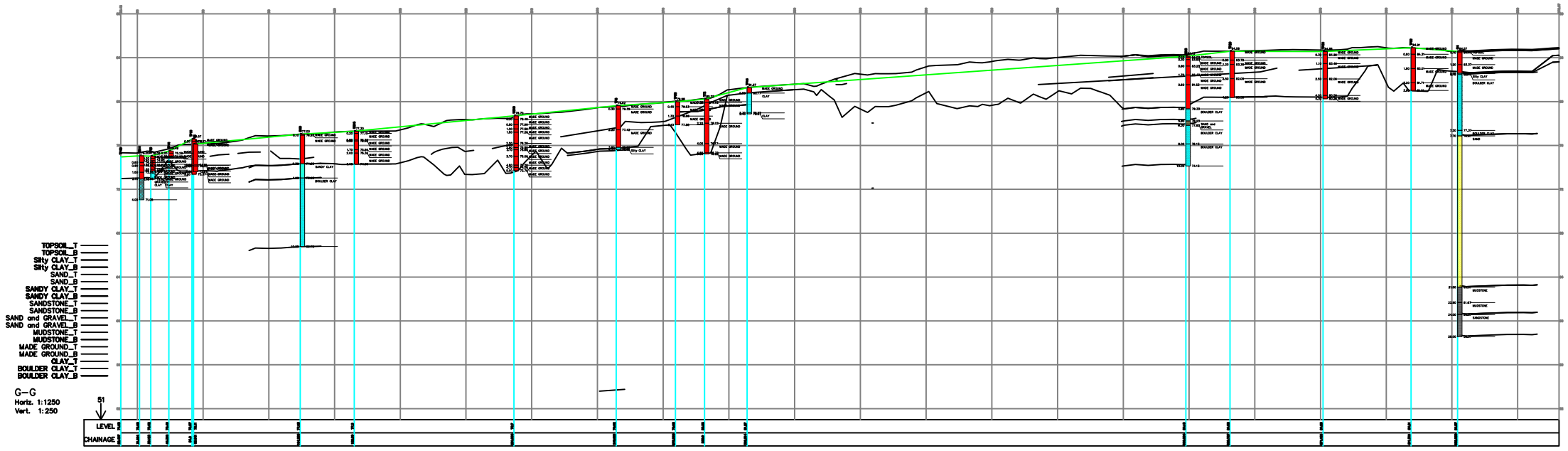
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Columbus House
Green Meadow Springs
Tongwynlais
Cardiff
CF15 7NE

Tel. (029) 20368636
Fax. (029) 20368637

E-mail. enquiries@celtic-tech.co.uk
Website. www.celtic-ltd.com

Client
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Design and Construct Remediation

Borehole Number: BH1

Date: 07/06/2007 | Easting: 387497.59

Project No: C1077 | Engineer: C Tippins | Northing: 400160.76

Site Location: Ten Acres Lane, Newton Heath | Method: CP | Datum: 81.51

Client: Countryside Properties Northwest | Hole Diameter: 100mm | Screen Position: 1.00 - 5.00m

SUBSURFACE PROFILE				SAMPLING/TESTING			WATER	WELL
Level (m AOD)	Depth	Legend	DESCRIPTION	Sample Ref	Sample Type	N Value	Water Strike	Well Data
81.41	0.0		Turf over TOPSOIL.					
			MADE GROUND. Soil / ash.					
81.01			Firm light brown / grey boulder CLAY.					
80.61	1.0		Firm brown occasional grey CLAY.			4		
	2.0							
	3.0					6		
78.21			Firm brown occasional grey CLAY. Thin sand lenses with black staining.				▽3.90m	
77.61	4.0		Wet SAND and GRAVEL.	BH1 / 4.00m	D	5		
76.81			Firm brown sandy boulder CLAY.			3		
	5.0							
	6.0							
	7.0							
	8.0		Continued next sheet					

Remarks:

BH1

CELTIC
Design and Construct Remediation

Borehole Number: BH1

Date: 07/06/2007 | Easting: 387497.59

Project No: C1077 | Engineer: C Tippins | Northing: 400160.76

Site Location: Ten Acres Lane, Newton Heath | Method: CP | Datum: 81.51

Client: Countryside Properties Northwest | Hole Diameter: 100mm | Screen Position: 1.00 - 5.00m

SUBSURFACE PROFILE				SAMPLING/TESTING			WATER	WELL
Level (m AOD)	Depth	Legend	DESCRIPTION	Sample Ref	Sample Type	N Value	Water Strike	Well Data
	8.0		Firm brown sandy boulder CLAY.					
	9.0							
71.51	10.0		End of Borehole					
	11.0							
	12.0							
	13.0							
	14.0							
	15.0							
	16.0							

Remarks:

BH1

CELTIC
Design and Construct Remediation

Borehole Number: BH2

Date: 04/06/2007 | Easting: 387662.44

Project No: C1077 | Engineer: C Tippins | Northing: 400238.38

Site Location: Ten Acres Lane, Newton Heath | Method: CP | Datum: 83.68

Client: Countryside Properties Northwest | Hole Diameter: | Screen Position: 6.00 - 10.00m

SUBSURFACE PROFILE				SAMPLING/TESTING			WATER	WELL
Level (m AOD)	Depth	Legend	DESCRIPTION	Sample Ref	Sample Type	N Value	Water Strike	Well Data
83.58	0.0		Turf over TOPSOIL.					
83.48			MADE GROUND. Soil rubble fill.					
			MADE GROUND. Clay brick fill.					
82.68	1.0		MADE GROUND. Wooden obstruction.					
82.48			MADE GROUND. Waste fill. Pushing large concrete obstruction between 2.1 and 4.0m bgl.	BH2 / 1.20m	D	18		
	2.0					45		
	3.0							
79.68	4.0		MADE GROUND. Stiff brown boulder clay fill.					
79.28			MADE GROUND. Ash / clay rubble fill.					
78.78	5.0		Soft to firm black clayey SILT with vegetation.				5.30m	
78.28			Firm brown sandy boulder CLAY with occasional thin sand bands.	BH2 / 5.50m	D	14		
	6.0							
	7.0						6.80m, 7.20m	
75.78	8.0		Continued next sheet					

Remarks:

BH2

CELTIC
Design and Construct Remediation

Borehole Number: BH2

Date: 04/06/2007
Easting: 387662.44
Project No: C1077
Engineer: C Tippins
Northing: 400238.38
Site Location: Ten Acres Lane, Newton Heath
Method: CP
Datum: 83.68
Client: Countryside Properties Northwest
Hole Diameter:
Screen Position: 6.00 - 10.00m

SUBSURFACE PROFILE				SAMPLING/TESTING			WATER	WELL
Level (m AOD)	Depth	Legend	DESCRIPTION	Sample Ref	Sample Type	N Value	Water Strike	Well Data
	8.0		Medium dense orangy brown SAND with thin clay bands.	BH2 / 8.00m	D	46		
	9.0							
74.18			Soft to firm brown sandy boulder CLAY.					
73.68	10.0		End of Borehole					
	11.0							
	12.0							
	13.0							
	14.0							
	15.0							
	16.0							

Remarks:

CELTIC
Design and Construct Remediation

Borehole Number: BH3

Date: 06/06/2007 | Easting: 387804.92

Project No: C1077 | Engineer: C Tippins | Northing: 400274.93

Site Location: Ten Acres Lane, Newton Heath | Method: CP | Datum: 83.06

Client: Countryside Properties Northwest | Hole Diameter: | Screen Position: 3.00 - 6.00m

SUBSURFACE PROFILE				SAMPLING/TESTING			WATER	WELL
Level (m AOD)	Depth	Legend	DESCRIPTION	Sample Ref	Sample Type	N Value	Water Strike	Well Data
	0.0		MADE GROUND. Clay / soil rubble fill.					
82.26								
82.06	1.0		MADE GROUND. Brick rubble fill.					
			MADE GROUND. Loose black clayey ash.			2		
	2.0					2		
80.06	3.0		MADE GROUND. Soft silty clay rubble fill.					
	4.0					5	4.60m	
	5.0						5.30m	
77.76			MADE GROUND. Ash rubble fill.	BH3 / 5.30m	D			
77.06	6.0		Soft white / green silty CLAY.					
76.76			Soft to firm brown sandy boulder CLAY.					
	7.0							
	8.0		Continued next sheet					

Remarks:

BH3

CELTIC
Design and Construct Remediation

Borehole Number: BH3

Date: 06/06/2007
Easting: 387804.92
Project No: C1077
Engineer: C Tippins
Northing: 400274.93
Site Location: Ten Acres Lane, Newton Heath
Method: CP
Datum: 83.06
Client: Countryside Properties Northwest
Hole Diameter:
Screen Position: 3.00 - 6.00m

SUBSURFACE PROFILE				SAMPLING/TESTING			WATER	WELL
Level (m AOD)	Depth	Legend	DESCRIPTION	Sample Ref	Sample Type	N Value	Water Strike	Well Data
75.06	8.0		Soft to firm brown sandy boulder CLAY with occasional sand pockets.	BH3 / 8.20m	D	4		
74.26	9.0		Medium dense orangy brown SAND.			42		
73.41			End of Borehole					
	10.0							
	11.0							
	12.0							
	13.0							
	14.0							
	15.0							
	16.0							

Remarks:

BH3

CELTIC
Design and Construct Remediation

Borehole Number: BH4

Date: 06/06/2007 | Easting: 387881.12

Project No: C1077 | Engineer: C Tippins | Northing: 400360.50

Site Location: Ten Acres Lane, Newton Heath | Method: CP | Datum: 84.71

Client: Countryside Properties Northwest | Hole Diameter: | Screen Position: 4.00 - 7.00m

SUBSURFACE PROFILE				SAMPLING/TESTING			WATER	WELL
Level (m AOD)	Depth	Legend	DESCRIPTION	Sample Ref	Sample Type	N Value	Water Strike	Well Data
84.51	0.0		MADE GROUND. Concrete.					
			MADE GROUND. Ash rubble fill.					
83.86	1.0		MADE GROUND. Clayey ash rubble fill.	BH4 / 1.20m	D	22		
83.21			MADE GROUND. Mottled orange / brown grey clay with rubble fragments.					
82.81	2.0		MADE GROUND. Firm to stiff brown mottled grey boulder clay with rubble fragments.			6		
82.31			Stiff brown sandy boulder CLAY. Odour.					
	3.0							
	4.0							
79.81	5.0		Stiff to very stiff greyish brown boulder CLAY. Strong odour.					
	6.0							
78.31			Stiff brown sandy boulder CLAY. Odour.			27		
	7.0						▽7.10m	
77.61			Dense SAND with occasional gravel. Odour.			40		
	8.0		Continued next sheet					

Remarks:

BH4

CELTIC
Design and Construct Remediation

Borehole Number: BH4

Date: 06/06/2007 | Easting: 387881.12

Project No: C1077 | Engineer: C Tippins | Northing: 400360.50

Site Location: Ten Acres Lane, Newton Heath | Method: CP | Datum: 84.71

Client: Countryside Properties Northwest | Hole Diameter: | Screen Position: 4.00 - 7.00m

SUBSURFACE PROFILE				SAMPLING/TESTING			WATER	WELL
Level (m AOD)	Depth	Legend	DESCRIPTION	Sample Ref	Sample Type	N Value	Water Strike	Well Data
	8.0		Dense SAND with occasional gravel. Odour.			43		
	9.0							
74.71	10.0		End of Borehole			40		
	11.0							
	12.0							
	13.0							
	14.0							
	15.0							
	16.0							

Remarks:

BH4

CELTIC
Design and Construct Remediation

Borehole Number: BH5

Date: 30/05/2007 | Easting: 387778.12

Project No: C1077 | Engineer: C Tippins | Northing: 400422.04

Site Location: Ten Acres Lane, Newton Heath | Method: CP | Datum: 85.32

Client: Countryside Properties Northwest | Hole Diameter: | Screen Position: 4.00 - 7.00m

SUBSURFACE PROFILE				SAMPLING/TESTING			WATER	WELL
Level (m AOD)	Depth	Legend	DESCRIPTION	Sample Ref	Sample Type	N Value	Water Strike	Well Data
85.22	0.0		Turf over TOPSOIL.	BH5 / 0.00m	D			
			MADE GROUND. Clay / soil / ash fill.					
84.62			MADE GROUND. Soft to firm grey clay rubble fill.	BH5 / 0.70m	D			
84.32	1.0		MADE GROUND. Colliery fill.			8		
	2.0			BH5 / 1.90m	D			
	3.0					10		
81.12	4.0		MADE GROUND. Black ash / shale fill.					
	5.0					5		
79.92			MADE GROUND. Brick / concrete fill.					
79.52	6.0		MADE GROUND. Black clayey ash rubble fill.					
	7.0					35		
78.12			MADE GROUND. Firm to stiff brown sandy boulder clay (possibly fill).					
77.82			Dense orangy brown SAND.					
77.42	8.0		End of Borehole			50		

Remarks: Dry.

BH5

CELTIC
Design and Construct Remediation

Borehole Number: BH6

Date: 08/06/2007 | Easting: 387611.05

Project No: C1077 | Engineer: C Tippins | Northing: 400408.50

Site Location: Ten Acres Lane, Newton Heath | Method: CP | Datum: 84.13

Client: Countryside Properties Northwest | Hole Diameter: | Screen Position: 3.00 - 6.00m

SUBSURFACE PROFILE				SAMPLING/TESTING			WATER	WELL
Level (m AOD)	Depth	Legend	DESCRIPTION	Sample Ref	Sample Type	N Value	Water Strike	Well Data
84.03	0.0		Turf over TOPSOIL.					
83.83			MADE GROUND. Concrete.					
			MADE GROUND. Brick wall.					
83.23	1.0		MADE GROUND. Clayey ash rubble fill.	BH6 / 1.20m	D	1		
82.43	2.0		MADE GROUND. Black clayey sandy silt with rubble.					
81.53	3.0		MADE GROUND. Soft brown silty clay fill. Pushing obstruction between 2.9 and 4.8m bgl.				3.20m	
	4.0					50	3.90m	
79.33	5.0		Soft to firm reddish brown sandy boulder CLAY.			13	5.80m	
78.23	6.0		Dense sandy GRAVEL.					
77.83			Firm brown sandy boulder CLAY.					
	7.0							
	8.0		Continued next sheet					

Remarks: Dry.

BH6

CELTIC
Design and Construct Remediation

Borehole Number: BH6

Date: 08/06/2007
Easting: 387611.05
Project No: C1077
Engineer: C Tippins
Northing: 400408.50
Site Location: Ten Acres Lane, Newton Heath
Method: CP
Datum: 84.13
Client: Countryside Properties Northwest
Hole Diameter:
Screen Position: 3.00 - 6.00m

SUBSURFACE PROFILE				SAMPLING/TESTING			WATER	WELL
Level (m AOD)	Depth	Legend	DESCRIPTION	Sample Ref	Sample Type	N Value	Water Strike	Well Data
76.13	8.0		Soft to firm brown sandy boulder CLAY with occasional thin sand bands.			15		
	9.0			BH6 / 9.50m	D			
74.13	10.0		End of Borehole					
	11.0							
	12.0							
	13.0							
	14.0							
	15.0							
	16.0							

Remarks: Dry.

CELTIC
Design and Construct Remediation

Borehole Number: BH7

Date: 07/06/2007
Easting: 387442.75
Project No: C1077
Engineer: C Tippins
Northing: 400328.98
Site Location: Ten Acres Lane, Newton Heath
Method: CP
Datum: 80.99
Client: Countryside Properties Northwest
Hole Diameter:
Screen Position: 5.00 - 10.10m

SUBSURFACE PROFILE				SAMPLING/TESTING			WATER	WELL
Level (m AOD)	Depth	Legend	DESCRIPTION	Sample Ref	Sample Type	N Value	Water Strike	Well Data
80.89	0.0		Turf over TOPSOIL.					
			MADE GROUND. Ash rubble fill.					
	1.0			BH7 / 1.20m	D	2		
	2.0					10		
	3.0					9		
77.19							▽3.80m	
	4.0		MADE GROUND. Brick wall.					
76.89			Firm brown sandy slightly silty sandy boulder CLAY.					
	5.0			BH7 / 4.80m	D	13		
	6.0							
	7.0							
	8.0		Continued next sheet					

Remarks: Dry.

BH7

CELTIC
Design and Construct Remediation

Borehole Number: BH7

Date: 07/06/2007
Easting: 387442.75
Project No: C1077
Engineer: C Tippins
Northing: 400328.98
Site Location: Ten Acres Lane, Newton Heath
Method: CP
Datum: 80.99
Client: Countryside Properties Northwest
Hole Diameter:
Screen Position: 5.00 - 10.10m

SUBSURFACE PROFILE				SAMPLING/TESTING			WATER	WELL
Level (m AOD)	Depth	Legend	DESCRIPTION	Sample Ref	Sample Type	N Value	Water Strike	Well Data
	8.0		Firm brown sandy slightly silty sandy boulder CLAY.			13		
	9.0							
70.89	10.0		End of Borehole					
	11.0							
	12.0							
	13.0							
	14.0							
	15.0							
	16.0							

Remarks: Dry.

BH7

CELTIC
Design and Construct Remediation

Borehole Number: BH8

Date: 07/06/2007
Easting: 387390.20
Project No: C1077
Engineer: C Tippins
Northing: 400299.46
Site Location: Ten Acres Lane, Newton Heath
Method: CP
Datum: 79.41
Client: Countryside Properties Northwest
Hole Diameter:
Screen Position: 5.00 - 8.00m

SUBSURFACE PROFILE				SAMPLING/TESTING			WATER	WELL
Level (m AOD)	Depth	Legend	DESCRIPTION	Sample Ref	Sample Type	N Value	Water Strike	Well Data
78.91	0.0		MADE GROUND. Loose brown sandy gravel and cobbles. Gravel of clinker. Cobbles of brick.					
			MADE GROUND. Moist soft brown gravelly reworked clay. Gravel of brick.					
77.41	1.0							
	2.0		Firm brown gravelly CLAY. Gravel is subangular to subrounded sandstone and mudstone fragments.					
	3.0							
	4.0							
	5.0							
	6.0							
	7.0							
	8.0		End of Borehole					

Remarks:

BH8

CELTIC
Design and Construct Remediation

Borehole Number: BH9

Date: 18/05/2007
Easting: 387272.63
Project No: C1077
Engineer: C Tippins
Northing: 400187.08
Site Location: Ten Acres Lane, Newton Heath
Method: CP
Datum: 77.03
Client: Countryside Properties Northwest
Hole Diameter:
Screen Position: 1.50 - 10.25m

SUBSURFACE PROFILE				SAMPLING/TESTING			WATER	WELL
Level (m AOD)	Depth	Legend	DESCRIPTION	Sample Ref	Sample Type	N Value	Water Strike	Well Data
76.93	0.0		MADE GROUND. Soil rubble fill.					
			MADE GROUND. Ash rubble fill.					
	1.0			BH9 / 1.20m	D	2		
	2.0					2	▽2.40m	
74.33			Firm light brown mottled grey sandy CLAY.					
	3.0							
73.03	4.0		Firm brown sandy boulder CLAY.	BH9 / 4.10m	D	25		
	5.0							
	6.0					25		
	7.0							
	8.0		Continued next sheet					

Remarks:

BH9

CELTIC
Design and Construct Remediation

Borehole Number: BH9

Date: 18/05/2007
Easting: 387272.63
Project No: C1077
Engineer: C Tippins
Northing: 400187.08
Site Location: Ten Acres Lane, Newton Heath
Method: CP
Datum: 77.03
Client: Countryside Properties Northwest
Hole Diameter:
Screen Position: 1.50 - 10.25m

SUBSURFACE PROFILE				SAMPLING/TESTING			WATER	WELL
Level (m AOD)	Depth	Legend	DESCRIPTION	Sample Ref	Sample Type	N Value	Water Strike	Well Data
	8.0		Firm brown sandy boulder CLAY.					
	9.0							
	10.0					31		
66.78			End of Borehole					
	11.0							
	12.0							
	13.0							
	14.0							
	15.0							
	16.0							

Remarks:

BH9

CELTIC
Design and Construct Remediation

Borehole Number: BH10

Date: 31/05/2007 | Easting: 387501.65

Project No: C1077 | Engineer: C Tippins | Northing: 400247.01

Site Location: Ten Acres Lane, Newton Heath | Method: CP | Datum: 82.54

Client: Countryside Properties Northwest | Hole Diameter: | Screen Position: 3.00 - 10.10m

SUBSURFACE PROFILE				SAMPLING/TESTING			WATER	WELL
Level (m AOD)	Depth	Legend	DESCRIPTION	Sample Ref	Sample Type	N Value	Water Strike	Well Data
82.49	0.0		Turf over TOPSOIL.					
			MADE GROUND. Brick / stone / ash rubble fill.					
			Pushing obstruction from 2.0 to 3.1m bgl.					
	1.0			BH10 / 1.20m	D	4		
	2.0						2.00m	
79.44	3.0		MADE GROUND. Clay rubble fill.			50	3.20m	
			Pushing wooden obstruction from 3.3 to 4.9m bgl.					
	4.0							
77.54	5.0		MADE GROUND. Clay / silt / ash / stone / brick rubble fill with occasional wood fragments.			3		
			Pushing obstruction from 5.5 to 10.1m bgl.					
	6.0					34		
	7.0							
	8.0		Continued next sheet					

Remarks:

CELTIC
Design and Construct Remediation

Borehole Number: BH10

Date: 31/05/2007 | Easting: 387501.65

Project No: C1077 | Engineer: C Tippins | Northing: 400247.01

Site Location: Ten Acres Lane, Newton Heath | Method: CP | Datum: 82.54

Client: Countryside Properties Northwest | Hole Diameter: | Screen Position: 3.00 - 10.10m

SUBSURFACE PROFILE				SAMPLING/TESTING			WATER	WELL
Level (m AOD)	Depth	Legend	DESCRIPTION	Sample Ref	Sample Type	N Value	Water Strike	Well Data
	8.0		MADE GROUND. Clay / silt / ash / stone / brick rubble fill with occasional wood fragments.					
			Pushing obstruction from 5.5 to 10.1m bgl.					
	9.0					43		
72.44	10.0		End of Borehole			50		
	11.0							
	12.0							
	13.0							
	14.0							
	15.0							
	16.0							

Remarks:

BH10

CELTIC
Design and Construct Remediation

Borehole Number: BH11

Date: 01/06/2007 | Easting: 387609.77

Project No: C1077 | Engineer: C Tippins | Northing: 400284.61

Site Location: Ten Acres Lane, Newton Heath | Method: CP | Datum: 84.37

Client: Countryside Properties Northwest | Hole Diameter: | Screen Position: 3.00 - 8.30m

SUBSURFACE PROFILE				SAMPLING/TESTING			WATER	WELL
Level (m AOD)	Depth	Legend	DESCRIPTION	Sample Ref	Sample Type	N Value	Water Strike	Well Data
84.07	0.0		MADE GROUND. Soil rubble fill.					
			MADE GROUND. Clay / ash rubble fill. Brick wall from 1.9 to 2.4m bgl.			8		
	1.0							
	2.0			BH11 / 1.90m	D	50		
81.97			MADE GROUND. Clay rubble fill.					
			Pushing large obstruction at 2.5m bgl.				3.10m	
	3.0							
	4.0						4.20m	
79.87			MADE GROUND. Soft to firm black clay fill.			8		
	5.0							
78.77			MADE GROUND. Obstruction.	BH11 / 5.60m	D			
	6.0							
	7.0							
	8.0		Continued next sheet					

Remarks:

BH11

CELTIC
Design and Construct Remediation

Borehole Number: BH11

Date: 01/06/2007 | Easting: 387609.77

Project No: C1077 | Engineer: C Tippins | Northing: 400284.61

Site Location: Ten Acres Lane, Newton Heath | Method: CP | Datum: 84.37

Client: Countryside Properties Northwest | Hole Diameter: | Screen Position: 3.00 - 8.30m

SUBSURFACE PROFILE				SAMPLING/TESTING			WATER	WELL
Level (m AOD)	Depth	Legend	DESCRIPTION	Sample Ref	Sample Type	N Value	Water Strike	Well Data
75.92	8.0		MADE GROUND. Obstruction.			50		
			End of Borehole					
	9.0							
	10.0							
	11.0							
	12.0							
	13.0							
	14.0							
	15.0							
	16.0							

Remarks:

CELTIC
Design and Construct Remediation

Borehole Number: BH12

Date: 05/06/2007 | Easting: 387775.05

Project No: C1077 | Engineer: C Tippins | Northing: 400353.47

Site Location: Ten Acres Lane, Newton Heath | Method: CP | Datum: 86.30

Client: Countryside Properties Northwest | Hole Diameter: | Screen Position: 1.00 - 5.20m

SUBSURFACE PROFILE				SAMPLING/TESTING			WATER	WELL
Level (m AOD)	Depth	Legend	DESCRIPTION	Sample Ref	Sample Type	N Value	Water Strike	Well Data
86.20	0.0		Turf over TOPSOIL.					
			MADE GROUND. Soil / clay rubble fill.					
85.20	1.0							
			MADE GROUND. Soft to firm black / grey silty clay fill.			6		
84.90			MADE GROUND. Clayey ash fill.					
84.40	2.0		MADE GROUND. Soft to firm sandy clay fill.					
	3.0			BH12 / 3.00m	D	4		
83.00			MADE GROUND. Loose red shale fill.					
	4.0					12		
81.50			MADE GROUND. Colliery fill.					
81.10	5.0		Firm to stiff brown mottled grey CLAY.					
80.50	6.0		Firm to stiff brown boulder CLAY. Becoming sandy with depth and occasional sand pockets.					
	7.0					31		
	8.0		Continued next sheet					

Remarks:

CELTIC
Design and Construct Remediation

Borehole Number: BH12

Date: 05/06/2007 | Easting: 387775.05

Project No: C1077 | Engineer: C Tippins | Northing: 400353.47

Site Location: Ten Acres Lane, Newton Heath | Method: CP | Datum: 86.30

Client: Countryside Properties Northwest | Hole Diameter: | Screen Position: 1.00 - 5.20m

SUBSURFACE PROFILE				SAMPLING/TESTING			WATER	WELL
Level (m AOD)	Depth	Legend	DESCRIPTION	Sample Ref	Sample Type	N Value	Water Strike	Well Data
	8.0		Firm to stiff brown boulder CLAY. Becoming sandy with depth and occasional sand pockets.					
	9.0							
	10.0					36		
75.95			End of Borehole					
	11.0							
	12.0							
	13.0							
	14.0							
	15.0							
	16.0							

Remarks:

CELTIC
Design and Construct Remediation

Borehole Number: BH13

Date: 05/06/2007 | Easting: -

Project No: C1077 | Engineer: C Tippins | Northing: -

Site Location: Ten Acres Lane, Newton Heath | Method: CP | Datum: -

Client: Countryside Properties Northwest | Hole Diameter: | Screen Position: 1.00 - 7.70m

SUBSURFACE PROFILE				SAMPLING/TESTING			WATER	WELL
Level (m AOD)	Depth	Legend	DESCRIPTION	Sample Ref	Sample Type	N Value	Water Strike	Well Data
	0.0		Turf over TOPSOIL.					
			MADE GROUND. Compact soil / ash rubble fill.					
			MADE GROUND. Colliery fill.					
	1.0					12		
	2.0					26		
	3.0					9		
	4.0					36		
	5.0					25		
	6.0							
	7.0					57		
	8.0		Continued next sheet					

Remarks:

CELTIC
Design and Construct Remediation

Borehole Number: BH13

Date: 05/06/2007 | Easting: -

Project No: C1077 | Engineer: C Tippins | Northing: -

Site Location: Ten Acres Lane, Newton Heath | Method: CP | Datum: -

Client: Countryside Properties Northwest | Hole Diameter: | Screen Position: 1.00 - 7.70m

SUBSURFACE PROFILE				SAMPLING/TESTING			WATER	WELL
Level (m AOD)	Depth	Legend	DESCRIPTION	Sample Ref	Sample Type	N Value	Water Strike	Well Data
	8.0		MADE GROUND. Firm light brown sandy clay. Odour.			50		
			MADE GROUND. Dense orangy brown sand with occasional black staining. Slight odour.					
	9.0					50		
	10.0		End of Borehole					
	11.0							
	12.0							
	13.0							
	14.0							
	15.0							
	16.0							

Remarks:

CELTIC
Design and Construct Remediation

Borehole Number: BH14

Date: 05/06/2007 Easting: -

Project No: C1077 Engineer: C Tippins Northing: -

Site Location: Ten Acres Lane, Newton Heath Method: CP Datum: -

Client: Countryside Properties Northwest Hole Diameter: Screen Position:

SUBSURFACE PROFILE				SAMPLING/TESTING			WATER	WELL
Level (m AOD)	Depth	Legend	DESCRIPTION	Sample Ref	Sample Type	N Value	Water Strike	Well Data
	0.0		Turf over TOPSOIL.					
			MADE GROUND. Concrete.					
			MADE GROUND. Waste fill.					
	1.0		MADE GROUND. Concrete obstruction. Pushing obstruction from 1.1 to 4.4m bgl.					
	2.0							
	3.0							
	4.0		End of Borehole					
	5.0							
	6.0							
	7.0							
	8.0							

Remarks:

CELTIC
Design and Construct Remediation

Borehole Number: BH15

Date: 05/06/2007 Easting: -

Project No: C1077 Engineer: C Tippins Northing: -

Site Location: Ten Acres Lane, Newton Heath Method: CP Datum: -

Client: Countryside Properties Northwest Hole Diameter: Screen Position: 1.00 - 7.90m

SUBSURFACE PROFILE				SAMPLING/TESTING			WATER	WELL
Level (m AOD)	Depth	Legend	DESCRIPTION	Sample Ref	Sample Type	N Value	Water Strike	Well Data
	0.0		Turf over TOPSOIL.					
			MADE GROUND. Clay rubble fill.					
	1.0							
			MADE GROUND. Colliery fill.					
	2.0							
	3.0							
			MADE GROUND. Loose red shale.					
	4.0							
	5.0							
	6.0							
			MADE GROUND. Colliery fill.					
	7.0							
	8.0		Continued next sheet					

Remarks:

CELTIC
Design and Construct Remediation

Borehole Number: BH15

Date: 05/06/2007 Easting: -

Project No: C1077 Engineer: C Tippins Northing: -

Site Location: Ten Acres Lane, Newton Heath Method: CP Datum: -

Client: Countryside Properties Northwest Hole Diameter: Screen Position: 1.00 - 7.90m

SUBSURFACE PROFILE				SAMPLING/TESTING			WATER	WELL
Level (m AOD)	Depth	Legend	DESCRIPTION	Sample Ref	Sample Type	N Value	Water Strike	Well Data
	8.0		Firm to stiff brown sandy boulder CLAY.				▽8.10m	
			Dense orangy brown SAND.					
	9.0							
	10.0		End of Borehole					
	11.0							
	12.0							
	13.0							
	14.0							
	15.0							
	16.0							

Remarks:

CELTIC
Design and Construct Remediation

Borehole Number: WS1

Date: 22/05/2007 | Easting: 387531.76

Project No: C1077 | Engineer: C Tippins | Northing: 400052.00

Site Location: Ten Acres Lane, Newton Heath | Method: WLS | Datum: 79.06

Client: Countryside Properties Northwest | Hole Diameter: | Screen Position: 1.50 - 3.00m

SUBSURFACE PROFILE				SAMPLING/TESTING			WATER	WELL
Level (m AOD)	Depth	Legend	DESCRIPTION	Sample Ref	Sample Type	N Value	Water Strike	Well Data
78.86	0.0		MADE GROUND. Topsoil - slightly sandy gravelly clay. Gravel of glass and clinker.					
78.66			MADE GROUND. Topsoil - slightly sandy gravelly firm to stiff clay and rootlets. Brown / orange gravel of clinker and builders waste.					
78.06	1.0		MADE GROUND. Firm to stiff orange / brown clay with gravel of coal and bricks.				▽ 1.10m	
77.66			Moist brown / yellow medium clayey SAND.					
77.36			Very sandy CLAY with occasional gravel of sandstone.					
	2.0		SAND and fine gravel of coal and black fragments.					
76.06	3.0		End of Borehole					
	4.0							
	5.0							
	6.0							
	7.0							
	8.0							

Remarks: No visual or olfactory evidence of contamination.

WS1

CELTIC
Design and Construct Remediation

Borehole Number: WS2

Date: 22/05/2007 | Easting: 387638.87

Project No: C1077 | Engineer: C Tippins | Northing: 400125.63

Site Location: Ten Acres Lane, Newton Heath | Method: WLS | Datum: 80.09

Client: Countryside Properties Northwest | Hole Diameter: | Screen Position: 1.00 - 2.50m

SUBSURFACE PROFILE				SAMPLING/TESTING			WATER	WELL
Level (m AOD)	Depth	Legend	DESCRIPTION	Sample Ref	Sample Type	N Value	Water Strike	Well Data
80.08	0.0		MADE GROUND. Slightly sandy brown clay with occasional gravel of sandstone, brick and clinker.					
79.59			MADE GROUND. Grey sandy gravel and cobbling clay. Sand is coarse. Gravel of brick and clinker.					
79.29			CLAY.					
79.09	1.0		Firm to stiff brown and grey mottled CLAY with slightly sandy fine gravel of grey sandstone.					
			Large cobbles of SANDSTONE.					
	2.0							
77.39			End of Borehole					
	3.0							
	4.0							
	5.0							
	6.0							
	7.0							
	8.0							

Remarks:

CELTIC
Design and Construct Remediation

Borehole Number: WS3

Date: 22/05/2007 | Easting: 387681.40

Project No: C1077 | Engineer: C Tippins | Northing: 400161.13

Site Location: Ten Acres Lane, Newton Heath | Method: WLS | Datum: 80.82

Client: Countryside Properties Northwest | Hole Diameter: | Screen Position: 0.50 - 1.00m

SUBSURFACE PROFILE				SAMPLING/TESTING			WATER	WELL
Level (m AOD)	Depth	Legend	DESCRIPTION	Sample Ref	Sample Type	N Value	Water Strike	Well Data
80.52	0.0		MADE GROUND. Sandy gravelly topsoil with soft brown clay and gravel of brick and pottery.					
80.02			MADE GROUND. Clayey sandy gravel with brown / black and red locally sandy gravelly clay. Gravel of clinker and brick.					
79.72	1.0		MADE GROUND. Grey coal with some clinker also coal and sandstone fragments (possibly organic).					
			Firm to stiff brown / grey CLAY (as in WS2).					
	2.0							
77.82	3.0		End of Borehole					
	4.0							
	5.0							
	6.0							
	7.0							
	8.0							

Remarks:

WS3

CELTIC
Design and Construct Remediation

Borehole Number: WS4

Date: 22/05/2007 | Easting: 387740.68

Project No: C1077 | Engineer: C Tippins | Northing: 400196.46

Site Location: Ten Acres Lane, Newton Heath | Method: WLS | Datum: 81.10

Client: Countryside Properties Northwest | Hole Diameter: | Screen Position: 0.50 - 2.70m

SUBSURFACE PROFILE				SAMPLING/TESTING			WATER	WELL
Level (m AOD)	Depth	Legend	DESCRIPTION	Sample Ref	Sample Type	N Value	Water Strike	Well Data
81.00	0.0		MADE GROUND. Gravelly cobbly soft brown clay with gravel of angular brick.					
80.60			MADE GROUND. Sandy black clayey gravel of clinker, ash and brick with some pottery.					
80.10	1.0		MADE GROUND. Firm brown / orange grey gravelly locally cobbly clay with gravels and cobbles of brick and ash.					
79.60			MADE GROUND. Moist brown clayey sand and gravel. Sand is medium. Gravel of brick and pebbles.					
	2.0		MADE GROUND. Reworked grey gravelly clay. Gravel of brick and ash.					
78.40			Soft to firm brown gravelly CLAY.					
78.10	3.0		End of Borehole					
	4.0							
	5.0							
	6.0							
	7.0							
	8.0							

Remarks:

WS4

CELTIC
Design and Construct Remediation

Borehole Number: WS5

Date: 22/05/2007 | Easting: 387764.97

Project No: C1077 | Engineer: C Tippins | Northing: 400213.31

Site Location: Ten Acres Lane, Newton Heath | Method: WLS | Datum: 81.14

Client: Countryside Properties Northwest | Hole Diameter: | Screen Position: 0.50 - 2.30m

SUBSURFACE PROFILE				SAMPLING/TESTING			WATER	WELL
Level (m AOD)	Depth	Legend	DESCRIPTION	Sample Ref	Sample Type	N Value	Water Strike	Well Data
	0.0		MADE GROUND. Cobbles and clay. Cobbles of brick. Clay is slightly sandy red brick. Thin layer of topsoil.					
80.54			MADE GROUND. Black slightly clayey ash and angular coarse clinker.	WS5 / 0.70m				
80.24								
80.14	1.0		MADE GROUND. Cobbles and clay. Cobbles of brick. Clay is slightly sandy red brick.					
79.84			MADE GROUND. Clayey clinker with some ash.	WS5 / 1.50m				
			MADE GROUND. Soft brown / grey slightly sandy reworked clay					
79.04	2.0		MADE GROUND. Brown medium to coarse sandy clay. No contamination.					
78.84			Firm brown gravelly CLAY.	WS5 / 2.80m				
78.14	3.0		End of Borehole					
	4.0							
	5.0							
	6.0							
	7.0							
	8.0							

Remarks:

WS5

CELTIC
Design and Construct Remediation

Borehole Number: WS6

Date: 25/05/2007
Easting: 387836.70
Project No: C1077
Engineer: C Tippins
Northing: 400262.58
Site Location: Ten Acres Lane, Newton Heath
Method: WLS
Datum: 82.50
Client: Countryside Properties Northwest
Hole Diameter:
Screen Position: 0.50 - 3.00m

SUBSURFACE PROFILE				SAMPLING/TESTING			WATER	WELL
Level (m AOD)	Depth	Legend	DESCRIPTION	Sample Ref	Sample Type	N Value	Water Strike	Well Data
82.20	0.0		MADE GROUND. Firm gravelly clay with black / brown gravel of brick, coal and clinker. Topsoil.					
82.00			MADE GROUND. Brown clay with some brick and coal.					
81.50	1.0		MADE GROUND. Black clayey gravel and clinker. Gravel of brick and ash.					
			MADE GROUND. Poor recovery. Sandy clay with gravel of clinker. Clay dominant at 1.6 and 1.8m bgl.					
80.50	2.0		MADE GROUND. Sandy clay with ashy gravel of clinker and brick.					
80.00			MADE GROUND. Brown reworked clay with angular gravel of brick.					
79.50	3.0		End of Borehole					
	4.0							
	5.0							
	6.0							
	7.0							
	8.0							

Remarks:

WS6

CELTIC
Design and Construct Remediation

Borehole Number: WS7

Date: 25/05/2007
Easting: 387925.63
Project No: C1077
Engineer: C Tippins
Northing: 400331.99
Site Location: Ten Acres Lane, Newton Heath
Method: WLS
Datum: 84.30
Client: Countryside Properties Northwest
Hole Diameter:
Screen Position: 1.00 - 2.00m

SUBSURFACE PROFILE				SAMPLING/TESTING			WATER	WELL
Level (m AOD)	Depth	Legend	DESCRIPTION	Sample Ref	Sample Type	N Value	Water Strike	Well Data
	0.0		MADE GROUND. Dry loose dark brown to red sandy gravel. Gravel of brick and clinker of sandstone.					
82.80	1.0		MADE GROUND. Damp soft black reworked clay.					
82.20	2.0		Dry very stiff beige CLAY.					
80.80	3.0		End of Borehole					
	4.0							
	5.0							
	6.0							
	7.0							
	8.0							

Remarks:

WS7

CELTIC
Design and Construct Remediation

Borehole Number: WS8

Date: 17/05/2007 | Easting: 387879.02

Project No: C1077 | Engineer: C Tippins | Northing: 400434.31

Site Location: Ten Acres Lane, Newton Heath | Method: WLS | Datum: 85.60

Client: Countryside Properties Northwest | Hole Diameter: | Screen Position: 2.00 - 3.00m

SUBSURFACE PROFILE				SAMPLING/TESTING			WATER	WELL
Level (m AOD)	Depth	Legend	DESCRIPTION	Sample Ref	Sample Type	N Value	Water Strike	Well Data
85.00	0.0		MADE GROUND. Soft loose brown and red medium sandy gravelly clay (topsoil). Gravel of small angular brick and some clinker.	WS8 / 0.40m	D			
84.80			MADE GROUND. Soft loose brown grey gravelly reworked clay. Gravel of brick and coal fragments.					
84.40	1.0		MADE GROUND. Soft grey / yellow silty clay with gravel of coal - possibly reworked (silty).	WS8 / 1.00m	D		▽ 1.15m	
			Brown / yellow CLAY with gravel of mudstone and sandstone locally grey. Soft to firm between 1.0 and 2.0m bgl. Firm to stiff clay with gravels of brown locally grey coal between 2.0 and 3.0m bgl.					
82.60	3.0		End of Borehole					
	4.0							
	5.0							
	6.0							
	7.0							
	8.0							

Remarks: Samples of made ground plus 1.0m in reworked clay.

WS8

CELTIC
Design and Construct Remediation

Borehole Number: WS9

Date: 17/05/2007 | Easting: 387795.44

Project No: C1077 | Engineer: C Tippins | Northing: 400478.38

Site Location: Ten Acres Lane, Newton Heath | Method: WLS | Datum: 85.05

Client: Countryside Properties Northwest | Hole Diameter: | Screen Position: 2.00 - 3.00m

SUBSURFACE PROFILE				SAMPLING/TESTING			WATER	WELL
Level (m AOD)	Depth	Legend	DESCRIPTION	Sample Ref	Sample Type	N Value	Water Strike	Well Data
84.95	0.0		Slightly sandy gravelly clay TOPSOIL with brown rootlets. Gravel of brick.	WS9 / 0.20m	D			
84.75			MADE GROUND. Brown / red clayey gravel and sand. Gravel of clinker, sandstone and brick with cloth material. Some glass and fragments of coal.					
84.35	1.0		MADE GROUND.Firm brown / yellow sandy silty reworked clay with occasional coal fragments.					
83.75			Moist soft grey silty (possibly alluvium) CLAY.					
			Firm yellow / brown CLAY.					
82.95	2.0		Stiff brown CLAY with coal and sandstone fragments.					
82.05	3.0		End of Borehole					
	4.0							
	5.0							
	6.0							
	7.0							
	8.0							

Remarks:

CELTIC
Design and Construct Remediation

Borehole Number: WS10

Date: 17/05/2007 | Easting: 387632.75

Project No: C1077 | Engineer: C Tippins | Northing: 400453.50

Site Location: Ten Acres Lane, Newton Heath | Method: WLS | Datum: 84.07

Client: Countryside Properties Northwest | Hole Diameter: | Screen Position: 1.00 - 2.40m

SUBSURFACE PROFILE				SAMPLING/TESTING			WATER	WELL
Level (m AOD)	Depth	Legend	DESCRIPTION	Sample Ref	Sample Type	N Value	Water Strike	Well Data
83.97	0.0		MADE GROUND. Moist brown clay with rootlets and occasional gravel of brick.	WS10 / 0.20m	D			
83.67			MADE GROUND. Slightly sandy slightly gravelly clay Brown topsoil with rootlets and gravel of small coal and brick.					
83.47			MADE GROUND. Brown / orange sandy clay with occasional gravel.					
83.07	1.0		Firm brown to dark brown mottled sandy CLAY.	WS10 / 1.60m	D			
			Firm yellow / brown orange mottled grey CLAY with occasional large subangular sandstone pebbles.					
81.67	2.0		End of Borehole					
	3.0							
	4.0							
	5.0							
	6.0							
	7.0							
	8.0							

Remarks: Sample taken at 0.2m bgl - pH, TPH.
Sample taken at 1.6m bgl - TPHCWG, SVOC.

CELTIC
Design and Construct Remediation

Borehole Number: WS11

Date: 17/05/2007
Easting: 387502.30
Project No: C1077
Engineer: C Tippins
Northing: 400398.69
Site Location: Ten Acres Lane, Newton Heath
Method: WLS
Datum: 83.08
Client: Countryside Properties Northwest
Hole Diameter:
Screen Position: 2.00 - 3.50m

SUBSURFACE PROFILE				SAMPLING/TESTING			WATER	WELL
Level (m AOD)	Depth	Legend	DESCRIPTION	Sample Ref	Sample Type	N Value	Water Strike	Well Data
	0.0		MADE GROUND. Loose dark brown sandy soil.					
82.08	1.0		MADE GROUND. Wet black clayey oily band and water seepage. No odour.					
81.78			Dry stiff beige CLAY.					
	2.0							
	3.0							
79.58			End of Borehole					
	4.0							
	5.0							
	6.0							
	7.0							
	8.0							

Remarks:

CELTIC
Design and Construct Remediation

Borehole Number: WS12

Date: 17/05/2007 | Easting: 387346.59

Project No: C1077 | Engineer: C Tippins | Northing: 400328.73

Site Location: Ten Acres Lane, Newton Heath | Method: WLS | Datum: 79.12

Client: Countryside Properties Northwest | Hole Diameter: | Screen Position: 0.50 - 2.00m

SUBSURFACE PROFILE				SAMPLING/TESTING			WATER	WELL
Level (m AOD)	Depth	Legend	DESCRIPTION	Sample Ref	Sample Type	N Value	Water Strike	Well Data
	0.0		MADE GROUND. Brown / orange sandy gravelly clay. Sand is fine. Gravel of brick and occasional clinker.	WS12 / 0.50m	D			
78.12	1.0		MADE GROUND. Very poor recovery. Moist brown / black sandy very clayey gravel variable has gravelly clay. Gravel of coal, clinker, pottery and brick.					
77.12	2.0		Firm brown / grey CLAY with occasional gravel.					
76.62			Stiff brown CLAY with coal.	WS12 / 2.70m	D			
76.12	3.0		End of Borehole					
	4.0							
	5.0							
	6.0							
	7.0							
	8.0							

Remarks: No contamination.

WS12

CELTIC
Design and Construct Remediation

Borehole Number: WS13

Date: 17/05/2007 | Easting: 387270.26

Project No: C1077 | Engineer: C Tippins | Northing: 400246.26

Site Location: Ten Acres Lane, Newton Heath | Method: WLS | Datum: 77.35

Client: Countryside Properties Northwest | Hole Diameter: | Screen Position: 0.50 - 3.10m

SUBSURFACE PROFILE				SAMPLING/TESTING			WATER	WELL
Level (m AOD)	Depth	Legend	DESCRIPTION	Sample Ref	Sample Type	N Value	Water Strike	Well Data
77.20	0.0		MADE GROUND. Brown sandy clay with occasional gravel (topsoil).					
76.95			MADE GROUND. Black / brown sandy slightly clayey gravel. Gravel of clinker, brick and glass.					
76.55			MADE GROUND. Black / brown sandy slightly clayey gravel. Some visual and olfactory evidence of contamination.					
76.35	1.0		MADE GROUND. Slightly gravelly clay with brown / black gravel and clinker.					
76.20			MADE GROUND. Sandy gravel and clay. Gravel of brick , sandstone and clinker.					
75.35	2.0		MADE GROUND. Soft brown slightly gravelly clay.				▽ 2.10m	
			MADE GROUND. Moist soft gravel of clinker, brick, and some boulders.					
74.25	3.0		Stiff brown CLAY with occasional gravel of rounded sandstone.					
73.35	4.0		End of Borehole					
	5.0							
	6.0							
	7.0							
	8.0							

Remarks:

CELTIC
Design and Construct Remediation

Borehole Number: WS14

Date: 14/05/2007
Easting: 387214.59
Project No: C1077
Engineer: C Tippins
Northing: 400141.37
Site Location: Ten Acres Lane, Newton Heath
Method: WLS
Datum: 75.05
Client: Countryside Properties Northwest
Hole Diameter:
Screen Position: 0.50 - 3.10m

SUBSURFACE PROFILE				SAMPLING/TESTING			WATER	WELL
Level (m AOD)	Depth	Legend	DESCRIPTION	Sample Ref	Sample Type	N Value	Water Strike	Well Data
74.45	0.0		MADE GROUND. Gravelly sandy clay. Sand is brown medium to fine. Gravel of brick, concrete and chippings.	WS14 / 0.50m	D			
74.15			MADE GROUND. Firm brown / grey gravelly clay. Gravel of brick and clinker.					
	1.0		MADE GROUND. Wet black gravelly clay. Gravel of clinker. Visual and olfactory evidence of contamination.	WS14 / 1.20m	D			
73.55			MADE GROUND. Firm black / grey reworked clay. Possible visual and olfactory evidence of contamination.					
72.95	2.0		Firm to stiff brown slightly gravelly CLAY. Gravel of sandstone and coal.					
	3.0							
71.05	4.0		End of Borehole					
	5.0							
	6.0							
	7.0							
	8.0							

Remarks:

WS14

CELTIC
Design and Construct Remediation

Borehole Number: WS15

Date: 14/05/2007 | Easting: 387300.22

Project No: C1077 | Engineer: C Tippins | Northing: 400189.15

Site Location: Ten Acres Lane, Newton Heath | Method: WLS | Datum: 77.30

Client: Countryside Properties Northwest | Hole Diameter: | Screen Position: 0.50 - 3.00m

SUBSURFACE PROFILE				SAMPLING/TESTING			WATER	WELL
Level (m AOD)	Depth	Legend	DESCRIPTION	Sample Ref	Sample Type	N Value	Water Strike	Well Data
77.10	0.0		MADE GROUND. Brown sandy gravel. Gravel of small brick fragments.					
			MADE GROUND. Black / brown sandy gravel of clinker, sandstone, coal and brick.	WS15 / 0.50m	D			
76.50			Brick with some visual and olfactory evidence of contamination between 0.7 and 0.8m bgl.					
76.40	1.0		MADE GROUND. Soft black gravelly clay. Gravel of brick and clinker.	WS15 / 1.50m	D			
75.60			MADE GROUND. Sandy slightly silty gravel. Gravel of clinker, brick and black coal.					
75.30	2.0		MADE GROUND. Red / black sandy gravel, clinker and brick.					
			MADE GROUND. Very poor recovery.					
74.30	3.0		End of Borehole					
	4.0							
	5.0							
	6.0							
	7.0							
	8.0							

Remarks:

WS15

CELTIC
Design and Construct Remediation

Borehole Number: WS16

Date: 14/05/2007 | Easting: 387363.99

Project No: C1077 | Engineer: C Tippins | Northing: 400224.61

Site Location: Ten Acres Lane, Newton Heath | Method: WLS | Datum: 78.70

Client: Countryside Properties Northwest | Hole Diameter: | Screen Position: 2.00 - 5.00m

SUBSURFACE PROFILE				SAMPLING/TESTING			WATER	WELL
Level (m AOD)	Depth	Legend	DESCRIPTION	Sample Ref	Sample Type	N Value	Water Strike	Well Data
78.40	0.0		MADE GROUND. Slightly sandy gravelly clay. Gravel of brick and builders rubble.					
77.90			MADE GROUND. Brown / black / yellow / white sandy gravel. Gravel of brick, clinker and limestone chippings.					
77.50	1.0		MADE GROUND. Black sandy gravel of clinker.	WS16 / 1.20m	D			
77.20			MADE GROUND. Black / red clayey gravel.					
	2.0		MADE GROUND. Red / brown / black slightly clayey sandy gravel. Gravel of clinker, brick and coal.					
76.20			MADE GROUND. Grey / white slightly sandy gravel of clinker, brick and coal.					
75.80	3.0		MADE GROUND. Firm gravelly sandy clay. Gravel of clinker, coal and brick.					
75.60			MADE GROUND. Wet white clayey gravelly sand.					
75.00			MADE GROUND. Wet darker white clayey gravelly sand.					
	4.0							
74.20			MADE GROUND. Wet black sandy clayey gravel. Contamination.	WS16 / 4.50m	D			
74.00			MADE GROUND. Brown white clay. Contamination.					
73.70	5.0		End of Borehole					
	6.0							
	7.0							
	8.0							

Remarks:

WS16

CELTIC
Design and Construct Remediation

Borehole Number: WS17

Date: 14/05/2007
Easting: 387440.08
Project No: C1077
Engineer: C Tippins
Northing: 400114.61
Site Location: Ten Acres Lane, Newton Heath
Method: WLS
Datum: 79.17
Client: Countryside Properties Northwest
Hole Diameter:
Screen Position: 1.50 - 3.00m

SUBSURFACE PROFILE				SAMPLING/TESTING			WATER	WELL
Level (m AOD)	Depth	Legend	DESCRIPTION	Sample Ref	Sample Type	N Value	Water Strike	Well Data
78.97	0.0		MADE GROUND. Brown sandy clay with rootlets and occasional gravel of brick . Sand is fine.					
78.37	1.0		MADE GROUND. Loose brown / black / orange slightly clayey sandy gravel with occasional cobbles. Sand is medium. Gravel of ash, clinker, coal and limestone pebbles. Cobbles of concrete.	WS17 / 0.80m	D			
77.87			MADE GROUND. Firm grey slightly gravelly clay. Gravel fragments of coal and sandstone becoming slightly sandy.					
77.27	2.0		Firm to stiff brown mottled grey CLAY with occasional gravel of flattened angular sandstone.					
76.67			Firm to stiff brown mottled grey sandy CLAY with occasional gravel of flattened angular sandstone.					
76.17	3.0		Stiff brown CLAY.					
			End of Borehole					
	4.0							
	5.0							
	6.0							
	7.0							
	8.0							

Remarks:

WS17

CELTIC
Design and Construct Remediation

Borehole Number: WS18

Date: 14/05/2007 | Easting: 387491.47

Project No: C1077 | Engineer: C Tippins | Northing: 400181.00

Site Location: Ten Acres Lane, Newton Heath | Method: WLS | Datum: 81.50

Client: Countryside Properties Northwest | Hole Diameter: | Screen Position: 0.50 - 3.00m

SUBSURFACE PROFILE				SAMPLING/TESTING			WATER	WELL
Level (m AOD)	Depth	Legend	DESCRIPTION	Sample Ref	Sample Type	N Value	Water Strike	Well Data
81.40	0.0		MADE GROUND. Very poor recovery.					
81.35			MADE GROUND. Brown sandy gravelly clay (topsoil). Gravel of brick.					
81.20			MADE GROUND. Stiff brown / orange clay with occasional gravel.					
80.60	1.0		MADE GROUND. Sandy clay with gravel and cobble of brick and clinker. Some wood.					
80.40			MADE GROUND. Plastic sheeting.					
79.80			MADE GROUND. Gravel of brick and clinker with black ash.	WS18 / 2.00m	D			
79.50	2.0		MADE GROUND. Grey sandy clay with fragments of brick and wood. Visual and olfactory evidence of contamination.					
78.50	3.0		MADE GROUND. Very poor recovery. Gravel and clinker with tar in matrix. Visual and olfactory evidence of contamination.					
			End of Borehole					
	4.0							
	5.0							
	6.0							
	7.0							
	8.0							

Remarks:

CELTIC
Design and Construct Remediation

Borehole Number: WS19

Date: 17/05/2007 | Easting: 387734.07

Project No: C1077 | Engineer: C Tippins | Northing: 400314.26

Site Location: Ten Acres Lane, Newton Heath | Method: WLS | Datum: 85.62

Client: Countryside Properties Northwest | Hole Diameter: | Screen Position: 0.50 - 3.30m

SUBSURFACE PROFILE				SAMPLING/TESTING			WATER	WELL
Level (m AOD)	Depth	Legend	DESCRIPTION	Sample Ref	Sample Type	N Value	Water Strike	Well Data
85.17	0.0		MADE GROUND. Clay and boulders. Boulders of brick red gravel. Clay is gravelly sandstone and brick. Some oil.					
	1.0		MADE GROUND. Soft to firm brown reworked gravelly occasionally cobbly clay. Gravel of black clinker and brick. Cobbles of brick.					
84.02	2.0		MADE GROUND. Cobbly gravelly sand. Cobbles of brick, ash, sandstone and wood. Sand is coarse. Some oil on wood. Some plastic sheeting.					
82.92	3.0		MADE GROUND. Cobbly sand. Cobbles of concrete slag, clinker, glass, pottery waste, plastics and polystyrene.					
82.32			End of Borehole					
	4.0							
	5.0							
	6.0							
	7.0							
	8.0							

Remarks:

CELTIC
Design and Construct Remediation

Borehole Number: WS20

Date: 17/05/2007 | Easting: 387739.53

Project No: C1077 | Engineer: C Tippins | Northing: 400361.76

Site Location: Ten Acres Lane, Newton Heath | Method: WLS | Datum: 86.09

Client: Countryside Properties Northwest | Hole Diameter: | Screen Position: 1.00 - 5.00m

SUBSURFACE PROFILE				SAMPLING/TESTING			WATER	WELL
Level (m AOD)	Depth	Legend	DESCRIPTION	Sample Ref	Sample Type	N Value	Water Strike	Well Data
85.99	0.0		MADE GROUND. Brown / grey sandy gravel. Sand is medium of brick and other fragments. Gravel is angular of concrete, brick, limestone chippings and builders rubble. Some blackened grains of possible contamination.					
85.09	1.0		MADE GROUND. Soft to firm brown slightly sandy clay with gravel of angular brick and slag with some sandstone cobbles. No visual or olfactory evidence of contamination.					
	2.0		MADE GROUND. Brown grey / black very gravelly clay fill. Gravel of variable size angular brick, clinker coal and mudstone fragments. Some pottery waste slag and fragments approximately 2.2m bgl.					
83.59			MADE GROUND. Grey gravelly cobbly mudstone clay (alluvium). Very fine gravel of angular ferrous slag, coal and clinker.					
83.09	3.0		MADE GROUND. Slightly clayey gravel of black / red coal fill. Coal fragments, slag and ferrous waste. Very angular of various size.					
81.99	4.0		MADE GROUND. Dry orange / red ferrous iron rich clay. Easily broken up.					
81.19			MADE GROUND. Slightly clayey gravel of black / red coal fill. Coal fragments, slag and ferrous waste. Very angular of various size.					
81.09	5.0		End of Borehole					
	6.0							
	7.0							
	8.0							

Remarks:

WS20

CELTIC
Design and Construct Remediation

Borehole Number: WS21

Date: 17/05/2007 | Easting: 387651.17

Project No: C1077 | Engineer: C Tippins | Northing: 400347.72

Site Location: Ten Acres Lane, Newton Heath | Method: WLS | Datum: 85.17

Client: Countryside Properties Northwest | Hole Diameter: | Screen Position: 0.50 - 2.00m

SUBSURFACE PROFILE				SAMPLING/TESTING			WATER	WELL
Level (m AOD)	Depth	Legend	DESCRIPTION	Sample Ref	Sample Type	N Value	Water Strike	Well Data
	0.0		MADE GROUND. Soft locally brown / yellow sandy gravelly clay. Sand is fine. Gravel of variable sized brick, occasional clinker, glass and pottery.					
84.47								
84.37			MADE GROUND. Yellow cobbles of pottery slag.					
84.27	1.0		MADE GROUND. Black wood fragments of various sizes.					
83.57			MADE GROUND. Grey sandy gravel of concrete and pottery. Sand is medium to coarse clay fraction.					
83.17	2.0		MADE GROUND. Soft brown gravelly occasionally cobbly sandy clay. Sand is fine. Cobbles of brick and sandstone.					
			End of Borehole					
	3.0							
	4.0							
	5.0							
	6.0							
	7.0							
	8.0							

Remarks:

CELTIC
Design and Construct Remediation

Borehole Number: WS22

Date: 18/05/2007 | Easting: 387775.54

Project No: C1077 | Engineer: C Tippins | Northing: 400189.15

Site Location: Ten Acres Lane, Newton Heath | Method: WLS | Datum: 86.30

Client: Countryside Properties Northwest | Hole Diameter: | Screen Position: 0.50 - 5.00m

SUBSURFACE PROFILE				SAMPLING/TESTING			WATER	WELL
Level (m AOD)	Depth	Legend	DESCRIPTION	Sample Ref	Sample Type	N Value	Water Strike	Well Data
	0.0		MADE GROUND. Brown sandy gravelly reworked clay. Sand is medium. Gravel of brick, clinker and pottery waste. Occasional fragments of grey angular mudstone.					
85.00	1.0		MADE GROUND. Loose poorly compacted grey sandy gravel. Gravel of angular mudstone of variable sized fragments. Sand to cobble sized.					
84.10	2.0		MADE GROUND. Grey sandy gravel. Gravel of angular mudstone with increased amounts of ashy sand and gravel. Bands dominated by ash at 2.1 to 2.3m bgl, 3.2 to 3.5m bgl and 4.7m bgl.					
	3.0							
	4.0							
81.30	5.0		End of Borehole					
	6.0							
	7.0							
	8.0							

Remarks: No water strike.

CELTIC
Design and Construct Remediation

Borehole Number: R1

Date: 22/05/2007 | Easting: 387494.25

Project No: C1077 | Engineer: C Tippins | Northing: 400046.86

Site Location: Ten Acres Lane, Newton Heath | Method: RC | Datum: 78.90

Client: Countryside Properties Northwest | Hole Diameter: | Screen Position: 23.00 - 26.00m

SUBSURFACE PROFILE				SAMPLING/TESTING			WATER	WELL
Level (m AOD)	Depth	Legend	DESCRIPTION	Sample Ref	Sample Type	N Value	Water Strike	Well Data
78.80	0.0		Turf over TOPSOIL.					
			MADE GROUND. Sandstone rubble fill.					
78.00	1.0		MADE GROUND. Ash / soil / clay fill.			6		
77.00	2.0		Firm brown mottled sandy CLAY.					
76.20	3.0		Firm dark brown sandy boulder CLAY with occasional bands of sand.			8		
	4.0					12		
	5.0							
	6.0							
	7.0					16		
	8.0		Continued next sheet					

Remarks:

CELTIC
Design and Construct Remediation

Borehole Number: R1

Date: 22/05/2007
Easting: 387494.25
Project No: C1077
Engineer: C Tippins
Northing: 400046.86
Site Location: Ten Acres Lane, Newton Heath
Method: RC
Datum: 78.90
Client: Countryside Properties Northwest
Hole Diameter:
Screen Position: 23.00 - 26.00m

SUBSURFACE PROFILE				SAMPLING/TESTING			WATER	WELL
Level (m AOD)	Depth	Legend	DESCRIPTION	Sample Ref	Sample Type	N Value	Water Strike	Well Data
	8.0		Firm dark brown sandy boulder CLAY with occasional bands of sand.			27		
	9.0							
	10.0							
	11.0							
	12.0							
	13.0							
	14.0							
	15.0							
	16.0		Continued next sheet					

Remarks:

CELTIC
Design and Construct Remediation

Borehole Number: R1

Date: 22/05/2007 | Easting: 387494.25

Project No: C1077 | Engineer: C Tippins | Northing: 400046.86

Site Location: Ten Acres Lane, Newton Heath | Method: RC | Datum: 78.90

Client: Countryside Properties Northwest | Hole Diameter: | Screen Position: 23.00 - 26.00m

SUBSURFACE PROFILE				SAMPLING/TESTING			WATER	WELL
Level (m AOD)	Depth	Legend	DESCRIPTION	Sample Ref	Sample Type	N Value	Water Strike	Well Data
	16.0		Firm dark brown sandy boulder CLAY with occasional bands of sand.					
	17.0							
	18.0							
	19.0							
58.90	20.0		Wet brown fractured SANDSTONE.					
57.90	21.0		Wet grey / brown MUDSTONE.					
	22.0							
	23.0							
	24.0		Continued next sheet					

Remarks:

CELTIC
Design and Construct Remediation

Borehole Number: R1

Date: 22/05/2007 | Easting: 387494.25

Project No: C1077 | Engineer: C Tippins | Northing: 400046.86

Site Location: Ten Acres Lane, Newton Heath | Method: RC | Datum: 78.90

Client: Countryside Properties Northwest | Hole Diameter: | Screen Position: 23.00 - 26.00m

SUBSURFACE PROFILE				SAMPLING/TESTING			WATER	WELL
Level (m AOD)	Depth	Legend	DESCRIPTION	Sample Ref	Sample Type	N Value	Water Strike	Well Data
54.90	24.0		Brown / yellow weathered SANDSTONE.					
	25.0							
52.90	26.0		End of Borehole					
	27.0							
	28.0							
	29.0							
	30.0							
	31.0							
	32.0							

Remarks:

CELTIC
Design and Construct Remediation

Borehole Number: R2

Date: 23/05/2007
Easting: 387609.00
Project No: C1077
Engineer: C Tippins
Northing: 400132.49
Site Location: Ten Acres Lane, Newton Heath
Method: RC
Datum: 80.77
Client: Countryside Properties Northwest
Hole Diameter:
Screen Position: 19.00 - 22.00m

SUBSURFACE PROFILE				SAMPLING/TESTING			WATER	WELL
Level (m AOD)	Depth	Legend	DESCRIPTION	Sample Ref	Sample Type	N Value	Water Strike	Well Data
80.67	0.0		Turf over TOPSOIL.				0.40m	
			MADE GROUND. Clay / ash rubble fill. Pushing large obstruction with no return samples from 1.65 to 3.4m bgl.				1.20m	
	1.0					3		
	2.0							
	3.0							
77.27			Firm brown slightly silty sandy boulder CLAY with occasional thin sand bands.			26		
	4.0							
	5.0							
	6.0							
74.17			Medium dense reddish brown clayey SAND with thin silty boulder clay bands.			29		
	7.0							
	8.0		Continued next sheet					

Remarks:

R2

CELTIC
Design and Construct Remediation

Borehole Number: R2

Date: 23/05/2007 | Easting: 387609.00

Project No: C1077 | Engineer: C Tippins | Northing: 400132.49

Site Location: Ten Acres Lane, Newton Heath | Method: RC | Datum: 80.77

Client: Countryside Properties Northwest | Hole Diameter: | Screen Position: 19.00 - 22.00m

SUBSURFACE PROFILE				SAMPLING/TESTING			WATER	WELL
Level (m AOD)	Depth	Legend	DESCRIPTION	Sample Ref	Sample Type	N Value	Water Strike	Well Data
	8.0		Medium dense reddish brown clayey SAND with thin silty boulder clay bands.			20		
71.87	9.0		Firm to stiff reddish brown sandy boulder CLAY.					
	10.0							
	11.0							
	12.0							
67.87	13.0		Wet throughout mixed SAND and GRAVEL bands.					
	14.0							
	15.0							
	16.0		Continued next sheet					

Remarks:

R2

CELTIC
Design and Construct Remediation

Borehole Number: R2

Date: 23/05/2007
Easting: 387609.00
Project No: C1077
Engineer: C Tippins
Northing: 400132.49
Site Location: Ten Acres Lane, Newton Heath
Method: RC
Datum: 80.77
Client: Countryside Properties Northwest
Hole Diameter:
Screen Position: 19.00 - 22.00m

SUBSURFACE PROFILE				SAMPLING/TESTING			WATER	WELL
Level (m AOD)	Depth	Legend	DESCRIPTION	Sample Ref	Sample Type	N Value	Water Strike	Well Data
	16.0		Wet throughout mixed SAND and GRAVEL bands.					
	17.0							
	18.0							
	19.0							
	20.0							
	21.0							
58.77	22.0		End of Borehole					
	23.0							
	24.0							

Remarks:

R2

CELTIC
Design and Construct Remediation

Borehole Number: R3

Date: 24/05/2007 | Easting: 387855.91

Project No: C1077 | Engineer: C Tippins | Northing: 400282.94

Site Location: Ten Acres Lane, Newton Heath | Method: RC | Datum: 82.69

Client: Countryside Properties Northwest | Hole Diameter: | Screen Position: 22.00 - 25.00m

SUBSURFACE PROFILE				SAMPLING/TESTING			WATER	WELL
Level (m AOD)	Depth	Legend	DESCRIPTION	Sample Ref	Sample Type	N Value	Water Strike	Well Data
82.64	0.0		Turf over TOPSOIL.					
82.29			MADE GROUND. Soil / sand / clay rubble fill.	R3 / 0.40m	D			
81.99			MADE GROUND. Clayey ash rubble fill.					
	1.0		MADE GROUND. Firm brown clay fill.			6		
80.99			MADE GROUND. Firm brown sandy boulder clay fill.					
	2.0							
79.79	3.0		MADE GROUND. Firm reddish brown sandy boulder clay.			7		
				R3 / 3.50m	D		3.90m	
	4.0							
77.79	5.0		MADE GROUND. Clayey sand with stone fragments and black staining.			7	4.90m	
77.49			MADE GROUND. Firm black clay rubble fill. Pushing obstruction from 5.4 to 7.9m bgl.					
	6.0							
	7.0							
	8.0		Continued next sheet					

Remarks:

R3

CELTIC
Design and Construct Remediation

Borehole Number: R3

Date: 24/05/2007
Easting: 387855.91
Project No: C1077
Engineer: C Tippins
Northing: 400282.94
Site Location: Ten Acres Lane, Newton Heath
Method: RC
Datum: 82.69
Client: Countryside Properties Northwest
Hole Diameter:
Screen Position: 22.00 - 25.00m

SUBSURFACE PROFILE				SAMPLING/TESTING			WATER	WELL
Level (m AOD)	Depth	Legend	DESCRIPTION	Sample Ref	Sample Type	N Value	Water Strike	Well Data
	8.0		MADE GROUND. Firm black clay rubble fill. Pushing obstruction from 5.4 to 7.9m bgl.					
	9.0							
	10.0							
	11.0							
	12.0							
69.79	13.0		SAND and GRAVEL					
	14.0							
	15.0							
	16.0		Continued next sheet					

Remarks:

R3

CELTIC
Design and Construct Remediation

Borehole Number: R3

Date: 24/05/2007
Easting: 387855.91
Project No: C1077
Engineer: C Tippins
Northing: 400282.94
Site Location: Ten Acres Lane, Newton Heath
Method: RC
Datum: 82.69
Client: Countryside Properties Northwest
Hole Diameter:
Screen Position: 22.00 - 25.00m

SUBSURFACE PROFILE				SAMPLING/TESTING			WATER	WELL
Level (m AOD)	Depth	Legend	DESCRIPTION	Sample Ref	Sample Type	N Value	Water Strike	Well Data
	16.0		SAND and GRAVEL					
	17.0							
64.69	18.0		Yellow / brown medium grained SANDSTONE B.					
63.79	19.0		Brown weathered MUDSTONE.					
62.69	20.0		Wet brown MUDSTONE.					
	21.0							
	22.0							
	23.0							
	24.0		Continued next sheet					

Remarks:

R3

CELTIC
Design and Construct Remediation

Borehole Number: R3

Date: 24/05/2007
Easting: 387855.91
Project No: C1077
Engineer: C Tippins
Northing: 400282.94
Site Location: Ten Acres Lane, Newton Heath
Method: RC
Datum: 82.69
Client: Countryside Properties Northwest
Hole Diameter:
Screen Position: 22.00 - 25.00m

SUBSURFACE PROFILE				SAMPLING/TESTING			WATER	WELL
Level (m AOD)	Depth	Legend	DESCRIPTION	Sample Ref	Sample Type	N Value	Water Strike	Well Data
	24.0		Wet brown MUDSTONE.					
57.69	25.0		End of Borehole					
	26.0							
	27.0							
	28.0							
	29.0							
	30.0							
	31.0							
	32.0							

Remarks:

R3

CELTIC
Design and Construct Remediation

Borehole Number: R4

Date: 29/05/2007
Easting: 387725.61
Project No: C1077
Engineer: C Tippins
Northing: 400458.84
Site Location: Ten Acres Lane, Newton Heath
Method: RC
Datum: 84.57
Client: Countryside Properties Northwest
Hole Diameter:
Screen Position: 23.00 - 26.00m

SUBSURFACE PROFILE				SAMPLING/TESTING			WATER	WELL
Level (m AOD)	Depth	Legend	DESCRIPTION	Sample Ref	Sample Type	N Value	Water Strike	Well Data
84.47	0.0		Turf over TOPSOIL.					
			MADE GROUND. Clay / soil rubble fill.					
	1.0							
83.37			MADE GROUND. Loose black silty sandy soil / clay fill.			6		
82.57	2.0		Soft to firm light brown mottled grey silty CLAY.					
82.47			Firm reddish brown sandy boulder CLAY.					
	3.0					26		
	4.0							
	5.0							
	6.0					30		
	7.0						▽ 6.80m	
77.37			Firm brown sandy boulder CLAY with occasional bands of sand.					
76.87								
	8.0		Continued next sheet					

Remarks:

R4

CELTIC
Design and Construct Remediation

Borehole Number: R4

Date: 29/05/2007 | Easting: 387725.61

Project No: C1077 | Engineer: C Tippins | Northing: 400458.84

Site Location: Ten Acres Lane, Newton Heath | Method: RC | Datum: 84.57

Client: Countryside Properties Northwest | Hole Diameter: | Screen Position: 23.00 - 26.00m

SUBSURFACE PROFILE				SAMPLING/TESTING			WATER	WELL
Level (m AOD)	Depth	Legend	DESCRIPTION	Sample Ref	Sample Type	N Value	Water Strike	Well Data
	8.0		Dense orangy brown SAND.					
	9.0					50		
	10.0							
	11.0							
	12.0							
	13.0							
	14.0							
	15.0							
	16.0		Continued next sheet					

Remarks:

R4

CELTIC
Design and Construct Remediation

Borehole Number: R4

Date: 29/05/2007
Easting: 387725.61
Project No: C1077
Engineer: C Tippins
Northing: 400458.84
Site Location: Ten Acres Lane, Newton Heath
Method: RC
Datum: 84.57
Client: Countryside Properties Northwest
Hole Diameter:
Screen Position: 23.00 - 26.00m

SUBSURFACE PROFILE				SAMPLING/TESTING			WATER	WELL
Level (m AOD)	Depth	Legend	DESCRIPTION	Sample Ref	Sample Type	N Value	Water Strike	Well Data
	16.0		Dense orangy brown SAND.					
	17.0							
	18.0							
	19.0							
	20.0							
	21.0							
63.07			Wet brown weathered MUDSTONE.					
	22.0							
61.67	23.0		Brown MUDSTONE.					
	24.0		Continued next sheet					

Remarks:

R4

CELTIC
Design and Construct Remediation

Borehole Number: R4

Date: 29/05/2007
Easting: 387725.61
Project No: C1077
Engineer: C Tippins
Northing: 400458.84
Site Location: Ten Acres Lane, Newton Heath
Method: RC
Datum: 84.57
Client: Countryside Properties Northwest
Hole Diameter:
Screen Position: 23.00 - 26.00m

SUBSURFACE PROFILE				SAMPLING/TESTING			WATER	WELL
Level (m AOD)	Depth	Legend	DESCRIPTION	Sample Ref	Sample Type	N Value	Water Strike	Well Data
60.57	24.0		Yellow medium grained SANDSTONE.					
	25.0							
58.57	26.0		End of Borehole					
	27.0							
	28.0							
	29.0							
	30.0							
	31.0							
	32.0							

Remarks:

R4

CELTIC
Design and Construct Remediation

Borehole Number: R5

Date: 25/05/2007
Easting: 387416.22
Project No: C1077
Engineer: C Tippins
Northing: 400375.21
Site Location: Ten Acres Lane, Newton Heath
Method: RC
Datum: 79.69
Client: Countryside Properties Northwest
Hole Diameter:
Screen Position: 24.00 - 27.00m

SUBSURFACE PROFILE				SAMPLING/TESTING			WATER	WELL
Level (m AOD)	Depth	Legend	DESCRIPTION	Sample Ref	Sample Type	N Value	Water Strike	Well Data
79.59	0.0		Turf over TOPSOIL.					
			Firm mottled olive grey / green slightly silty sandy CLAY.					
	1.0			R5 / 1.00m	D			
78.14			Firm brown mottled grey silty boulder CLAY.					
	2.0					15		
76.69	3.0		Firm brown sandy boulder CLAY with occasional bands of sand.					
	4.0					12		
	5.0			R5 / 5.00m	D			
	6.0							
	7.0					14	7.60m	
	8.0		Continued next sheet					

Remarks:

R5

CELTIC
Design and Construct Remediation

Borehole Number: R5

Date: 25/05/2007
Easting: 387416.22
Project No: C1077
Engineer: C Tippins
Northing: 400375.21
Site Location: Ten Acres Lane, Newton Heath
Method: RC
Datum: 79.69
Client: Countryside Properties Northwest
Hole Diameter:
Screen Position: 24.00 - 27.00m

SUBSURFACE PROFILE				SAMPLING/TESTING			WATER	WELL
Level (m AOD)	Depth	Legend	DESCRIPTION	Sample Ref	Sample Type	N Value	Water Strike	Well Data
71.49	8.0		Firm brown sandy boulder CLAY with occasional bands of sand.				8.20m	
			Medium dense reddish brown clayey SAND.			28		
	9.0							
	10.0							
	11.0							
	12.0							
	13.0							
	14.0							
	15.0							
	16.0		Continued next sheet					

Remarks:

CELTIC
Design and Construct Remediation

Borehole Number: R5

Date: 25/05/2007
Easting: 387416.22
Project No: C1077
Engineer: C Tippins
Northing: 400375.21
Site Location: Ten Acres Lane, Newton Heath
Method: RC
Datum: 79.69
Client: Countryside Properties Northwest
Hole Diameter:
Screen Position: 24.00 - 27.00m

SUBSURFACE PROFILE				SAMPLING/TESTING			WATER	WELL
Level (m AOD)	Depth	Legend	DESCRIPTION	Sample Ref	Sample Type	N Value	Water Strike	Well Data
	16.0		Medium dense reddish brown clayey SAND.					
	17.0							
	18.0							
60.59	19.0		Wet SAND.					
59.69	20.0		Wet brown MUDSTONE.					
	21.0							
	22.0							
	23.0							
	24.0		Continued next sheet					

Remarks:

R5

CELTIC
Design and Construct Remediation

Borehole Number: R5

Date: 25/05/2007
Easting: 387416.22
Project No: C1077
Engineer: C Tippins
Northing: 400375.21
Site Location: Ten Acres Lane, Newton Heath
Method: RC
Datum: 79.69
Client: Countryside Properties Northwest
Hole Diameter:
Screen Position: 24.00 - 27.00m

SUBSURFACE PROFILE				SAMPLING/TESTING			WATER	WELL
Level (m AOD)	Depth	Legend	DESCRIPTION	Sample Ref	Sample Type	N Value	Water Strike	Well Data
	24.0		Wet brown MUDSTONE.					
	25.0							
	26.0							
52.69	27.0		End of Borehole					
	28.0							
	29.0							
	30.0							
	31.0							
	32.0							

Remarks:

R5

CELTIC
Design and Construct Remediation

Borehole Number: R6

Date: 21/05/2007
Easting: 387384.43
Project No: C1077
Engineer: C Tippins
Northing: 400174.83
Site Location: Ten Acres Lane, Newton Heath
Method: RC
Datum: 78.81
Client: Countryside Properties Northwest
Hole Diameter:
Screen Position:

SUBSURFACE PROFILE				SAMPLING/TESTING			WATER	WELL
Level (m AOD)	Depth	Legend	DESCRIPTION	Sample Ref	Sample Type	N Value	Water Strike	Well Data
78.71	0.0		Turf over TOPSOIL.					
			MADE GROUND. Clayey soil / ash fill.					
78.21			MADE GROUND. Clay rubble fill.					
	1.0							
77.11			Soft mottled olive grey / brown sandy silty CLAY.					
76.91	2.0		Firm brown sandy boulder CLAY.			20		
75.81	3.0		Stiff brown sandy boulder CLAY.					
	4.0					17		
73.71	5.0		Firm brown sandy boulder CLAY with occasional bands of sand.				▽5.30m	
	6.0					15		
	7.0							
	8.0		Continued next sheet					

Remarks: Dry.
No installation.

CELTIC
Design and Construct Remediation

Borehole Number: R6

Date: 21/05/2007 | Easting: 387384.43

Project No: C1077 | Engineer: C Tippins | Northing: 400174.83

Site Location: Ten Acres Lane, Newton Heath | Method: RC | Datum: 78.81

Client: Countryside Properties Northwest | Hole Diameter: | Screen Position:

SUBSURFACE PROFILE				SAMPLING/TESTING			WATER	WELL
Level (m AOD)	Depth	Legend	DESCRIPTION	Sample Ref	Sample Type	N Value	Water Strike	Well Data
	8.0		Firm brown sandy boulder CLAY with occasional bands of sand.			14		
	9.0							
	10.0							
	11.0							
	12.0							
	13.0							
	14.0							
	15.0							
	16.0		Continued next sheet					

Remarks: Dry.
No installation.

CELTIC
Design and Construct Remediation

Borehole Number: R6

Date: 21/05/2007
Easting: 387384.43
Project No: C1077
Engineer: C Tippins
Northing: 400174.83
Site Location: Ten Acres Lane, Newton Heath
Method: RC
Datum: 78.81
Client: Countryside Properties Northwest
Hole Diameter:
Screen Position:

SUBSURFACE PROFILE				SAMPLING/TESTING			WATER	WELL
Level (m AOD)	Depth	Legend	DESCRIPTION	Sample Ref	Sample Type	N Value	Water Strike	Well Data
62.11	16.0		Firm brown sandy boulder CLAY with occasional bands of sand.					
			Yellow / brown medium grained MUDSTONE.					
	17.0							
	18.0							
	19.0							
	20.0							
	21.0							
	22.0							
	23.0							
	24.0		Continued next sheet					

Remarks: Dry.
No installation.

CELTIC
Design and Construct Remediation

Borehole Number: R6

Date: 21/05/2007
Easting: 387384.43
Project No: C1077
Engineer: C Tippins
Northing: 400174.83
Site Location: Ten Acres Lane, Newton Heath
Method: RC
Datum: 78.81
Client: Countryside Properties Northwest
Hole Diameter:
Screen Position:

SUBSURFACE PROFILE				SAMPLING/TESTING			WATER	WELL
Level (m AOD)	Depth	Legend	DESCRIPTION	Sample Ref	Sample Type	N Value	Water Strike	Well Data
	24.0		Yellow / brown medium grained MUDSTONE.					
53.81	25.0		End of Borehole					
	26.0							
	27.0							
	28.0							
	29.0							
	30.0							
	31.0							
	32.0							

Remarks: Dry.
No installation.

CELTIC
Design and Construct Remediation

Date: 18/05/2007

Trial Pit Number: TP1

Project No: C1077

Engineer: C Tippins

Easting: 387494.49

Site Location: Ten Acres Lane, Newton Heath

Contractor: H & C Plant Hire

Northing: 400086.16

Client: Countryside Properties Northwest

Plant: JCB 3CX

Datum: 79.87

SUBSURFACE PROFILE				SAMPLING/TESTING			WATER
Level (m AOD)	Depth	Legend	DESCRIPTION	Sample Ref	Sample Type	P I D Results	Water Strike
79.62	0.0		MADE GROUND. Dry loose dark brown silty sandy gravelly fill with occasional gravels of brick.	TP1 / 0.20m	D		
			MADE GROUND. Dry loose black to brown sandy gravel of clinker and brick.				
79.07			Firm brown to orange mottled grey CLAY.	TP1 / 1.00m	B		
78.67	1.0		End of Trial Pit				
	2.0						
	3.0						
	4.0						
	5.0						

Remarks: No visual or olfactory evidence of contamination unless otherwise stated.

Width: -

Length: -

Sheet 1 of 1

Side Stability: Stable

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CELTIC
Design and Construct Remediation

Date: 18/05/2007

Trial Pit Number: TP2

Project No: C1077

Engineer: C Tippins

Easting: 387470.65

Site Location: Ten Acres Lane, Newton Heath

Contractor: H & C Plant Hire

Northing: 400147.87

Client: Countryside Properties Northwest

Plant: JCB 3CX

Datum: 80.57

SUBSURFACE PROFILE				SAMPLING/TESTING			WATER
Level (m AOD)	Depth	Legend	DESCRIPTION	Sample Ref	Sample Type	P I D Results	Water Strike
	0.0		MADE GROUND. Dry loose dark brown silty sandy gravelly fill.				
80.17							
79.97			MADE GROUND.Dry very dense black layer of compacted slag and concrete. Faint sulphurous odour from impact ofbucket on concrete.	TP2 / 0.70m	B		
	1.0		Soft grey to dark grey silty sandy CLAY. Becoming stiff beige clay from 1.1m bgl.				
79.27			End of Trial Pit				
	2.0						
	3.0						
	4.0						
	5.0						

Remarks: No visual or olfactory evidence of contamination unless otherwise stated.

Width: -

Length: -

Sheet 1 of 1

Side Stability: Stable

CELTIC
Design and Construct Remediation

Date: 18/05/2007

Trial Pit Number: TP3

Project No: C1077

Engineer: C Tippins

Easting: 387448.35

Site Location: Ten Acres Lane, Newton Heath

Contractor: H & C Plant Hire

Northing: 400186.08

Client: Countryside Properties Northwest

Plant: JCB 3CX

Datum: 80.62

SUBSURFACE PROFILE				SAMPLING/TESTING			WATER
Level (m AOD)	Depth	Legend	DESCRIPTION	Sample Ref	Sample Type	P I D Results	Water Strike
80.37	0.0		MADE GROUND. Dry loose dark brown silty sandy gravelly fill with occasional gravels of brick.				
			MADE GROUND. Dry loose black to brown sandy gravel of clinker and brick.				
80.02			Firm brown to orange mottled grey CLAY.				
79.42	1.0		End of Trial Pit				
	2.0						
	3.0						
	4.0						
	5.0						

Remarks: No visual or olfactory evidence of contamination unless otherwise stated.

Width: -

Length: -

Sheet 1 of 1

Side Stability: Stable.

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CELTIC
Design and Construct Remediation

Trial Pit Number: TP4

Date: 15/05/2007

Project No: C1077 | Engineer: C Tippins | Easting: 387449.17

Site Location: Ten Acres Lane, Newton Heath | Contractor: H & C Plant Hire | Northing: 400227.88

Client: Countryside Properties Northwest | Plant: JCB 3CX | Datum: 80.73

SUBSURFACE PROFILE				SAMPLING/TESTING			WATER
Level (m AOD)	Depth	Legend	DESCRIPTION	Sample Ref	Sample Type	P I D Results	Water Strike
80.43	0.0		MADE GROUND. Dry loose dark brown silty sandy soil with frequent roots.				
			MADE GROUND. Dry loose dark brown sandy angular and coarse clinker .				
	1.0						
	2.0						2.00m
78.53							
78.48			MADE GROUND. Wet loose bright red silty clay - possible brick dye (as TP5).	TP4 / 2.40m	D		
78.33			MADE GROUND. Very wet loose dark brown sandy clayey gravel. Gravel is angular coarse brick, slate etc and pottery waste. No visual evidence of contamination. Slight hydrocarbon odour.				
77.93			Stiff dry brown to beige CLAY.				
	3.0		End of Trial Pit				
	4.0						
	5.0						

Remarks: No visual or olfactory evidence of contamination unless otherwise stated.



Width: 1.00m

Length: 2.50m

Side Stability: Some instability from 0.3m bgl.

CELTIC
Design and Construct Remediation

Trial Pit Number: TP5

Date: 15/05/2007

Project No: C1077

Engineer: C Tippins

Easting: 387400.16

Site Location: Ten Acres Lane, Newton Heath

Contractor: H & C Plant Hire

Northing: 400254.85

Client: Countryside Properties Northwest

Plant: JCB 3CX

Datum: 79.62

SUBSURFACE PROFILE				SAMPLING/TESTING			WATER
Level (m AOD)	Depth	Legend	DESCRIPTION	Sample Ref	Sample Type	P I D Results	Water Strike
	0.0		MADE GROUND. Dry loose dark brown silty sandy soil.				
79.32			MADE GROUND. Dry loose dark brown silty sandy soil with gravels of reddish clinker and occasional brick.				
	1.0			TP5 / 1.20m	D		
	2.0						2.00m
77.42			MADE GROUND. Wet loose bright red silty clay with occasional bricks and gravel of slate.	TP5 / 2.40m	D		
	3.0						
75.82			Dry stiff dark brown to black silty CLAY.				
75.62	4.0		End of Trial Pit				
	5.0						

Remarks: No visual or olfactory evidence of contamination unless otherwise stated.



Width: 1.00m

Length: 2.50m

Side Stability:

CELTIC
Design and Construct Remediation

Date: 15/05/2007

Trial Pit Number: TP6

Project No: C1077

Engineer: C Tippins

Easting: 387347.45

Site Location: Ten Acres Lane, Newton Heath

Contractor: H & C Plant Hire

Northing: 400258.80

Client: Countryside Properties Northwest

Plant:

Datum: 78.70

SUBSURFACE PROFILE				SAMPLING/TESTING			WATER
Level (m AOD)	Depth	Legend	DESCRIPTION	Sample Ref	Sample Type	P I D Results	Water Strike
78.50	0.0		MADE GROUND. Brown sandy clayey topsoil with gravel of brick and clinker.				
			MADE GROUND. Sandy gravel of clinker. Slight visual and olfactory evidence of contamination.				
	1.0						
76.70	2.0		GRAVEL and SAND with some clay.				
75.70	3.0		End of Trial Pit				
	4.0						
	5.0						

Remarks: No visual or olfactory evidence of contamination unless otherwise stated.

Width: -

Length: -

Sheet 1 of 1

Side Stability:

CELTIC
Design and Construct Remediation

Trial Pit Number: TP7

Date: 14/05/2007

Project No: C1077 | Engineer: C Tippins | Easting: 387346.46

Site Location: Ten Acres Lane, Newton Heath | Contractor: H & C Plant Hire | Northing: 400183.45

Client: Countryside Properties Northwest | Plant: | Datum: 77.33

SUBSURFACE PROFILE				SAMPLING/TESTING			WATER
Level (m AOD)	Depth	Legend	DESCRIPTION	Sample Ref	Sample Type	PID Results	Water Strike
	0.0		MADE GROUND. Dry loose light brown very silty slightly sandy soil with frequent roots.				
76.93			MADE GROUND. Dry loose red to black sandy gravelly clinker and fused slag.				
	1.0			TP7 / 1.20m	D		
75.53			MADE GROUND. Dry loose red to black sandy gravelly clinker and fused slag becoming slightly sandy with depth.				2.00m
	2.0						
75.13			MADE GROUND. Black possibly reworked organic material with frequent clay and peat type material and friable clear material (mica-like in fracture). Becoming stiff brown to grey clay with occasional rounded gravel.				
	3.0						
73.33	4.0		End of Trial Pit				
	5.0						

Remarks: No visual or olfactory evidence of contamination unless otherwise stated.



Width: 1.00m

Length: 2.50m

Sheet 1 of 1 | Side Stability: Stable | www.celtic-ltd.com

CELTIC
Design and Construct Remediation

Trial Pit Number: TP8

Date: 14/05/2007

Project No: C1077 | Engineer: C Tippins | Easting: 387304.63

Site Location: Ten Acres Lane, Newton Heath | Contractor: H & C Plant Hire | Northing: 400137.26

Client: Countryside Properties Northwest | Plant: | Datum: 76.60

SUBSURFACE PROFILE				SAMPLING/TESTING			WATER
Level (m AOD)	Depth	Legend	DESCRIPTION	Sample Ref	Sample Type	PID Results	Water Strike
	0.0		MADE GROUND. Dry loose light brown very silty slightly sandy soil with frequent roots.				
76.20							
76.10			MADE GROUND. Loose red fine to medium to coarse sandy gravel.				
			MADE GROUND. Slightly damp loose black fine to medium to coarse sandy gravel				
	1.0						1.30m / 1.20m
75.40			MADE GROUND. Very wet soft brown clay fill with frequent angular gravels including brick fragments.				
	2.0			TP8 / 2.80m	D		
73.60	3.0		End of Trial Pit				
	4.0						
	5.0						

Remarks: No visual or olfactory evidence of contamination unless otherwise stated.
Water seepage at 1.2m bgl. Fast flow at 1.3m bgl.

Width: 1.00m

Length: 2.50m

Side Stability: Unstable from 1.3m bgl due to water ingress.

CELTIC
Design and Construct Remediation

Trial Pit Number: TP9

Date: 14/05/2007

Project No: C1077

Engineer: C Tippins

Easting: 387222.44

Site Location: Ten Acres Lane, Newton Heath

Contractor: H & C Plant Hire

Northing: 400119.17

Client: Countryside Properties Northwest

Plant:

Datum: 74.95

SUBSURFACE PROFILE				SAMPLING/TESTING			WATER
Level (m AOD)	Depth	Legend	DESCRIPTION	Sample Ref	Sample Type	PID Results	Water Strike
	0.0		MADE GROUND. Dry loose light brown sandy silty gravelly soil.				
74.45			MADE GROUND. Darker brown slightly clayey soil.	TP9 / 0.50m	D		
	1.0						1.20m
73.55			MADE GROUND. Band of dark brown to black clayey peaty material with frequent organic matter. Very strong hydrocarbon odour and sheen.	TP9 / 1.40m	D		
73.25			Dry stiff beige to grey CLAY. Light grey in places.				
	2.0						
71.95	3.0		End of Trial Pit				
	4.0						
	5.0						

Remarks: Water seepage at 1.2m bgl.

Width: -

Length: -

Sheet 1 of 1

Side Stability: Stable

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CELTIC
Design and Construct Remediation

Trial Pit Number: TP10

Date: 14/05/2007

Project No: C1077 | Engineer: C Tippins | Easting: 387224.00

Site Location: Ten Acres Lane, Newton Heath | Contractor: H & C Plant Hire | Northing: 400171.85

Client: Countryside Properties Northwest | Plant: | Datum: 76.57

SUBSURFACE PROFILE				SAMPLING/TESTING			WATER
Level (m AOD)	Depth	Legend	DESCRIPTION	Sample Ref	Sample Type	P I D Results	Water Strike
76.37	0.0		MADE GROUND. Dry loose light brown silty soil with frequent roots.				
			MADE GROUND. Dry very loose dark brown to brown coarse clinker. Red band from 0.8 to 1.0m bgl. White band from 1.5 to 1.7m bgl. Becoming very dense from 2.4m bgl.				
	1.0						
	2.0						
74.17			MADE GROUND. Wet very loose beige clayey gravels with gravel of angular coarse particles including slate.	TP10 / 2.40m	D		2.40m
	3.0						
73.37			End of Trial Pit				
	4.0						
	5.0						

Remarks: No visual or olfactory evidence of contamination unless otherwise stated.

Width: 1.00m

Length: 2.50m

Sheet 1 of 1

Side Stability: Very unstable from 2.4m bgl.

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CELTIC
Design and Construct Remediation

Date: 21/05/2007

Trial Pit Number: TP11

Project No: C1077

Engineer: C Tippins

Easting: 387323.72

Site Location: Ten Acres Lane, Newton Heath

Contractor: H & C Plant Hire

Northing: 400298.55

Client: Countryside Properties Northwest

Plant:

Datum: 78.60

SUBSURFACE PROFILE				SAMPLING/TESTING			WATER
Level (m AOD)	Depth	Legend	DESCRIPTION	Sample Ref	Sample Type	P I D Results	Water Strike
78.45	0.0		MADE GROUND. Dry loose dark brown ashy gravelly sand with fragment rootlets.				
			MADE GROUND. Dry very dense dark brown ashy gravelly sand with compacted slag and brick.				
77.70	1.0		End of Trial Pit				
	2.0						
	3.0						
	4.0						
	5.0						

Remarks: TP11 terminated and moved into site (TP11A).
No visual or olfactory evidence of contamination unless otherwise stated.

Width: -

Length: -

Sheet 1 of 1

Side Stability: Stable

CELTIC
Design and Construct Remediation

Date: 21/05/2007

Trial Pit Number: TP11A

Project No: C1077

Engineer: C Tippins

Easting: 387885.88

Site Location: Ten Acres Lane, Newton Heath

Contractor: H & C Plant Hire

Northing: 400289.77

Client: Countryside Properties Northwest

Plant:

Datum: 78.75

SUBSURFACE PROFILE				SAMPLING/TESTING			WATER
Level (m AOD)	Depth	Legend	DESCRIPTION	Sample Ref	Sample Type	PID Results	Water Strike
	0.0		MADE GROUND. Dry loose dark brown very fine sandy silty gravel with occasional coarse gravel of slag. Becoming reddy brown with depth.				
77.65	1.0		MADE GROUND. Dry dense coarse gravelly sand with compacted slage and brick and occasional clay in places.				
77.45			MADE GROUND. Dry loose dark brown fine sandy silty gravel with occasional coarse gravels and damp white fine ashy waste.				
			Trial pit terminated due to water ingress.				
	2.0			TP11A / 2.00m	B		
							2.90m
	3.0			TP11A / 3.00m	D		
75.65			End of Trial Pit				
	4.0						
	5.0						

Remarks: TP11 moved approximately 10m in from canal side of site.
Fast flow of water at 2.9m bgl.
No visual or olfactory evidence of contamination unless otherwise stated.

Width: -

Length: -

Side Stability: Instability due to water ingress.

CELTIC
Design and Construct Remediation

Trial Pit Number: TP12

Date: 15/05/2007

Project No: C1077

Engineer: C Tippins

Easting: 387380.59

Site Location: Ten Acres Lane, Newton Heath

Contractor: H & C Plant Hire

Northing: 400344.64

Client: Countryside Properties Northwest

Plant: JCB 3CX

Datum: 79.64

SUBSURFACE PROFILE				SAMPLING/TESTING			WATER
Level (m AOD)	Depth	Legend	DESCRIPTION	Sample Ref	Sample Type	P I D Results	Water Strike
	0.0		MADE GROUND. Dry loose brown silty sandy soil with frequent roots at 0.3m bgl.				
				TP12 / 0.80m	D		
	1.0						
78.14			MADE GROUND. Soft dark grey to black silty clay (possibly reworked) with moderate hydrocarbon odour and bluey / grey hydrocarbon sheen.				
				TP12 / 1.70m	D		
	2.0						
77.04			Dry very stiff friable brown to beige occasionally grey in places gravelly CLAY. Gravels of rounded to angular medium limestone and sandstone (Possibly reworked puddle clay associated with canal approximately 10 metres away.				3.00m
	3.0						
76.44			End of Trial Pit				
	4.0						
	5.0						

Remarks: No visual or olfactory evidence of contamination unless otherwise stated.



Width: 1.00m

Length: 2.50m

Side Stability: Stable

CELTIC
Design and Construct Remediation

Date: 15/05/2007

Trial Pit Number: TP13

Project No: C1077

Engineer: C Tippins

Easting: 387369.09

Site Location: Ten Acres Lane, Newton Heath

Contractor: H & C Plant Hire

Northing: 400330.38

Client: Countryside Properties Northwest

Plant: JCB 3CX

Datum: 79.51

SUBSURFACE PROFILE				SAMPLING/TESTING			WATER
Level (m AOD)	Depth	Legend	DESCRIPTION	Sample Ref	Sample Type	PID Results	Water Strike
	0.0		MADE GROUND. Dry loose dark brown silty sandy soil.				
78.71							
	1.0		Dry very stiff beige CLAY. Grey in places.				
78.31							
			Dry stiff dark brown to grey friable CLAY with occasional grey sandy bands (boulder clay). Becoming stiffer and more friable with depth.				
	2.0			TP13 / 2.00m	D		
76.61							
	3.0		End of Trial Pit				
	4.0						
	5.0						

Remarks: No visual or olfactory evidence of contamination unless otherwise stated.



Width: 1.00m

Length: 2.50m

Side Stability: Stable

CELTIC
Design and Construct Remediation

Date: 15/05/2007

Trial Pit Number: TP14

Project No: C1077

Engineer: C Tippins

Easting: 387446.17

Site Location: Ten Acres Lane, Newton Heath

Contractor: H & C Plant Hire

Northing: 400294.25

Client: Countryside Properties Northwest

Plant: JCB 3CX

Datum: 81.27

SUBSURFACE PROFILE				SAMPLING/TESTING			WATER
Level (m AOD)	Depth	Legend	DESCRIPTION	Sample Ref	Sample Type	P I D Results	Water Strike
	0.0		MADE GROUND. Dry loose dark brown to black ashy sandy silty soil. Contains occasional whole and fragments of bricks, slabs and cobble sized fragments of fused slag. Slight hydrocarbon odour but no visual evidence of contamination.				
80.77			Dry stiff orange to beige CLAY. Becoming brown from 1.2m bgl with grey mottles.				
	1.0						
	2.0						
78.97			Dry stiffer darker orange to beige CLAY.				
78.87			End of Trial Pit				
	3.0						
	4.0						
	5.0						

Remarks: No visual or olfactory evidence of contamination unless otherwise stated.
No samples taken.

Width: 1.00m

Length: 2.50m

Side Stability: Stable

CELTIC
Design and Construct Remediation

Trial Pit Number: TP15

Date: 16/05/2007

Project No: C1077

Engineer: C Tippins

Easting: 387509.21

Site Location: Ten Acres Lane, Newton Heath

Contractor: H & C Plant Hire

Northing: 400282.64

Client: Countryside Properties Northwest

Plant: JCB 3CX

Datum: 83.06

SUBSURFACE PROFILE				SAMPLING/TESTING			WATER
Level (m AOD)	Depth	Legend	DESCRIPTION	Sample Ref	Sample Type	P I D Results	Water Strike
	0.0		MADE GROUND. Light brown silty sandy soil fill with fragments of brick and reinforced concrete, sections of metal pipe, broken tiles / flooring and plastic bags. Large boulder sized sections of concrete.				
	1.0						
	2.0			TP15 / 2.00m	D		
80.86			MADE GROUND. Large concrete obstruction to south of trial pit.				
80.56			MADE GROUND. Dry loose black ashy fine sandy fill with less frequent man made materials. Faint tarry odour but no visual contamination.				
80.06	3.0		End of Trial Pit				
	4.0						
	5.0						

Remarks: No visual or olfactory evidence of contamination unless otherwise stated.



Width: 1.00m

Length: 2.50m

Side Stability: Instability from 2.0m bgl.

CELTIC
Design and Construct Remediation

Trial Pit Number: TP16

Date: 16/05/2007

Project No: C1077

Engineer: C Tippins

Easting: 387586.56

Site Location: Ten Acres Lane, Newton Heath

Contractor: H & C Plant Hire

Northing: 400351.19

Client: Countryside Properties Northwest

Plant: JCB 3CX

Datum: 84.46

SUBSURFACE PROFILE				SAMPLING/TESTING			WATER
Level (m AOD)	Depth	Legend	DESCRIPTION	Sample Ref	Sample Type	P I D Results	Water Strike
	0.0		MADE GROUND. Dry loose light brown silty sandy soil fill with frequent man made material as in TP15. Becoming sandy gravelly fill from 2.7m bgl.				
	1.0						
	2.0			TP16 / 2.50m	D		
81.46	3.0		End of Trial Pit				
	4.0						
	5.0						

Remarks: No visual or olfactory evidence of contamination unless otherwise stated.



Width: 1.00m

Length: 2.50m

Side Stability: Unstable from 0.5m bgl.

CELTIC
Design and Construct Remediation

Trial Pit Number: TP17

Date: 15/05/2007

Project No: C1077 | Engineer: C Tippins | Easting: 387553.40

Site Location: Ten Acres Lane, Newton Heath | Contractor: H & C Plant Hire | Northing: 400386.69

Client: Countryside Properties Northwest | Plant: JCB 3CX | Datum: 83.75

SUBSURFACE PROFILE				SAMPLING/TESTING			WATER
Level (m AOD)	Depth	Legend	DESCRIPTION	Sample Ref	Sample Type	P I D Results	Water Strike
	0.0		MADE GROUND. Dry loose dark brown silty sandy fill with frequent gravels, whole and fragmented bricks, frequent man made material, broken reinforced concrete, china, plastic bags. Large concrete boulders at 1.7m bgl.				
	1.0						
	2.0						
81.15				TP17 / 2.55m	D		
80.85	3.0		MADE GROUND. Dry loose dark brown silty sandy fill with frequent gravels, whole and fragmented bricks, frequent man made material, broken reinforced concrete, china, frequent plastic bags. Less frequent boulders of concrete.	TP17 / 2.90m	D		
80.45			MADE GROUND.Dry loose black coarse sandy fill with frequent yellow sandstone gravels and white fibrous material.				3.30m
80.35							
80.15			MADE GROUND. Dry pale beige fine sand with occasional fragments of cement and fused slag.				
			MADE GROUND. Wet loose pale brown sandy gravel.				
79.75	4.0		MADE GROUND. Wet loose pale brown sandy gravel with fairly large concrete boulders. Slight odour of decomposing waste. No visual evidence of decay.				
			End of Trial Pit				
	5.0						

Remarks: No visual or olfactory evidence of contamination unless otherwise stated.
Sample taken at 2.9m bgl - Asbestos.



Width: 1.00m

Length: 2.50m

Side Stability: Unstable.

CELTIC
Design and Construct Remediation

Trial Pit Number: TP18

Date: 16/05/2007

Project No: C1077

Engineer: C Tippins

Easting: 387526.01

Site Location: Ten Acres Lane, Newton Heath

Contractor: H & C Plant Hire

Northing: 400422.05

Client: Countryside Properties Northwest

Plant: JCB 3CX

Datum: 82.49

SUBSURFACE PROFILE				SAMPLING/TESTING			WATER
Level (m AOD)	Depth	Legend	DESCRIPTION	Sample Ref	Sample Type	P I D Results	Water Strike
	0.0		MADE GROUND. Dry loose dark brown silty sandy soil. Pipe encountered at 0.6m bgl. Cast iron 6" (possibly water pipe).				
			Trial pit terminated due to water pipe at 0.6m bgl.				
81.89			End of Trial Pit				
	1.0						
	2.0						
	3.0						
	4.0						
	5.0						

Remarks: No samples taken.



Width: 1.00m

Length: 2.50m

Side Stability: No instability.

CELTIC
Design and Construct Remediation

Date: 16/05/2007

Trial Pit Number: TP18A

Project No: C1077

Engineer: C Tippins

Easting: 387526.01

Site Location: Ten Acres Lane, Newton Heath

Contractor: H & C Plant Hire

Northing: 400422.05

Client: Countryside Properties Northwest

Plant: JCB 3CX

Datum: 82.49

SUBSURFACE PROFILE				SAMPLING/TESTING			WATER
Level (m AOD)	Depth	Legend	DESCRIPTION	Sample Ref	Sample Type	PID Results	Water Strike
	0.0		MADE GROUND. Dry loose dark brown sandy soil.				
81.69							
			MADE GROUND. Damp dense black clayey band - oily in appearance with water seepage and frequent fibrous man made material. No odour.	TP18A / 0.90m	D		
81.49	1.0		Dry stiff light brown to beige CLAY.				
	2.0						
79.49	3.0		End of Trial Pit				
	4.0						
	5.0						

Remarks: TP18 moved 5.0m into site. No visual or olfactory evidence of contamination unless otherwise stated.



Width: 1.00m

Length: 2.50m

Side Stability: Stable.

CELTIC
Design and Construct Remediation

Date: 16/05/2007

Trial Pit Number: TP19

Project No: C1077

Engineer: C Tippins

Easting: 387693.82

Site Location: Ten Acres Lane, Newton Heath

Contractor: H & C Plant Hire

Northing: 400461.07

Client: Countryside Properties Northwest

Plant: JCB 3CX

Datum: 84.88

SUBSURFACE PROFILE				SAMPLING/TESTING			WATER
Level (m AOD)	Depth	Legend	DESCRIPTION	Sample Ref	Sample Type	P I D Results	Water Strike
	0.0		MADE GROUND. Topsoil - Very sandy brown clay with cobbles and gravel sized fragments of clinker and concrete with some granite and wood. Rare concrete found approximately 1.0m. Rootlets to 0.5m bgl. No visual or olfactory evidence of contamination.				
	1.0						
83.38			Soft brown / orange mottled grey slightly gravelly CLAY.				
	2.0						
82.68			End of Trial Pit				
	3.0						
	4.0						
	5.0						

Remarks:

Width: -

Length: -

Sheet 1 of 1

Side Stability:

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CELTIC
Design and Construct Remediation

Trial Pit Number: TP20

Date: 16/05/2007

Project No: C1077 | Engineer: C Tippins | Easting: 387631.42

Site Location: Ten Acres Lane, Newton Heath | Contractor: H & C Plant Hire | Northing: 400413.82

Client: Countryside Properties Northwest | Plant: JCB 3CX | Datum: 84.58

SUBSURFACE PROFILE				SAMPLING/TESTING			WATER
Level (m AOD)	Depth	Legend	DESCRIPTION	Sample Ref	Sample Type	P I D Results	Water Strike
	0.0		MADE GROUND. Dry loose silty sandy soil with occasional bricks.				
83.78							▽ 0.90m
	1.0		MADE GROUND. Dry loose black silty sandy ashy fill with occasional free product, concrete and bricks. Moderate hydrocarbon odour.	TP20 / 0.90m	D		
83.38			MADE GROUND. Damp loose dark brown silty sandy gravelly fill.				
	2.0						
82.08			MADE GROUND. Damp loose light brown rounded fine sand with frequent soft beige reworked clay and occasional whole bricks and damp black silty sand in places from 3.5m bgl. Trial pit terminated due to oil leekage on machine at 4.2m bgl.				
	3.0						
	4.0						
80.38			End of Trial Pit				
	5.0						

Remarks: No visual or olfactory evidence of contamination unless otherwise stated.



Width: 1.00m

Length: 2.50m

Sheet 1 of 1

Side Stability: Unstable from 2.5m bgl.

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CELTIC
Design and Construct Remediation

Trial Pit Number: TP21

Date: 16/05/2007

Project No: C1077

Engineer: C Tippins

Easting: 387707.50

Site Location: Ten Acres Lane, Newton Heath

Contractor: H & C Plant Hire

Northing: 400435.21

Client: Countryside Properties Northwest

Plant: JCB 3CX

Datum: 85.33

SUBSURFACE PROFILE				SAMPLING/TESTING			WATER
Level (m AOD)	Depth	Legend	DESCRIPTION	Sample Ref	Sample Type	P I D Results	Water Strike
	0.0		MADE GROUND. Dry loose dark brown silty sandy ashy fill with frequent rubber cables, brick and man made material.				
84.53							
	1.0		MADE GROUND. Dry loose dark brown silty sandy ashy fill with frequent rubber cables, brick and man made material. Slight hydrocarbon odour but no visual evidence of contamination.	TP21 / 1.20m	D		
83.93			MADE GROUND. Layer of red bricks. Trial pit terminated due to concrete pad obstruction at 1.8m bgl.				
83.53			End of Trial Pit				
	2.0						
	3.0						
	4.0						
	5.0						

Remarks: No visual or olfactory evidence of contamination unless otherwise stated.



Width: 1.00m

Length: 2.50m

Side Stability: Some instability.

CELTIC
Design and Construct Remediation

Trial Pit Number: TP22

Date: 16/05/2007

Project No: C1077

Engineer: C Tippins

Easting: 387829.22

Site Location: Ten Acres Lane, Newton Heath

Contractor: H & C Plant Hire

Northing: 400429.17

Client: Countryside Properties Northwest

Plant: JCB 3CX

Datum: 85.10

SUBSURFACE PROFILE				SAMPLING/TESTING			WATER
Level (m AOD)	Depth	Legend	DESCRIPTION	Sample Ref	Sample Type	P I D Results	Water Strike
	0.0		MADE GROUND. Dry loose red to brown gravelly sand with frequent gravels of brick waste and whole bricks.	TP22 / 0.50m	D		0.20m
84.30	1.0		Stiff dark grey to black CLAY. Becoming stiff beige clay from 1.3m bgl.				
82.60	2.0		End of Trial Pit				
	3.0						
	4.0						
	5.0						

Remarks: No visual or olfactory evidence of contamination unless otherwise stated.



Width: 1.00m

Length: 2.50m

Side Stability: Stable.

CELTIC
Design and Construct Remediation

Trial Pit Number: TP23

Date: 15/05/2007

Project No: C1077

Engineer: C Tippins

Easting: 387660.58

Site Location: Ten Acres Lane, Newton Heath

Contractor: H & C Plant Hire

Northing: 400466.35

Client: Countryside Properties Northwest

Plant: JCB 3CX

Datum: 85.51

SUBSURFACE PROFILE				SAMPLING/TESTING			WATER
Level (m AOD)	Depth	Legend	DESCRIPTION	Sample Ref	Sample Type	P I D Results	Water Strike
	0.0		MADE GROUND. Dry loose dark brown to red / brown silty sandy soil with occasional gravels and fragments of brick.	TP23 / 0.40m	D		
84.81			MADE GROUND. Damp soft dark grey to black possibly reworked silty clay.				▽ 1.40m
83.71	1.0						
	2.0		Dry stiff brown to grey CLAY with occasional fragments of vitreous coal.				
82.71			End of Trial Pit				
	3.0						
	4.0						
	5.0						

Remarks: No visual or olfactory evidence of contamination unless otherwise stated.



Width: 1.00m

Length: 2.50m

Side Stability: Stable.

CELTIC
Design and Construct Remediation

Date: 17/05/2007

Trial Pit Number: TP24

Project No: C1077

Engineer: C Tippins

Easting: 387915.94

Site Location: Ten Acres Lane, Newton Heath

Contractor: H & C Plant Hire

Northing: 400384.14

Client: Countryside Properties Northwest

Plant: JCB 3CX

Datum: 84.82

SUBSURFACE PROFILE				SAMPLING/TESTING			WATER
Level (m AOD)	Depth	Legend	DESCRIPTION	Sample Ref	Sample Type	P I D Results	Water Strike
	0.0		MADE GROUND. Dark brown to black sandy slightly silty gravelly fill with frequent rootlets in top 0.05m.				
84.37			Stiff beige to grey CLAY with occasional gravels.	TP24 / 0.45m	D		
	1.0						
83.57			End of Trial Pit				
	2.0						
	3.0						
	4.0						
	5.0						

Remarks: No visual or olfactory evidence of contamination unless otherwise stated.



Width: 1.00m

Length: 2.50m

Sheet 1 of 1

Side Stability: Stable.

CELTIC
Design and Construct Remediation

Date: 18/05/2007

Trial Pit Number: TP25

Project No: C1077

Engineer: C Tippins

Easting: 387871.73

Site Location: Ten Acres Lane, Newton Heath

Contractor: H & C Plant Hire

Northing: 400384.14

Client: Countryside Properties Northwest

Plant: JCB 3CX

Datum: 84.46

SUBSURFACE PROFILE				SAMPLING/TESTING			WATER
Level (m AOD)	Depth	Legend	DESCRIPTION	Sample Ref	Sample Type	P I D Results	Water Strike
	0.0		MADE GROUND. Dry loose dark brown sandy silty soil with very frequent whole bricks.				
84.16			MADE GROUND. Red to black sandy fine gravel of brick. Brick structure to west of pit at 0.3 to 0.7m bgl.	TP25 / 0.30m	B		
83.76			Dry stiff beige CLAY.				
	1.0			TP25 / 1.00m	D		
82.46	2.0		End of Trial Pit				
	3.0						
	4.0						
	5.0						

Remarks: No visual or olfactory evidence of contamination unless otherwise stated.

Width: 1.00m

Length: 2.50m

Sheet 1 of 1

Side Stability: Stable.

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CELTIC
Design and Construct Remediation

Trial Pit Number: TP26

Date: 21/05/2007

Project No: C1077

Engineer: C Tippins

Easting: 387903.29

Site Location: Ten Acres Lane, Newton Heath

Contractor: H & C Plant Hire

Northing: 400323.31

Client: Countryside Properties Northwest

Plant: JCB 3CX

Datum: 83.51

SUBSURFACE PROFILE				SAMPLING/TESTING			WATER
Level (m AOD)	Depth	Legend	DESCRIPTION	Sample Ref	Sample Type	P I D Results	Water Strike
	0.0		MADE GROUND. Dry loose dark brown to reddy orange sandy gravelly fill with occasional coarse gravels and frequent rootlets.				
	1.0			TP26 / 1.00m	B		
82.01			Damp soft black CLAY (possibly natural).	TP26 / 1.60m	D		
81.61	2.0		Dry very stiff beige CLAY.				
81.31			End of Trial Pit				
	3.0						
	4.0						
	5.0						

Remarks: No visual or olfactory evidence of contamination unless otherwise stated.



Width: -

Length: -

Sheet 1 of 1

Side Stability: No instability.

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CELTIC
Design and Construct Remediation

Date: 17/05/2007

Trial Pit Number: TP27

Project No: C1077 | Engineer: C Tippins | Easting: 387830.47

Site Location: Ten Acres Lane, Newton Heath | Contractor: H & C Plant Hire | Northing: 400285.97

Client: Countryside Properties Northwest | Plant: JCB 3CX | Datum: 83.09

SUBSURFACE PROFILE				SAMPLING/TESTING			WATER
Level (m AOD)	Depth	Legend	DESCRIPTION	Sample Ref	Sample Type	PID Results	Water Strike
	0.0		MADE GROUND. Damp dark brown sandy clayey soil with frequent bricks and rootlets in top 0.05m.				
	1.0						
81.89			MADE GROUND. Loose brown to red sandy ashy gravel with frequent whole bricks and occasional man made material. Becoming less red with depth.	TP27 / 1.40m	B		
81.09	2.0		MADE GROUND. Angular medium to coarse gravels of coal, clinker and slate with occasional coarse gravels of clinker. Slight hydrocarbon odour. No visual evidence of contamination.				
	3.0			TP27 / 3.10m	D		▽ 3.10m
79.89			MADE GROUND. Wet loose dark brown gravel with slight hydrocarbon sheen and odour.				
79.69			End of Trial Pit				
	4.0						
	5.0						

Remarks: No visual or olfactory evidence of contamination unless otherwise stated.



Width: 1.00m

Length: 2.50m

Side Stability: Instability from 2.4m bgl. Very unstable from 2.7m bgl.

CELTIC
Design and Construct Remediation

Trial Pit Number: TP28

Date: 21/05/2007

Project No: C1077

Engineer: C Tippins

Easting: 387675.04

Site Location: Ten Acres Lane, Newton Heath

Contractor: H & C Plant Hire

Northing: 400285.59

Client: Countryside Properties Northwest

Plant: JCB 3CX

Datum: 84.86

SUBSURFACE PROFILE				SAMPLING/TESTING			WATER
Level (m AOD)	Depth	Legend	DESCRIPTION	Sample Ref	Sample Type	P I D Results	Water Strike
	0.0		MADE GROUND. Dry very loose mid brown silty sandy gravel fill with frequent bricks, demolition rubble and man made material (including 12v car battery).				
	1.0						
	2.0						
82.66			MADE GROUND. Black ashy sandy gravelly fill.	TP28 / 2.20m	D		
			Trial pit terminated due to instability at 2.9m bgl.				
81.96			End of Trial Pit				
	3.0						
	4.0						
	5.0						

Remarks: No visual or olfactory evidence of contamination unless otherwise stated.

Width: 0.00m

Length: 0.00m

Side Stability: Instability from 0 to 2.2m bgl.

CELTIC
Design and Construct Remediation

Date: 18/05/2007

Trial Pit Number: TP29

Project No: C1077

Engineer: C Tippins

Easting: 387801.25

Site Location: Ten Acres Lane, Newton Heath

Contractor: H & C Plant Hire

Northing: 400259.65

Client: Countryside Properties Northwest

Plant: JCB 3CX

Datum: 82.53

SUBSURFACE PROFILE				SAMPLING/TESTING			WATER
Level (m AOD)	Depth	Legend	DESCRIPTION	Sample Ref	Sample Type	P I D Results	Water Strike
	0.0		MADE GROUND. Dry loose dark brown clayey silty sandy ashy soil with frequent gravels of clinker. Disused electric cable at 1.1m bgl.	TP29 / 0.30m	D		
	1.0						
81.03			Stiff beige gravelly CLAY from 1.5m bgl.				
	2.0						
80.13			End of Trial Pit				
	3.0						
	4.0						
	5.0						

Remarks: No visual or olfactory evidence of contamination unless otherwise stated.



Width: 1.00m

Length: 2.50m

Side Stability: Stable.

CELTIC
Design and Construct Remediation

Trial Pit Number: TP30

Date: 17/05/2007

Project No: C1077

Engineer: C Tippins

Easting: 387674.68

Site Location: Ten Acres Lane, Newton Heath

Contractor: H & C Plant Hire

Northing: 400191.97

Client: Countryside Properties Northwest

Plant: JCB 3CX

Datum: 82.26

SUBSURFACE PROFILE				SAMPLING/TESTING			WATER
Level (m AOD)	Depth	Legend	DESCRIPTION	Sample Ref	Sample Type	PID Results	Water Strike
	0.0		MADE GROUND. Dry loose dark brown silty sandy clayey soil.				
81.16	1.0		MADE GROUND. Dry loose light brown very silty fine sand with frequent demolition rubble including concrete up to 1.0m with rebar, metal, plastic pipes, bricks and occasional wood. Tarmac sections up to 20cm.	TP30 / 1.10m	B		
79.46	2.0		MADE GROUND. Damp soft dark grey clay (possibly reworked or start of natural ground).				
79.16	3.0		End of Trial Pit				
	4.0						
	5.0						

Remarks: No visual or olfactory evidence of contamination unless otherwise stated.



Width: 1.00m

Length: 3.00m

Side Stability: Unstable from 2.1m bgl.

CELTIC
Design and Construct Remediation

Date: 21/05/2007

Trial Pit Number: TP31

Project No: C1077

Engineer: C Tippins

Easting: 387603.56

Site Location: Ten Acres Lane, Newton Heath

Contractor: H & C Plant Hire

Northing: 400170.32

Client: Countryside Properties Northwest

Plant: JCB 3CX

Datum: 81.92

SUBSURFACE PROFILE				SAMPLING/TESTING			WATER
Level (m AOD)	Depth	Legend	DESCRIPTION	Sample Ref	Sample Type	PID Results	Water Strike
81.72	0.0		MADE GROUND. Dry loose dark brown silty clayey soil.				
			MADE GROUND. Dry dense brown brick and demolition rubble fill with layer of compacted slag at 3.3m bgl.				
	1.0						
	2.0						
	3.0			TP31 / 3.00m	B		
78.62			End of Trial Pit				
	4.0						
	5.0						

Remarks: No visual or olfactory evidence of contamination unless otherwise stated.

Width: 0.00m

Length: 0.00m

Sheet 1 of 1

Side Stability: Instability from 0.2 to 3.3m bgl.

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CELTIC
Design and Construct Remediation

Trial Pit Number: TP32

Date: 21/05/2007

Project No: C1077

Engineer: C Tippins

Easting: 387567.54

Site Location: Ten Acres Lane, Newton Heath

Contractor: H & C Plant Hire

Northing: 400183.13

Client: Countryside Properties Northwest

Plant: JCB 3CX

Datum: 82.13

SUBSURFACE PROFILE				SAMPLING/TESTING			WATER
Level (m AOD)	Depth	Legend	DESCRIPTION	Sample Ref	Sample Type	P I D Results	Water Strike
81.78	0.0		MADE GROUND. Dry loose dark brown sandy silty soil with frequent roots.				
			MADE GROUND. Dry dense brown to red rounded fine sand.				
	1.0			TP32 / 1.00m	D		
80.93			MADE GROUND. Damp loose black to brown rounded sands and gravels with compacted brick and ashy material in places including frequent demolition rubble. Large concrete base at 1.2m bgl (0.8 x 0.6 x 0.2m). Trial pit terminated due to instability at 3.0m bgl.				
	2.0						
79.13	3.0		End of Trial Pit	TP32 / 3.00m	B		
	4.0						
	5.0						

Remarks: No visual or olfactory evidence of contamination unless otherwise stated.

Width: -

Length: -

Sheet 1 of 1

Side Stability: Instability from 1.2m bgl.

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CELTIC
Design and Construct Remediation

Trial Pit Number: TP33

Date: 21/05/2007

Project No: C1077

Engineer: C Tippins

Easting: 387590.34

Site Location: Ten Acres Lane, Newton Heath

Contractor: H & C Plant Hire

Northing: 400225.69

Client: Countryside Properties Northwest

Plant: JCB 3CX

Datum: 82.93

SUBSURFACE PROFILE				SAMPLING/TESTING			WATER
Level (m AOD)	Depth	Legend	DESCRIPTION	Sample Ref	Sample Type	P I D Results	Water Strike
	0.0		MADE GROUND. Dry loose dark brown silty clayey soil.				
82.43							
82.33			MADE GROUND. Layer of very dense dark brown brick and demolition rubble.				
	1.0		MADE GROUND. Dry loose brown silty sandy gravelly fill with frequent demolition rubble and skip type waste.				
	2.0						
79.93	3.0		End of Trial Pit				
	4.0						
	5.0						

Remarks: No visual or olfactory evidence of contamination unless otherwise stated.

Width: -

Length: -

Sheet 1 of 1

Side Stability: Instability from 1.0 to 3.0m bgl.

CELTIC
Design and Construct Remediation

Trial Pit Number: TP34

Date: 17/05/2007

Project No: C1077

Engineer: C Tippins

Easting: 387739.40

Site Location: Ten Acres Lane, Newton Heath

Contractor: H & C Plant Hire

Northing: 400362.92

Client: Countryside Properties Northwest

Plant: JCB 3CX

Datum: 86.12

SUBSURFACE PROFILE				SAMPLING/TESTING			WATER
Level (m AOD)	Depth	Legend	DESCRIPTION	Sample Ref	Sample Type	P I D Results	Water Strike
85.52	0.0		MADE GROUND. Brown sandy gravelly soil with occasional gravel of angular coarse brick fragments/				
	1.0		MADE GROUND. Damp loose black sandy gravelly very ashy fill. Gravel of angular coarse shaley material. Occasional roots to 2.0m bgl. Trial pit terminated due to instability at 3.8m bgl.				
	2.0			TP34 / 2.50m	B		
	3.0						
82.32			End of Trial Pit				
	4.0						
	5.0						

Remarks: No visual or olfactory evidence of contamination unless otherwise stated.



Width: 1.00m

Length: 2.50m

Side Stability: Some instability from 2.0m bgl.

CELTIC
Design and Construct Remediation

Trial Pit Number: TP35

Date: 17/05/2007

Project No: C1077

Engineer: C Tippins

Easting: 387831.03

Site Location: Ten Acres Lane, Newton Heath

Contractor: H & C Plant Hire

Northing: 400396.93

Client: Countryside Properties Northwest

Plant: JCB 3CX

Datum: 85.19

SUBSURFACE PROFILE				SAMPLING/TESTING			WATER
Level (m AOD)	Depth	Legend	DESCRIPTION	Sample Ref	Sample Type	P I D Results	Water Strike
	0.0		MADE GROUND. Damp dense light brown to orange sandy clayey gravelly soil.				
84.59			MADE GROUND. Dense light to dark grey friable slightly clayey angular fine to coarse gravel with gravel of limestone, shale, coal and brick.	TP35 / 0.60m	D		
	1.0						
83.19	2.0		Stiff light brown to grey CLAY.				
82.39			End of Trial Pit				
	3.0						
	4.0						
	5.0						

Remarks: No visual or olfactory evidence of contamination unless otherwise stated.



Width: 1.00m

Length: 2.50m

Sheet 1 of 1

Side Stability: Some instability from 0.6m bgl.

CELTIC
Design and Construct Remediation

Date: 18/05/2007

Trial Pit Number: TP36

Project No: C1077

Engineer: C Tippins

Easting: 387416.69

Site Location: Ten Acres Lane, Newton Heath

Contractor: H & C Plant Hire

Northing: 400279.70

Client: Countryside Properties Northwest

Plant: JCB 3CX

Datum: 79.98

SUBSURFACE PROFILE				SAMPLING/TESTING			WATER
Level (m AOD)	Depth	Legend	DESCRIPTION	Sample Ref	Sample Type	PID Results	Water Strike
	0.0		MADE GROUND. Dry loose dark brown to black ashy silty sand with frequent clinker.				
79.53			MADE GROUND. Dry loose red to brown gravelly brick fill.				
	1.0						
78.68			MADE GROUND. Damp soft mid brown to beige very sandy clay with occasional gravels (possibly reworked).				
	2.0						
77.88			End of Trial Pit				
	3.0						
	4.0						
	5.0						

Remarks: No visual or olfactory evidence of contamination unless otherwise stated.
No samples taken.



Width: 1.00m

Length: 2.50m

Side Stability: Stable.

CELTIC
Design and Construct Remediation

Trial Pit Number: TP37

Date: 22/05/2007

Project No: C1077

Engineer: C Tippins

Easting: 387237.38

Site Location: Ten Acres Lane, Newton Heath

Contractor: H & C Plant Hire

Northing: 400226.49

Client: Countryside Properties Northwest

Plant: JCB 3CX

Datum: 77.01

SUBSURFACE PROFILE				SAMPLING/TESTING			WATER
Level (m AOD)	Depth	Legend	DESCRIPTION	Sample Ref	Sample Type	PID Results	Water Strike
	0.0		MADE GROUND. Dry loose dark brown sandy gravel.				
75.91	1.0		MADE GROUND. Damp soft black reworked clay. Hydrocarbon odour. No visual evidence of contamination.				
75.51			Wet stiff light to dark brown CLAY.				
74.81	2.0		End of Trial Pit				
	3.0						
	4.0						
	5.0						

Remarks:

Width: -

Length: -

Sheet 1 of 1

Side Stability:

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CELTIC
Design and Construct Remediation

Trial Pit Number: TP38

Date: 22/05/2007

Project No: C1077

Engineer: C Tippins

Easting: 387234.61

Site Location: Ten Acres Lane, Newton Heath

Contractor: H & C Plant Hire

Northing: 400131.33

Client: Countryside Properties Northwest

Plant: JCB 3CX

Datum: 75.69

SUBSURFACE PROFILE				SAMPLING/TESTING			WATER
Level (m AOD)	Depth	Legend	DESCRIPTION	Sample Ref	Sample Type	P I D Results	Water Strike
	0.0		MADE GROUND. Dry loose dark brown sandy gravel with occasional roots to 0.15m bgl.				
74.69	1.0		Damp soft black CLAY (possibly natural). Strong hydrocarbon odour. No visible sheen.	TP38 / 1.20m	D		
74.09			Wet stiff beige to dark grey CLAY black in places. No visual or olfactory evidence of contamination.				
	2.0						
73.29			End of Trial Pit	TP38 / 2.40m	D		
	3.0						
	4.0						
	5.0						

Remarks: No visual or olfactory evidence of contamination unless otherwise stated.

Width: -

Length: -

Side Stability: Stable.

CELTIC
Design and Construct Remediation

Date: 21/05/2007

Trial Pit Number: TP39

Project No: C1077

Engineer: C Tippins

Easting: 387226.49

Site Location: Ten Acres Lane, Newton Heath

Contractor: H & C Plant Hire

Northing: 400128.15

Client: Countryside Properties Northwest

Plant: JCB 3CX

Datum: 74.93

SUBSURFACE PROFILE				SAMPLING/TESTING			WATER
Level (m AOD)	Depth	Legend	DESCRIPTION	Sample Ref	Sample Type	P I D Results	Water Strike
74.73	0.0		MADE GROUND. Dry loose brown sandy gravelly cobbles.				
			MADE GROUND. Dry brown to black gravelly cobbly clay with gravels and cobbles of brick and clinker. Slight hydrocarbon odour and some staining.	TP39 / 0.20m	D		0.70m
74.23			MADE GROUND. Brown to red sandy gravelly fill with gravel of brick and clinker.				
73.83	1.0		Firm grey to beige CLAY with occasional gravels.				
73.63			End of Trial Pit	TP39 / 1.30m	D		
	2.0						
	3.0						
	4.0						
	5.0						

Remarks: No visual or olfactory evidence of contamination unless otherwise stated.

Width: 1.00m

Length: 2.50m

Sheet 1 of 1

Side Stability: Stable.

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CELTIC
Design and Construct Remediation

Date: 21/05/2007

Trial Pit Number: TP40

Project No: C1077 | Engineer: C Tippins | Easting: 387208.71

Site Location: Ten Acres Lane, Newton Heath | Contractor: H & C Plant Hire | Northing: 400134.50

Client: Countryside Properties Northwest | Plant: JCB 3CX | Datum: 74.95

SUBSURFACE PROFILE				SAMPLING/TESTING			WATER
Level (m AOD)	Depth	Legend	DESCRIPTION	Sample Ref	Sample Type	P I D Results	Water Strike
	0.0		MADE GROUND. Dry loose brown sandy gravel. Gravel of brick and concrete.				
	1.0						
73.50			MADE GROUND. Brown / black gravelly reworked clay, gravel and brick fragments.				
73.05	2.0		Firm brown slightly sandy gravelly CLAY.				
72.75			End of Trial Pit				
	3.0						
	4.0						
	5.0						

Remarks: Rapid influxed water to trial pit from water strike.

Width: -

Length: -

Sheet 1 of 1 | Side Stability: | www.celtic-ltd.com

CELTIC
Design and Construct Remediation

Date: 22/05/2007

Trial Pit Number: TP41

Project No: C1077

Engineer: C Tippins

Easting: 387224.13

Site Location: Ten Acres Lane, Newton Heath

Contractor: H & C Plant Hire

Northing: 400151.45

Client: Countryside Properties Northwest

Plant: JCB 3CX

Datum: 75.49

SUBSURFACE PROFILE				SAMPLING/TESTING			WATER
Level (m AOD)	Depth	Legend	DESCRIPTION	Sample Ref	Sample Type	P I D Results	Water Strike
75.29	0.0		MADE GROUND. Dry loose dark brown silty sandy soil.				
74.99			MADE GROUND. Very dense light brown to black compacted ash, clinker and slag with occasional bricks. Dry 4" land drain running across pit at 0.35m bgl.				
			Trial pit terminated due to very dense compacted ground at 0.5m bgl.				
	1.0		End of Trial Pit				
	2.0						
	3.0						
	4.0						
	5.0						

Remarks: No visual or olfactory evidence of contamination unless otherwise stated.
No samples taken.



Width: -

Length: -

Sheet 1 of 1

Side Stability: Stable.

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CELTIC
Design and Construct Remediation

Date: 22/05/2007

Trial Pit Number: TP42

Project No: C1077

Engineer: C Tippins

Easting: 387230.23

Site Location: Ten Acres Lane, Newton Heath

Contractor: H & C Plant Hire

Northing: 400163.05

Client: Countryside Properties Northwest

Plant: JCB 3CX

Datum: 76.11

SUBSURFACE PROFILE				SAMPLING/TESTING			WATER
Level (m AOD)	Depth	Legend	DESCRIPTION	Sample Ref	Sample Type	PID Results	Water Strike
	0.0		MADE GROUND. Dry loose dark brown silty sandy gravelly soil fill with occasional gravel of clinker. Becoming sandier with depth.				
	1.0			TP42 / 1.20m	D		
74.21							
74.11	2.0		MADE GROUND. Dry loose dark brown silty sandy gravelly soil fill. Becoming dense ashy brick fill.				
			MADE GROUND. Dry dense orangy brown slightly silty sandy gravelly fill with frequent brick fragments.				
73.61			MADE GROUND. Damp dense dark brown to black sandy angular fine to medium gravels of ash and clinker (possible base as in TP41). Trial pit terminated due to denseness of fill at 2.5m bgl.				
	3.0		End of Trial Pit				
	4.0						
	5.0						

Remarks: Starting height approximately 1.0m higher than TP41. No visual or olfactory evidence of contamination unless otherwise stated.

Width: -

Length: -

Side Stability: Stable.

CELTIC
Design and Construct Remediation

Trial Pit Number: TP43

Date: 23/05/2007

Project No: C1077

Engineer: C Tippins

Easting: 387861.29

Site Location: Ten Acres Lane, Newton Heath

Contractor: H & C Plant Hire

Northing: 400330.70

Client: Countryside Properties Northwest

Plant: JCB 3CX

Datum: 84.31

SUBSURFACE PROFILE				SAMPLING/TESTING			WATER
Level (m AOD)	Depth	Legend	DESCRIPTION	Sample Ref	Sample Type	PID Results	Water Strike
	0.0		MADE GROUND. Dense brown silty sand with frequent cobbles of brick and slag.				
83.41	1.0		MADE GROUND. Dry soft brown to black clay with occasional bricks, occasional damp sandy lenses and reworked clay. Very slight hydrocarbon / organic odour from 2.0m bgl.				
	2.0						2.40m
81.91			MADE GROUND. Wet black clayey gravel with slight diesel sheen and odour.. Becoming very wet and soft and very odourous from 2.8m bgl.	TP43 / 2.90m	D		
81.31	3.0		Very stiff beige CLAY with occasional gravels.	TP43 / 3.00m	D		
80.81			End of Trial Pit				
	4.0						
	5.0						

Remarks: No visual or olfactory evidence of contamination unless otherwise stated.

Width: -

Length: -

Sheet 1 of 1

Side Stability:

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CELTIC
Design and Construct Remediation

Trial Pit Number: TP44

Date: 23/05/2007

Project No: C1077 | Engineer: C Tippins | Easting: 387849.19

Site Location: Ten Acres Lane, Newton Heath | Contractor: H & C Plant Hire | Northing: 400308.78

Client: Countryside Properties Northwest | Plant: JCB 3CX | Datum: 83.48

SUBSURFACE PROFILE				SAMPLING/TESTING			WATER
Level (m AOD)	Depth	Legend	DESCRIPTION	Sample Ref	Sample Type	P I D Results	Water Strike
	0.0		MADE GROUND. Dense brown silty sand with frequent cobbles of brick and slag.				
82.68							
	1.0		MADE GROUND. Soft dense brown to black to beige reworked clay with occasional brick gravels.				1.50m
81.98							
	2.0		MADE GROUND. Dry stiff beige friable clay reworked with wood pieces at 2.5m bgl. Pockets of wet soft gravelly fill with slight hydrocarbon odour and sheen on water and gravels.				2.50m
80.58	3.0		End of Trial Pit				
	4.0						
	5.0						

Remarks: No visual or olfactory evidence of contamination unless otherwise stated.

Width: -

Length: -

Sheet 1 of 1

Side Stability:

CELTIC
Design and Construct Remediation

Trial Pit Number: TP45

Date: 23/05/2007

Project No: C1077 | Engineer: C Tippins | Easting: 387853.69

Site Location: Ten Acres Lane, Newton Heath | Contractor: H & C Plant Hire | Northing: 400296.92

Client: Countryside Properties Northwest | Plant: JCB 3CX | Datum: 82.89

SUBSURFACE PROFILE				SAMPLING/TESTING			WATER
Level (m AOD)	Depth	Legend	DESCRIPTION	Sample Ref	Sample Type	PID Results	Water Strike
	0.0		MADE GROUND. Dry loose dark brown silty sandy gravel with frequent roots.				
81.99	1.0		MADE GROUND. Damp loose brown rounded fine sand with frequent bricks. Becoming brown sandy gravel with depth.	TP45 / 0.90m	D		
81.69			MADE GROUND. Soft beige to dark brown clay with brick fragments (reworked).				
80.79	2.0		Wet very soft black CLAY with hydrocarbon staining and slight odour. Very black oil clay pocket at 2.1 to 3.0m bgl.				
	3.0			TP45 / 3.20m	D		▽ 3.30m
78.89	4.0		End of Trial Pit				
	5.0						

Remarks: No visual or olfactory evidence of contamination unless otherwise stated.

Width: -

Length: -

Sheet 1 of 1 | Side Stability: | www.celtic-ltd.com

CELTIC
Design and Construct Remediation

Trial Pit Number: TP46

Date: 23/05/2007

Project No: C1077 | Engineer: C Tippins | Easting: 387839.00

Site Location: Ten Acres Lane, Newton Heath | Contractor: H & C Plant Hire | Northing: 400288.56

Client: Countryside Properties Northwest | Plant: JCB 3CX | Datum: 83.00

SUBSURFACE PROFILE				SAMPLING/TESTING			WATER
Level (m AOD)	Depth	Legend	DESCRIPTION	Sample Ref	Sample Type	P I D Results	Water Strike
	0.0		MADE GROUND. Dark brown silty sandy clay with occasional roots.				
82.50			MADE GROUND. Loose beige sandy clay with gravel of brick and metal waste (household). Black very clayey organic material with diesel odour from 1.2 to 1.5m bgl.				
	1.0			TP46 / 1.20m	D		
81.50			MADE GROUND. Slightly damp soft brown sandy clay with occasional brick fragments.				
	2.0						
	3.0						
	4.0						
78.60			End of Trial Pit				
	5.0						

Remarks: No visual or olfactory evidence of contamination unless otherwise stated.
No water strike.



Width: -

Length: -

Sheet 1 of 1 | Side Stability: | www.celtic-ltd.com

CELTIC
Design and Construct Remediation

Trial Pit Number: TP47

Date: 24/05/2007

Project No: C1077 | Engineer: C Tippins | Easting: 387839.66

Site Location: Ten Acres Lane, Newton Heath | Contractor: H & C Plant Hire | Northing: 400278.16

Client: Countryside Properties Northwest | Plant: JCB 3CX | Datum: 82.88

SUBSURFACE PROFILE				SAMPLING/TESTING			WATER
Level (m AOD)	Depth	Legend	DESCRIPTION	Sample Ref	Sample Type	P I D Results	Water Strike
	0.0		MADE GROUND. Dark brown silty sandy gravel with organic matter.				
81.88	1.0		MADE GROUND. Damp orange / brown rounded medium sand with occasional pockets of reworked boulder clay.				
81.68			MADE GROUND. Dry loose dark brown sandy gravel fill with frequent brick and slag waste.				
	2.0						
80.28			MADE GROUND. Soft beige reworked clay with fragments of plastic.				
	3.0						
79.48			MADE GROUND. Dry loose dark brown sandy gravel clinker. No odour.				
	4.0						4.20m
78.68			Wet creamy white sandy GRAVEL becoming very soft silty clay with frequent fine gravels.				
	5.0		End of Trial Pit	TP47 / 4.80m	D		

Remarks: No visual or olfactory evidence of contamination unless otherwise stated.

Width: -

Length: -

Sheet 1 of 1 | Side Stability: | www.celtic-ltd.com

CELTIC
Design and Construct Remediation

Trial Pit Number: TP48

Date: 24/05/2007

Project No: C1077

Engineer: C Tippins

Easting: 387870.38

Site Location: Ten Acres Lane, Newton Heath

Contractor: H & C Plant Hire

Northing: 400302.81

Client: Countryside Properties Northwest

Plant: JCB 3CX

Datum: 82.93

SUBSURFACE PROFILE				SAMPLING/TESTING			WATER
Level (m AOD)	Depth	Legend	DESCRIPTION	Sample Ref	Sample Type	P I D Results	Water Strike
82.73	0.0		MADE GROUND. Dark brown very clayey sandy soil.				
			MADE GROUND. Stiff friable brown and black in places reworked clay with brick and flagstones. Becoming ashy between 1.5 and 2.0m bgl.				
	1.0						
	2.0						
80.03	3.0		MADE GROUND. Stiff beige and black sandy clay with occasional gravel of bricks and clinker.				
	4.0			TP48 / 4.00m	D		
78.63			End of Trial Pit				
	5.0						

Remarks: No visual or olfactory evidence of contamination unless otherwise stated.
No water strike.

Width: -

Length: -

Sheet 1 of 1

Side Stability:

CELTIC
Design and Construct Remediation

Trial Pit Number: TP49

Date: 24/05/2007

Project No: C1077 | Engineer: C Tippins | Easting: 387625.79

Site Location: Ten Acres Lane, Newton Heath | Contractor: H & C Plant Hire | Northing: 400430.21

Client: Countryside Properties Northwest | Plant: JCB 3CX | Datum: 84.15

SUBSURFACE PROFILE				SAMPLING/TESTING			WATER
Level (m AOD)	Depth	Legend	DESCRIPTION	Sample Ref	Sample Type	P I D Results	Water Strike
83.95	0.0		MADE GROUND. Loose brown clayey gravelly sand. Gravel of brick.				
			MADE GROUND. Dense brown gravelly cobbly sand, gravel and cobbles of brick and concrete. Some localised black ashy areas. Boulders of sandstone.				
83.15	1.0		MADE GROUND. Very sandy reworked grey / yellow / black clay with gravel and boulders of concrete and brick . Brick structures in ground.				
	2.0						
	3.0			TP49 / 3.30m	D		
	4.0						
79.65			End of Trial Pit				
	5.0						

Remarks: No visual or olfactory evidence of contamination unless otherwise stated.
No water strike.

Width: -

Length: -

Side Stability:

CELTIC
Design and Construct Remediation

Trial Pit Number: TP50

Date: 24/05/2007

Project No: C1077 | Engineer: C Tippins | Easting: 387663.15

Site Location: Ten Acres Lane, Newton Heath | Contractor: H & C Plant Hire | Northing: 400443.30

Client: Countryside Properties Northwest | Plant: JCB 3CX | Datum: 84.56

SUBSURFACE PROFILE				SAMPLING/TESTING			WATER
Level (m AOD)	Depth	Legend	DESCRIPTION	Sample Ref	Sample Type	PID Results	Water Strike
84.26	0.0		MADE GROUND. Brown / black sandy gravelly cobbly clay. Loose gravel of slate, bricks and concrete. Some ashy horizons with fragments of wood.				
			MADE GROUND. Brown very sandy clay with gravel and cobbles.				
83.46	1.0		MADE GROUND. Dark ash with plastic and metal fragments. Olfactory evidence of contamination.				
	2.0						
82.06			MADE GROUND. Clinker, slag and brick. Visual and olfactory evidence of contamination.				
	3.0			TP50 / 3.50m	D		▽ 3.70m
80.56	4.0		MADE GROUND. Yellow / green grey very sandy gravelly reworked clay. Gravel of brick sandstone and mudstone.				
80.26			End of Trial Pit	TP50 / 4.30m	D		
	5.0						

Remarks: No visual or olfactory evidence of contamination unless otherwise stated.

Width: -

Length: -

Side Stability:

CELTIC
Design and Construct Remediation

Trial Pit Number: TP51

Date: 24/05/2007

Project No: C1077

Engineer: C Tippins

Easting: 387707.25

Site Location: Ten Acres Lane, Newton Heath

Contractor: H & C Plant Hire

Northing: 400448.10

Client: Countryside Properties Northwest

Plant: JCB 3CX

Datum: 84.91

SUBSURFACE PROFILE				SAMPLING/TESTING			WATER
Level (m AOD)	Depth	Legend	DESCRIPTION	Sample Ref	Sample Type	PID Results	Water Strike
	0.0		MADE GROUND. Dry loose dark brown silty sandy soil with frequent bricks and concrete.				
84.31			MADE GROUND. Dense brick layer at 0.6m bgl possible base. Occasional sandy gravelly matrix with frequent slag and clinker.				
	1.0						
83.01			MADE GROUND. Dry loose brown sandy ashy fill with red gravels in places.				
	2.0						
				TP51 / 2.50m	D		
	3.0						
81.71			MADE GROUND. Dry stiff beige sandy gravelly clay with frequent bricks. Moderate hydrocarbon odour.				
81.01	4.0		End of Trial Pit				
	5.0						

Remarks: No visual or olfactory evidence of contamination unless otherwise stated.
No water strike.

Width: -

Length: -

Sheet 1 of 1

Side Stability:

CELTIC
Design and Construct Remediation

Date: 25/05/2007

Trial Pit Number: TP52

Project No: C1077

Engineer: C Tippins

Easting: 387498.61

Site Location: Ten Acres Lane, Newton Heath

Contractor: H & C Plant Hire

Northing: 400177.19

Client: Countryside Properties Northwest

Plant: JCB 3CX

Datum: 81.87

SUBSURFACE PROFILE				SAMPLING/TESTING			WATER
Level (m AOD)	Depth	Legend	DESCRIPTION	Sample Ref	Sample Type	PID Results	Water Strike
81.82	0.0		MADE GROUND. Dry dense brown silty sandy soil with frequent rootlets.				
			MADE GROUND. Dry loose dark brown silty sandy clayey gravel matrix with frequent bricks and concrete.				
	1.0						
80.37			MADE GROUND. Dry loose black silty sandy clayey gravel matrix with frequent bricks and concrete. Hydrocarbon odour.				1.80m
	2.0						
79.47			End of Trial Pit				
	3.0						
	4.0						
	5.0						

Remarks: No visual or olfactory evidence of contamination unless otherwise stated.

Width: -

Length: -

Sheet 1 of 1

Side Stability:

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CELTIC
Design and Construct Remediation

Trial Pit Number: TP53

Date: 25/05/2007

Project No: C1077

Engineer: C Tippins

Easting: 387482.41

Site Location: Ten Acres Lane, Newton Heath

Contractor: H & C Plant Hire

Northing: 400162.55

Client: Countryside Properties Northwest

Plant: JCB 3CX

Datum: 81.16

SUBSURFACE PROFILE				SAMPLING/TESTING			WATER
Level (m AOD)	Depth	Legend	DESCRIPTION	Sample Ref	Sample Type	PID Results	Water Strike
80.96	0.0		MADE GROUND. Brown coarse sandy gravelly clay. Gravel of clinker and slag waste.				
			MADE GROUND. Brown / orange coarse clayey sand with occasional rounded gravels.				
	1.0						
	2.0			TP53 / 2.00m	D		2.30m
78.16	3.0		Soft to firm brown occasionally gravelly boulder CLAY.				
77.86			End of Trial Pit				
	4.0						
	5.0						

Remarks: No visual or olfactory evidence of contamination unless otherwise stated.

Width: -

Length: -

Sheet 1 of 1

Side Stability:

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CELTIC
Design and Construct Remediation

Trial Pit Number: TP54

Date: 25/05/2007

Project No: C1077

Engineer: C Tippins

Easting: 387489.50

Site Location: Ten Acres Lane, Newton Heath

Contractor: H & C Plant Hire

Northing: 400169.45

Client: Countryside Properties Northwest

Plant: JCB 3CX

Datum: 81.29

SUBSURFACE PROFILE				SAMPLING/TESTING			WATER
Level (m AOD)	Depth	Legend	DESCRIPTION	Sample Ref	Sample Type	P I D Results	Water Strike
	0.0		MADE GROUND. Brown silty sandy gravel with bricks.				
80.79			Dry loose pale grey / orange rounded fine SAND.				
80.29	1.0		Very dry stiff dark grey to brown friable CLAY with occasional gravels.				
	2.0						
78.29	3.0		End of Trial Pit				
	4.0						
	5.0						

Remarks: No visual or olfactory evidence of contamination unless otherwise stated.
No water strike.



Width: -

Length: -

Side Stability:

CELTIC
Design and Construct Remediation

Date: 25/05/2007

Trial Pit Number: TP55

Project No: C1077

Engineer: C Tippins

Easting: 387517.39

Site Location: Ten Acres Lane, Newton Heath

Contractor: H & C Plant Hire

Northing: 400148.84

Client: Countryside Properties Northwest

Plant: JCB 3CX

Datum: 81.77

SUBSURFACE PROFILE				SAMPLING/TESTING			WATER
Level (m AOD)	Depth	Legend	DESCRIPTION	Sample Ref	Sample Type	P I D Results	Water Strike
	0.0		MADE GROUND. Sandy ashy clay with household metal and wood waste.				
80.87	1.0		Dry very stiff beige to grey CLAY with occasional rounded mudstone gravels.				
79.97			End of Trial Pit				
	2.0						
	3.0						
	4.0						
	5.0						

Remarks: No visual or olfactory evidence of contamination unless otherwise stated.

Width: -

Length: -

Sheet 1 of 1

Side Stability:

CELTIC
Design and Construct Remediation

Trial Pit Number: TP56

Date: 25/05/2007

Project No: C1077

Engineer: C Tippins

Easting: 387499.32

Site Location: Ten Acres Lane, Newton Heath

Contractor: H & C Plant Hire

Northing: 400164.95

Client: Countryside Properties Northwest

Plant: JCB 3CX

Datum: 81.42

SUBSURFACE PROFILE				SAMPLING/TESTING			WATER
Level (m AOD)	Depth	Legend	DESCRIPTION	Sample Ref	Sample Type	PID Results	Water Strike
	0.0		MADE GROUND. Brown / black sandy ashy gravel of brick, clinker and concrete.				
	1.0						
79.42	2.0		MADE GROUND. Damp black silty reworked clay with brick fragments.				2.00m
78.92			Dry stiff beige CLAY.				
78.72			End of Trial Pit				
	3.0						
	4.0						
	5.0						

Remarks: No visual or olfactory evidence of contamination unless otherwise stated.

Width: -

Length: -

Sheet 1 of 1

Side Stability: Poor stability.

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CELTIC
Design and Construct Remediation

Trial Pit Number: TP57

Date: 25/05/2007

Project No: C1077

Engineer: C Tippins

Easting: 387498.59

Site Location: Ten Acres Lane, Newton Heath

Contractor: H & C Plant Hire

Northing: 400144.72

Client: Countryside Properties Northwest

Plant: JCB 3CX

Datum: 81.36

SUBSURFACE PROFILE				SAMPLING/TESTING			WATER
Level (m AOD)	Depth	Legend	DESCRIPTION	Sample Ref	Sample Type	P I D Results	Water Strike
	0.0		MADE GROUND. Dark brown sandy gravelly ashy fill with occasional clinker.				
80.91			Dry stiff beige / grey CLAY.				
	1.0						
80.16			End of Trial Pit				
	2.0						
	3.0						
	4.0						
	5.0						

Remarks: No visual or olfactory evidence of contamination unless otherwise stated.

Width: -

Length: -

Sheet 1 of 1

Side Stability:

CELTIC
Design and Construct Remediation

Trial Pit Number: TP58

Date: 25/05/2007

Project No: C1077

Engineer: C Tippins

Easting: 387509.78

Site Location: Ten Acres Lane, Newton Heath

Contractor: H & C Plant Hire

Northing: 400047.72

Client: Countryside Properties Northwest

Plant: JCB 3CX

Datum: 78.74

SUBSURFACE PROFILE				SAMPLING/TESTING			WATER
Level (m AOD)	Depth	Legend	DESCRIPTION	Sample Ref	Sample Type	P I D Results	Water Strike
	0.0		MADE GROUND. Sand brick and stone gravelly clay.				
77.74	1.0		MADE GROUND. Black ashy gravelly clay.				
76.74	2.0		Firm brown mottled sandy CLAY.				
76.34			End of Trial Pit				
	3.0						
	4.0						
	5.0						

Remarks:

Width: -

Length: -

Sheet 1 of 1

Side Stability:

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CELTIC
Design and Construct Remediation

Date: 30/05/2007

Trial Pit Number: TP59

Project No: C1077

Engineer: C Tippins

Easting: 387825.84

Site Location: Ten Acres Lane, Newton Heath

Contractor: H & C Plant Hire

Northing: 400418.92

Client: Countryside Properties Northwest

Plant: JCB 3CX

Datum: 85.03

SUBSURFACE PROFILE				SAMPLING/TESTING			WATER
Level (m AOD)	Depth	Legend	DESCRIPTION	Sample Ref	Sample Type	P I D Results	Water Strike
84.88	0.0		MADE GROUND. Dry loose silty sandy soil.				
			MADE GROUND. Dry very dense bright orange / black crushed brick and ashy gravel fill.				
84.23	1.0		End of Trial Pit				
	2.0						
	3.0						
	4.0						
	5.0						

Remarks: Trial pit terminated due to density of fill to 0.8m bgl. No visual or olfactory evidence of contamination unless otherwise stated.



Width: -

Length: -

Side Stability:

CELTIC
Design and Construct Remediation

Date: 30/05/2007

Trial Pit Number: TP60

Project No: C1077

Engineer: C Tippins

Easting: 387833.85

Site Location: Ten Acres Lane, Newton Heath

Contractor: H & C Plant Hire

Northing: 400412.12

Client: Countryside Properties Northwest

Plant: JCB 3CX

Datum: 85.23

SUBSURFACE PROFILE				SAMPLING/TESTING			WATER
Level (m AOD)	Depth	Legend	DESCRIPTION	Sample Ref	Sample Type	P I D Results	Water Strike
	0.0		MADE GROUND. Dense black fine ash and bricks with cobbles of bricks and concrete.				
	1.0						
83.73			Dry stiff black friable CLAY changing to dark brown with depth.				
	2.0						
	3.0						
81.73			End of Trial Pit				
	4.0						
	5.0						

Remarks: No visual or olfactory evidence of contamination unless otherwise stated.

Width: -

Length: -

Sheet 1 of 1

Side Stability:

CELTIC
Design and Construct Remediation

Date: 30/05/2007

Trial Pit Number: TP61

Project No: C1077

Engineer: C Tippins

Easting: 387743.77

Site Location: Ten Acres Lane, Newton Heath

Contractor: H & C Plant Hire

Northing: 400359.14

Client: Countryside Properties Northwest

Plant: JCB 3CX

Datum: 86.17

SUBSURFACE PROFILE				SAMPLING/TESTING			WATER
Level (m AOD)	Depth	Legend	DESCRIPTION	Sample Ref	Sample Type	P I D Results	Water Strike
	0.0		MADE GROUND. Dry dark brown silty sandy gravels of brick with fragments of rubber.				
85.27	1.0		MADE GROUND. Dry dense very friable dark grey silty clayey gravel of angular coarse shale and mudstone.				
84.17	2.0		MADE GROUND. Dry dense very friable dark grey silty clayey gravel of angular coarse shale and mudstone. Becoming loose black ashy angular fine to medium fill.				
82.97	3.0		End of Trial Pit				
	4.0						
	5.0						

Remarks: No visual or olfactory evidence of contamination unless otherwise stated.
No water strike.

Width: -

Length: -

Sheet 1 of 1

Side Stability:

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CELTIC
Design and Construct Remediation

Date: 31/05/2007

Trial Pit Number: TP62

Project No: C1077

Engineer: C Tippins

Easting: 387761.68

Site Location: Ten Acres Lane, Newton Heath

Contractor: H & C Plant Hire

Northing: 400357.26

Client: Countryside Properties Northwest

Plant: JCB 3CX

Datum: 86.10

SUBSURFACE PROFILE				SAMPLING/TESTING			WATER
Level (m AOD)	Depth	Legend	DESCRIPTION	Sample Ref	Sample Type	P I D Results	Water Strike
85.90	0.0		MADE GROUND. Damp loose dark brown silty sandy gravelly soil.				
			MADE GROUND. Damp loose dark brown silty sandy gravelly soil with frequent bricks and wood.				
85.50			MADE GROUND. Dense dark grey angular coarse gravels of shale and mudstone.				
	1.0						
	2.0						
83.70			End of Trial Pit				
	3.0						
	4.0						
	5.0						

Remarks: No visual or olfactory evidence of contamination unless otherwise stated.

Width: -

Length: -

Sheet 1 of 1

Side Stability:

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CELTIC
Design and Construct Remediation

Trial Pit Number: TP63

Date: 31/05/2007

Project No: C1077

Engineer: C Tippins

Easting: 387740.13

Site Location: Ten Acres Lane, Newton Heath

Contractor: H & C Plant Hire

Northing: 400403.36

Client: Countryside Properties Northwest

Plant: JCB 3CX

Datum: 85.80

SUBSURFACE PROFILE				SAMPLING/TESTING			WATER
Level (m AOD)	Depth	Legend	DESCRIPTION	Sample Ref	Sample Type	P I D Results	Water Strike
85.60	0.0		MADE GROUND. Damp dense brown sandy clay.				
85.50			MADE GROUND. Dry brown silty sandy gravels of brick.				
			MADE GROUND. Dry soft brown to beige reworked clay.				
84.70	1.0		MADE GROUND. Damp yellow / brown sandy clay.				
84.40			MADE GROUND. Dense grey shaley gravel.				
	2.0						
82.70	3.0		End of Trial Pit				
	4.0						
	5.0						

Remarks: No visual or olfactory evidence of contamination unless otherwise stated.



Width: -

Length: -

Side Stability:

CELTIC
Design and Construct Remediation

Trial Pit Number: TP64

Date: 31/05/2007

Project No: C1077

Engineer: C Tippins

Easting: 387781.72

Site Location: Ten Acres Lane, Newton Heath

Contractor: H & C Plant Hire

Northing: 400371.94

Client: Countryside Properties Northwest

Plant: JCB 3CX

Datum: 86.07

SUBSURFACE PROFILE				SAMPLING/TESTING			WATER
Level (m AOD)	Depth	Legend	DESCRIPTION	Sample Ref	Sample Type	P I D Results	Water Strike
	0.0		MADE GROUND. Dry loose dark brown silty sandy soil.				
85.72			MADE GROUND. Blue grey ashy fill. Alternating loose very light pale cream sandy gravel.				
	1.0						
	2.0						2.50m
83.37			MADE GROUND. Very wet loose black sandy gravels. Hydrocarbon staining and odour.				
	3.0						
82.97			End of Trial Pit				
	4.0						
	5.0						

Remarks: No visual or olfactory evidence of contamination unless otherwise stated.

Width: -

Length: -

Sheet 1 of 1

Side Stability:

CELTIC
Design and Construct Remediation

Date: 31/05/2007

Trial Pit Number: TP65

Project No: C1077

Engineer: C Tippins

Easting: 387809.33

Site Location: Ten Acres Lane, Newton Heath

Contractor: H & C Plant Hire

Northing: 400379.88

Client: Countryside Properties Northwest

Plant: JCB 3CX

Datum: 85.66

SUBSURFACE PROFILE				SAMPLING/TESTING			WATER
Level (m AOD)	Depth	Legend	DESCRIPTION	Sample Ref	Sample Type	P I D Results	Water Strike
	0.0		MADE GROUND. Dry loose dark brown sandy gravelly soil with occasional bricks.				
84.76	1.0		Dry stiff beige CLAY.				
84.46			End of Trial Pit				
	2.0						
	3.0						
	4.0						
	5.0						

Remarks: No visual or olfactory evidence of contamination unless otherwise stated.

Width: -

Length: -

Sheet 1 of 1

Side Stability:

CELTIC
Design and Construct Remediation

Trial Pit Number: TP66

Date: 31/05/2007

Project No: C1077

Engineer: C Tippins

Easting: 387823.67

Site Location: Ten Acres Lane, Newton Heath

Contractor: H & C Plant Hire

Northing: 400398.91

Client: Countryside Properties Northwest

Plant: JCB 3CX

Datum: 85.34

SUBSURFACE PROFILE				SAMPLING/TESTING			WATER
Level (m AOD)	Depth	Legend	DESCRIPTION	Sample Ref	Sample Type	PID Results	Water Strike
	0.0		MADE GROUND. Dry loose dark brown silty sandy soil. No odour.				
85.04			MADE GROUND. Loose brown / orange gravelly sand. Gravel of ash and clinker.				
84.69			MADE GROUND. Loose dense brown ashy silty sandy gravel with very fine gravels.				
	1.0						
	2.0						
83.14			Damp soft white CLAY.				
82.84			Wet loose dark brown silty GRAVEL. Light hydrocarbon sheen.				▽ 2.50m
	3.0						
81.84			End of Trial Pit				
	4.0						
	5.0						

Remarks: No visual or olfactory evidence of contamination unless otherwise stated.

Width: -

Length: -

Side Stability:

CELTIC
Design and Construct Remediation

Date: 31/05/2007

Trial Pit Number: TP67

Project No: C1077

Engineer: C Tippins

Easting: 387887.97

Site Location: Ten Acres Lane, Newton Heath

Contractor: H & C Plant Hire

Northing: 400328.21

Client: Countryside Properties Northwest

Plant: JCB 3CX

Datum: 83.50

SUBSURFACE PROFILE				SAMPLING/TESTING			WATER
Level (m AOD)	Depth	Legend	DESCRIPTION	Sample Ref	Sample Type	P I D Results	Water Strike
	0.0		MADE GROUND. Dry dense dark brown silty sandy ash with coarse brick layer at 0.6m bgl.				
82.90			MADE GROUND. Layers of dry dense coarse ashy fill.				
82.50	1.0		MADE GROUND. Soft beige reworked gravelly clay.				
82.00			MADE GROUND. Stiff beige clay.				
	2.0						
81.00			Very stiff beige CLAY with gravel.				
80.70			End of Trial Pit				
	3.0						
	4.0						
	5.0						

Remarks: No visual or olfactory evidence of contamination unless otherwise stated.

Width: -

Length: -

Side Stability:

CELTIC
Design and Construct Remediation

Trial Pit Number: TP68

Date: 31/05/2007

Project No: C1077

Engineer: C Tippins

Easting: 387720.67

Site Location: Ten Acres Lane, Newton Heath

Contractor: H & C Plant Hire

Northing: 400319.56

Client: Countryside Properties Northwest

Plant: JCB 3CX

Datum: 85.51

SUBSURFACE PROFILE				SAMPLING/TESTING			WATER
Level (m AOD)	Depth	Legend	DESCRIPTION	Sample Ref	Sample Type	P I D Results	Water Strike
	0.0		MADE GROUND. Dry loose brown silty sandy soil.				
85.31			MADE GROUND. Dry dense dark brown sandy gravelly fill with gravel of brick, metal and wood fragments.				
85.01			MADE GROUND. Frequent dense whole and part bricks with occasional clay.				
	1.0						
83.51	2.0		End of Trial Pit				
	3.0						
	4.0						
	5.0						

Remarks: No visual or olfactory evidence of contamination unless otherwise stated.

Width: -

Length: -

Sheet 1 of 1

Side Stability:

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CELTIC
Design and Construct Remediation

Date: 31/05/2007

Trial Pit Number: TP69

Project No: C1077

Engineer: C Tippins

Easting: 387766.85

Site Location: Ten Acres Lane, Newton Heath

Contractor: H & C Plant Hire

Northing: 400320.25

Client: Countryside Properties Northwest

Plant: JCB 3CX

Datum: 85.64

SUBSURFACE PROFILE				SAMPLING/TESTING			WATER
Level (m AOD)	Depth	Legend	DESCRIPTION	Sample Ref	Sample Type	P I D Results	Water Strike
	0.0		MADE GROUND. Dry loose brown silty sandy soil.				
85.14			MADE GROUND. Damp dark brown silty sand with frequent bricks.				
	1.0						
84.24			MADE GROUND. Dry stiff beige reworked clay with occasional brick gravel and wood.				
83.64	2.0		MADE GROUND. Loose red / orange angular mudstone gravels.				
82.74	3.0		Black GRAVEL.				
82.54			End of Trial Pit				
	4.0						
	5.0						

Remarks: No visual or olfactory evidence of contamination unless otherwise stated.

Width: -

Length: -

Sheet 1 of 1

Side Stability:

CELTIC
Design and Construct Remediation

Date: 31/05/2007

Trial Pit Number: TP70

Project No: C1077

Engineer: C Tippins

Easting: 387791.82

Site Location: Ten Acres Lane, Newton Heath

Contractor: H & C Plant Hire

Northing: 400339.13

Client: Countryside Properties Northwest

Plant: JCB 3CX

Datum: 85.91

SUBSURFACE PROFILE				SAMPLING/TESTING			WATER
Level (m AOD)	Depth	Legend	DESCRIPTION	Sample Ref	Sample Type	P I D Results	Water Strike
	0.0		MADE GROUND. Dry dense brown to dark brown clayey sand.				
85.21			Dry stiff beige to grey CLAY.				
	1.0						
84.21			End of Trial Pit				
	2.0						
	3.0						
	4.0						
	5.0						

Remarks: No visual or olfactory evidence of contamination unless otherwise stated.



Width: -

Length: -

Sheet 1 of 1

Side Stability:

CELTIC
Design and Construct Remediation

Date: 22/05/2007

Trial Pit Number: TT1A

Project No: C1077

Engineer: C Tippins

Easting: 387218.02

Site Location: Ten Acres Lane, Newton Heath

Contractor: H & C Plant Hire

Northing: 400145.58

Client: Countryside Properties Northwest

Plant: JCB 3CX

Datum: 75.02

SUBSURFACE PROFILE				SAMPLING/TESTING			WATER
Level (m AOD)	Depth	Legend	DESCRIPTION	Sample Ref	Sample Type	P I D Results	Water Strike
	0.0		MADE GROUND. Dry loose dark brown silty sandy gravelly soil fill with occasional gravel of clinker. Becoming sandier with depth.				
	1.0						
73.62			MADE GROUND. Wet very soft black silty clayey sand. Becoming stiffer from 2.4m bgl.				
	2.0						
72.62			MADE GROUND. Very dense dark brown ashy clinker base of former building (as TP42). Along base ground level drops approximately 1.0m.				
72.02	3.0		End of Trial Pit				
	4.0						
	5.0						

Remarks: No visual or olfactory evidence of contamination unless otherwise stated.



Width: 1.00m

Length: 12.00m

Sheet 1 of 1

Side Stability: Stable.

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CELTIC
Design and Construct Remediation

Date: -

Trial Pit Number: TT1B

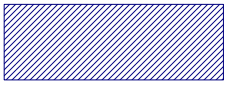
Project No: C1077 | Engineer: C Tippins | Easting: 387218.02

Site Location: Ten Acres Lane, Newton Heath | Contractor: H & C Plant Hire | Northing: 400145.58

Client: Countryside Properties Northwest | Plant: JCB 3CX | Datum: 75.02

SUBSURFACE PROFILE				SAMPLING/TESTING			WATER
Level (m AOD)	Depth	Legend	DESCRIPTION	Sample Ref	Sample Type	P I D Results	Water Strike
	0.0						
74.82			MADE GROUND. Dry loose dark brown silty sandy soil fill.				
74.62			MADE GROUND. Light brown coarse sandy gravel fill with frequent bricks and coarse gravel of brick waste.				
			MADE GROUND. Wet dense very loose dark brown to black sandy graves as TP40.				
74.22			MADE GROUND. Very dense dark brown ashy clinker base possibly former building.				
	1.0						
73.82			MADE GROUND. Wet dense dark brown sandy gravels.				
73.67			Stiff beige CLAY.				
	2.0						
72.92			End of Trial Pit				
	3.0						
	4.0						
	5.0						

Remarks: No visual or olfactory evidence of contamination unless otherwise stated.



Width: 1.00m

Length: 12.00m

Side Stability: Stable.

CELTIC
Design and Construct Remediation

Date: 23/05/2007

Trial Pit Number: TT2

Project No: C1077 | Engineer: C Tippins | Easting: 387432.26

Site Location: Ten Acres Lane, Newton Heath | Contractor: H & C Plant Hire | Northing: 400279.77

Client: Countryside Properties Northwest | Plant: JCB 3CX | Datum: 80.22

SUBSURFACE PROFILE				SAMPLING/TESTING			WATER
Level (m AOD)	Depth	Legend	DESCRIPTION	Sample Ref	Sample Type	P I D Results	Water Strike
	0.0		MADE GROUND. Dry loose dark brown silty sandy soil with rootlets dipping towards the south east.				
79.92			MADE GROUND. Dry loose bright red silty sand with occasional gravels (brick dye). Alternating layers of red and brown fill becoming damp from 2.0m bgl.				
	1.0						
	2.0						2.20m
78.02			MADE GROUND. Very wet very loose bright red sandy gravel fill (as TP5).				
	3.0						
76.17	4.0		MADE GROUND. Very unstable ground. Very wet very loose bright red sandy gravel fill with occasional soft to firm beige clay (poor stability due to water).				
75.32							
75.22	5.0		MADE GROUND. Stiff beige clay (possibly reworked).				
			End of Trial Pit				

Remarks: No visual or olfactory evidence of contamination unless otherwise stated,

Width: 1.00m

Length: 4.00m

Sheet 1 of 1

Side Stability: Unstable.

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Appendix C
C1077 Groundwater/Ground Gas Monitoring Results

Site: Ten Acres Lane		**27/06/2007**	**Engineer**: Simon Haunch
Ambient Concs. CH_4 0 (%) CO_2 0 (%)	O_2 20.8 -- (%)	PID Ambient: 0 ppm	Span Gas:100 ppm
Barometric Pressure 996	**Weather Conditions- Broken cloud with showers**	**Equipment Used- LGF 440**	

Borehole	**Ground- water** (m bgl)	**Peak**			**Steady**			**Lowest**	**Gas Flow Rate** (l/hr)	**Base of Well** (m
		CH_4 (%)	CO_2 (%)	PID ppm	CH_4 (%)	CO_2 (%)	PID ppm	O_2 (%)		
Ws1		0	0.3	0	0	0.3	0	19.7	0	
Ws2		0	0.8	0	0	0.8	0	18.5	0	
Ws3		0	1.6	0	0	1.5	0	12.9	0	
Ws4		0	5.5	0	0	5.5	0	5	0	
Ws5		0	4.5	0	0	4.5	0	12.7	0	
Ws6		0	0.7	0	0	0.7	0	19.6	0	
Ws7		0	1.5	0	0	1.4	0	17.7	0	
Ws8		0	2.2	0	0	1.6	0	18.8	0.6	
Ws9		7.4	14	0	7.4	13.5	0	0	0	
Ws10		0	6.3	0	0	6.3	0	12.6	0	
Ws11		0	1.1	0	0	1.1	0	19.5	0	
Ws12		0	5.7	0	0	5.7	0	9.9	0	
Ws13		0	3.1	0	0	3.1	0	14.9	0	
Ws14		0	0.3	0	0	0.2	0	20.5	0	
Ws15		0	1.9	0	0	1.9	0	17.7	0	
Ws16		0	2.6	0	0	2.6	0	17	0	
Ws17		0	2.9	0	0	1.8	0	17.9	0	
Ws18		0.7	8.6	0	0.7	8.5	0	10.3	0	
Ws19		0	0.8	0	0	0.6	0	19.6	0	
Ws20		0.1	9.8	0	0	9.8	0	0	0	
Ws21		0.7	1.3	0	0.7	1.3	0	6.8	0	
Ws22		0	8.4	0	0	8.4	0	8.9	0	
BH1		30.6	1.4	0	30.5	1.3	0	3.7	0	
BH2		0	1.1	0	0	1.1	0	18	0	
BH3		0	0	0	0	0	0	20.9	0	
BH4		0	0	0	0	0	0	21	2.3	
BH5		0	0	0	0	0	0	20.6	0	
BH6		0.2	0.5	0	0.2	0.5	0	18.7	0	
BH7		0	1.2	0	0	1.1	0	18.7	0	
BH8		0	1.2	0	0	0.9	0	18.4	0	
BH9		0	0	0	0	0	0	19.1	0	
BH10		9	7.6	0	9	7.6	0	6	0	
BH11		6	3.4	0	5.7	3.4	0	1.2	0	
BH12		0	5.7	0	0	5.7	0	9.9	0	

Appendix C
C1077 Groundwater/Ground Gas Monitoring Results

Site: Ten Acres Lane		**11/07/2007**	**Engineer**: Simon Haunch
Ambient Concs. CH_4 0 (%) CO_2 0 (%)	O_2 20.8 -- (%)	PID Ambient: 0 ppm	Span Gas:100 ppm
Barometric Pressure 998	**Weather Conditions- Broken cloud with showers**	**Equipment Used LGF 440**	

Borehole	**Ground- water** (m bgl)	**Peak**			**Steady**			**Lowest**	**Gas Flow Rate** (l/hr)	**Base of Well** (m
		CH_4 (%)	CO_2 (%)	PID ppm	CH_4 (%)	CO_2 (%)	PID ppm	O_2 (%)		
Date	11/07/2007									
Ws1	0.45	0	1.6	0	0	0.2	0	18.3	0.1	
Ws2	0.52	0	0.5	0	0	0.5	0	20.1	0	
Ws3	0.92	0	0.3	0	0	0.3	0	19.9	0	
Ws4	0.62	0	0.3	0	0	0.3	0	7.9	0	
Ws5	0.4	0	5.5	0	0	5.2	0	5	0	
Ws6	dry	0	4.5	0	0	4.4	0	12.7	0	
Ws7	1.2	0	0.3	0	0	0.2	0	19.3	0	
Ws8	0.91	0	3.3	0	0	3.3	0	15.4	0	
Ws9	0.72	0	9.3	0	0	9	0	10.6	0	
Ws10	2.1	0.4	2.3	0	0.4	1.3	0	16.6	0	
Ws11	1.5	0	6.3	0	0	6.1	0	12.6	0	
Ws12	4.6	0	1.1	0	0	1.1	0	19.5	0	
Ws13	1.42	0	2	0	0	1.9	0	16.3	0	
Ws14	gl	0	1.5	0	0	0.9	0	17	0	
Ws15	1.6	0	0.2	0	0	0.1	0	20.3	0	
Ws16	2.53	0	1.7	0	0	1.5	0	18	0	
Ws17	0.73	0	2.6	0	0	2.4	0	18.1	0	
Ws18	1.5	0	0.7	0	0	0.6	0	19.9	0	
Ws19	1.95	2.3	7.7	0	2.3	7.5	0	6.7	0	
Ws20	dry	0	0.8	0	0	0.7	0	19.6	0	
Ws21	dry	0	9.6	0	0	9.6	0	13.2	0	
Ws22	3.46	0.9	1.4	0	0.8	1.3	0	6.8	0	
BH1	3.05	0	8.4	0	0	8.4	0	8.9	0	
BH2	3.62	19.7	2.2	0	19.5	2.2	0	4	0	
BH3	4.19	0	0.2	0	0	0.2	0	19.7	0	
BH4	obstruction	0	0	0	0	0	0	20.6	0	
BH5	dry	0	0	0	0	0	0	21	2.3	
BH6	3.76	0	0	0	0	0	0	20.6	0	
BH7	obstruction	0.3	0.7	0	0.3	0.6	0	17.9	0	
BH8	1.79	0	1.2	0	0	0.6	0	18.6	0	
BH9	1.71	0	0.2	0	0	0.2	0	19.8	0	
BH10	2.54	0	2	0	0	1.9	0	16.7	0	
BH11	4.06	15.4	8.3	0	15.4	8.3	0	3.9	0	
BH12	no water	6.8	3.2	0	6.6	3.2	0	1.4	0	
R1	4.62									
R2	0.92									
R3	5.5									
R4	blocked									
R5	0.7									
R5	0.7									

Appendix C
C1077 Groundwater/Ground Gas Monitoring Results

Site: Ten Acres Lane		**23/07/2007**	**Engineer**: Simon Haunch
Ambient Concs. CH_4 0 (%) CO_2 0 (%)	O_2 20.8 -- (%)	PID Ambient: 0 ppm	Span Gas:100 ppm
Barometric Pressure 1003	**Weather Conditions- Broken cloud with showers**	**Equipment Used- LGF 440**	

Borehole	**Ground- water** (m bgl)	**Peak**			**Steady**			**Lowest**	**Gas Flow Rate** (l/hr)	**Base of Well** (m
		CH_4 (%)	CO_2 (%)	PID ppm	CH_4 (%)	CO_2 (%)	PID ppm	O_2 (%)		
Ws1	0.44	0	0.5	0	0	0.4	0	19.3	0	
Ws2	0.51	0	0.8	0	0	0.8	0	19.1	0	
Ws3	0.92	0	1.7	0	0	1.7	0	13.4	0	
Ws4	0.62	0	5.4	0	0	5.3	0	7	0	
Ws5	0.38	0	5.2	0	0	5.2	0	11.9	0	
Ws6	dry	0	0.9	0	0	0.9	0	19.4	0	
Ws7	1.19	0	1.7	0	0	1.5	0	17.4	0	
Ws8	0.91	0	2.3	0	0	1.8	0	17.9	0	
Ws9	0.7	7.6	15	0	7.6	14.3	0	0	0	
Ws10	2	0	5.5	0	0	5.5	0	12.9	0	
Ws11	1.52	0	1.3	0	0	1.3	0	19.6	0	
Ws12	4.58	0	5.7	0	0	5.7	0	10	0	
Ws13	1.42	0	3.2	0	0	3.2	0	14.8	0	
Ws14	gl	0	0.5	0	0	0.3	0	20.3	0	
Ws15	1.58	0	1.9	0	0	1.9	0	17.8	0	
Ws16	2.5	0	2.4	0	0	2.6	0	18	0	
Ws17	1.42	0	2.8	0	0	8.7	0	10.7	0	
Ws18	0.78	1	8.7	0	0.8	2.8	0	18	0	
Ws19	1.94	0	0.9	0	0	0.8	0	14	0	
Ws20	dry	0	9.5	0	0	9.4	0	6.5	0	
Ws21	dry	0.8	1.5	0	0.8	1.3	0		0	
Ws22	3.4	0	8.6	0	0	8.5	0	3.8	0	
BH1	3.08	21.2	2.1	0	20.9	2	0	19.5	0	
BH2	3.62	0	0.3	0	0	0.3	0	20.7	0	
BH3	4.19	0	0	0	0	0	0	20.8	0	
BH4	obstruction	0	0	0	0	0	0	20.6	0	
BH5	dry	0	0	0	0	0	0	17.5	0	
BH6	3.76	0.4	8	0	0.4	8	0	19.7	0	
BH7	obstruction	0	0.8	0	0	0.8	0	20.6	0	
BH8	1.79	0	0.2	0	0	0.2	0	16.5	0	
BH9	1.71	0	2.1	0	0	2.3	0	3.9	0	
BH10	2.54	15.4	8.6	0	15.4	8	0	1.4	0	
BH11	4.06	6.8	3.1	0	6.8	3.1	0	19.1	0	
BH12	no water	0	1.6	0	0	1.6	0		0	
R1	4.61									
R2	0.91									
R3	5.4									
R4	Blocked									
R5	0.7									
R5	0.7									



Phlorum Limited, The Sussex Innovation Centre,
Science Park Square, Falmer, East Sussex,
BN1 9SB.

Tel: +44(0)1273 7044 49 Fax: 01273 7044 99
Web: www.phlorum.com
Email: info@phlorum.com

Title: **Ten Acres Lane, Japanese knotweed growth with buffer**	
Figure No: **1a**	
File: /jobnos/3421/figure1a.ppt	Date: 13/6/07
Created by: JC	Checked by: RS

Validated ✓
Preliminary

ALcontrol Geochem Analytical Services
Table Of Results

[#] ISO 17025 accredited
[M] MCERTS accredited
[*] Subcontracted test
» Shown on prev. report

Job Number: 07/08569/02/01 **Matrix:** LIQUID
Client: Celtic Technologies **Location:** TEN ACRES LANE
Client Ref. No.: C1077 **Client Contact:** Simon Haunch

Sample Identity	CANAL A	CANAL B								Method Code	LoD/Units
Depth (m)	-	-									
Sample Type	LIQUID	LIQUID									
Sampled Date	17.07.07	17.07.07									
Sample Received Date	17.07.07	17.07.07									
Batch	10	10									
Sample Number(s)	**363-365**	**366-368**									
Arsenic Dissolved (ICP-MS)	1	1								TM152[#]	<1 ug/l
Boron Dissolved (ICP-MS)	<10	<10								TM152[#]	<10 ug/l
Cadmium Dissolved (ICP-MS)	<0.4	<0.4								TM152[#]	<0.4 ug/l
Chromium Dissolved (ICP-MS)	<1	2								TM152[#]	<1 ug/l
Copper Dissolved (ICP-MS)	6	9								TM152[#]	<1 ug/l
Lead Dissolved (ICP-MS)	3	4								TM152[#]	<1 ug/l
Manganese Dissolved (ICP-MS)	26	10								TM152[#]	<1 ug/l
Nickel Dissolved (ICP-MS)	4	<1								TM152[#]	<1 ug/l
Selenium Dissolved (ICP-MS)	<1	<1								TM152[#]	<1 ug/l
Zinc Dissolved (ICP-MS)	<3	<3								TM152[#]	<3 ug/l
Mercury Dissolved (CVAA)	<0.05	<0.05								TM127[#]	<0.05 ug/l
Iron Dissolved	0.67	0.64								TM129	<0.05 mg/l
BOD	8	3								TM045[#]	<1 mg/l
COD	30	39								TM107[#]	<10 mg/l
Sulphate (soluble)	20	20								TM098[#]	<3 mg/l
Chloride	11	11								TM097[#]	<1 mg/l
Sulphide	<0.5	<0.5								TM101	<0.5 mg/l
Total Ammonia as NH3	<0.2	<0.2								TM099[#]	<0.2 mg/l
Total Ammonium as NH4	<0.3	<0.3								TM099[#]	<0.3 mg/l
Ferrous Iron	<0.1	<0.1								TM125	<0.1 mg/l
Phenols Monohydric	<0.01	<0.01								TM062[#]	<0.01 mg/l
Total Cyanide	<0.05	<0.05								TM153[#]	<0.05 mg/l
Ferric Iron	0.7	0.6								TM125	<0.1 mg/l
pH Value	7.98	7.97								TM133[#]	<1.00 pH Units

Date 01.08.2007

Validated ✓
Preliminary

ALcontrol Geochem Analytical Services
Table Of Results

[#] ISO 17025 accredited
[M] MCERTS accredited
[*] Subcontracted test
» Shown on prev. report

Job Number: 07/08569/02/01 **Matrix:** LIQUID
Client: Celtic Technologies **Location:** TEN ACRES LANE
Client Ref. No.: C1077 **Client Contact:** Simon Haunch

Sample Identity	CANAL A	CANAL B								Method Code	LoD/Units
Depth (m)	-	-									
Sample Type	LIQUID	LIQUID									
Sampled Date	17.07.07	17.07.07									
Sample Received Date	17.07.07	17.07.07									
Batch	10	10									
Sample Number(s)	363-365	366-368									
GRO (C4-C12)	<10	<10								TM089[#]	<10 ug/l
MTBE	<10	<10								TM089[#]	<10 ug/l
Benzene	<10	<10								TM089[#]	<10 ug/l
Toluene	<10	<10								TM089[#]	<10 ug/l
Ethyl benzene	<10	<10								TM089[#]	<10 ug/l
m & p Xylene	<10	<10								TM089[#]	<10 ug/l
o Xylene	<10	<10								TM089[#]	<10 ug/l
Aliphatics C5-C6	<10	<10								TM089	<10 ug/l
Aliphatics >C6-C8	<10	<10								TM089	<10 ug/l
Aliphatics >C8-C10	<10	<10								TM089	<10 ug/l
Aliphatics >C10-C12	<10	<10								TM089	<10 ug/l
Aliphatics >C12-C16	<10	<10								TM174	<10 ug/l
Aliphatics >C16-C21	<10	<10								TM174	<10 ug/l
Aliphatics >C21-C35	<10	<10								TM174	<10 ug/l
Total Aliphatics C5-C35	<10	<10								TM61/89	<10 ug/l
Aromatics C6-C7	<10	<10								TM089[#]	<10 ug/l
Aromatics >C7-C8	<10	<10								TM089[#]	<10 ug/l
Aromatics >EC8-EC10	<10	<10								TM089	<10 ug/l
Aromatics >EC10-EC12	<10	<10								TM089	<10 ug/l
Aromatics >EC12-EC16	<10	<10								TM174	<10 ug/l
Aromatics >EC16-EC21	<10	<10								TM174	<10 ug/l
Aromatics >EC21-EC35	<10	<10								TM174	<10 ug/l
Total Aromatics C6-C35	<10	<10								TM61/89	<10 ug/l
TPH (Aliphatics and Aromatics C5-C35)	<10	<10								TM61/89	<10 ug/l

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ALcontrol Geochem Analytical Services
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Job Number: 07/08569/02/01 **Matrix:** LIQUID
Client: Celtic Technologies **Location:** TEN ACRES LANE
Client Ref. No.: C1077 **Client Contact:** Simon Haunch

Sample Identity	CANAL A	CANAL B								Method Code	LoD/Units
Depth (m)	-	-									
Sample Type	LIQUID	LIQUID									
Sampled Date	17.07.07	17.07.07									
Sample Received Date	17.07.07	17.07.07									
Batch	10	10									
Sample Number(s)	**363-365**	**366-368**									
SVOC by GCMS											
Phenols											
2-Chlorophenol	<1	<1								TM176	<1 ug/l
2-Methylphenol	<1	<1								TM176	<1 ug/l
2-Nitrophenol	<1	<1								TM176	<1 ug/l
2,4-Dichlorophenol	<1	<1								TM176	<1 ug/l
2,4-Dimethylphenol	<1	<1								TM176	<1 ug/l
2,4,5-Trichlorophenol	<1	<1								TM176	<1 ug/l
2,4,6-Trichlorophenol	<1	<1								TM176	<1 ug/l
4-Chloro-3-methylphenol	<1	<1								TM176	<1 ug/l
4-Methylphenol	<1	<1								TM176	<1 ug/l
4-Nitrophenol	<1	<1								TM176	<1 ug/l
Pentachlorophenol	<1	<1								TM176	<1 ug/l
Phenol	<1	<1								TM176	<1 ug/l

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Job Number: 07/08569/02/01 **Matrix:** LIQUID
Client: Celtic Technologies **Location:** TEN ACRES LANE
Client Ref. No.: C1077 **Client Contact:** Simon Haunch

Sample Identity	CANAL A	CANAL B								Method Code	LoD/Units
Depth (m)	-	-									
Sample Type	LIQUID	LIQUID									
Sampled Date	17.07.07	17.07.07									
Sample Received Date	17.07.07	17.07.07									
Batch	10	10									
Sample Number(s)	**363-365**	**366-368**									
PAHs											
2-Chloronaphthalene	<1	<1								TM176	<1 ug/l
2-Methylnaphthalene	<1	<1								TM176	<1 ug/l
Acenaphthene	<1	<1								TM176	<1 ug/l
Acenaphthylene	<1	<1								TM176	<1 ug/l
Anthracene	<1	<1								TM176	<1 ug/l
Benzo(a)anthracene	<1	<1								TM176	<1 ug/l
Benzo(a)pyrene	<1	<1								TM176	<1 ug/l
Benzo(b)fluoranthene	<1	<1								TM176	<1 ug/l
Benzo(ghi)perylene	<1	<1								TM176	<1 ug/l
Benzo(k)fluoranthene	<1	<1								TM176	<1 ug/l
Chrysene	<1	<1								TM176	<1 ug/l
Dibenzo(a,h)anthracene	<1	<1								TM176	<1 ug/l
Fluoranthene	<1	<1								TM176	<1 ug/l
Fluorene	<1	<1								TM176	<1 ug/l
Indeno(1,2,3-cd)pyrene	<1	<1								TM176	<1 ug/l
Naphthalene	<1	<1								TM176	<1 ug/l
Phenanthrene	<1	<1								TM176	<1 ug/l
Pyrene	<1	<1								TM176	<1 ug/l
Phthalates											
Bis(2-ethylhexyl) phthalate	<2	<2								TM176	<2 ug/l
Butylbenzyl phthalate	<1	<1								TM176	<1 ug/l
Di-n-butyl phthalate	2	<1								TM176	<1 ug/l
Di-n-Octyl phthalate	<5	<5								TM176	<5 ug/l
Diethyl phthalate	<1	<1								TM176	<1 ug/l
Dimethyl phthalate	<1	<1								TM176	<1 ug/l
Other Semi-volatiles											
1,2-Dichlorobenzene	<1	<1								TM176	<1 ug/l
1,2,4-Trichlorobenzene	<1	<1								TM176	<1 ug/l

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ALcontrol Geochem Analytical Services
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Job Number: 07/08569/02/01 **Matrix:** LIQUID
Client: Celtic Technologies **Location:** TEN ACRES LANE
Client Ref. No.: C1077 **Client Contact:** Simon Haunch

Sample Identity	CANAL A	CANAL B								Method Code	LoD/Units
Depth (m)	-	-									
Sample Type	LIQUID	LIQUID									
Sampled Date	17.07.07	17.07.07									
Sample Received Date	17.07.07	17.07.07									
Batch	10	10									
Sample Number(s)	**363-365**	**366-368**									
Other Semi-volatiles (cont)											
1,3-Dichlorobenzene	<1	<1								TM176	<1 ug/l
1,4-Dichlorobenzene	<1	<1								TM176	<1 ug/l
2-Nitroaniline	<1	<1								TM176	<1 ug/l
2,4-Dinitrotoluene	<1	<1								TM176	<1 ug/l
2,6-Dinitrotoluene	<1	<1								TM176	<1 ug/l
3-Nitroaniline	<1	<1								TM176	<1 ug/l
4-Bromophenylphenylether	<1	<1								TM176	<1 ug/l
4-Chloroaniline	<1	<1								TM176	<1 ug/l
4-Chlorophenylphenylether	<1	<1								TM176	<1 ug/l
4-Nitroaniline	<1	<1								TM176	<1 ug/l
Azobenzene	<1	<1								TM176	<1 ug/l
Bis(2-chloroethoxy)methane	<1	<1								TM176	<1 ug/l
Bis(2-chloroethyl)ether	<1	<1								TM176	<1 ug/l
Carbazole	<1	<1								TM176	<1 ug/l
Dibenzofuran	<1	<1								TM176	<1 ug/l
Hexachlorobenzene	<1	<1								TM176	<1 ug/l
Hexachlorobutadiene	<1	<1								TM176	<1 ug/l
Hexachlorocyclopentadiene	<1	<1								TM176	<1 ug/l
Hexachloroethane	<1	<1								TM176	<1 ug/l
Isophorone	<1	<1								TM176	<1 ug/l
N-nitrosodi-n-propylamine	<1	<1								TM176	<1 ug/l
Nitrobenzene	<1	<1								TM176	<1 ug/l

Date 01.08.2007

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ALcontrol Geochem Analytical Services
Table Of Results

[#] ISO 17025 accredited
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Job Number: 07/08569/02/01 **Matrix:** LIQUID
Client: Celtic Technologies **Location:** TEN ACRES LANE
Client Ref. No.: C1077 **Client Contact:** Simon Haunch

Sample Identity	CANAL A	CANAL B								Method Code	LoD/Units
Depth (m)	-	-									
Sample Type	LIQUID	LIQUID									
Sampled Date	17.07.07	17.07.07									
Sample Received Date	17.07.07	17.07.07									
Batch	10	10									
Sample Number(s)	363-365	366-368									
Volatile Organic Compounds											
Dichlorodifluoromethane	<1	<1								TM116[#]	<1 ug/l
Chloromethane	<1	<1								TM116[#]	<1 ug/l
Vinyl Chloride	<1	<1								TM116[#]	<1 ug/l
Bromomethane	<1	<1								TM116[#]	<1 ug/l
Chloroethane	<1	<1								TM116[#]	<1 ug/l
Trichlorofluoromethane	<1	<1								TM116[#]	<1 ug/l
trans-1-2-Dichloroethene	<1	<1								TM116[#]	<1 ug/l
Dichloromethane	<1	<1								TM116[#]	<1 ug/l
Carbon Disulphide	<1	<1								TM116[#]	<1 ug/l
1.1-Dichloroethene	<1	<1								TM116[#]	<1 ug/l
1.1-Dichloroethane	<1	<1								TM116[#]	<1 ug/l
Methyl Tertiary Butyl Ether	<1	<1								TM116[#]	<1 ug/l
cis-1-2-Dichloroethene	<1	<1								TM116[#]	<1 ug/l
Bromochloromethane	<1	<1								TM116[#]	<1 ug/l
Chloroform	<1	<1								TM116[#]	<1 ug/l
2.2-Dichloropropane	<1	<1								TM116[#]	<1 ug/l
1.2-Dichloroethane	<1	<1								TM116[#]	<1 ug/l
1.1.1-Trichloroethane	<1	<1								TM116[#]	<1 ug/l
1.1-Dichloropropene	<1	<1								TM116[#]	<1 ug/l
Benzene	<1	<1								TM116[#]	<1 ug/l
Carbontetrachloride	<1	<1								TM116[#]	<1 ug/l
Dibromomethane	<1	<1								TM116[#]	<1 ug/l
1.2-Dichloropropane	<1	<1								TM116[#]	<1 ug/l
Bromodichloromethane	<1	<1								TM116[#]	<1 ug/l
Trichloroethene	<1	<1								TM116[#]	<1 ug/l
cis-1-3-Dichloropropene	<1	<1								TM116[#]	<1 ug/l
trans-1-3-Dichloropropene	<1	<1								TM116[#]	<1 ug/l
1.1.2-Trichloroethane	<1	<1								TM116[#]	<1 ug/l
Toluene	<1	<1								TM116[#]	<1 ug/l
1.3-Dichloropropane	<1	<1								TM116[#]	<1 ug/l

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ALcontrol Geochem Analytical Services
Table Of Results

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Job Number: 07/08569/02/01 **Matrix:** LIQUID
Client: Celtic Technologies **Location:** TEN ACRES LANE
Client Ref. No.: C1077 **Client Contact:** Simon Haunch

Sample Identity	CANAL A	CANAL B								Method Code	LoD/Units
Depth (m)	-	-									
Sample Type	LIQUID	LIQUID									
Sampled Date	17.07.07	17.07.07									
Sample Received Date	17.07.07	17.07.07									
Batch	10	10									
Sample Number(s)	363-365	366-368									
Volatile Organic Compounds (cont)											
Dibromochloromethane	<1	<1								TM116[#]	<1 ug/l
1.2-Dibromoethane	<1	<1								TM116[#]	<1 ug/l
Tetrachloroethene	<1	<1								TM116[#]	<1 ug/l
1.1.1.2-Tetrachloroethane	<1	<1								TM116[#]	<1 ug/l
Chlorobenzene	<1	<1								TM116[#]	<1 ug/l
Ethylbenzene	<1	<1								TM116[#]	<1 ug/l
p/m-Xylene	<1	<1								TM116[#]	<1 ug/l
Bromoform	<1	<1								TM116[#]	<1 ug/l
Styrene	<1	<1								TM116[#]	<1 ug/l
1.1.2.2-Tetrachloroethane	<1	<1								TM116[#]	<1 ug/l
o-Xylene	<1	<1								TM116[#]	<1 ug/l
1.2.3-Trichloropropane	<1	<1								TM116[#]	<1 ug/l
Isopropylbenzene	<1	<1								TM116[#]	<1 ug/l
Bromobenzene	<1	<1								TM116[#]	<1 ug/l
2-Chlorotoluene	<1	<1								TM116[#]	<1 ug/l
Propylbenzene	<1	<1								TM116[#]	<1 ug/l
4-Chlorotoluene	<1	<1								TM116[#]	<1 ug/l
1.2.4-Trimethylbenzene	<1	<1								TM116[#]	<1 ug/l
4-Isopropyltoluene	<1	<1								TM116[#]	<1 ug/l
1.3.5-Trimethylbenzene	<1	<1								TM116[#]	<1 ug/l
1.2-Dichlorobenzene	<1	<1								TM116[#]	<1 ug/l
1.4-Dichlorobenzene	<1	<1								TM116[#]	<1 ug/l
sec-Butylbenzene	<1	<1								TM116[#]	<1 ug/l
tert-Butylbenzene	<1	<1								TM116[#]	<1 ug/l
1.3-Dichlorobenzene	<1	<1								TM116[#]	<1 ug/l
n-Butylbenzene	<1	<1								TM116[#]	<1 ug/l
1.2-Dibromo-3-chloropropane	<1	<1								TM116[#]	<1 ug/l
1.2.4-Trichlorobenzene	<1	<1								TM116[#]	<1 ug/l
Naphthalene	<1	<1								TM116[#]	<1 ug/l
1.2.3-Trichlorobenzene	<1	<1								TM116[#]	<1 ug/l

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ALcontrol Geochem Analytical Services
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[#] ISO 17025 accredited
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Job Number: 07/08569/02/01 **Matrix:** LIQUID
Client: Celtic Technologies **Location:** TEN ACRES LANE
Client Ref. No.: C1077 **Client Contact:** Simon Haunch

Sample Identity	CANAL A	CANAL B								Method Code	LoD/Units
Depth (m)	-	-									
Sample Type	LIQUID	LIQUID									
Sampled Date	17.07.07	17.07.07									
Sample Received Date	17.07.07	17.07.07									
Batch	10	10									
Sample Number(s)	**363-365**	**366-368**									
Volatile Organic Compounds (cont)											
Hexachlorobutadiene	<1	<1								TM116[#]	<1 ug/l

Date 01.08.2007

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Table Of Results - Appendix

Job Number: 07/08569/02/01
Client: Celtic Technologies
Client Ref. No.: C1077

Report Key :

Results expressed as (e.g.) 1.03E-07 is equivalent to 1.03×10^{-7}

NDP	No Determination Possible	*	Subcontracted test
NFD	No Fibres Detected	»	Result previously reported (Incremental reports only)
#	ISO 17025 accredited	M	MCERTS Accredited
PFD	Possible Fibres Detected	EC	Equivalent Carbon (Aromatics C8-C35)

Note: Method detection limits are not always achievable due to various circumstances beyond our control.

Summary of Method Codes contained within report :

Method No.	Reference	Description	ISO 17025 Accredited	MCERTS Accredited	Wet/Dry Sample [1]	Surrogate Corrected
TM045	MEWAM BOD5 2nd Ed.HMSO 1988 / Method 5210B, AWWA/APHA, 20th Ed., 1999	Determination of BOD5 (ATU) by Oxygen Meter	✓		NA	
TM062	MEWAM BOOK 124 1988.HMSO/ Method 17.7, Second Site property, March 2003	Determination of Phenolic compounds by HPLC with electro-chemical detection	✓		NA	
TM089	Modified: US EPA Methods 8020 & 602	Determination of Gasoline Range Hydrocarbons (GRO) and BTEX (MTBE) compounds by Headspace GC-FID (C4-C12)			NA	
TM089	Modified: US EPA Methods 8020 & 602	Determination of Gasoline Range Hydrocarbons (GRO) and BTEX (MTBE) compounds by Headspace GC-FID (C4-C12)	✓		NA	
TM097	Modified: US EPA Method 325.1 & 325.2	Determination of Chloride using the Kone Analyser	✓		NA	
TM098	Method 4500E, AWWA/APHA, 20th Ed., 1999	Determination of Sulphate using the Kone Analyser	✓		NA	
TM099	BS 2690: Part 7:1968 / BS 6068: Part2.11:1984	Determination of Ammonium in Water Samples using the Kone Analyser	✓		NA	
TM101	Method 4500B & C, AWWA/APHA, 20th Ed., 1999	Determination of Sulphide in soil and water samples using the Kone Analyser			NA	
TM107	ISO 6060-1989	Determination of Chemical Oxygen Demand using COD Dr Lange Kit	✓		NA	
TM116	Modified: US EPA Method 8260, 8120, 8020, 624, 610 & 602	Determination of Volatile Organic Compounds by Headspace / GC-MS	✓		NA	
TM125	DIN 38405 D17	Determination of Ferrous Iron			NA	
TM127	Method 3112B, AWWA/APHA, 20th Ed., 1999	The Determination of Trace Level Mercury in Aqueous Media and Soil Extracts by Atomic Absorption Spectroscopy	✓		NA	
TM129	Method 3120B, AWWA/APHA, 20th Ed., 1999 / Modified: US EPA Method 3050B	Determination of Metal Cations by IRIS Emission Spectrometer			NA	
TM133	BS 1377: Part 3 1990	Determination of pH in Soil and Water using the GLpH pH Meter	✓		NA	

[1] Applies to Solid samples only. **DRY** indicates samples have been dried at 35°C. **NA** = not applicable.

ALcontrol Geochem Analytical Services
Table Of Results - Appendix

Job Number: 07/08569/02/01
Client: Celtic Technologies
Client Ref. No.: C1077

Report Key :

Results expressed as (e.g.) 1.03E-07 is equivalent to 1.03×10^{-7}

NDP	No Determination Possible	*	Subcontracted test
NFD	No Fibres Detected	»	Result previously reported (Incremental reports only)
#	ISO 17025 accredited	M	MCERTS Accredited
PFD	Possible Fibres Detected	EC	Equivalent Carbon (Aromatics C8-C35)

Note: Method detection limits are not always achievable due to various circumstances beyond our control.

Summary of Method Codes contained within report :

Method No.	Reference	Description	ISO 17025 Accredited	MCERTS Accredited	Wet/Dry Sample [1]	Surrogate Corrected
TM152	Method 3125B, AWWA/APHA, 20th Ed., 1999	Analysis of Aqueous Samples by ICP-MS	✓		NA	
TM153	Method 4500A,B,C, I, M AWWA/APHA, 20th Ed., 1999	Determination of Total Cyanide, Free (Easily Liberatable) Cyanide and Thiocyanate using the "Skalar SANS+ System" Segmented Flow Analyser	✓		NA	
TM174		Determination of Speciated Extractable Petroleum Hydrocarbons in Waters by GC-FID			NA	
TM176		Determination of SVOCs in Water by GCMS			NA	
TM61/89		see TM061 and TM089 for details			NA	

[1] Applies to Solid samples only. **DRY** indicates samples have been dried at 35°C. **NA** = not applicable.

ALcontrol Geochem Analytical Services
Table Of Results - Appendix

Job Number: 07/08569/02/01
Client: Celtic Technologies
Client Ref. No.: C1077

Summary of Coolbox temperatures

Batch No.	Coolbox Temperature (°C)
10	19

ALcontrol Geochem Analytical Services
Sample Descriptions

Job Number: 07/08569/02/01
Client: Celtic Technologies
Client Ref : C1077

Grain sizes

<0.063mm	Very Fine
0.1mm - 0.063mm	Fine
0.1mm - 2mm	Medium
2mm - 10mm	Coarse
>10mm	Very Coarse

Sample Identity	Depth (m)	Colour	Grain Size	Description	Batch
WS20	4.5	Red	0.1mm - 0.063mm	Silty Clay with some Stones	4

* These descriptions are only intended to act as a cross check if sample identities are questioned, and to provide a log of sample matrices with respect to MCERTS validation. They are not intended as full geological descriptions.

We are accredited to MCERTS for sand, clay and loam/topsoil, or any of these materials-whether these are derived from naturally occurring soil profiles, or from fill/made ground, as long as these materials constitute the major part of the sample.
Other coarse granular materials such as concrete, gravel and brick are not accredited if they comprise the major part of the sample.
[1] Sample Description supplied by client

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ISO 17025 accredited
M MCERTS accredited
* Subcontracted test
» Shown on prev. report

Job Number: 07/08569/02/01 **Matrix:** LEACHATE
Client: Celtic Technologies **Location:** TEN ACRES LANE
Client Ref. No.: C1077 **Client Contact:** Simon Haunch

Sample Identity	WS20									Method Code	LoD/Units
Depth (m)	4.5										
Sample Type	SOLID										
Sampled Date	18.05.07										
Sample Received Date	21.05.07										
Batch	4										
Sample Number(s)	137-139										
Arsenic Dissolved (NRA) (ICP-MS)	1									TM152	<1 ug/l
Boron Dissolved (NRA) (ICP-MS)	<10									TM152	<10 ug/l
Cadmium Dissolved (NRA) (ICP-MS)	<0.4									TM152	<0.4 ug/l
Chromium Dissolved (NRA) (ICP-MS)	<1									TM152	<1 ug/l
Copper Dissolved (NRA) (ICP-MS)	2									TM152	<1 ug/l
Lead Dissolved (NRA) (ICP-MS)	<1									TM152	<1 ug/l
Nickel Dissolved (NRA) (ICP-MS)	56									TM152	<1 ug/l
Selenium Dissolved (NRA) (ICP-MS)	<1									TM152	<1 ug/l
Zinc Dissolved (NRA) (ICP-MS)	110									TM152	<3 ug/l
Mercury Dissolved (NRA) (CVAA)	<0.05									TM127	<0.05 ug/l
Chloride (NRA)	2									TM097	<1 mg/l
Sulphide (NRA)	<0.50									TM101	<0.5 mg/l
Sulphate (NRA)	1000									TM098	<3 mg/l
Total Oxidised Nitrogen as N (NRA)	<0.3									TM102	<0.3 mg/l
Phenols Monohydric (NRA)	<0.01									TM062	<0.01 mg/l
Total Cyanide (NRA)	<0.05									TM153	<0.05 mg/l
Free Sulphur (NRA)	<0.05									TM136	<0.05 mg/l
pH (NRA)	4.10									TM133	<1.00 pH Units
EPH (DRO) (NRA)	<10									TM172	<10 ug/l
GRO (C4-C10) (NRA)	<10									TM089	<10 ug/l
GRO (C10-C12) (NRA)	<10									TM089	<10 ug/l
Benzene (NRA)	<10									TM089	<10 ug/l
Toluene(NRA)	<10									TM089	<10 ug/l
Ethyl benzene (NRA)	<10									TM089	<10 ug/l
m & p Xylene (NRA)	<10									TM089	<10 ug/l
o Xylene (NRA)	<10									TM089	<10 ug/l
Sum m&p and o Xylene (NRA)	<10									TM089	<10 ug/l
Sum of BTEX (NRA)	<10									TM089	<10 ug/l
MTBE (NRA)	<10									TM089	<10 ug/l

Date 23.07.2007

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ALcontrol Geochem Analytical Services
Table Of Results

[#] ISO 17025 accredited
[M] MCERTS accredited
[*] Subcontracted test
» Shown on prev. report

Job Number: 07/08569/02/01 **Matrix:** LEACHATE
Client: Celtic Technologies **Location:** TEN ACRES LANE
Client Ref. No.: C1077 **Client Contact:** Simon Haunch

Sample Identity	WS20									Method Code	LoD/Units
Depth (m)	4.5										
Sample Type	SOLID										
Sampled Date	18.05.07										
Sample Received Date	21.05.07										
Batch	4										
Sample Number(s)	137-139										
PAH by GCMS											
Naphthalene (NRA)	<26									TM074	<26 ng/l
Acenaphthylene (NRA)	<11									TM074	<11 ng/l
Acenaphthene (NRA)	<15									TM074	<15 ng/l
Fluorene (NRA)	<14									TM074	<14 ng/l
Phenanthrene (NRA)	<22									TM074	<22 ng/l
Anthracene (NRA)	<15									TM074	<15 ng/l
Fluoranthene (NRA)	44									TM074	<17 ng/l
Pyrene (NRA)	41									TM074	<15 ng/l
Benz(a)anthracene (NRA)	<17									TM074	<17 ng/l
Chrysene (NRA)	<13									TM074	<13 ng/l
Benzo(b)fluoranthene (NRA)	<23									TM074	<23 ng/l
Benzo(k)fluoranthene (NRA)	<27									TM074	<27 ng/l
Benzo(a)pyrene (NRA)	<9									TM074	<9 ng/l
Indeno(123cd)pyrene (NRA)	<14									TM074	<14 ng/l
Dibenzo(ah)anthracene (NRA)	<16									TM074	<16 ng/l
Benzo(ghi)perylene (NRA)	<16									TM074	<16 ng/l
PAH 16 Total (NRA)	85									TM074	<27 ng/l

Date 23.07.2007

Validated ✓
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ALcontrol Geochem Analytical Services
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ISO 17025 accredited
M MCERTS accredited
* Subcontracted test
» Shown on prev. report

Job Number: 07/08569/02/01 **Matrix:** LEACHATE
Client: Celtic Technologies **Location:** TEN ACRES LANE
Client Ref. No.: C1077 **Client Contact:** Simon Haunch

Sample Identity	WS20									Method Code	LoD/Units
Depth (m)	4.5										
Sample Type	SOLID										
Sampled Date	18.05.07										
Sample Received Date	21.05.07										
Batch	4										
Sample Number(s)	137-139										
SVOC by GCMS											
Phenols											
2-Chlorophenol (NRA)	<1									TM143	<1 ug/l
2-Methylphenol (NRA)	<1									TM143	<1 ug/l
2-Nitrophenol (NRA)	<1									TM143	<1 ug/l
2,4-Dichlorophenol (NRA)	<1									TM143	<1 ug/l
2,4-Dimethylphenol (NRA)	<1									TM143	<1 ug/l
2,4,5-Trichlorophenol (NRA)	<1									TM143	<1 ug/l
2,4,6-Trichlorophenol (NRA)	<1									TM143	<1 ug/l
4-Chloro-3-methylphenol (NRA)	<1									TM143	<1 ug/l
4-Methylphenol (NRA)	<1									TM143	<1 ug/l
4-Nitrophenol (NRA)	<1									TM143	<1 ug/l
Pentachlorophenol (NRA)	<1									TM143	<1 ug/l
Phenol (NRA)	<1									TM143	<1 ug/l

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Validated ✓
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ALcontrol Geochem Analytical Services
Table Of Results

ISO 17025 accredited
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* Subcontracted test
» Shown on prev. report

Job Number: 07/08569/02/01 **Matrix:** LEACHATE
Client: Celtic Technologies **Location:** TEN ACRES LANE
Client Ref. No.: C1077 **Client Contact:** Simon Haunch

Sample Identity	WS20									Method Code	LoD/Units
Depth (m)	4.5										
Sample Type	SOLID										
Sampled Date	18.05.07										
Sample Received Date	21.05.07										
Batch	4										
Sample Number(s)	137-139										
PAHs											
2-Chloronaphthalene (NRA)	<1									TM143	<1 ug/l
2-Methylnaphthalene (NRA)	<1									TM143	<1 ug/l
Phthalates											
Bis(2-ethylhexyl) phthalate (NRA)	<1									TM143	<1 ug/l
Butylbenzyl phthalate (NRA)	<1									TM143	<1 ug/l
Di-n-butyl phthalate (NRA)	<1									TM143	<1 ug/l
Di-n-Octyl phthalate (NRA)	<1									TM143	<1 ug/l
Diethyl phthalate (NRA)	<1									TM143	<1 ug/l
Dimethyl phthalate (NRA)	<1									TM143	<1 ug/l
Other Semi-volatiles											
1,2-Dichlorobenzene (NRA)	<1									TM143	<1 ug/l
1,2,4-Trichlorobenzene (NRA)	<1									TM143	<1 ug/l
1,3-Dichlorobenzene (NRA)	<1									TM143	<1 ug/l
1,4-Dichlorobenzene (NRA)	<1									TM143	<1 ug/l
2-Nitroaniline (NRA)	<1									TM143	<1 ug/l
2,4-Dinitrotoluene (NRA)	<1									TM143	<1 ug/l
2,6-Dinitrotoluene (NRA)	<1									TM143	<1 ug/l
3-Nitroaniline (NRA)	<1									TM143	<1 ug/l
4-Bromophenylphenylether (NRA	<1									TM143	<1 ug/l
4-Chloroaniline (NRA)	<1									TM143	<1 ug/l
4-Chlorophenylphenylether (NRA	<1									TM143	<1 ug/l
4-Nitroaniline (NRA)	<1									TM143	<1 ug/l
Azobenzene (NRA)	<1									TM143	<1 ug/l
Bis(2-chloroethoxy)methane (NRA)	<1									TM143	<1 ug/l
Bis(2-chloroethyl)ether (NRA)	<1									TM143	<1 ug/l
Carbazole (NRA)	<1									TM143	<1 ug/l
Dibenzofuran (NRA)	<1									TM143	<1 ug/l
Hexachlorobenzene (NRA)	<1									TM143	<1 ug/l

Date 23.07.2007

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ALcontrol Geochem Analytical Services
Table Of Results

ISO 17025 accredited
M MCERTS accredited
* Subcontracted test
» Shown on prev. report

Job Number: 07/08569/02/01 **Matrix:** LEACHATE
Client: Celtic Technologies **Location:** TEN ACRES LANE
Client Ref. No.: C1077 **Client Contact:** Simon Haunch

Sample Identity	WS20									Method Code	LoD/Units
Depth (m)	4.5										
Sample Type	SOLID										
Sampled Date	18.05.07										
Sample Received Date	21.05.07										
Batch	4										
Sample Number(s)	137-139										
Other Semi-volatiles (cont)											
Hexachlorobutadiene (NRA)	<1									TM143	<1 ug/l
Hexachlorocyclopentadiene (NRA	<1									TM143	<1 ug/l
Hexachloroethane (NRA)	<1									TM143	<1 ug/l
Isophorone (NRA)	<1									TM143	<1 ug/l
N-nitrosodi-n-propylamine (NRA)	<1									TM143	<1 ug/l
Nitrobenzene (NRA)	<1									TM143	<1 ug/l

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ALcontrol Geochem Analytical Services
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ISO 17025 accredited
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* Subcontracted test
» Shown on prev. report

Job Number: 07/08569/02/01 **Matrix:** LEACHATE
Client: Celtic Technologies **Location:** TEN ACRES LANE
Client Ref. No.: C1077 **Client Contact:** Simon Haunch

Sample Identity	WS20									Method Code	LoD/Units
Depth (m)	4.5										
Sample Type	SOLID										
Sampled Date	18.05.07										
Sample Received Date	21.05.07										
Batch	4										
Sample Number(s)	137-139										
Volatile Organic Compounds											
Dichlorodifluoromethane (NRA)	<1									TM116	<1 ug/l
Chloromethane (NRA)	<1									TM116	<1 ug/l
Vinyl Chloride (NRA)	<1									TM116	<1 ug/l
Bromomethane (NRA)	<1									TM116	<1 ug/l
Chloroethane (NRA)	<1									TM116	<1 ug/l
Trichlorofluoromethane (NRA)	<1									TM116	<1 ug/l
trans-1-2-Dichloroethene (NRA)	<1									TM116	<1 ug/l
Dichloromethane (NRA)	<1									TM116	<1 ug/l
Carbon Disulphide (NRA)	<1									TM116	<1 ug/l
1.1-Dichloroethene (NRA)	<1									TM116	<1 ug/l
1.1-Dichloroethane (NRA)	<1									TM116	<1 ug/l
Methyl Tertiary Butyl Ether (NRA)	<1									TM116	<1 ug/l
cis-1-2-Dichloroethene (NRA)	<1									TM116	<1 ug/l
Bromochloromethane (NRA)	<1									TM116	<1 ug/l
Chloroform (NRA)	<1									TM116	<1 ug/l
2.2-Dichloropropane (NRA)	<1									TM116	<1 ug/l
1.2-Dichloroethane (NRA)	<1									TM116	<1 ug/l
1.1.1-Trichloroethane (NRA)	<1									TM116	<1 ug/l
1.1-Dichloropropene (NRA)	<1									TM116	<1 ug/l
Benzene (NRA)	<1									TM116	<1 ug/l
Carbontetrachloride (NRA)	<1									TM116	<1 ug/l
Dibromomethane (NRA)	<1									TM116	<1 ug/l
1.2-Dichloropropane (NRA)	<1									TM116	<1 ug/l
Bromodichloromethane (NRA)	<1									TM116	<1 ug/l
Trichloroethene (NRA)	<1									TM116	<1 ug/l
cis-1-3-Dichloropropene (NRA)	<1									TM116	<1 ug/l
trans-1-3-Dichloropropene (NRA)	<1									TM116	<1 ug/l
1.1.2-Trichloroethane (NRA)	<1									TM116	<1 ug/l
Toluene (NRA)	<1									TM116	<1 ug/l
1.3-Dichloropropane (NRA)	<1									TM116	<1 ug/l

Date 23.07.2007

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Preliminary

ALcontrol Geochem Analytical Services
Table Of Results

ISO 17025 accredited
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* Subcontracted test
» Shown on prev. report

Job Number: 07/08569/02/01 **Matrix:** LEACHATE
Client: Celtic Technologies **Location:** TEN ACRES LANE
Client Ref. No.: C1077 **Client Contact:** Simon Haunch

Sample Identity	WS20									Method Code	LoD/Units
Depth (m)	4.5										
Sample Type	SOLID										
Sampled Date	18.05.07										
Sample Received Date	21.05.07										
Batch	4										
Sample Number(s)	137-139										
Volatile Organic Compounds (cont)											
Dibromochloromethane (NRA)	<1									TM116	<1 ug/l
1.2-Dibromoethane (NRA)	<1									TM116	<1 ug/l
Tetrachloroethene (NRA)	<1									TM116	<1 ug/l
1.1.1.2-Tetrachloroethane (NRA)	<1									TM116	<1 ug/l
Chlorobenzene (NRA)	<1									TM116	<1 ug/l
Ethylbenzene (NRA)	<1									TM116	<1 ug/l
p/m-Xylene (NRA)	<1									TM116	<1 ug/l
Bromoform (NRA)	<1									TM116	<1 ug/l
Styrene (NRA)	<1									TM116	<1 ug/l
1.1.2.2-Tetrachloroethane (NRA)	<1									TM116	<1 ug/l
o-Xylene (NRA)	<1									TM116	<1 ug/l
1.2.3-Trichloropropane (NRA)	<1									TM116	<1 ug/l
Isopropylbenzene (NRA)	<1									TM116	<1 ug/l
Bromobenzene (NRA)	<1									TM116	<1 ug/l
2-Chlorotoluene (NRA)	<1									TM116	<1 ug/l
Propylbenzene (NRA)	<1									TM116	<1 ug/l
4-Chlorotoluene (NRA)	<1									TM116	<1 ug/l
1.2.4-Trimethylbenzene (NRA)	<1									TM116	<1 ug/l
4-Isopropyltoluene (NRA)	<1									TM116	<1 ug/l
1.3.5-Trimethylbenzene (NRA)	<1									TM116	<1 ug/l
1.2-Dichlorobenzene (NRA)	<1									TM116	<1 ug/l
1.4-Dichlorobenzene (NRA)	<1									TM116	<1 ug/l
sec-Butylbenzene (NRA)	<1									TM116	<1 ug/l
tert-Butylbenzene (NRA)	<1									TM116	<1 ug/l
1.3-Dichlorobenzene (NRA)	<1									TM116	<1 ug/l
n-Butylbenzene (NRA)	<1									TM116	<1 ug/l
1.2-Dibromo-3-chloropropane (NRA)	<1									TM116	<1 ug/l
1.2.4-Trichlorobenzene (NRA)	<1									TM116	<1 ug/l
Naphthalene (NRA)	<1									TM116	<1 ug/l
1.2.3-Trichlorobenzene (NRA)	<1									TM116	<1 ug/l

Date 23.07.2007

Validated ✓
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ALcontrol Geochem Analytical Services
Table Of Results

ISO 17025 accredited
M MCERTS accredited
* Subcontracted test
» Shown on prev. report

Job Number: 07/08569/02/01 **Matrix:** LEACHATE
Client: Celtic Technologies **Location:** TEN ACRES LANE
Client Ref. No.: C1077 **Client Contact:** Simon Haunch

Sample Identity	WS20									Method Code	LoD/Units
Depth (m)	4.5										
Sample Type	SOLID										
Sampled Date	18.05.07										
Sample Received Date	21.05.07										
Batch	4										
Sample Number(s)	137-139										
Volatile Organic Compounds (cont)											
Hexachlorobutadiene (NRA)	<1									TM116	<1 ug/l

Date 23.07.2007

ALcontrol Geochem Analytical Services
Table Of Results - Appendix

Job Number: 07/08569/02/01
Client: Celtic Technologies
Client Ref. No.: C1077

Report Key :

Results expressed as (e.g.) 1.03E-07 is equivalent to 1.03×10^{-7}

NDP	No Determination Possible	*	Subcontracted test
NFD	No Fibres Detected	»	Result previously reported (Incremental reports only)
#	ISO 17025 accredited	M	MCERTS Accredited
PFD	Possible Fibres Detected	EC	Equivalent Carbon (Aromatics C8-C35)

Note: Method detection limits are not always achievable due to various circumstances beyond our control.

Summary of Method Codes contained within report :

Method No.	Reference	Description	ISO 17025 Accredited	MCERTS Accredited	Wet/Dry Sample [1]	Surrogate Corrected
TM062	MEWAM BOOK 124 1988.HMSO/ Method 17.7, Second Site property, March 2003	Determination of Phenolic compounds by HPLC with electro-chemical detection			NA	
TM074	Modified: US EPA Method 8100	Determination of Polynuclear Aromatic Hydrocarbons (PAH) by GC-MS. MCERTS Accreditation on Soils for Naphthalene except when Kerosene present.			NA	
TM089	Modified: US EPA Methods 8020 & 602	Determination of Gasoline Range Hydrocarbons (GRO) and BTEX (MTBE) compounds by Headspace GC-FID (C4-C12)			NA	
TM097	Modified: US EPA Method 325.1 & 325.2	Determination of Chloride using the Kone Analyser			NA	
TM098	Method 4500E, AWWA/APHA, 20th Ed., 1999	Determination of Sulphate using the Kone Analyser			NA	
TM101	Method 4500B & C, AWWA/APHA, 20th Ed., 1999	Determination of Sulphide in soil and water samples using the Kone Analyser			NA	
TM102	Method 4500H, AWWA/APHA, 20th Ed., 1999	Determination of Total Oxidised Nitrogen using the Kone Analyser			NA	
TM116	Modified: US EPA Method 8260, 8120, 8020, 624, 610 & 602	Determination of Volatile Organic Compounds by Headspace / GC-MS			NA	
TM116	Modified: US EPA Method 8260, 8120, 8020, 624, 610 & 602	Determination of Volatile Organic Compounds by Headspace / GC-MS			NA	
TM127	Method 3112B, AWWA/APHA, 20th Ed., 1999	The Determination of Trace Level Mercury in Aqueous Media and Soil Extracts by Atomic Absorption Spectroscopy			NA	
TM133	BS 1377: Part 3 1990	Determination of pH in Soil and Water using the GLpH pH Meter			NA	
TM136	Method 17.10, Second Site property, March 2003	Determination of Sulphur by HPLC			NA	
TM143	Modified: US EPA Method 8270C	Determination of Semivolatile Organic Compounds by GC-MS			NA	
TM143	Modified: US EPA Method 8270C	Determination of Semivolatile Organic Compounds by GC-MS			NA	

[1] Applies to Solid samples only. **DRY** indicates samples have been dried at 35°C. **NA** = not applicable.

ALcontrol Geochem Analytical Services
Table Of Results - Appendix

Job Number: 07/08569/02/01
Client: Celtic Technologies
Client Ref. No.: C1077

Report Key :

Results expressed as (e.g.) 1.03E-07 is equivalent to 1.03×10^{-7}

NDP	No Determination Possible	*	Subcontracted test
NFD	No Fibres Detected	»	Result previously reported (Incremental reports only)
#	ISO 17025 accredited	M	MCERTS Accredited
PFD	Possible Fibres Detected	EC	Equivalent Carbon (Aromatics C8-C35)

Note: Method detection limits are not always achievable due to various circumstances beyond our control.

Summary of Method Codes contained within report :

Method No.	Reference	Description	ISO 17025 Accredited	MCERTS Accredited	Wet/Dry Sample [1]	Surrogate Corrected
TM152	Method 3125B, AWWA/APHA, 20th Ed., 1999	Analysis of Aqueous Samples by ICP-MS			NA	
TM153	Method 4500A,B,C, I, M AWWA/APHA, 20th Ed., 1999	Determination of Total Cyanide, Free (Easily Liberatable) Cyanide and Thiocyanate using the "Skalar SANS+ System" Segmented Flow Analyser			NA	
TM172		EPH in Waters			NA	

[1] Applies to Solid samples only. **DRY** indicates samples have been dried at 35°C. **NA** = not applicable.

ALcontrol Geochem Analytical Services
Table Of Results - Appendix

Job Number: 07/08569/02/01
Client: Celtic Technologies
Client Ref. No.: C1077

Summary of Coolbox temperatures

Batch No.	Coolbox Temperature (°C)
4	19.8

ALcontrol Geochem Analytical Services
Sample Descriptions

Job Number: 07/08569/02/01
Client: Celtic Technologies
Client Ref : C1077

Grain sizes

<0.063mm	Very Fine
0.1mm - 0.063mm	Fine
0.1mm - 2mm	Medium
2mm - 10mm	Coarse
>10mm	Very Coarse

Sample Identity	Depth (m)	Colour	Grain Size	Description	Batch
TP47	3.4-4.0	Dark Brown	0.1mm - 0.063mm	Silt with some Stones	5
TP51	2.5-3.3	Dark Brown	0.1mm - 0.063mm	Silty Clay with some Crushed Brick	5

* These descriptions are only intended to act as a cross check if sample identities are questioned, and to provide a log of sample matrices with respect to MCERTS validation. They are not intended as full geological descriptions.

We are accredited to MCERTS for sand, clay and loam/topsoil, or any of these materials-whether these are derived from naturally occurring soil profiles, or from fill/made ground, as long as these materials constitute the major part of the sample.
Other coarse granular materials such as concrete, gravel and brick are not accredited if they comprise the major part of the sample.
[1] Sample Description supplied by client

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ALcontrol Geochem Analytical Services
Table Of Results

ISO 17025 accredited
M MCERTS accredited
* Subcontracted test
» Shown on prev. report

Job Number: 07/08569/02/01 **Matrix:** LEACHATE
Client: Celtic Technologies **Location:** TEN ACRES LANE
Client Ref. No.: C1077 **Client Contact:** Simon Haunch

Sample Identity	TP47	TP51								Method Code	LoD/Units
Depth (m)	3.4-4.0	2.5-3.3									
Sample Type	SOLID	SOLID									
Sampled Date	24.05.07	24.05.07									
Sample Received Date	25.05.07	25.05.07									
Batch	5	5									
Sample Number(s)	**158-160**	**175-177**									
Arsenic Dissolved (NRA) (ICP-MS)	2	3								TM152	<1 ug/l
Boron Dissolved (NRA) (ICP-MS)	<10	110								TM152	<10 ug/l
Cadmium Dissolved (NRA) (ICP-MS)	<0.4	<0.4								TM152	<0.4 ug/l
Chromium Dissolved (NRA) (ICP-MS)	<1	13								TM152	<1 ug/l
Copper Dissolved (NRA) (ICP-MS)	2	5								TM152	<1 ug/l
Lead Dissolved (NRA) (ICP-MS)	<1	3								TM152	<1 ug/l
Nickel Dissolved (NRA) (ICP-MS)	1	3								TM152	<1 ug/l
Selenium Dissolved (NRA) (ICP-MS)	<1	<1								TM152	<1 ug/l
Zinc Dissolved (NRA) (ICP-MS)	<3	<3								TM152	<3 ug/l
Mercury Dissolved (NRA) (CVAA)	<0.05	<0.05								TM127	<0.05 ug/l
Chloride (NRA)	<1	<1								TM097	<1 mg/l
Sulphide (NRA)	<0.50	<0.50								TM101	<0.5 mg/l
Sulphate (NRA)	26	270								TM098	<3 mg/l
Total Oxidised Nitrogen as N (NRA)	0.3	0.6								TM102	<0.3 mg/l
Phenols Monohydric (NRA)	<0.01	0.02								TM062	<0.01 mg/l
Total Cyanide (NRA)	<0.05	<0.05								TM153	<0.05 mg/l
Free Sulphur (NRA)	<0.05	<0.05								TM136	<0.05 mg/l
pH (NRA)	8.08	8.12								TM133	<1.00 pH Units
EPH (DRO) (NRA)	<10	<10								TM172	<10 ug/l
GRO (C4-C10) (NRA)	<10	<10								TM089	<10 ug/l
GRO (C10-C12) (NRA)	<10	<10								TM089	<10 ug/l
Benzene (NRA)	<10	<10								TM089	<10 ug/l
Toluene(NRA)	<10	<10								TM089	<10 ug/l
Ethyl benzene (NRA)	<10	<10								TM089	<10 ug/l
m & p Xylene (NRA)	<10	<10								TM089	<10 ug/l
o Xylene (NRA)	<10	<10								TM089	<10 ug/l
Sum m&p and o Xylene (NRA)	<10	<10								TM089	<10 ug/l
Sum of BTEX (NRA)	<10	<10								TM089	<10 ug/l
MTBE (NRA)	<10	<10								TM089	<10 ug/l

Date 12.07.2007

Validated ✓
Preliminary

ALcontrol Geochem Analytical Services
Table Of Results

[#] ISO 17025 accredited
[M] MCERTS accredited
[*] Subcontracted test
[»] Shown on prev. report

Job Number: 07/08569/02/01 **Matrix:** LEACHATE
Client: Celtic Technologies **Location:** TEN ACRES LANE
Client Ref. No.: C1077 **Client Contact:** Simon Haunch

Sample Identity	TP47	TP51								Method Code	LoD/Units
Depth (m)	3.4-4.0	2.5-3.3									
Sample Type	SOLID	SOLID									
Sampled Date	24.05.07	24.05.07									
Sample Received Date	25.05.07	25.05.07									
Batch	5	5									
Sample Number(s)	**158-160**	**175-177**									
PAH by GCMS											
Naphthalene (NRA)	46	<26								TM074	<26 ng/l
Acenaphthylene (NRA)	520	<11								TM074	<11 ng/l
Acenaphthene (NRA)	44	<15								TM074	<15 ng/l
Fluorene (NRA)	72	<14								TM074	<14 ng/l
Phenanthrene (NRA)	110	23								TM074	<22 ng/l
Anthracene (NRA)	140	31								TM074	<15 ng/l
Fluoranthene (NRA)	160	23								TM074	<17 ng/l
Pyrene (NRA)	170	19								TM074	<15 ng/l
Benz(a)anthracene (NRA)	84	<17								TM074	<17 ng/l
Chrysene (NRA)	76	15								TM074	<13 ng/l
Benzo(b)fluoranthene (NRA)	160	<23								TM074	<23 ng/l
Benzo(k)fluoranthene (NRA)	76	<27								TM074	<27 ng/l
Benzo(a)pyrene (NRA)	150	<9								TM074	<9 ng/l
Indeno(123cd)pyrene (NRA)	190	<14								TM074	<14 ng/l
Dibenzo(ah)anthracene (NRA)	77	<16								TM074	<16 ng/l
Benzo(ghi)perylene (NRA)	390	<16								TM074	<16 ng/l
PAH 16 Total (NRA)	2500	110								TM074	<27 ng/l

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ALcontrol Geochem Analytical Services
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Job Number: 07/08569/02/01 **Matrix:** LEACHATE
Client: Celtic Technologies **Location:** TEN ACRES LANE
Client Ref. No.: C1077 **Client Contact:** Simon Haunch

Sample Identity	TP47	TP51								Method Code	LoD/Units
Depth (m)	3.4-4.0	2.5-3.3									
Sample Type	SOLID	SOLID									
Sampled Date	24.05.07	24.05.07									
Sample Received Date	25.05.07	25.05.07									
Batch	5	5									
Sample Number(s)	**158-160**	**175-177**									
SVOC by GCMS											
Phenols											
2-Chlorophenol (NRA)	<1	<1								TM143	<1 ug/l
2-Methylphenol (NRA)	<1	<1								TM143	<1 ug/l
2-Nitrophenol (NRA)	<1	<1								TM143	<1 ug/l
2,4-Dichlorophenol (NRA)	<1	<1								TM143	<1 ug/l
2,4-Dimethylphenol (NRA)	<1	<1								TM143	<1 ug/l
2,4,5-Trichlorophenol (NRA)	<1	<1								TM143	<1 ug/l
2,4,6-Trichlorophenol (NRA)	<1	<1								TM143	<1 ug/l
4-Chloro-3-methylphenol (NRA)	<1	<1								TM143	<1 ug/l
4-Methylphenol (NRA)	<1	<1								TM143	<1 ug/l
4-Nitrophenol (NRA)	<1	<1								TM143	<1 ug/l
Pentachlorophenol (NRA)	<1	<1								TM143	<1 ug/l
Phenol (NRA)	<1	<1								TM143	<1 ug/l

Date 12.07.2007

Validated ✓
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ALcontrol Geochem Analytical Services
Table Of Results

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» Shown on prev. report

Job Number: 07/08569/02/01 **Matrix:** LEACHATE
Client: Celtic Technologies **Location:** TEN ACRES LANE
Client Ref. No.: C1077 **Client Contact:** Simon Haunch

Sample Identity	TP47	TP51								Method Code	LoD/Units
Depth (m)	3.4-4.0	2.5-3.3									
Sample Type	SOLID	SOLID									
Sampled Date	24.05.07	24.05.07									
Sample Received Date	25.05.07	25.05.07									
Batch	5	5									
Sample Number(s)	**158-160**	**175-177**									
PAHs											
2-Chloronaphthalene (NRA)	<1	<1								TM143	<1 ug/l
2-Methylnaphthalene (NRA)	<1	<1								TM143	<1 ug/l
Phthalates											
Bis(2-ethylhexyl) phthalate (NRA)	<1	<1								TM143	<1 ug/l
Butylbenzyl phthalate (NRA)	<1	<1								TM143	<1 ug/l
Di-n-butyl phthalate (NRA)	<1	<1								TM143	<1 ug/l
Di-n-Octyl phthalate (NRA)	<1	<1								TM143	<1 ug/l
Diethyl phthalate (NRA)	1	<1								TM143	<1 ug/l
Dimethyl phthalate (NRA)	<1	<1								TM143	<1 ug/l
Other Semi-volatiles											
1,2-Dichlorobenzene (NRA)	<1	<1								TM143	<1 ug/l
1,2,4-Trichlorobenzene (NRA)	<1	<1								TM143	<1 ug/l
1,3-Dichlorobenzene (NRA)	<1	<1								TM143	<1 ug/l
1,4-Dichlorobenzene (NRA)	<1	<1								TM143	<1 ug/l
2-Nitroaniline (NRA)	<1	<1								TM143	<1 ug/l
2,4-Dinitrotoluene (NRA)	<1	<1								TM143	<1 ug/l
2,6-Dinitrotoluene (NRA)	<1	<1								TM143	<1 ug/l
3-Nitroaniline (NRA)	<1	<1								TM143	<1 ug/l
4-Bromophenylphenylether (NRA	<1	<1								TM143	<1 ug/l
4-Chloroaniline (NRA)	<1	<1								TM143	<1 ug/l
4-Chlorophenylphenylether (NRA	<1	<1								TM143	<1 ug/l
4-Nitroaniline (NRA)	<1	<1								TM143	<1 ug/l
Azobenzene (NRA)	<1	<1								TM143	<1 ug/l
Bis(2-chloroethoxy)methane (NRA)	<1	<1								TM143	<1 ug/l
Bis(2-chloroethyl)ether (NRA)	<1	<1								TM143	<1 ug/l
Carbazole (NRA)	<1	<1								TM143	<1 ug/l
Dibenzofuran (NRA)	<1	<1								TM143	<1 ug/l
Hexachlorobenzene (NRA)	<1	<1								TM143	<1 ug/l

Date 12.07.2007

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ALcontrol Geochem Analytical Services
Table Of Results

ISO 17025 accredited
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* Subcontracted test
» Shown on prev. report

Job Number: 07/08569/02/01 **Matrix:** LEACHATE
Client: Celtic Technologies **Location:** TEN ACRES LANE
Client Ref. No.: C1077 **Client Contact:** Simon Haunch

Sample Identity	TP47	TP51								Method Code	LoD/Units
Depth (m)	3.4-4.0	2.5-3.3									
Sample Type	SOLID	SOLID									
Sampled Date	24.05.07	24.05.07									
Sample Received Date	25.05.07	25.05.07									
Batch	5	5									
Sample Number(s)	**158-160**	**175-177**									
Other Semi-volatiles (cont)											
Hexachlorobutadiene (NRA)	<1	<1								TM143	<1 ug/l
Hexachlorocyclopentadiene (NRA	<1	<1								TM143	<1 ug/l
Hexachloroethane (NRA)	<1	<1								TM143	<1 ug/l
Isophorone (NRA)	<1	<1								TM143	<1 ug/l
N-nitrosodi-n-propylamine (NRA)	<1	<1								TM143	<1 ug/l
Nitrobenzene (NRA)	<1	<1								TM143	<1 ug/l

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ALcontrol Geochem Analytical Services
Table Of Results

ISO 17025 accredited
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Job Number: 07/08569/02/01 **Matrix:** LEACHATE
Client: Celtic Technologies **Location:** TEN ACRES LANE
Client Ref. No.: C1077 **Client Contact:** Simon Haunch

Sample Identity	TP47	TP51								Method Code	LoD/Units
Depth (m)	3.4-4.0	2.5-3.3									
Sample Type	SOLID	SOLID									
Sampled Date	24.05.07	24.05.07									
Sample Received Date	25.05.07	25.05.07									
Batch	5	5									
Sample Number(s)	**158-160**	**175-177**									
Volatile Organic Compounds											
Dichlorodifluoromethane (NRA)	<1	<1								TM116	<1 ug/l
Chloromethane (NRA)	<1	<1								TM116	<1 ug/l
Vinyl Chloride (NRA)	<1	<1								TM116	<1 ug/l
Bromomethane (NRA)	<1	<1								TM116	<1 ug/l
Chloroethane (NRA)	<1	<1								TM116	<1 ug/l
Trichlorofluoromethane (NRA)	<1	<1								TM116	<1 ug/l
trans-1-2-Dichloroethene (NRA)	<1	<1								TM116	<1 ug/l
Dichloromethane (NRA)	<1	<1								TM116	<1 ug/l
Carbon Disulphide (NRA)	<1	<1								TM116	<1 ug/l
1.1-Dichloroethene (NRA)	<1	<1								TM116	<1 ug/l
1.1-Dichloroethane (NRA)	<1	<1								TM116	<1 ug/l
Methyl Tertiary Butyl Ether (NRA)	<1	<1								TM116	<1 ug/l
cis-1-2-Dichloroethene (NRA)	<1	<1								TM116	<1 ug/l
Bromochloromethane (NRA)	<1	<1								TM116	<1 ug/l
Chloroform (NRA)	<1	<1								TM116	<1 ug/l
2.2-Dichloropropane (NRA)	<1	<1								TM116	<1 ug/l
1.2-Dichloroethane (NRA)	<1	<1								TM116	<1 ug/l
1.1.1-Trichloroethane (NRA)	<1	<1								TM116	<1 ug/l
1.1-Dichloropropene (NRA)	<1	<1								TM116	<1 ug/l
Benzene (NRA)	<1	<1								TM116	<1 ug/l
Carbontetrachloride (NRA)	<1	<1								TM116	<1 ug/l
Dibromomethane (NRA)	<1	<1								TM116	<1 ug/l
1.2-Dichloropropane (NRA)	<1	<1								TM116	<1 ug/l
Bromodichloromethane (NRA)	<1	<1								TM116	<1 ug/l
Trichloroethene (NRA)	<1	<1								TM116	<1 ug/l
cis-1-3-Dichloropropene (NRA)	<1	<1								TM116	<1 ug/l
trans-1-3-Dichloropropene (NRA)	<1	<1								TM116	<1 ug/l
1.1.2-Trichloroethane (NRA)	<1	<1								TM116	<1 ug/l
Toluene (NRA)	<1	<1								TM116	<1 ug/l
1.3-Dichloropropane (NRA)	<1	<1								TM116	<1 ug/l

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ALcontrol Geochem Analytical Services
Table Of Results

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Job Number: 07/08569/02/01 **Matrix:** LEACHATE
Client: Celtic Technologies **Location:** TEN ACRES LANE
Client Ref. No.: C1077 **Client Contact:** Simon Haunch

Sample Identity	TP47	TP51								Method Code	LoD/Units
Depth (m)	3.4-4.0	2.5-3.3									
Sample Type	SOLID	SOLID									
Sampled Date	24.05.07	24.05.07									
Sample Received Date	25.05.07	25.05.07									
Batch	5	5									
Sample Number(s)	**158-160**	**175-177**									
Volatile Organic Compounds (cont)											
Dibromochloromethane (NRA)	<1	<1								TM116	<1 ug/l
1.2-Dibromoethane (NRA)	<1	<1								TM116	<1 ug/l
Tetrachloroethene (NRA)	<1	<1								TM116	<1 ug/l
1.1.1.2-Tetrachloroethane (NRA)	<1	<1								TM116	<1 ug/l
Chlorobenzene (NRA)	<1	<1								TM116	<1 ug/l
Ethylbenzene (NRA)	<1	<1								TM116	<1 ug/l
p/m-Xylene (NRA)	<1	<1								TM116	<1 ug/l
Bromoform (NRA)	<1	<1								TM116	<1 ug/l
Styrene (NRA)	<1	<1								TM116	<1 ug/l
1.1.2.2-Tetrachloroethane (NRA)	<1	<1								TM116	<1 ug/l
o-Xylene (NRA)	<1	<1								TM116	<1 ug/l
1.2.3-Trichloropropane (NRA)	<1	<1								TM116	<1 ug/l
Isopropylbenzene (NRA)	<1	<1								TM116	<1 ug/l
Bromobenzene (NRA)	<1	<1								TM116	<1 ug/l
2-Chlorotoluene (NRA)	<1	<1								TM116	<1 ug/l
Propylbenzene (NRA)	<1	<1								TM116	<1 ug/l
4-Chlorotoluene (NRA)	<1	<1								TM116	<1 ug/l
1.2.4-Trimethylbenzene (NRA)	<1	<1								TM116	<1 ug/l
4-Isopropyltoluene (NRA)	<1	<1								TM116	<1 ug/l
1.3.5-Trimethylbenzene (NRA)	<1	<1								TM116	<1 ug/l
1.2-Dichlorobenzene (NRA)	<1	<1								TM116	<1 ug/l
1.4-Dichlorobenzene (NRA)	<1	<1								TM116	<1 ug/l
sec-Butylbenzene (NRA)	<1	<1								TM116	<1 ug/l
tert-Butylbenzene (NRA)	<1	<1								TM116	<1 ug/l
1.3-Dichlorobenzene (NRA)	<1	<1								TM116	<1 ug/l
n-Butylbenzene (NRA)	<1	<1								TM116	<1 ug/l
1.2-Dibromo-3-chloropropane (NRA)	<1	<1								TM116	<1 ug/l
1.2.4-Trichlorobenzene (NRA)	<1	<1								TM116	<1 ug/l
Naphthalene (NRA)	<1	<1								TM116	<1 ug/l
1.2.3-Trichlorobenzene (NRA)	<1	<1								TM116	<1 ug/l

Date 12.07.2007

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ALcontrol Geochem Analytical Services
Table Of Results

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Job Number: 07/08569/02/01 **Matrix:** LEACHATE
Client: Celtic Technologies **Location:** TEN ACRES LANE
Client Ref. No.: C1077 **Client Contact:** Simon Haunch

Sample Identity	TP47	TP51								Method Code	LoD/Units
Depth (m)	3.4-4.0	2.5-3.3									
Sample Type	SOLID	SOLID									
Sampled Date	24.05.07	24.05.07									
Sample Received Date	25.05.07	25.05.07									
Batch	5	5									
Sample Number(s)	**158-160**	**175-177**									
Volatile Organic Compounds (cont)											
Hexachlorobutadiene (NRA)	<1	<1								TM116	<1 ug/l

Date 12.07.2007

ALcontrol Geochem Analytical Services
Table Of Results - Appendix

Job Number: 07/08569/02/01
Client: Celtic Technologies
Client Ref. No.: C1077

Report Key :

Results expressed as (e.g.) 1.03E-07 is equivalent to 1.03×10^{-7}

NDP	No Determination Possible	*	Subcontracted test
NFD	No Fibres Detected	»	Result previously reported (Incremental reports only)
#	ISO 17025 accredited	M	MCERTS Accredited
PFD	Possible Fibres Detected	EC	Equivalent Carbon (Aromatics C8-C35)

Note: Method detection limits are not always achievable due to various circumstances beyond our control.

Summary of Method Codes contained within report :

Method No.	Reference	Description	ISO 17025 Accredited	MCERTS Accredited	Wet/Dry Sample [1]	Surrogate Corrected
TM062	MEWAM BOOK 124 1988.HMSO/ Method 17.7, Second Site property, March 2003	Determination of Phenolic compounds by HPLC with electro-chemical detection			NA	
TM074	Modified: US EPA Method 8100	Determination of Polynuclear Aromatic Hydrocarbons (PAH) by GC-MS. MCERTS Accreditation on Soils for Naphthalene except when Kerosene present.			NA	
TM089	Modified: US EPA Methods 8020 & 602	Determination of Gasoline Range Hydrocarbons (GRO) and BTEX (MTBE) compounds by Headspace GC-FID (C4-C12)			NA	
TM097	Modified: US EPA Method 325.1 & 325.2	Determination of Chloride using the Kone Analyser			NA	
TM098	Method 4500E, AWWA/APHA, 20th Ed., 1999	Determination of Sulphate using the Kone Analyser			NA	
TM101	Method 4500B & C, AWWA/APHA, 20th Ed., 1999	Determination of Sulphide in soil and water samples using the Kone Analyser			NA	
TM102	Method 4500H, AWWA/APHA, 20th Ed., 1999	Determination of Total Oxidised Nitrogen using the Kone Analyser			NA	
TM116	Modified: US EPA Method 8260, 8120, 8020, 624, 610 & 602	Determination of Volatile Organic Compounds by Headspace / GC-MS			NA	
TM116	Modified: US EPA Method 8260, 8120, 8020, 624, 610 & 602	Determination of Volatile Organic Compounds by Headspace / GC-MS			NA	
TM127	Method 3112B, AWWA/APHA, 20th Ed., 1999	The Determination of Trace Level Mercury in Aqueous Media and Soil Extracts by Atomic Absorption Spectroscopy			NA	
TM133	BS 1377: Part 3 1990	Determination of pH in Soil and Water using the GLpH pH Meter			NA	
TM136	Method 17.10, Second Site property, March 2003	Determination of Sulphur by HPLC			NA	
TM143	Modified: US EPA Method 8270C	Determination of Semivolatile Organic Compounds by GC-MS			NA	
TM143	Modified: US EPA Method 8270C	Determination of Semivolatile Organic Compounds by GC-MS			NA	

[1] Applies to Solid samples only. **DRY** indicates samples have been dried at 35°C. **NA** = not applicable.

ALcontrol Geochem Analytical Services
Table Of Results - Appendix

Job Number: 07/08569/02/01
Client: Celtic Technologies
Client Ref. No.: C1077

Report Key :

Results expressed as (e.g.) 1.03E-07 is equivalent to 1.03×10^{-7}

NDP	No Determination Possible	*	Subcontracted test
NFD	No Fibres Detected	»	Result previously reported (Incremental reports only)
#	ISO 17025 accredited	M	MCERTS Accredited
PFD	Possible Fibres Detected	EC	Equivalent Carbon (Aromatics C8-C35)

Note: Method detection limits are not always achievable due to various circumstances beyond our control.

Summary of Method Codes contained within report :

Method No.	Reference	Description	ISO 17025 Accredited	MCERTS Accredited	Wet/Dry Sample [1]	Surrogate Corrected
TM152	Method 3125B, AWWA/APHA, 20th Ed., 1999	Analysis of Aqueous Samples by ICP-MS			NA	
TM153	Method 4500A,B,C, I, M AWWA/APHA, 20th Ed., 1999	Determination of Total Cyanide, Free (Easily Liberatable) Cyanide and Thiocyanate using the "Skalar SANS+ System" Segmented Flow Analyser			NA	
TM172		EPH in Waters			NA	

[1] Applies to Solid samples only. **DRY** indicates samples have been dried at 35°C. **NA** = not applicable.

ALcontrol Geochem Analytical Services
Table Of Results - Appendix

Job Number: 07/08569/02/01
Client: Celtic Technologies
Client Ref. No.: C1077

Summary of Coolbox temperatures

Batch No.	Coolbox Temperature (°C)
5	11

ALcontrol Geochem Analytical Services
Sample Descriptions

Job Number: 07/08569/02/01
Client: Celtic Technologies
Client Ref : C1077

Grain sizes

<0.063mm	Very Fine
0.1mm - 0.063mm	Fine
0.1mm - 2mm	Medium
2mm - 10mm	Coarse
>10mm	Very Coarse

Sample Identity	Depth (m)	Colour	Grain Size	Description	Batch
BH1	4.0-4.5	Brown	0.1mm - 2mm	Sand with some Stones	8
BH2	1.2-2.1	Dark Brown	<0.063mm	Clay with some Stones	8
BH5	0.0-0.6	Dark Brown	0.1mm - 2mm	Sandy Clay with some Stones	8
BH7	1.2-2.0	Dark Brown	0.1mm - 2mm	Sand with some Coal Fragments	8
BH9	1.2-2.6	Rust	2mm - 10mm	Gravel with some Stones	8
BH13	0.6-1.1	Dark Grey	0.1mm - 2mm	Sandy Clay with some Stones	8

* These descriptions are only intended to act as a cross check if sample identities are questioned, and to provide a log of sample matrices with respect to MCERTS validation. They are not intended as full geological descriptions.

We are accredited to MCERTS for sand, clay and loam/topsoil, or any of these materials-whether these are derived from naturally occurring soil profiles, or from fill/made ground, as long as these materials constitute the major part of the sample.
Other coarse granular materials such as concrete, gravel and brick are not accredited if they comprise the major part of the sample.
[1] Sample Description supplied by client

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ALcontrol Geochem Analytical Services
Table Of Results

[#] ISO 17025 accredited
[M] MCERTS accredited
[*] Subcontracted test
» Shown on prev. report

Job Number: 07/08569/02/01 **Matrix:** LEACHATE
Client: Celtic Technologies **Location:** TEN ACRES LANE
Client Ref. No.: C1077 **Client Contact:** Simon Haunch

Sample Identity	BH1	BH2	BH5	BH7	BH9	BH13				Method Code	LoD/Units
Depth (m)	4.0-4.5	1.2-2.1	0.0-0.6	1.2-2.0	1.2-2.6	0.6-1.1					
Sample Type	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID					
Sampled Date	15.06.07	15.06.07	15.06.07	15.06.07	15.06.07	15.06.07					
Sample Received Date	19.06.07	19.06.07	19.06.07	19.06.07	19.06.07	19.06.07					
Batch	8	8	8	8	8	8					
Sample Number(s)	**210-215**	**216-220**	**244-249**	**275-280**	**287-292**	**318-323**					
Arsenic Dissolved (NRA) (ICP-MS)	<1	<1	1	2	3	<1				TM152	<1 ug/l
Boron Dissolved (NRA) (ICP-MS)	140	220	<10	19	<10	<10				TM152	<10 ug/l
Cadmium Dissolved (NRA) (ICP-MS)	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4				TM152	<0.4 ug/l
Chromium Dissolved (NRA) (ICP-MS)	<1	3	7	1	<1	<1				TM152	<1 ug/l
Copper Dissolved (NRA) (ICP-MS)	<1	3	2	3	7	2				TM152	<1 ug/l
Lead Dissolved (NRA) (ICP-MS)	<1	<1	<1	<1	2	<1				TM152	<1 ug/l
Nickel Dissolved (NRA) (ICP-MS)	<1	1	<1	2	4	<1				TM152	<1 ug/l
Selenium Dissolved (NRA) (ICP-MS)	<1	<1	<1	<1	1	2				TM152	<1 ug/l
Zinc Dissolved (NRA) (ICP-MS)	<3	<3	<3	27	<3	<3				TM152	<3 ug/l
Mercury Dissolved (NRA) (CVAA)	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05				TM127	<0.05 ug/l
Chloride (NRA)	<1	1	<1	2	2	<1				TM097	<1 mg/l
Sulphide (NRA)	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50				TM101	<0.5 mg/l
Sulphate (NRA)	7	160	4	50	85	13				TM098	<3 mg/l
Total Oxidised Nitrogen as N (NRA)	<0.3	<0.3	0.5	<0.3	<0.3	0.3				TM102	<0.3 mg/l
Phenols Monohydric (NRA)	<0.01	<0.01	0.02	<0.01	<0.01	<0.01				TM062	<0.01 mg/l
Total Cyanide (NRA)	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05				TM153	<0.05 mg/l
Free Sulphur (NRA)	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05				TM136	<0.05 mg/l
pH (NRA)	7.93	8.07	7.80	8.02	7.99	8.00				TM133	<1.00 pH Units
EPH (DRO) (NRA)	<10	620	1100	<10	<10	<10				TM172	<10 ug/l
GRO (C4-C10) (NRA)	<10	<10	<10	<10	<10	<10				TM089	<10 ug/l
GRO (C10-C12) (NRA)	<10	<10	<10	<10	<10	<10				TM089	<10 ug/l
Benzene (NRA)	<10	<10	<10	<10	<10	<10				TM089	<10 ug/l
Toluene(NRA)	<10	<10	<10	<10	<10	<10				TM089	<10 ug/l
Ethyl benzene (NRA)	<10	<10	<10	<10	<10	<10				TM089	<10 ug/l
m & p Xylene (NRA)	<10	<10	<10	<10	<10	<10				TM089	<10 ug/l
o Xylene (NRA)	<10	<10	<10	<10	<10	<10				TM089	<10 ug/l
Sum m&p and o Xylene (NRA)	<10	<10	<10	<10	<10	<10				TM089	<10 ug/l
Sum of BTEX (NRA)	<10	<10	<10	<10	<10	<10				TM089	<10 ug/l
MTBE (NRA)	<10	<10	<10	<10	<10	<10				TM089	<10 ug/l

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Job Number: 07/08569/02/01 **Matrix:** LEACHATE
Client: Celtic Technologies **Location:** TEN ACRES LANE
Client Ref. No.: C1077 **Client Contact:** Simon Haunch

Sample Identity	BH1	BH2	BH5	BH7	BH9	BH13				Method Code	LoD/Units
Depth (m)	4.0-4.5	1.2-2.1	0.0-0.6	1.2-2.0	1.2-2.6	0.6-1.1					
Sample Type	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID					
Sampled Date	15.06.07	15.06.07	15.06.07	15.06.07	15.06.07	15.06.07					
Sample Received Date	19.06.07	19.06.07	19.06.07	19.06.07	19.06.07	19.06.07					
Batch	8	8	8	8	8	8					
Sample Number(s)	210-215	216-220	244-249	275-280	287-292	318-323					
PAH by GCMS											
Naphthalene (NRA)	<26	33	<26	<26	<26	<26				TM074	<26 ng/l
Acenaphthylene (NRA)	<11	13	<11	<11	21	<11				TM074	<11 ng/l
Acenaphthene (NRA)	<15	41	<15	<15	<15	<15				TM074	<15 ng/l
Fluorene (NRA)	<14	28	<14	<14	<14	<14				TM074	<14 ng/l
Phenanthrene (NRA)	<22	68	<22	<22	25	22				TM074	<22 ng/l
Anthracene (NRA)	<15	29	16	<15	20	<15				TM074	<15 ng/l
Fluoranthene (NRA)	80	47	47	<17	62	25				TM074	<17 ng/l
Pyrene (NRA)	51	32	59	<15	64	21				TM074	<15 ng/l
Benz(a)anthracene (NRA)	<17	<17	60	<17	28	<17				TM074	<17 ng/l
Chrysene (NRA)	<13	<13	61	<13	35	<13				TM074	<13 ng/l
Benzo(b)fluoranthene (NRA)	<23	<23	63	<23	51	<23				TM074	<23 ng/l
Benzo(k)fluoranthene (NRA)	<27	<27	<27	<27	<27	<27				TM074	<27 ng/l
Benzo(a)pyrene (NRA)	<9	<9	44	<9	36	<9				TM074	<9 ng/l
Indeno(123cd)pyrene (NRA)	<14	<14	23	<14	33	<14				TM074	<14 ng/l
Dibenzo(ah)anthracene (NRA)	<16	<16	<16	<16	<16	<16				TM074	<16 ng/l
Benzo(ghi)perylene (NRA)	<16	<16	31	<16	49	<16				TM074	<16 ng/l
PAH 16 Total (NRA)	130	290	400	<27	420	68				TM074	<27 ng/l

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Job Number: 07/08569/02/01 **Matrix:** LEACHATE
Client: Celtic Technologies **Location:** TEN ACRES LANE
Client Ref. No.: C1077 **Client Contact:** Simon Haunch

Sample Identity	BH1	BH2	BH5	BH7	BH9	BH13				Method Code	LoD/Units
Depth (m)	4.0-4.5	1.2-2.1	0.0-0.6	1.2-2.0	1.2-2.6	0.6-1.1					
Sample Type	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID					
Sampled Date	15.06.07	15.06.07	15.06.07	15.06.07	15.06.07	15.06.07					
Sample Received Date	19.06.07	19.06.07	19.06.07	19.06.07	19.06.07	19.06.07					
Batch	8	8	8	8	8	8					
Sample Number(s)	**210-215**	**216-220**	**244-249**	**275-280**	**287-292**	**318-323**					
SVOC by GCMS											
Phenols											
2-Chlorophenol (NRA)	<1	<1	<1	<1	<1	<1				TM143	<1 ug/l
2-Methylphenol (NRA)	<1	<1	<1	<1	<1	<1				TM143	<1 ug/l
2-Nitrophenol (NRA)	<1	<1	<1	<1	<1	<1				TM143	<1 ug/l
2,4-Dichlorophenol (NRA)	<1	<1	<1	<1	<1	<1				TM143	<1 ug/l
2,4-Dimethylphenol (NRA)	<1	<1	<1	<1	<1	<1				TM143	<1 ug/l
2,4,5-Trichlorophenol (NRA)	<1	<1	<1	<1	<1	<1				TM143	<1 ug/l
2,4,6-Trichlorophenol (NRA)	<1	<1	<1	<1	<1	<1				TM143	<1 ug/l
4-Chloro-3-methylphenol (NRA)	<1	<1	<1	<1	<1	<1				TM143	<1 ug/l
4-Methylphenol (NRA)	<1	<1	<1	<1	<1	<1				TM143	<1 ug/l
4-Nitrophenol (NRA)	<1	<1	<1	<1	<1	<1				TM143	<1 ug/l
Pentachlorophenol (NRA)	<1	<1	<1	<1	<1	<1				TM143	<1 ug/l
Phenol (NRA)	<1	<1	<1	<1	<1	<1				TM143	<1 ug/l

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Job Number: 07/08569/02/01 **Matrix:** LEACHATE
Client: Celtic Technologies **Location:** TEN ACRES LANE
Client Ref. No.: C1077 **Client Contact:** Simon Haunch

Sample Identity	BH1	BH2	BH5	BH7	BH9	BH13				Method Code	LoD/Units
Depth (m)	4.0-4.5	1.2-2.1	0.0-0.6	1.2-2.0	1.2-2.6	0.6-1.1					
Sample Type	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID					
Sampled Date	15.06.07	15.06.07	15.06.07	15.06.07	15.06.07	15.06.07					
Sample Received Date	19.06.07	19.06.07	19.06.07	19.06.07	19.06.07	19.06.07					
Batch	8	8	8	8	8	8					
Sample Number(s)	**210-215**	**216-220**	**244-249**	**275-280**	**287-292**	**318-323**					
PAHs											
2-Chloronaphthalene (NRA)	<1	<1	<1	<1	<1	<1				TM143	<1 ug/l
2-Methylnaphthalene (NRA)	<1	<1	<1	<1	<1	<1				TM143	<1 ug/l
Phthalates											
Bis(2-ethylhexyl) phthalate (NRA)	<1	<1	<1	<1	<1	<1				TM143	<1 ug/l
Butylbenzyl phthalate (NRA)	<1	<1	<1	<1	<1	<1				TM143	<1 ug/l
Di-n-butyl phthalate (NRA)	<1	<1	<1	<1	<1	<1				TM143	<1 ug/l
Di-n-Octyl phthalate (NRA)	<1	<1	<1	<1	<1	<1				TM143	<1 ug/l
Diethyl phthalate (NRA)	<1	<1	<1	<1	<1	<1				TM143	<1 ug/l
Dimethyl phthalate (NRA)	<1	<1	<1	<1	<1	<1				TM143	<1 ug/l
Other Semi-volatiles											
1,2-Dichlorobenzene (NRA)	<1	<1	<1	<1	<1	<1				TM143	<1 ug/l
1,2,4-Trichlorobenzene (NRA)	<1	<1	<1	<1	<1	<1				TM143	<1 ug/l
1,3-Dichlorobenzene (NRA)	<1	<1	<1	<1	<1	<1				TM143	<1 ug/l
1,4-Dichlorobenzene (NRA)	<1	<1	<1	<1	<1	<1				TM143	<1 ug/l
2-Nitroaniline (NRA)	<1	<1	<1	<1	<1	<1				TM143	<1 ug/l
2,4-Dinitrotoluene (NRA)	<1	<1	<1	<1	<1	<1				TM143	<1 ug/l
2,6-Dinitrotoluene (NRA)	<1	<1	<1	<1	<1	<1				TM143	<1 ug/l
3-Nitroaniline (NRA)	<1	<1	<1	<1	<1	<1				TM143	<1 ug/l
4-Bromophenylphenylether (NRA	<1	<1	<1	<1	<1	<1				TM143	<1 ug/l
4-Chloroaniline (NRA)	<1	<1	<1	<1	<1	<1				TM143	<1 ug/l
4-Chlorophenylphenylether (NRA	<1	<1	<1	<1	<1	<1				TM143	<1 ug/l
4-Nitroaniline (NRA)	<1	<1	<1	<1	<1	<1				TM143	<1 ug/l
Azobenzene (NRA)	<1	<1	<1	<1	<1	<1				TM143	<1 ug/l
Bis(2-chloroethoxy)methane (NRA)	<1	<1	<1	<1	<1	<1				TM143	<1 ug/l
Bis(2-chloroethyl)ether (NRA)	<1	<1	<1	<1	<1	<1				TM143	<1 ug/l
Carbazole (NRA)	<1	<1	<1	<1	<1	<1				TM143	<1 ug/l
Dibenzofuran (NRA)	<1	<1	<1	<1	<1	<1				TM143	<1 ug/l
Hexachlorobenzene (NRA)	<1	<1	<1	<1	<1	<1				TM143	<1 ug/l

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Job Number: 07/08569/02/01 **Matrix:** LEACHATE
Client: Celtic Technologies **Location:** TEN ACRES LANE
Client Ref. No.: C1077 **Client Contact:** Simon Haunch

Sample Identity	BH1	BH2	BH5	BH7	BH9	BH13				Method Code	LoD/Units
Depth (m)	4.0-4.5	1.2-2.1	0.0-0.6	1.2-2.0	1.2-2.6	0.6-1.1					
Sample Type	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID					
Sampled Date	15.06.07	15.06.07	15.06.07	15.06.07	15.06.07	15.06.07					
Sample Received Date	19.06.07	19.06.07	19.06.07	19.06.07	19.06.07	19.06.07					
Batch	8	8	8	8	8	8					
Sample Number(s)	**210-215**	**216-220**	**244-249**	**275-280**	**287-292**	**318-323**					
Other Semi-volatiles (cont)											
Hexachlorobutadiene (NRA)	<1	<1	<1	<1	<1	<1				TM143	<1 ug/l
Hexachlorocyclopentadiene (NRA	<1	<1	<1	<1	<1	<1				TM143	<1 ug/l
Hexachloroethane (NRA)	<1	<1	<1	<1	<1	<1				TM143	<1 ug/l
Isophorone (NRA)	<1	<1	<1	<1	<1	<1				TM143	<1 ug/l
N-nitrosodi-n-propylamine (NRA)	<1	<1	<1	<1	<1	<1				TM143	<1 ug/l
Nitrobenzene (NRA)	<1	<1	<1	<1	<1	<1				TM143	<1 ug/l

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Job Number: 07/08569/02/01 **Matrix:** LEACHATE
Client: Celtic Technologies **Location:** TEN ACRES LANE
Client Ref. No.: C1077 **Client Contact:** Simon Haunch

Sample Identity	BH1	BH2	BH5	BH7	BH9	BH13				Method Code	LoD/Units
Depth (m)	4.0-4.5	1.2-2.1	0.0-0.6	1.2-2.0	1.2-2.6	0.6-1.1					
Sample Type	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID					
Sampled Date	15.06.07	15.06.07	15.06.07	15.06.07	15.06.07	15.06.07					
Sample Received Date	19.06.07	19.06.07	19.06.07	19.06.07	19.06.07	19.06.07					
Batch	8	8	8	8	8	8					
Sample Number(s)	210-215	216-220	244-249	275-280	287-292	318-323					
Volatile Organic Compounds											
Dichlorodifluoromethane (NRA)	<1	<1	<1	<1	<1	<1				TM116	<1 ug/l
Chloromethane (NRA)	<1	<1	<1	<1	<1	<1				TM116	<1 ug/l
Vinyl Chloride (NRA)	<1	<1	<1	<1	<1	<1				TM116	<1 ug/l
Bromomethane (NRA)	<1	<1	<1	<1	<1	<1				TM116	<1 ug/l
Chloroethane (NRA)	<1	<1	<1	<1	<1	<1				TM116	<1 ug/l
Trichlorofluoromethane (NRA)	<1	<1	<1	<1	<1	<1				TM116	<1 ug/l
trans-1-2-Dichloroethene (NRA)	<1	<1	<1	<1	<1	<1				TM116	<1 ug/l
Dichloromethane (NRA)	<1	<1	<1	<1	<1	<1				TM116	<1 ug/l
Carbon Disulphide (NRA)	<1	<1	<1	<1	<1	<1				TM116	<1 ug/l
1.1-Dichloroethene (NRA)	<1	<1	<1	<1	<1	<1				TM116	<1 ug/l
1.1-Dichloroethane (NRA)	<1	<1	<1	<1	<1	<1				TM116	<1 ug/l
Methyl Tertiary Butyl Ether (NRA)	<1	<1	<1	<1	<1	<1				TM116	<1 ug/l
cis-1-2-Dichloroethene (NRA)	<1	<1	<1	<1	<1	<1				TM116	<1 ug/l
Bromochloromethane (NRA)	<1	<1	<1	<1	<1	<1				TM116	<1 ug/l
Chloroform (NRA)	<1	<1	<1	<1	<1	<1				TM116	<1 ug/l
2.2-Dichloropropane (NRA)	<1	<1	<1	<1	<1	<1				TM116	<1 ug/l
1.2-Dichloroethane (NRA)	<1	<1	<1	<1	<1	<1				TM116	<1 ug/l
1.1.1-Trichloroethane (NRA)	<1	<1	<1	<1	<1	<1				TM116	<1 ug/l
1.1-Dichloropropene (NRA)	<1	<1	<1	<1	<1	<1				TM116	<1 ug/l
Benzene (NRA)	<1	<1	<1	<1	<1	<1				TM116	<1 ug/l
Carbontetrachloride (NRA)	<1	<1	<1	<1	<1	<1				TM116	<1 ug/l
Dibromomethane (NRA)	<1	<1	<1	<1	<1	<1				TM116	<1 ug/l
1.2-Dichloropropane (NRA)	<1	<1	<1	<1	<1	<1				TM116	<1 ug/l
Bromodichloromethane (NRA)	<1	<1	<1	<1	<1	<1				TM116	<1 ug/l
Trichloroethene (NRA)	<1	<1	<1	<1	<1	<1				TM116	<1 ug/l
cis-1-3-Dichloropropene (NRA)	<1	<1	<1	<1	<1	<1				TM116	<1 ug/l
trans-1-3-Dichloropropene (NRA)	<1	<1	<1	<1	<1	<1				TM116	<1 ug/l
1.1.2-Trichloroethane (NRA)	<1	<1	<1	<1	<1	<1				TM116	<1 ug/l
Toluene (NRA)	<1	<1	<1	<1	<1	<1				TM116	<1 ug/l
1.3-Dichloropropane (NRA)	<1	<1	<1	<1	<1	<1				TM116	<1 ug/l

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Job Number: 07/08569/02/01 **Matrix:** LEACHATE
Client: Celtic Technologies **Location:** TEN ACRES LANE
Client Ref. No.: C1077 **Client Contact:** Simon Haunch

Sample Identity	BH1	BH2	BH5	BH7	BH9	BH13				Method Code	LoD/Units
Depth (m)	4.0-4.5	1.2-2.1	0.0-0.6	1.2-2.0	1.2-2.6	0.6-1.1					
Sample Type	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID					
Sampled Date	15.06.07	15.06.07	15.06.07	15.06.07	15.06.07	15.06.07					
Sample Received Date	19.06.07	19.06.07	19.06.07	19.06.07	19.06.07	19.06.07					
Batch	8	8	8	8	8	8					
Sample Number(s)	210-215	216-220	244-249	275-280	287-292	318-323					
Volatile Organic Compounds (cont)											
Dibromochloromethane (NRA)	<1	<1	<1	<1	<1	<1				TM116	<1 ug/l
1.2-Dibromoethane (NRA)	<1	<1	<1	<1	<1	<1				TM116	<1 ug/l
Tetrachloroethene (NRA)	<1	<1	<1	<1	<1	<1				TM116	<1 ug/l
1.1.1.2-Tetrachloroethane (NRA)	<1	<1	<1	<1	<1	<1				TM116	<1 ug/l
Chlorobenzene (NRA)	<1	<1	<1	<1	<1	<1				TM116	<1 ug/l
Ethylbenzene (NRA)	<1	<1	<1	<1	<1	<1				TM116	<1 ug/l
p/m-Xylene (NRA)	<1	<1	<1	<1	<1	<1				TM116	<1 ug/l
Bromoform (NRA)	<1	<1	<1	<1	<1	<1				TM116	<1 ug/l
Styrene (NRA)	<1	<1	<1	<1	<1	<1				TM116	<1 ug/l
1.1.2.2-Tetrachloroethane (NRA)	<1	<1	<1	<1	<1	<1				TM116	<1 ug/l
o-Xylene (NRA)	<1	<1	<1	<1	<1	<1				TM116	<1 ug/l
1.2.3-Trichloropropane (NRA)	<1	<1	<1	<1	<1	<1				TM116	<1 ug/l
Isopropylbenzene (NRA)	<1	<1	<1	<1	<1	<1				TM116	<1 ug/l
Bromobenzene (NRA)	<1	<1	<1	<1	<1	<1				TM116	<1 ug/l
2-Chlorotoluene (NRA)	<1	<1	<1	<1	<1	<1				TM116	<1 ug/l
Propylbenzene (NRA)	<1	<1	<1	<1	<1	<1				TM116	<1 ug/l
4-Chlorotoluene (NRA)	<1	<1	<1	<1	<1	<1				TM116	<1 ug/l
1.2.4-Trimethylbenzene (NRA)	<1	<1	<1	<1	<1	<1				TM116	<1 ug/l
4-Isopropyltoluene (NRA)	<1	<1	<1	<1	<1	<1				TM116	<1 ug/l
1.3.5-Trimethylbenzene (NRA)	<1	<1	<1	<1	<1	<1				TM116	<1 ug/l
1.2-Dichlorobenzene (NRA)	<1	<1	<1	<1	<1	<1				TM116	<1 ug/l
1.4-Dichlorobenzene (NRA)	<1	<1	<1	<1	<1	<1				TM116	<1 ug/l
sec-Butylbenzene (NRA)	<1	<1	<1	<1	<1	<1				TM116	<1 ug/l
tert-Butylbenzene (NRA)	<1	<1	<1	<1	<1	<1				TM116	<1 ug/l
1.3-Dichlorobenzene (NRA)	<1	<1	<1	<1	<1	<1				TM116	<1 ug/l
n-Butylbenzene (NRA)	<1	<1	<1	<1	<1	<1				TM116	<1 ug/l
1.2-Dibromo-3-chloropropane (NRA)	<1	<1	<1	<1	<1	<1				TM116	<1 ug/l
1.2.4-Trichlorobenzene (NRA)	<1	<1	<1	<1	<1	<1				TM116	<1 ug/l
Naphthalene (NRA)	<1	<1	<1	<1	<1	<1				TM116	<1 ug/l
1.2.3-Trichlorobenzene (NRA)	<1	<1	<1	<1	<1	<1				TM116	<1 ug/l

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Job Number: 07/08569/02/01 **Matrix:** LEACHATE
Client: Celtic Technologies **Location:** TEN ACRES LANE
Client Ref. No.: C1077 **Client Contact:** Simon Haunch

Sample Identity	BH1	BH2	BH5	BH7	BH9	BH13				Method Code	LoD/Units
Depth (m)	4.0-4.5	1.2-2.1	0.0-0.6	1.2-2.0	1.2-2.6	0.6-1.1					
Sample Type	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID					
Sampled Date	15.06.07	15.06.07	15.06.07	15.06.07	15.06.07	15.06.07					
Sample Received Date	19.06.07	19.06.07	19.06.07	19.06.07	19.06.07	19.06.07					
Batch	8	8	8	8	8	8					
Sample Number(s)	**210-215**	**216-220**	**244-249**	**275-280**	**287-292**	**318-323**					
Volatile Organic Compounds (cont)											
Hexachlorobutadiene (NRA)	<1	<1	<1	<1	<1	<1				TM116	<1 ug/l

Date 10.07.2007

ALcontrol Geochem Analytical Services
Table Of Results - Appendix

Job Number: 07/08569/02/01
Client: Celtic Technologies
Client Ref. No.: C1077

Report Key :

Results expressed as (e.g.) 1.03E-07 is equivalent to 1.03×10^{-7}

NDP	No Determination Possible	*	Subcontracted test
NFD	No Fibres Detected	»	Result previously reported (Incremental reports only)
#	ISO 17025 accredited	M	MCERTS Accredited
PFD	Possible Fibres Detected	EC	Equivalent Carbon (Aromatics C8-C35)

Note: Method detection limits are not always achievable due to various circumstances beyond our control.

Summary of Method Codes contained within report :

Method No.	Reference	Description	ISO 17025 Accredited	MCERTS Accredited	Wet/Dry Sample [1]	Surrogate Corrected
TM062	MEWAM BOOK 124 1988.HMSO/ Method 17.7, Second Site property, March 2003	Determination of Phenolic compounds by HPLC with electro-chemical detection			NA	
TM074	Modified: US EPA Method 8100	Determination of Polynuclear Aromatic Hydrocarbons (PAH) by GC-MS. MCERTS Accreditation on Soils for Naphthalene except when Kerosene present.			NA	
TM089	Modified: US EPA Methods 8020 & 602	Determination of Gasoline Range Hydrocarbons (GRO) and BTEX (MTBE) compounds by Headspace GC-FID (C4-C12)			NA	
TM097	Modified: US EPA Method 325.1 & 325.2	Determination of Chloride using the Kone Analyser			NA	
TM098	Method 4500E, AWWA/APHA, 20th Ed., 1999	Determination of Sulphate using the Kone Analyser			NA	
TM101	Method 4500B & C, AWWA/APHA, 20th Ed., 1999	Determination of Sulphide in soil and water samples using the Kone Analyser			NA	
TM102	Method 4500H, AWWA/APHA, 20th Ed., 1999	Determination of Total Oxidised Nitrogen using the Kone Analyser			NA	
TM116	Modified: US EPA Method 8260, 8120, 8020, 624, 610 & 602	Determination of Volatile Organic Compounds by Headspace / GC-MS			NA	
TM116	Modified: US EPA Method 8260, 8120, 8020, 624, 610 & 602	Determination of Volatile Organic Compounds by Headspace / GC-MS			NA	
TM127	Method 3112B, AWWA/APHA, 20th Ed., 1999	The Determination of Trace Level Mercury in Aqueous Media and Soil Extracts by Atomic Absorption Spectroscopy			NA	
TM133	BS 1377: Part 3 1990	Determination of pH in Soil and Water using the GLpH pH Meter			NA	
TM136	Method 17.10, Second Site property, March 2003	Determination of Sulphur by HPLC			NA	
TM143	Modified: US EPA Method 8270C	Determination of Semivolatile Organic Compounds by GC-MS			NA	
TM143	Modified: US EPA Method 8270C	Determination of Semivolatile Organic Compounds by GC-MS			NA	

[1] Applies to Solid samples only. **DRY** indicates samples have been dried at 35°C. **NA** = not applicable.

ALcontrol Geochem Analytical Services
Table Of Results - Appendix

Job Number: 07/08569/02/01
Client: Celtic Technologies
Client Ref. No.: C1077

Report Key :

Results expressed as (e.g.) 1.03E-07 is equivalent to 1.03×10^{-7}

NDP	No Determination Possible	*	Subcontracted test
NFD	No Fibres Detected	»	Result previously reported (Incremental reports only)
#	ISO 17025 accredited	M	MCERTS Accredited
PFD	Possible Fibres Detected	EC	Equivalent Carbon (Aromatics C8-C35)

Note: Method detection limits are not always achievable due to various circumstances beyond our control.

Summary of Method Codes contained within report :

Method No.	Reference	Description	ISO 17025 Accredited	MCERTS Accredited	Wet/Dry Sample [1]	Surrogate Corrected
TM152	Method 3125B, AWWA/APHA, 20th Ed., 1999	Analysis of Aqueous Samples by ICP-MS			NA	
TM153	Method 4500A,B,C, I, M AWWA/APHA, 20th Ed., 1999	Determination of Total Cyanide, Free (Easily Liberatable) Cyanide and Thiocyanate using the "Skalar SANS+ System" Segmented Flow Analyser			NA	
TM172		EPH in Waters			NA	

[1] Applies to Solid samples only. **DRY** indicates samples have been dried at 35°C. **NA** = not applicable.

ALcontrol Geochem Analytical Services
Table Of Results - Appendix

Job Number: 07/08569/02/01
Client: Celtic Technologies
Client Ref. No.: C1077

Summary of Coolbox temperatures

Batch No.	Coolbox Temperature (°C)
8	14.4

ALcontrol Geochem Analytical Services
Sample Descriptions

Job Number: 07/09052/02/01
Client: Celtic Technologies
Client Ref : C1077

Grain sizes

<0.063mm	Very Fine
0.1mm - 0.063mm	Fine
0.1mm - 2mm	Medium
2mm - 10mm	Coarse
>10mm	Very Coarse

Sample Identity	Depth (m)	Colour	Grain Size	Description	Batch
TP11	0.7	Brown	0.1mm - 0.063mm	Sandy Clay with some Stones	1

* These descriptions are only intended to act as a cross check if sample identities are questioned, and to provide a log of sample matrices with respect to MCERTS validation. They are not intended as full geological descriptions.

We are accredited to MCERTS for sand, clay and loam/topsoil, or any of these materials-whether these are derived from naturally occurring soil profiles, or from fill/made ground, as long as these materials constitute the major part of the sample.
Other coarse granular materials such as concrete, gravel and brick are not accredited if they comprise the major part of the sample.
[1] Sample Description supplied by client

Validated ✓
Preliminary

ALcontrol Geochem Analytical Services
Table Of Results

ISO 17025 accredited
M MCERTS accredited
* Subcontracted test
» Shown on prev. report

Job Number: 07/09052/02/01 **Matrix:** LEACHATE
Client: Celtic Technologies **Location:** Not Specified
Client Ref. No.: C1077 **Client Contact:** Simon Haunch

Sample Identity	TP11									Method Code	LoD/Units
Depth (m)	0.7										
Sample Type	SOLID										
Sampled Date	21.05.07										
Sample Received Date	24.05.07										
Batch	1										
Sample Number(s)	5-7										
Arsenic Dissolved (NRA) (ICP-MS)	2									TM152	<1 ug/l
Boron Dissolved (NRA) (ICP-MS)	<10									TM152	<10 ug/l
Cadmium Dissolved (NRA) (ICP-MS)	<0.4									TM152	<0.4 ug/l
Chromium Dissolved (NRA) (ICP-MS)	2									TM152	<1 ug/l
Copper Dissolved (NRA) (ICP-MS)	2									TM152	<1 ug/l
Lead Dissolved (NRA) (ICP-MS)	<1									TM152	<1 ug/l
Nickel Dissolved (NRA) (ICP-MS)	2									TM152	<1 ug/l
Selenium Dissolved (NRA) (ICP-MS)	<1									TM152	<1 ug/l
Zinc Dissolved (NRA) (ICP-MS)	<3									TM152	<3 ug/l
Mercury Dissolved (NRA) (CVAA)	<0.05									TM127	<0.05 ug/l
Chloride (NRA)	<1									TM097	<1 mg/l
Sulphide (NRA)	<0.50									TM101	<0.5 mg/l
Sulphate (NRA)	140									TM098	<3 mg/l
Total Oxidised Nitrogen as N (NRA)	<0.3									TM102	<0.3 mg/l
Phenols Monohydric (NRA)	<0.01									TM062	<0.01 mg/l
Total Cyanide (NRA)	<0.05									TM153	<0.05 mg/l
Free Sulphur (NRA)	<0.05									TM136	<0.05 mg/l
pH (NRA)	8.22									TM133	<1.00 pH Units
EPH (DRO) (NRA)	<10									TM172	<10 ug/l
GRO (C4-C10) (NRA)	<10									TM089	<10 ug/l
GRO (C10-C12) (NRA)	<10									TM089	<10 ug/l
Benzene (NRA)	<10									TM089	<10 ug/l
Toluene(NRA)	<10									TM089	<10 ug/l
Ethyl benzene (NRA)	<10									TM089	<10 ug/l
m & p Xylene (NRA)	<10									TM089	<10 ug/l
o Xylene (NRA)	<10									TM089	<10 ug/l
Sum m&p and o Xylene (NRA)	<10									TM089	<10 ug/l
Sum of BTEX (NRA)	<10									TM089	<10 ug/l
MTBE (NRA)	<10									TM089	<10 ug/l

Date 09.07.2007

Validated ✓
Preliminary

ALcontrol Geochem Analytical Services
Table Of Results

[#] ISO 17025 accredited
[M] MCERTS accredited
[*] Subcontracted test
» Shown on prev. report

Job Number: 07/09052/02/01 **Matrix:** LEACHATE
Client: Celtic Technologies **Location:** Not Specified
Client Ref. No.: C1077 **Client Contact:** Simon Haunch

Sample Identity	TP11									Method Code	LoD/Units
Depth (m)	0.7										
Sample Type	SOLID										
Sampled Date	21.05.07										
Sample Received Date	24.05.07										
Batch	1										
Sample Number(s)	5-7										
PAH by GCMS											
Naphthalene (NRA)	100									TM074	<26 ng/l
Acenaphthylene (NRA)	37									TM074	<11 ng/l
Acenaphthene (NRA)	430									TM074	<15 ng/l
Fluorene (NRA)	280									TM074	<14 ng/l
Phenanthrene (NRA)	380									TM074	<22 ng/l
Anthracene (NRA)	120									TM074	<15 ng/l
Fluoranthene (NRA)	260									TM074	<17 ng/l
Pyrene (NRA)	220									TM074	<15 ng/l
Benz(a)anthracene (NRA)	30									TM074	<17 ng/l
Chrysene (NRA)	39									TM074	<13 ng/l
Benzo(b)fluoranthene (NRA)	<23									TM074	<23 ng/l
Benzo(k)fluoranthene (NRA)	<27									TM074	<27 ng/l
Benzo(a)pyrene (NRA)	13									TM074	<9 ng/l
Indeno(123cd)pyrene (NRA)	<14									TM074	<14 ng/l
Dibenzo(ah)anthracene (NRA)	<16									TM074	<16 ng/l
Benzo(ghi)perylene (NRA)	<16									TM074	<16 ng/l
PAH 16 Total (NRA)	1900									TM074	<27 ng/l

Date 09.07.2007

Validated ✓
Preliminary

ALcontrol Geochem Analytical Services
Table Of Results

ISO 17025 accredited
M MCERTS accredited
* Subcontracted test
» Shown on prev. report

Job Number: 07/09052/02/01 **Matrix:** LEACHATE
Client: Celtic Technologies **Location:** Not Specified
Client Ref. No.: C1077 **Client Contact:** Simon Haunch

Sample Identity	TP11									Method Code	LoD/Units
Depth (m)	0.7										
Sample Type	SOLID										
Sampled Date	21.05.07										
Sample Received Date	24.05.07										
Batch	1										
Sample Number(s)	5-7										
SVOC by GCMS											
Phenols											
2-Chlorophenol (NRA)	<1									TM143	<1 ug/l
2-Methylphenol (NRA)	<1									TM143	<1 ug/l
2-Nitrophenol (NRA)	<1									TM143	<1 ug/l
2,4-Dichlorophenol (NRA)	<1									TM143	<1 ug/l
2,4-Dimethylphenol (NRA)	<1									TM143	<1 ug/l
2,4,5-Trichlorophenol (NRA)	<1									TM143	<1 ug/l
2,4,6-Trichlorophenol (NRA)	<1									TM143	<1 ug/l
4-Chloro-3-methylphenol (NRA)	<1									TM143	<1 ug/l
4-Methylphenol (NRA)	<1									TM143	<1 ug/l
4-Nitrophenol (NRA)	<1									TM143	<1 ug/l
Pentachlorophenol (NRA)	<1									TM143	<1 ug/l
Phenol (NRA)	<1									TM143	<1 ug/l

Date 09.07.2007

Validated ✓
Preliminary

ALcontrol Geochem Analytical Services
Table Of Results

ISO 17025 accredited
M MCERTS accredited
* Subcontracted test
» Shown on prev. report

Job Number: 07/09052/02/01 **Matrix:** LEACHATE
Client: Celtic Technologies **Location:** Not Specified
Client Ref. No.: C1077 **Client Contact:** Simon Haunch

Sample Identity	TP11									Method Code	LoD/Units
Depth (m)	0.7										
Sample Type	SOLID										
Sampled Date	21.05.07										
Sample Received Date	24.05.07										
Batch	1										
Sample Number(s)	5-7										
PAHs											
2-Chloronaphthalene (NRA)	<1									TM143	<1 ug/l
2-Methylnaphthalene (NRA)	<1									TM143	<1 ug/l
Phthalates											
Bis(2-ethylhexyl) phthalate (NRA)	<1									TM143	<1 ug/l
Butylbenzyl phthalate (NRA)	<1									TM143	<1 ug/l
Di-n-butyl phthalate (NRA)	<1									TM143	<1 ug/l
Di-n-Octyl phthalate (NRA)	<1									TM143	<1 ug/l
Diethyl phthalate (NRA)	<1									TM143	<1 ug/l
Dimethyl phthalate (NRA)	<1									TM143	<1 ug/l
Other Semi-volatiles											
1,2-Dichlorobenzene (NRA)	<1									TM143	<1 ug/l
1,2,4-Trichlorobenzene (NRA)	<1									TM143	<1 ug/l
1,3-Dichlorobenzene (NRA)	<1									TM143	<1 ug/l
1,4-Dichlorobenzene (NRA)	<1									TM143	<1 ug/l
2-Nitroaniline (NRA)	<1									TM143	<1 ug/l
2,4-Dinitrotoluene (NRA)	<1									TM143	<1 ug/l
2,6-Dinitrotoluene (NRA)	<1									TM143	<1 ug/l
3-Nitroaniline (NRA)	<1									TM143	<1 ug/l
4-Bromophenylphenylether (NRA	<1									TM143	<1 ug/l
4-Chloroaniline (NRA)	<1									TM143	<1 ug/l
4-Chlorophenylphenylether (NRA	<1									TM143	<1 ug/l
4-Nitroaniline (NRA)	<1									TM143	<1 ug/l
Azobenzene (NRA)	<1									TM143	<1 ug/l
Bis(2-chloroethoxy)methane (NRA)	<1									TM143	<1 ug/l
Bis(2-chloroethyl)ether (NRA)	<1									TM143	<1 ug/l
Carbazole (NRA)	<1									TM143	<1 ug/l
Dibenzofuran (NRA)	<1									TM143	<1 ug/l
Hexachlorobenzene (NRA)	<1									TM143	<1 ug/l

Date 09.07.2007

Validated ✓
Preliminary

ALcontrol Geochem Analytical Services
Table Of Results

ISO 17025 accredited
M MCERTS accredited
* Subcontracted test
» Shown on prev. report

Job Number: 07/09052/02/01 **Matrix:** LEACHATE
Client: Celtic Technologies **Location:** Not Specified
Client Ref. No.: C1077 **Client Contact:** Simon Haunch

Sample Identity	TP11									Method Code	LoD/Units
Depth (m)	0.7										
Sample Type	SOLID										
Sampled Date	21.05.07										
Sample Received Date	24.05.07										
Batch	1										
Sample Number(s)	5-7										
Other Semi-volatiles (cont)											
Hexachlorobutadiene (NRA)	<1									TM143	<1 ug/l
Hexachlorocyclopentadiene (NRA	<1									TM143	<1 ug/l
Hexachloroethane (NRA)	<1									TM143	<1 ug/l
Isophorone (NRA)	<1									TM143	<1 ug/l
N-nitrosodi-n-propylamine (NRA)	<1									TM143	<1 ug/l
Nitrobenzene (NRA)	<1									TM143	<1 ug/l

Date 09.07.2007

Validated ✓
Preliminary

ALcontrol Geochem Analytical Services
Table Of Results

ISO 17025 accredited
M MCERTS accredited
* Subcontracted test
» Shown on prev. report

Job Number: 07/09052/02/01 **Matrix:** LEACHATE
Client: Celtic Technologies **Location:** Not Specified
Client Ref. No.: C1077 **Client Contact:** Simon Haunch

Sample Identity	TP11									Method Code	LoD/Units
Depth (m)	0.7										
Sample Type	SOLID										
Sampled Date	21.05.07										
Sample Received Date	24.05.07										
Batch	1										
Sample Number(s)	5-7										
Volatile Organic Compounds											
Dichlorodifluoromethane (NRA)	<1									TM116	<1 ug/l
Chloromethane (NRA)	<1									TM116	<1 ug/l
Vinyl Chloride (NRA)	<1									TM116	<1 ug/l
Bromomethane (NRA)	<1									TM116	<1 ug/l
Chloroethane (NRA)	<1									TM116	<1 ug/l
Trichlorofluoromethane (NRA)	<1									TM116	<1 ug/l
trans-1-2-Dichloroethene (NRA)	<1									TM116	<1 ug/l
Dichloromethane (NRA)	<1									TM116	<1 ug/l
Carbon Disulphide (NRA)	<1									TM116	<1 ug/l
1.1-Dichloroethene (NRA)	<1									TM116	<1 ug/l
1.1-Dichloroethane (NRA)	<1									TM116	<1 ug/l
Methyl Tertiary Butyl Ether (NRA)	<1									TM116	<1 ug/l
cis-1-2-Dichloroethene (NRA)	<1									TM116	<1 ug/l
Bromochloromethane (NRA)	<1									TM116	<1 ug/l
Chloroform (NRA)	<1									TM116	<1 ug/l
2.2-Dichloropropane (NRA)	<1									TM116	<1 ug/l
1.2-Dichloroethane (NRA)	<1									TM116	<1 ug/l
1.1.1-Trichloroethane (NRA)	<1									TM116	<1 ug/l
1.1-Dichloropropene (NRA)	<1									TM116	<1 ug/l
Benzene (NRA)	<1									TM116	<1 ug/l
Carbontetrachloride (NRA)	<1									TM116	<1 ug/l
Dibromomethane (NRA)	<1									TM116	<1 ug/l
1.2-Dichloropropane (NRA)	<1									TM116	<1 ug/l
Bromodichloromethane (NRA)	<1									TM116	<1 ug/l
Trichloroethene (NRA)	<1									TM116	<1 ug/l
cis-1-3-Dichloropropene (NRA)	<1									TM116	<1 ug/l
trans-1-3-Dichloropropene (NRA)	<1									TM116	<1 ug/l
1.1.2-Trichloroethane (NRA)	<1									TM116	<1 ug/l
Toluene (NRA)	<1									TM116	<1 ug/l
1.3-Dichloropropane (NRA)	<1									TM116	<1 ug/l

Date 09.07.2007

Validated ✓
Preliminary

ALcontrol Geochem Analytical Services
Table Of Results

ISO 17025 accredited
M MCERTS accredited
* Subcontracted test
» Shown on prev. report

Job Number: 07/09052/02/01 **Matrix:** LEACHATE
Client: Celtic Technologies **Location:** Not Specified
Client Ref. No.: C1077 **Client Contact:** Simon Haunch

Sample Identity	TP11									Method Code	LoD/Units
Depth (m)	0.7										
Sample Type	SOLID										
Sampled Date	21.05.07										
Sample Received Date	24.05.07										
Batch	1										
Sample Number(s)	5-7										
Volatile Organic Compounds (cont)											
Dibromochloromethane (NRA)	<1									TM116	<1 ug/l
1.2-Dibromoethane (NRA)	<1									TM116	<1 ug/l
Tetrachloroethene (NRA)	<1									TM116	<1 ug/l
1.1.1.2-Tetrachloroethane (NRA)	<1									TM116	<1 ug/l
Chlorobenzene (NRA)	<1									TM116	<1 ug/l
Ethylbenzene (NRA)	<1									TM116	<1 ug/l
p/m-Xylene (NRA)	<1									TM116	<1 ug/l
Bromoform (NRA)	<1									TM116	<1 ug/l
Styrene (NRA)	<1									TM116	<1 ug/l
1.1.2.2-Tetrachloroethane (NRA)	<1									TM116	<1 ug/l
o-Xylene (NRA)	<1									TM116	<1 ug/l
1.2.3-Trichloropropane (NRA)	<1									TM116	<1 ug/l
Isopropylbenzene (NRA)	<1									TM116	<1 ug/l
Bromobenzene (NRA)	<1									TM116	<1 ug/l
2-Chlorotoluene (NRA)	<1									TM116	<1 ug/l
Propylbenzene (NRA)	<1									TM116	<1 ug/l
4-Chlorotoluene (NRA)	<1									TM116	<1 ug/l
1.2.4-Trimethylbenzene (NRA)	<1									TM116	<1 ug/l
4-Isopropyltoluene (NRA)	<1									TM116	<1 ug/l
1.3.5-Trimethylbenzene (NRA)	<1									TM116	<1 ug/l
1.2-Dichlorobenzene (NRA)	<1									TM116	<1 ug/l
1.4-Dichlorobenzene (NRA)	<1									TM116	<1 ug/l
sec-Butylbenzene (NRA)	<1									TM116	<1 ug/l
tert-Butylbenzene (NRA)	<1									TM116	<1 ug/l
1.3-Dichlorobenzene (NRA)	<1									TM116	<1 ug/l
n-Butylbenzene (NRA)	<1									TM116	<1 ug/l
1.2-Dibromo-3-chloropropane (NRA)	<1									TM116	<1 ug/l
1.2.4-Trichlorobenzene (NRA)	<1									TM116	<1 ug/l
Naphthalene (NRA)	<1									TM116	<1 ug/l
1.2.3-Trichlorobenzene (NRA)	<1									TM116	<1 ug/l

Date 09.07.2007

Validated ✓
Preliminary

ALcontrol Geochem Analytical Services
Table Of Results

ISO 17025 accredited
M MCERTS accredited
* Subcontracted test
» Shown on prev. report

Job Number: 07/09052/02/01 **Matrix:** LEACHATE
Client: Celtic Technologies **Location:** Not Specified
Client Ref. No.: C1077 **Client Contact:** Simon Haunch

Sample Identity	TP11									Method Code	LoD/Units
Depth (m)	0.7										
Sample Type	SOLID										
Sampled Date	21.05.07										
Sample Received Date	24.05.07										
Batch	1										
Sample Number(s)	5-7										
Volatile Organic Compounds (cont)											
Hexachlorobutadiene (NRA)	<1									TM116	<1 ug/l

Date 09.07.2007

ALcontrol Geochem Analytical Services
Table Of Results - Appendix

Job Number: 07/09052/02/01
Client: Celtic Technologies
Client Ref. No.: C1077

Report Key :

Results expressed as (e.g.) 1.03E-07 is equivalent to 1.03×10^{-7}

NDP	No Determination Possible	*	Subcontracted test
NFD	No Fibres Detected	»	Result previously reported (Incremental reports only)
#	ISO 17025 accredited	M	MCERTS Accredited
PFD	Possible Fibres Detected	EC	Equivalent Carbon (Aromatics C8-C35)

Note: Method detection limits are not always achievable due to various circumstances beyond our control.

Summary of Method Codes contained within report :

Method No.	Reference	Description	ISO 17025 Accredited	MCERTS Accredited	Wet/Dry Sample [1]	Surrogate Corrected
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TM074	Modified: US EPA Method 8100	Determination of Polynuclear Aromatic Hydrocarbons (PAH) by GC-MS. MCERTS Accreditation on Soils for Naphthalene except when Kerosene present.			NA	
TM089	Modified: US EPA Methods 8020 & 602	Determination of Gasoline Range Hydrocarbons (GRO) and BTEX (MTBE) compounds by Headspace GC-FID (C4-C12)			NA	
TM097	Modified: US EPA Method 325.1 & 325.2	Determination of Chloride using the Kone Analyser			NA	
TM098	Method 4500E, AWWA/APHA, 20th Ed., 1999	Determination of Sulphate using the Kone Analyser			NA	
TM101	Method 4500B & C, AWWA/APHA, 20th Ed., 1999	Determination of Sulphide in soil and water samples using the Kone Analyser			NA	
TM102	Method 4500H, AWWA/APHA, 20th Ed., 1999	Determination of Total Oxidised Nitrogen using the Kone Analyser			NA	
TM116	Modified: US EPA Method 8260, 8120, 8020, 624, 610 & 602	Determination of Volatile Organic Compounds by Headspace / GC-MS			NA	
TM116	Modified: US EPA Method 8260, 8120, 8020, 624, 610 & 602	Determination of Volatile Organic Compounds by Headspace / GC-MS			NA	
TM127	Method 3112B, AWWA/APHA, 20th Ed., 1999	The Determination of Trace Level Mercury in Aqueous Media and Soil Extracts by Atomic Absorption Spectroscopy			NA	
TM133	BS 1377: Part 3 1990	Determination of pH in Soil and Water using the GLpH pH Meter			NA	
TM136	Method 17.10, Second Site property, March 2003	Determination of Sulphur by HPLC			NA	
TM143	Modified: US EPA Method 8270C	Determination of Semivolatile Organic Compounds by GC-MS			NA	
TM143	Modified: US EPA Method 8270C	Determination of Semivolatile Organic Compounds by GC-MS			NA	

[1] Applies to Solid samples only. **DRY** indicates samples have been dried at 35°C. **NA** = not applicable.

ALcontrol Geochem Analytical Services
Table Of Results - Appendix

Job Number: 07/09052/02/01
Client: Celtic Technologies
Client Ref. No.: C1077

Report Key :

Results expressed as (e.g.) 1.03E-07 is equivalent to 1.03×10^{-7}

NDP	No Determination Possible	*	Subcontracted test
NFD	No Fibres Detected	»	Result previously reported (Incremental reports only)
#	ISO 17025 accredited	M	MCERTS Accredited
PFD	Possible Fibres Detected	EC	Equivalent Carbon (Aromatics C8-C35)

Note: Method detection limits are not always achievable due to various circumstances beyond our control.

Summary of Method Codes contained within report :

Method No.	Reference	Description	ISO 17025 Accredited	MCERTS Accredited	Wet/Dry Sample [1]	Surrogate Corrected
TM152	Method 3125B, AWWA/APHA, 20th Ed., 1999	Analysis of Aqueous Samples by ICP-MS			NA	
TM153	Method 4500A,B,C, I, M AWWA/APHA, 20th Ed., 1999	Determination of Total Cyanide, Free (Easily Liberatable) Cyanide and Thiocyanate using the "Skalar SANS+ System" Segmented Flow Analyser			NA	
TM172		EPH in Waters			NA	

[1] Applies to Solid samples only. **DRY** indicates samples have been dried at 35°C. **NA** = not applicable.

ALcontrol Geochem Analytical Services
Table Of Results - Appendix

Job Number: 07/09052/02/01
Client: Celtic Technologies
Client Ref. No.: C1077

Summary of Coolbox temperatures

Batch No.	Coolbox Temperature (°C)
1	5

ALcontrol Geochem Analytical Services
Sample Descriptions

Job Number: 07/08409/02/01
Client: Celtic
Client Ref :

Grain sizes

<0.063mm	Very Fine
0.1mm - 0.063mm	Fine
0.1mm - 2mm	Medium
2mm - 10mm	Coarse
>10mm	Very Coarse

Sample Identity	Depth (m)	Colour	Grain Size	Description	Batch
TP 4	2.4	Brown	0.1mm - 0.063mm	Sandy Clay with some Stones	1
TP 5	2.4	Red	0.1mm - 0.063mm	Stones	1
TP 6	0.7	Black	0.1mm - 2mm	Sandy Clay with some Stones	1
TP 7	2.8	Black	0.1mm - 2mm	Sandy Clay with some Stones	1
TP 8	2.8	Brown	0.1mm - 2mm	Sandy Clay with some Stones	1
TP 9	1.4	Dark Brown	0.1mm - 2mm	Sandy Clay with some Stones	1
TP 10	2.4	Dark Brown	0.1mm - 2mm	Sandy Clay with some Stones	1
TP 12	0.8	Brown	0.1mm - 2mm	Sandy Clay with some Stones	1
TP 12	1.7	Black	0.1mm - 2mm	Sandy Clay with some Stones	1
TP 13	2.0	Brown	<0.063mm	Clay with some Stones	1
WS 12	0.5	Dark Brown	0.1mm - 2mm	Stones	1
WS 12	1.5	Dark Brown	0.1mm - 2mm	Silty Clay with some Coal Fragments	1
WS 12	2.7	Brown	<0.063mm	Clay with some Stones	1
WS 13	1.5	Dark Brown	0.1mm - 2mm	Sandy Clay with some Stones	1
WS 15	1.5	Black	0.1mm - 2mm	Sand with some Stones	1
WS 16	1.1	Black	0.1mm - 2mm	Sandy Clay with some Stones	1
WS 16	4.5	Black	0.1mm - 2mm	Sand with some Stones	1
WS 17	0.5	Black	0.1mm - 2mm	Sand with some Stones	1
WS 17	1.2	Black	0.1mm - 0.063mm	Sandy Clay with some Stones	1

* These descriptions are only intended to act as a cross check if sample identities are questioned, and to provide a log of sample matrices with respect to MCERTS validation. They are not intended as full geological descriptions.

We are accredited to MCERTS for sand, clay and loam/topsoil, or any of these materials-whether these are derived from naturally occurring soil profiles, or from fill/made ground, as long as these materials constitute the major part of the sample.
Other coarse granular materials such as concrete, gravel and brick are not accredited if they comprise the major part of the sample.
[1] Sample Description supplied by client

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Preliminary

ALcontrol Geochem Analytical Services
Table Of Results

[#] ISO 17025 accredited
[M] MCERTS accredited
* Subcontracted test
» Shown on prev. report

Job Number: 07/08409/02/01 **Matrix:** SOLID
Client: Celtic **Location:** C1077
Client Ref. No.: **Client Contact:** Simon Haunch

Sample Identity	TP 4	TP 5	TP 5	TP 6	TP 7	TP 7	TP 7	TP 8	TP 8	Method Code	LoD/Units
Depth (m)	2.4	1.2	2.4	0.7	1.2	2.8	2.8	0.9	2.8		
Sample Type	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID		
Sampled Date	15.05.07	15.05.07	15.05.07	14.05.07	14.05.07	14.05.07	15.05.07	14.05.07	14.05.07		
Sample Received Date	15.05.07	15.05.07	15.05.07	15.05.07	15.05.07	15.05.07	15.05.07	15.05.07	15.05.07		
Batch	1	1	1	1	1	1	1	1	1		
Sample Number(s)	**1-4**	**5**	**6-8**	**9-11**	**12**	**13-15**	**16**	**17**	**18-19**		
Total Sulphate	-	-	38000	2100	-	1500	-	-	-	TM129[#M]	<100 mg/kg
Boron Water Soluble	4.5	-	<3.5	<3.5	-	<3.5	-	-	<3.5	TM129[#M]	<3.5 mg/kg
Arsenic	20	-	120	11	-	19	-	-	16	TM129[#M]	<3.0 mg/kg
Cadmium	1.4	-	0.9	<0.3	-	<0.3	-	-	<0.3	TM129	<0.3 mg/kg
Chromium	96	-	120	14	-	31	-	-	29	TM129[#M]	<4.5 mg/kg
Copper	420	-	620	94	-	84	-	-	37	TM129[#]	<6 mg/kg
Lead	300	-	910	31	-	170	-	-	410	TM129[#M]	<2 mg/kg
Mercury	<0.6	-	<0.6	<0.6	-	<0.6	-	-	<0.6	TM129[#M]	<0.6 mg/kg
Nickel	48	-	60	39	-	22	-	-	33	TM129[#M]	<0.9 mg/kg
Selenium	<3	-	<3	<3	-	<3	-	-	<3	TM129[#M]	<3 mg/kg
Zinc	440	-	310	39	-	88	-	-	80	TM129[#M]	<2.5 mg/kg
Nitrate (soluble) as NO3	-	-	-	8	-	-	-	-	-	TM102[#]	<1 mg/kg
Nitrite (soluble) as NO2	-	-	-	0.3	-	-	-	-	-	TM103[#]	<0.1 mg/kg
Water Soluble Sulphate as SO4 2:1 Extract	-	-	1.5	0.081	-	0.046	-	-	-	TM098[#M]	<0.003 g/l
Acid Soluble Sulphide	-	-	<50	<50	-	2000	-	-	-	TM101	<50 mg/kg
Phenols Monohydric	-	-	-	-	-	-	-	-	-	TM062[#M]	<0.15 mg/kg
Total Cyanide	-	-	69	1	-	<1	-	-	-	TM153[#]	<1 mg/kg
Ammoniacal Nitrogen as N	-	-	-	<15	-	-	-	-	-	TM024[#M]	<15 mg/kg
Asbestos Presence Screen	No Fibres Detected	No Fibres Detected	-	No Fibres Detected	No Fibres Detected	-	-	No Fibres Detected	-	TM001	NONE
Elemental Sulphur	-	-	<70	550	-	2500	-	-	-	TM136[#M]	<70 mg/kg
pH Value	7.49	-	7.54	11.04	-	6.51	-	-	7.61	TM133[#M]	<1.00 pH Units

All results expressed on a dry weight basis.

Date 19.06.2007

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Preliminary ☐

ALcontrol Geochem Analytical Services
Table Of Results

[#] ISO 17025 accredited
[M] MCERTS accredited
[*] Subcontracted test
» Shown on prev. report

Job Number: 07/08409/02/01 **Matrix:** SOLID
Client: Celtic **Location:** C1077
Client Ref. No.: **Client Contact:** Simon Haunch

Sample Identity	TP 4	TP 5	TP 5	TP 6	TP 7	TP 7	TP 7	TP 8	TP 8	Method Code	LoD/Units
Depth (m)	2.4	1.2	2.4	0.7	1.2	2.8	2.8	0.9	2.8		
Sample Type	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID		
Sampled Date	15.05.07	15.05.07	15.05.07	14.05.07	14.05.07	14.05.07	15.05.07	14.05.07	14.05.07		
Sample Received Date	15.05.07	15.05.07	15.05.07	15.05.07	15.05.07	15.05.07	15.05.07	15.05.07	15.05.07		
Batch	1	1	1	1	1	1	1	1	1		
Sample Number(s)	**1-4**	**5**	**6-8**	**9-11**	**12**	**13-15**	**16**	**17**	**18-19**		
TPH C6-40	210	-	1200	68	-	630	-	-	390	TM154[#]	<10 mg/kg

All results expressed on a dry weight basis.

Date 19.06.2007

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Preliminary

ALcontrol Geochem Analytical Services
Table Of Results

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Job Number: 07/08409/02/01 **Matrix:** SOLID
Client: Celtic **Location:** C1077
Client Ref. No.: **Client Contact:** Simon Haunch

Sample Identity	TP 4	TP 5	TP 5	TP 6	TP 7	TP 7	TP 7	TP 8	TP 8	Method Code	LoD/Units
Depth (m)	2.4	1.2	2.4	0.7	1.2	2.8	2.8	0.9	2.8		
Sample Type	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID		
Sampled Date	15.05.07	15.05.07	15.05.07	14.05.07	14.05.07	14.05.07	15.05.07	14.05.07	14.05.07		
Sample Received Date	15.05.07	15.05.07	15.05.07	15.05.07	15.05.07	15.05.07	15.05.07	15.05.07	15.05.07		
Batch	1	1	1	1	1	1	1	1	1		
Sample Number(s)	**1-4**	**5**	**6-8**	**9-11**	**12**	**13-15**	**16**	**17**	**18-19**		
PAH by GCMS											
Naphthalene	-	-	-	-	-	230	-	-	-	TM074[#M]	<10 ug/kg
Acenaphthylene	-	-	-	-	-	74	-	-	-	TM074[#M]	<5 ug/kg
Acenaphthene	-	-	-	-	-	310	-	-	-	TM074[#M]	<14 ug/kg
Fluorene	-	-	-	-	-	290	-	-	-	TM074[#M]	<12 ug/kg
Phenanthrene	-	-	-	-	-	2400	-	-	-	TM074[#M]	<21 ug/kg
Anthracene	-	-	-	-	-	580	-	-	-	TM074[#M]	<9 ug/kg
Fluoranthene	-	-	-	-	-	3800	-	-	-	TM074[#M]	<25 ug/kg
Pyrene	-	-	-	-	-	3300	-	-	-	TM074[#M]	<22 ug/kg
Benz(a)anthracene	-	-	-	-	-	1800	-	-	-	TM074[#M]	<12 ug/kg
Chrysene	-	-	-	-	-	2000	-	-	-	TM074[#M]	<10 ug/kg
Benzo(b)fluoranthene	-	-	-	-	-	1800	-	-	-	TM074[#M]	<16 ug/kg
Benzo(k)fluoranthene	-	-	-	-	-	1000	-	-	-	TM074[#M]	<25 ug/kg
Benzo(a)pyrene	-	-	-	-	-	1600	-	-	-	TM074[#M]	<12 ug/kg
Indeno(123cd)pyrene	-	-	-	-	-	1100	-	-	-	TM074[#M]	<11 ug/kg
Dibenzo(ah)anthracene	-	-	-	-	-	290	-	-	-	TM074[#M]	<8 ug/kg
Benzo(ghi)perylene	-	-	-	-	-	1200	-	-	-	TM074[#M]	<10 ug/kg
PAH 16 Total	-	-	-	-	-	22000	-	-	-	TM074[#M]	<25 ug/kg

All results expressed on a dry weight basis.

Date 19.06.2007

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ALcontrol Geochem Analytical Services
Table Of Results

[#] ISO 17025 accredited
[M] MCERTS accredited
* Subcontracted test
» Shown on prev. report

Job Number: 07/08409/02/01 **Matrix:** SOLID
Client: Celtic **Location:** C1077
Client Ref. No.: **Client Contact:** Simon Haunch

Sample Identity	TP 4	TP 5	TP 5	TP 6	TP 7	TP 7	TP 7	TP 8	TP 8	Method Code	LoD/Units
Depth (m)	2.4	1.2	2.4	0.7	1.2	2.8	2.8	0.9	2.8		
Sample Type	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID		
Sampled Date	15.05.07	15.05.07	15.05.07	14.05.07	14.05.07	14.05.07	15.05.07	14.05.07	14.05.07		
Sample Received Date	15.05.07	15.05.07	15.05.07	15.05.07	15.05.07	15.05.07	15.05.07	15.05.07	15.05.07		
Batch	1	1	1	1	1	1	1	1	1		
Sample Number(s)	**1-4**	**5**	**6-8**	**9-11**	**12**	**13-15**	**16**	**17**	**18-19**		
SVOC by GCMS											
Volatile Organic Compounds											
Dichlorodifluoromethane	-	-	<4	<4	-	-	<4	-	-	TM116[#]	<4 ug/kg
Chloromethane	-	-	<7	<7	-	-	<7	-	-	TM116[#]	<7 ug/kg
Vinyl Chloride	-	-	<10	<10	-	-	<10	-	-	TM116[#M]	<10 ug/kg
Bromomethane	-	-	<13	<13	-	-	<13	-	-	TM116[#]	<13 ug/kg
Chloroethane	-	-	<14	<14	-	-	<14	-	-	TM116[#]	<14 ug/kg
Trichlorofluoromethane	-	-	<6	<6	-	-	<6	-	-	TM116[#M]	<6 ug/kg
trans-1-2-Dichloroethene	-	-	<11	<11	-	-	<11	-	-	TM116[#]	<11 ug/kg
Dichloromethane	-	-	<10	<10	-	-	<10	-	-	TM116[#]	<10 ug/kg
Carbon Disulphide	-	-	<7	<7	-	-	<7	-	-	TM116[#M]	<7 ug/kg
1.1-Dichloroethene	-	-	<10	<10	-	-	<10	-	-	TM116[#M]	<10 ug/kg
1.1-Dichloroethane	-	-	<8	<8	-	-	<8	-	-	TM116[#M]	<8 ug/kg
Methyl Tertiary Butyl Ether	-	-	<11	<11	-	-	<11	-	-	TM116[#M]	<11 ug/kg
cis-1-2-Dichloroethene	-	-	<5	<5	-	-	<5	-	-	TM116[#M]	<5 ug/kg
Bromochloromethane	-	-	<14	<14	-	-	<14	-	-	TM116[#]	<14 ug/kg
Chloroform	-	-	<8	<8	-	-	<8	-	-	TM116[#M]	<8 ug/kg
2.2-Dichloropropane	-	-	<12	<12	-	-	<12	-	-	TM116[#]	<12 ug/kg
1.2-Dichloroethane	-	-	<5	<5	-	-	<5	-	-	TM116[#]	<5 ug/kg
1.1.1-Trichloroethane	-	-	<7	<7	-	-	<7	-	-	TM116[#M]	<7 ug/kg
1.1-Dichloropropene	-	-	<11	<11	-	-	<11	-	-	TM116[#M]	<11 ug/kg
Benzene	-	-	<9	<9	-	-	<9	-	-	TM116[#M]	<9 ug/kg
Carbontetrachloride	-	-	<14	<14	-	-	<14	-	-	TM116[#M]	<14 ug/kg
Dibromomethane	-	-	<9	<9	-	-	<9	-	-	TM116[#]	<9 ug/kg
1.2-Dichloropropane	-	-	<12	<12	-	-	<12	-	-	TM116[#M]	<12 ug/kg
Bromodichloromethane	-	-	<7	<7	-	-	<7	-	-	TM116[#M]	<7 ug/kg
Trichloroethene	-	-	<9	<9	-	-	<9	-	-	TM116[#M]	<9 ug/kg
cis-1-3-Dichloropropene	-	-	<14	<14	-	-	<14	-	-	TM116[#M]	<14 ug/kg
trans-1-3-Dichloropropene	-	-	<14	<14	-	-	<14	-	-	TM116[#M]	<14 ug/kg
1.1.2-Trichloroethane	-	-	<10	<10	-	-	<10	-	-	TM116[#]	<10 ug/kg
Toluene	-	-	<5	<5	-	-	<5	-	-	TM116[#M]	<5 ug/kg

All results expressed on a dry weight basis.

Date 19.06.2007

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Preliminary ☐

ALcontrol Geochem Analytical Services
Table Of Results

[#] ISO 17025 accredited
[M] MCERTS accredited
* Subcontracted test
» Shown on prev. report

Job Number: 07/08409/02/01 **Matrix:** SOLID
Client: Celtic **Location:** C1077
Client Ref. No.: **Client Contact:** Simon Haunch

Sample Identity	TP 4	TP 5	TP 5	TP 6	TP 7	TP 7	TP 7	TP 8	TP 8	Method Code	LoD/Units
Depth (m)	2.4	1.2	2.4	0.7	1.2	2.8	2.8	0.9	2.8		
Sample Type	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID		
Sampled Date	15.05.07	15.05.07	15.05.07	14.05.07	14.05.07	14.05.07	15.05.07	14.05.07	14.05.07		
Sample Received Date	15.05.07	15.05.07	15.05.07	15.05.07	15.05.07	15.05.07	15.05.07	15.05.07	15.05.07		
Batch	1	1	1	1	1	1	1	1	1		
Sample Number(s)	**1-4**	**5**	**6-8**	**9-11**	**12**	**13-15**	**16**	**17**	**18-19**		
Volatile Organic Compounds (cont)											
1.3-Dichloropropane	-	-	<7	<7	-	-	<7	-	-	TM116[#]	<7 ug/kg
Dibromochloromethane	-	-	<13	<13	-	-	<13	-	-	TM116[#]	<13 ug/kg
1.2-Dibromoethane	-	-	<12	<12	-	-	<12	-	-	TM116[#]	<12 ug/kg
Tetrachloroethene	-	-	<5	<5	-	-	<5	-	-	TM116[#]	<5 ug/kg
1.1.1.2-Tetrachloroethane	-	-	<10	<10	-	-	<10	-	-	TM116[#M]	<10 ug/kg
Chlorobenzene	-	-	<5	<5	-	-	<5	-	-	TM116[#M]	<5 ug/kg
Ethylbenzene	-	-	<4	<4	-	-	<4	-	-	TM116[#]	<4 ug/kg
p/m-Xylene	-	-	<14	<14	-	-	<14	-	-	TM116[#]	<14 ug/kg
Bromoform	-	-	<10	<10	-	-	<10	-	-	TM116[#]	<10 ug/kg
Styrene	-	-	<10	<10	-	-	<10	-	-	TM116[#]	<10 ug/kg
1.1.2.2-Tetrachloroethane	-	-	<10	<10	-	-	<10	-	-	TM116[#]	<10 ug/kg
o-Xylene	-	-	<10	<10	-	-	<10	-	-	TM116[#]	<10 ug/kg
1.2.3-Trichloropropane	-	-	<17	<17	-	-	<17	-	-	TM116[#]	<17 ug/kg
Isopropylbenzene	-	-	<5	<5	-	-	<5	-	-	TM116[#]	<5 ug/kg
Bromobenzene	-	-	<10	<10	-	-	<10	-	-	TM116[#M]	<10 ug/kg
2-Chlorotoluene	-	-	<9	<9	-	-	<9	-	-	TM116[#]	<9 ug/kg
Propylbenzene	-	-	<11	<11	-	-	<11	-	-	TM116[#]	<11 ug/kg
4-Chlorotoluene	-	-	<12	<12	-	-	<12	-	-	TM116[#]	<12 ug/kg
1.2.4-Trimethylbenzene	-	-	<9	<9	-	-	<9	-	-	TM116[#]	<9 ug/kg
4-Isopropyltoluene	-	-	<11	<11	-	-	<11	-	-	TM116[#]	<11 ug/kg
1.3.5-Trimethylbenzene	-	-	<8	<8	-	-	<8	-	-	TM116[#]	<8 ug/kg
1.2-Dichlorobenzene	-	-	<12	<12	-	-	<12	-	-	TM116[#M]	<12 ug/kg
1.4-Dichlorobenzene	-	-	<5	<5	-	-	<5	-	-	TM116[#M]	<5 ug/kg
sec-Butylbenzene	-	-	<10	<10	-	-	<10	-	-	TM116[#]	<10 ug/kg
tert-Butylbenzene	-	-	<12	<12	-	-	<12	-	-	TM116[#]	<12 ug/kg
1.3-Dichlorobenzene	-	-	<6	<6	-	-	<6	-	-	TM116[#]	<6 ug/kg
n-Butylbenzene	-	-	<10	<10	-	-	<10	-	-	TM116[#]	<10 ug/kg
1.2-Dibromo-3-chloropropane	-	-	<14	<14	-	-	<14	-	-	TM116[#]	<14 ug/kg
1.2.4-Trichlorobenzene	-	-	<6	<6	-	-	<6	-	-	TM116[#]	<6 ug/kg
Naphthalene	-	-	<13	<13	-	-	<13	-	-	TM116[#]	<13 ug/kg

All results expressed on a dry weight basis.

Date 19.06.2007

Validated ☑
Preliminary ☐

ALcontrol Geochem Analytical Services
Table Of Results

[#] ISO 17025 accredited
[M] MCERTS accredited
[*] Subcontracted test
» Shown on prev. report

Job Number: 07/08409/02/01 **Matrix:** SOLID
Client: Celtic **Location:** C1077
Client Ref. No.: **Client Contact:** Simon Haunch

Sample Identity	TP 4	TP 5	TP 5	TP 6	TP 7	TP 7	TP 7	TP 8	TP 8	Method Code	LoD/Units
Depth (m)	2.4	1.2	2.4	0.7	1.2	2.8	2.8	0.9	2.8		
Sample Type	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID		
Sampled Date	15.05.07	15.05.07	15.05.07	14.05.07	14.05.07	14.05.07	15.05.07	14.05.07	14.05.07		
Sample Received Date	15.05.07	15.05.07	15.05.07	15.05.07	15.05.07	15.05.07	15.05.07	15.05.07	15.05.07		
Batch	1	1	1	1	1	1	1	1	1		
Sample Number(s)	**1-4**	**5**	**6-8**	**9-11**	**12**	**13-15**	**16**	**17**	**18-19**		
Volatile Organic Compounds (cont)											
1.2.3-Trichlorobenzene	-	-	<11	<11	-	-	<11	-	-	TM116[#]	<11 ug/kg
Hexachlorobutadiene	-	-	<12	<12	-	-	<12	-	-	TM116[#]	<12 ug/kg

All results expressed on a dry weight basis.

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ALcontrol Geochem Analytical Services
Table Of Results

[#] ISO 17025 accredited
[M] MCERTS accredited
* Subcontracted test
» Shown on prev. report

Job Number: 07/08409/02/01 **Matrix:** SOLID
Client: Celtic **Location:** C1077
Client Ref. No.: **Client Contact:** Simon Haunch

Sample Identity	TP 9	TP 9	TP 10	TP 12	TP 12	TP 13	WS 12	WS 12	WS 12	Method Code	LoD/Units
Depth (m)	0.5	1.4	2.4	0.8	1.7	2.0	0.5	1.5	2.7		
Sample Type	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID		
Sampled Date	14.05.07	14.05.07	14.05.07	15.05.07	15.05.07	15.05.07	15.05.07	15.05.07	15.05.07		
Sample Received Date	15.05.07	15.05.07	15.05.07	15.05.07	15.05.07	15.05.07	15.05.07	15.05.07	15.05.07		
Batch	1	1	1	1	1	1	1	1	1		
Sample Number(s)	**20**	**21-24**	**25-28**	**29**	**30-33**	**34-37**	**38-39**	**40**	**41-42**		
Total Sulphate	-	1600	5000	-	1600	300	-	-	-	TM129[#M]	<100 mg/kg
Boron Water Soluble	-	<3.5	<3.5	-	<3.5	<3.5	-	<3.5	-	TM129[#M]	<3.5 mg/kg
Arsenic	-	48	37	-	120	<3	-	110	-	TM129[#M]	<3.0 mg/kg
Cadmium	-	0.4	<0.3	-	7.3	<0.3	-	2.9	-	TM129	<0.3 mg/kg
Chromium	-	32	23	-	54	33	-	11	-	TM129[#M]	<4.5 mg/kg
Copper	-	92	100	-	690	20	-	200	-	TM129[#]	<6 mg/kg
Lead	-	510	110	-	770	14	-	350	-	TM129[#M]	<2 mg/kg
Mercury	-	0.6	<0.6	-	3.2	<0.6	-	4.7	-	TM129[#M]	<0.6 mg/kg
Nickel	-	44	35	-	44	39	-	29	-	TM129[#M]	<0.9 mg/kg
Selenium	-	<3	<3	-	<3	<3	-	<3	-	TM129[#M]	<3 mg/kg
Zinc	-	140	120	-	2700	76	-	1100	-	TM129[#M]	<2.5 mg/kg
Nitrate (soluble) as NO3	-	-	8	-	-	<1	-	-	-	TM102[#]	<1 mg/kg
Nitrite (soluble) as NO2	-	0.1	<0.1	-	-	0.3	-	-	-	TM103[#]	<0.1 mg/kg
Water Soluble Sulphate as SO4 2:1 Extract	-	0.22	0.67	-	0.054	0.049	-	-	-	TM098[#M]	<0.003 g/l
Acid Soluble Sulphide	-	8800	<50	-	210	<50	-	-	-	TM101	<50 mg/kg
Phenols Monohydric	-	-	-	-	-	-	-	-	-	TM062[#M]	<0.15 mg/kg
Total Cyanide	-	<1	180	-	920	1	-	-	-	TM153[#]	<1 mg/kg
Ammoniacal Nitrogen as N	-	-	<15	-	-	<15	-	-	-	TM024[#M]	<15 mg/kg
Asbestos Presence Screen	No Fibres Detected	-	-	No Fibres Detected	-	-	-	-	-	TM001	NONE
Elemental Sulphur	-	7400	84	-	590	<70	-	-	-	TM136[#M]	<70 mg/kg
pH Value	-	7.26	7.49	7.31	7.07	8.39	6.57	-	-	TM133[#M]	<1.00 pH Units

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ALcontrol Geochem Analytical Services
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Job Number: 07/08409/02/01 **Matrix:** SOLID
Client: Celtic **Location:** C1077
Client Ref. No.: **Client Contact:** Simon Haunch

Sample Identity	TP 9	TP 9	TP 10	TP 12	TP 12	TP 13	WS 12	WS 12	WS 12	Method Code	LoD/Units
Depth (m)	0.5	1.4	2.4	0.8	1.7	2.0	0.5	1.5	2.7		
Sample Type	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID		
Sampled Date	14.05.07	14.05.07	14.05.07	15.05.07	15.05.07	15.05.07	15.05.07	15.05.07	15.05.07		
Sample Received Date	15.05.07	15.05.07	15.05.07	15.05.07	15.05.07	15.05.07	15.05.07	15.05.07	15.05.07		
Batch	1	1	1	1	1	1	1	1	1		
Sample Number(s)	**20**	**21-24**	**25-28**	**29**	**30-33**	**34-37**	**38-39**	**40**	**41-42**		
GRO (C4-C12)	-	<10	-	-	<10	-	-	-	<10	TM089[#M]	<10 ug/kg
MTBE	-	<10	-	-	<10	-	-	-	<10	TM089[#]	<10 ug/kg
Benzene	-	<10	-	-	<10	-	-	-	<10	TM089[#M]	<10 ug/kg
Toluene	-	<10	-	-	<10	-	-	-	<10	TM089[#M]	<10 ug/kg
Ethyl benzene	-	<10	-	-	<10	-	-	-	<10	TM089[#M]	<10 ug/kg
m & p Xylene	-	<10	-	-	<10	-	-	-	<10	TM089[#M]	<10 ug/kg
o Xylene	-	<10	-	-	<10	-	-	-	<10	TM089[#M]	<10 ug/kg
Aliphatics C5-C6	-	<10	-	-	<10	-	-	-	<10	TM089	<10 ug/kg
Aliphatics >C6-C8	-	<10	-	-	<10	-	-	-	<10	TM089	<10 ug/kg
Aliphatics >C8-C10	-	<10	-	-	<10	-	-	-	<10	TM089	<10 ug/kg
Aliphatics >C10-C12	-	<10	-	-	<10	-	-	-	<10	TM089	<10 ug/kg
Aliphatics >C12-C16	-	2800	-	-	67000	-	-	-	3300	TM173[#]	<100 ug/kg
Aliphatics >C16-C21	-	20000	-	-	300000	-	-	-	5600	TM173[#]	<100 ug/kg
Aliphatics >C21-C35	-	150000	-	-	6000000	-	-	-	4400	TM173[#]	<100 ug/kg
Total Aliphatics C5-C35	-	170000	-	-	6400000	-	-	-	13000	TM61/89	<100 ug/kg
Aromatics C6-C7	-	<10	-	-	<10	-	-	-	<10	TM089[#M]	<10 ug/kg
Aromatics >C7-C8	-	<10	-	-	<10	-	-	-	<10	TM089[#M]	<10 ug/kg
Aromatics >EC8-EC10	-	<10	-	-	<10	-	-	-	<10	TM089	<10 ug/kg
Aromatics >EC10-EC12	-	<10	-	-	<10	-	-	-	<10	TM089	<10 ug/kg
Aromatics >EC12-EC16	-	14000	-	-	59000	-	-	-	1100	TM173[#]	<100 ug/kg
Aromatics >EC16-EC21	-	60000	-	-	460000	-	-	-	<100	TM173[#]	<100 ug/kg
Aromatics >EC21-EC35	-	240000	-	-	2700000	-	-	-	<100	TM173[#]	<100 ug/kg
Total Aromatics C6-C35	-	310000	-	-	3200000	-	-	-	1100	TM61/89	<100 ug/kg
TPH (Aliphatics and Aromatics C5-C35)	-	480000	-	-	9600000	-	-	-	14000	TM61/89	<100 ug/kg

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ALcontrol Geochem Analytical Services
Table Of Results

[#] ISO 17025 accredited
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[*] Subcontracted test
» Shown on prev. report

Job Number: 07/08409/02/01 **Matrix:** SOLID
Client: Celtic **Location:** C1077
Client Ref. No.: **Client Contact:** Simon Haunch

Sample Identity	TP 9	TP 9	TP 10	TP 12	TP 12	TP 13	WS 12	WS 12	WS 12	Method Code	LoD/Units
Depth (m)	0.5	1.4	2.4	0.8	1.7	2.0	0.5	1.5	2.7		
Sample Type	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID		
Sampled Date	14.05.07	14.05.07	14.05.07	15.05.07	15.05.07	15.05.07	15.05.07	15.05.07	15.05.07		
Sample Received Date	15.05.07	15.05.07	15.05.07	15.05.07	15.05.07	15.05.07	15.05.07	15.05.07	15.05.07		
Batch	1	1	1	1	1	1	1	1	1		
Sample Number(s)	**20**	**21-24**	**25-28**	**29**	**30-33**	**34-37**	**38-39**	**40**	**41-42**		
TPH C6-40	-	-	1800	-	-	<10	3300	-	-	TM154[#]	<10 mg/kg

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ALcontrol Geochem Analytical Services
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Job Number: 07/08409/02/01 **Matrix:** SOLID
Client: Celtic **Location:** C1077
Client Ref. No.: **Client Contact:** Simon Haunch

Sample Identity	TP 9	TP 9	TP 10	TP 12	TP 12	TP 13	WS 12	WS 12	WS 12	Method Code	LoD/Units
Depth (m)	0.5	1.4	2.4	0.8	1.7	2.0	0.5	1.5	2.7		
Sample Type	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID		
Sampled Date	14.05.07	14.05.07	14.05.07	15.05.07	15.05.07	15.05.07	15.05.07	15.05.07	15.05.07		
Sample Received Date	15.05.07	15.05.07	15.05.07	15.05.07	15.05.07	15.05.07	15.05.07	15.05.07	15.05.07		
Batch	1	1	1	1	1	1	1	1	1		
Sample Number(s)	**20**	**21-24**	**25-28**	**29**	**30-33**	**34-37**	**38-39**	**40**	**41-42**		
PAH by GCMS											
Naphthalene	-	-	1500	-	3600	150	-	-	-	TM074[#M]	<10 ug/kg
Acenaphthylene	-	-	2400	-	1400	<5	-	-	-	TM074[#M]	<5 ug/kg
Acenaphthene	-	-	18000	-	11000	44	-	-	-	TM074[#M]	<14 ug/kg
Fluorene	-	-	14000	-	11000	42	-	-	-	TM074[#M]	<12 ug/kg
Phenanthrene	-	-	67000	-	40000	150	-	-	-	TM074[#M]	<21 ug/kg
Anthracene	-	-	15000	-	15000	28	-	-	-	TM074[#M]	<9 ug/kg
Fluoranthene	-	-	59000	-	110000	110	-	-	-	TM074[#M]	<25 ug/kg
Pyrene	-	-	52000	-	88000	98	-	-	-	TM074[#M]	<22 ug/kg
Benz(a)anthracene	-	-	22000	-	31000	61	-	-	-	TM074[#M]	<12 ug/kg
Chrysene	-	-	24000	-	33000	82	-	-	-	TM074[#M]	<10 ug/kg
Benzo(b)fluoranthene	-	-	17000	-	24000	51	-	-	-	TM074[#M]	<16 ug/kg
Benzo(k)fluoranthene	-	-	12000	-	12000	26	-	-	-	TM074[#M]	<25 ug/kg
Benzo(a)pyrene	-	-	22000	-	22000	41	-	-	-	TM074[#M]	<12 ug/kg
Indeno(123cd)pyrene	-	-	13000	-	13000	25	-	-	-	TM074[#M]	<11 ug/kg
Dibenzo(ah)anthracene	-	-	2900	-	3500	14	-	-	-	TM074[#M]	<8 ug/kg
Benzo(ghi)perylene	-	-	17000	-	14000	59	-	-	-	TM074[#M]	<10 ug/kg
PAH 16 Total	-	-	360000	-	430000	980	-	-	-	TM074[#M]	<25 ug/kg

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Job Number: 07/08409/02/01 **Matrix:** SOLID
Client: Celtic **Location:** C1077
Client Ref. No.: **Client Contact:** Simon Haunch

Sample Identity	TP 9	TP 9	TP 10	TP 12	TP 12	TP 13	WS 12	WS 12	WS 12	Method Code	LoD/Units
Depth (m)	0.5	1.4	2.4	0.8	1.7	2.0	0.5	1.5	2.7		
Sample Type	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID		
Sampled Date	14.05.07	14.05.07	14.05.07	15.05.07	15.05.07	15.05.07	15.05.07	15.05.07	15.05.07		
Sample Received Date	15.05.07	15.05.07	15.05.07	15.05.07	15.05.07	15.05.07	15.05.07	15.05.07	15.05.07		
Batch	1	1	1	1	1	1	1	1	1		
Sample Number(s)	**20**	**21-24**	**25-28**	**29**	**30-33**	**34-37**	**38-39**	**40**	**41-42**		
SVOC by GCMS											
Phenols											
2-Chlorophenol	-	<100	-	-	-	-	-	-	<100	TM157	<100 ug/kg
2-Methylphenol	-	<100	-	-	-	-	-	-	<100	TM157	<100 ug/kg
2-Nitrophenol	-	<100	-	-	-	-	-	-	<100	TM157	<100 ug/kg
2,4-Dichlorophenol	-	<100	-	-	-	-	-	-	<100	TM157	<100 ug/kg
2,4-Dimethylphenol	-	<100	-	-	-	-	-	-	<100	TM157	<100 ug/kg
2,4,5-Trichlorophenol	-	<100	-	-	-	-	-	-	<100	TM157	<100 ug/kg
2,4,6-Trichlorophenol	-	<100	-	-	-	-	-	-	<100	TM157	<100 ug/kg
4-Chloro-3-methylphenol	-	<100	-	-	-	-	-	-	<100	TM157	<100 ug/kg
4-Methylphenol	-	<100	-	-	-	-	-	-	<100	TM157	<100 ug/kg
4-Nitrophenol	-	<100	-	-	-	-	-	-	<100	TM157	<100 ug/kg
Pentachlorophenol	-	<100	-	-	-	-	-	-	<100	TM157	<100 ug/kg
Phenol	-	<100	-	-	-	-	-	-	<100	TM157	<100 ug/kg

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ALcontrol Geochem Analytical Services
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Job Number: 07/08409/02/01 **Matrix:** SOLID
Client: Celtic **Location:** C1077
Client Ref. No.: **Client Contact:** Simon Haunch

Sample Identity	TP 9	TP 9	TP 10	TP 12	TP 12	TP 13	WS 12	WS 12	WS 12	Method Code	LoD/Units
Depth (m)	0.5	1.4	2.4	0.8	1.7	2.0	0.5	1.5	2.7		
Sample Type	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID		
Sampled Date	14.05.07	14.05.07	14.05.07	15.05.07	15.05.07	15.05.07	15.05.07	15.05.07	15.05.07		
Sample Received Date	15.05.07	15.05.07	15.05.07	15.05.07	15.05.07	15.05.07	15.05.07	15.05.07	15.05.07		
Batch	1	1	1	1	1	1	1	1	1		
Sample Number(s)	**20**	**21-24**	**25-28**	**29**	**30-33**	**34-37**	**38-39**	**40**	**41-42**		
PAHs											
2-Chloronaphthalene	-	<100	-	-	-	-	-	-	<100	TM157	<100 ug/kg
2-Methylnaphthalene	-	330	-	-	-	-	-	-	<100	TM157	<100 ug/kg
Acenaphthene	-	1200	-	-	-	-	-	-	<100	TM157	<100 ug/kg
Acenaphthylene	-	<100	-	-	-	-	-	-	<100	TM157	<100 ug/kg
Anthracene	-	480	-	-	-	-	-	-	<100	TM157	<100 ug/kg
Benzo(a)anthracene	-	610	-	-	-	-	-	-	<100	TM157	<100 ug/kg
Benzo(a)pyrene	-	430	-	-	-	-	-	-	<100	TM157	<100 ug/kg
Benzo(b)fluoranthene	-	560	-	-	-	-	-	-	<100	TM157	<100 ug/kg
Benzo(ghi)perylene	-	200	-	-	-	-	-	-	<100	TM157	<100 ug/kg
Benzo(k)fluoranthene	-	210	-	-	-	-	-	-	<100	TM157	<100 ug/kg
Chrysene	-	670	-	-	-	-	-	-	<100	TM157	<100 ug/kg
Dibenzo(a,h)anthracene	-	<100	-	-	-	-	-	-	<100	TM157	<100 ug/kg
Fluoranthene	-	2800	-	-	-	-	-	-	<100	TM157	<100 ug/kg
Fluorene	-	890	-	-	-	-	-	-	<100	TM157	<100 ug/kg
Indeno(1,2,3-cd)pyrene	-	160	-	-	-	-	-	-	<100	TM157	<100 ug/kg
Naphthalene	-	390	-	-	-	-	-	-	<100	TM157	<100 ug/kg
Phenanthrene	-	2000	-	-	-	-	-	-	<100	TM157	<100 ug/kg
Pyrene	-	2500	-	-	-	-	-	-	<100	TM157	<100 ug/kg
Phthalates											
Bis(2-ethylhexyl) phthalate	-	<100	-	-	-	-	-	-	<100	TM157	<100 ug/kg
Butylbenzyl phthalate	-	<100	-	-	-	-	-	-	<100	TM157	<100 ug/kg
Di-n-butyl phthalate	-	<100	-	-	-	-	-	-	<100	TM157	<100 ug/kg
Di-n-Octyl phthalate	-	<100	-	-	-	-	-	-	<100	TM157	<100 ug/kg
Diethyl phthalate	-	<100	-	-	-	-	-	-	<100	TM157	<100 ug/kg
Dimethyl phthalate	-	<100	-	-	-	-	-	-	<100	TM157	<100 ug/kg
Other Semi-volatiles											
1,2-Dichlorobenzene	-	<100	-	-	-	-	-	-	<100	TM157	<100 ug/kg
1,2,4-Trichlorobenzene	-	<100	-	-	-	-	-	-	<100	TM157	<100 ug/kg

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Table Of Results

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Job Number: 07/08409/02/01 **Matrix:** SOLID
Client: Celtic **Location:** C1077
Client Ref. No.: **Client Contact:** Simon Haunch

Sample Identity	TP 9	TP 9	TP 10	TP 12	TP 12	TP 13	WS 12	WS 12	WS 12	Method Code	LoD/Units
Depth (m)	0.5	1.4	2.4	0.8	1.7	2.0	0.5	1.5	2.7		
Sample Type	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID		
Sampled Date	14.05.07	14.05.07	14.05.07	15.05.07	15.05.07	15.05.07	15.05.07	15.05.07	15.05.07		
Sample Received Date	15.05.07	15.05.07	15.05.07	15.05.07	15.05.07	15.05.07	15.05.07	15.05.07	15.05.07		
Batch	1	1	1	1	1	1	1	1	1		
Sample Number(s)	**20**	**21-24**	**25-28**	**29**	**30-33**	**34-37**	**38-39**	**40**	**41-42**		
Other Semi-volatiles (cont)											
1,3-Dichlorobenzene	-	<100	-	-	-	-	-	-	<100	TM157	<100 ug/kg
1,4-Dichlorobenzene	-	<100	-	-	-	-	-	-	<100	TM157	<100 ug/kg
2-Nitroaniline	-	<100	-	-	-	-	-	-	<100	TM157	<100 ug/kg
2,4-Dinitrotoluene	-	<100	-	-	-	-	-	-	<100	TM157	<100 ug/kg
2,6-Dinitrotoluene	-	<100	-	-	-	-	-	-	<100	TM157	<100 ug/kg
3-Nitroaniline	-	<100	-	-	-	-	-	-	<100	TM157	<100 ug/kg
4-Bromophenylphenylether	-	<100	-	-	-	-	-	-	<100	TM157	<100 ug/kg
4-Chloroaniline	-	<100	-	-	-	-	-	-	<100	TM157	<100 ug/kg
4-Chlorophenylphenylether	-	<100	-	-	-	-	-	-	<100	TM157	<100 ug/kg
4-Nitroaniline	-	<100	-	-	-	-	-	-	<100	TM157	<100 ug/kg
Azobenzene	-	<100	-	-	-	-	-	-	<100	TM157	<100 ug/kg
Bis(2-chloroethoxy)methane	-	<100	-	-	-	-	-	-	<100	TM157	<100 ug/kg
Bis(2-chloroethyl)ether	-	<100	-	-	-	-	-	-	<100	TM157	<100 ug/kg
Carbazole	-	<100	-	-	-	-	-	-	<100	TM157	<100 ug/kg
Dibenzofuran	-	570	-	-	-	-	-	-	<100	TM157	<100 ug/kg
Hexachlorobenzene	-	<100	-	-	-	-	-	-	<100	TM157	<100 ug/kg
Hexachlorobutadiene	-	<100	-	-	-	-	-	-	<100	TM157	<100 ug/kg
Hexachlorocyclopentadiene	-	<100	-	-	-	-	-	-	<100	TM157	<100 ug/kg
Hexachloroethane	-	<100	-	-	-	-	-	-	<100	TM157	<100 ug/kg
Isophorone	-	<100	-	-	-	-	-	-	<100	TM157	<100 ug/kg
N-nitrosodi-n-propylamine	-	<100	-	-	-	-	-	-	<100	TM157	<100 ug/kg
Nitrobenzene	-	<100	-	-	-	-	-	-	<100	TM157	<100 ug/kg

All results expressed on a dry weight basis.

Date 19.06.2007

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ALcontrol Geochem Analytical Services
Table Of Results

[#] ISO 17025 accredited
[M] MCERTS accredited
* Subcontracted test
» Shown on prev. report

Job Number: 07/08409/02/01 **Matrix:** SOLID
Client: Celtic **Location:** C1077
Client Ref. No.: **Client Contact:** Simon Haunch

Sample Identity	TP 9	TP 9	TP 10	TP 12	TP 12	TP 13	WS 12	WS 12	WS 12	Method Code	LoD/Units
Depth (m)	0.5	1.4	2.4	0.8	1.7	2.0	0.5	1.5	2.7		
Sample Type	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID		
Sampled Date	14.05.07	14.05.07	14.05.07	15.05.07	15.05.07	15.05.07	15.05.07	15.05.07	15.05.07		
Sample Received Date	15.05.07	15.05.07	15.05.07	15.05.07	15.05.07	15.05.07	15.05.07	15.05.07	15.05.07		
Batch	1	1	1	1	1	1	1	1	1		
Sample Number(s)	**20**	**21-24**	**25-28**	**29**	**30-33**	**34-37**	**38-39**	**40**	**41-42**		
Volatile Organic Compounds											
Dichlorodifluoromethane	-	<4	<4	-	<4	<4	-	-	-	TM116[#]	<4 ug/kg
Chloromethane	-	<7	<7	-	<7	<7	-	-	-	TM116[#]	<7 ug/kg
Vinyl Chloride	-	<10	<10	-	<10	<10	-	-	-	TM116[#M]	<10 ug/kg
Bromomethane	-	<13	<13	-	<13	<13	-	-	-	TM116[#]	<13 ug/kg
Chloroethane	-	<14	<14	-	<14	<14	-	-	-	TM116[#]	<14 ug/kg
Trichlorofluoromethane	-	<6	<6	-	<6	<6	-	-	-	TM116[#M]	<6 ug/kg
trans-1-2-Dichloroethene	-	<11	<11	-	<11	<11	-	-	-	TM116[#]	<11 ug/kg
Dichloromethane	-	<10	<10	-	<10	<10	-	-	-	TM116[#]	<10 ug/kg
Carbon Disulphide	-	<7	<7	-	<7	<7	-	-	-	TM116[#M]	<7 ug/kg
1.1-Dichloroethene	-	<10	<10	-	<10	<10	-	-	-	TM116[#M]	<10 ug/kg
1.1-Dichloroethane	-	<8	<8	-	<8	<8	-	-	-	TM116[#M]	<8 ug/kg
Methyl Tertiary Butyl Ether	-	<11	<11	-	<11	<11	-	-	-	TM116[#M]	<11 ug/kg
cis-1-2-Dichloroethene	-	<5	<5	-	<5	<5	-	-	-	TM116[#M]	<5 ug/kg
Bromochloromethane	-	<14	<14	-	<14	<14	-	-	-	TM116[#]	<14 ug/kg
Chloroform	-	<8	<8	-	<8	<8	-	-	-	TM116[#M]	<8 ug/kg
2.2-Dichloropropane	-	<12	<12	-	<12	<12	-	-	-	TM116[#]	<12 ug/kg
1.2-Dichloroethane	-	<5	<5	-	<5	<5	-	-	-	TM116[#]	<5 ug/kg
1.1.1-Trichloroethane	-	<7	<7	-	<7	<7	-	-	-	TM116[#M]	<7 ug/kg
1.1-Dichloropropene	-	<11	<11	-	<11	<11	-	-	-	TM116[#M]	<11 ug/kg
Benzene	-	<9	<9	-	<9	<9	-	-	-	TM116[#M]	<9 ug/kg
Carbontetrachloride	-	<14	<14	-	<14	<14	-	-	-	TM116[#M]	<14 ug/kg
Dibromomethane	-	<9	<9	-	<9	<9	-	-	-	TM116[#]	<9 ug/kg
1.2-Dichloropropane	-	<12	<12	-	<12	<12	-	-	-	TM116[#M]	<12 ug/kg
Bromodichloromethane	-	<7	<7	-	<7	<7	-	-	-	TM116[#M]	<7 ug/kg
Trichloroethene	-	<9	<9	-	<9	<9	-	-	-	TM116[#M]	<9 ug/kg
cis-1-3-Dichloropropene	-	<14	<14	-	<14	<14	-	-	-	TM116[#M]	<14 ug/kg
trans-1-3-Dichloropropene	-	<14	<14	-	<14	<14	-	-	-	TM116[#M]	<14 ug/kg
1.1.2-Trichloroethane	-	<10	<10	-	<10	<10	-	-	-	TM116[#]	<10 ug/kg
Toluene	-	<5	<5	-	<5	<5	-	-	-	TM116[#M]	<5 ug/kg
1.3-Dichloropropane	-	<7	<7	-	<7	<7	-	-	-	TM116[#]	<7 ug/kg

All results expressed on a dry weight basis.

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ALcontrol Geochem Analytical Services
Table Of Results

[#] ISO 17025 accredited
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Job Number: 07/08409/02/01 **Matrix:** SOLID
Client: Celtic **Location:** C1077
Client Ref. No.: **Client Contact:** Simon Haunch

Sample Identity	TP 9	TP 9	TP 10	TP 12	TP 12	TP 13	WS 12	WS 12	WS 12	Method Code	LoD/Units
Depth (m)	0.5	1.4	2.4	0.8	1.7	2.0	0.5	1.5	2.7		
Sample Type	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID		
Sampled Date	14.05.07	14.05.07	14.05.07	15.05.07	15.05.07	15.05.07	15.05.07	15.05.07	15.05.07		
Sample Received Date	15.05.07	15.05.07	15.05.07	15.05.07	15.05.07	15.05.07	15.05.07	15.05.07	15.05.07		
Batch	1	1	1	1	1	1	1	1	1		
Sample Number(s)	**20**	**21-24**	**25-28**	**29**	**30-33**	**34-37**	**38-39**	**40**	**41-42**		
Volatile Organic Compounds (cont)											
Dibromochloromethane	-	<13	<13	-	<13	<13	-	-	-	TM116[#]	<13 ug/kg
1.2-Dibromoethane	-	<12	<12	-	<12	<12	-	-	-	TM116[#]	<12 ug/kg
Tetrachloroethene	-	<5	<5	-	<5	<5	-	-	-	TM116[#]	<5 ug/kg
1.1.1.2-Tetrachloroethane	-	<10	<10	-	<10	<10	-	-	-	TM116[#M]	<10 ug/kg
Chlorobenzene	-	<5	<5	-	<5	<5	-	-	-	TM116[#M]	<5 ug/kg
Ethylbenzene	-	<4	<4	-	<4	<4	-	-	-	TM116[#]	<4 ug/kg
p/m-Xylene	-	<14	<14	-	<14	<14	-	-	-	TM116[#]	<14 ug/kg
Bromoform	-	<10	<10	-	<10	<10	-	-	-	TM116[#]	<10 ug/kg
Styrene	-	<10	<10	-	<10	<10	-	-	-	TM116[#]	<10 ug/kg
1.1.2.2-Tetrachloroethane	-	<10	<10	-	<10	<10	-	-	-	TM116[#]	<10 ug/kg
o-Xylene	-	<10	<10	-	<10	<10	-	-	-	TM116[#]	<10 ug/kg
1.2.3-Trichloropropane	-	<17	<17	-	<17	<17	-	-	-	TM116[#]	<17 ug/kg
Isopropylbenzene	-	<5	<5	-	<5	<5	-	-	-	TM116[#]	<5 ug/kg
Bromobenzene	-	<10	<10	-	<10	<10	-	-	-	TM116[#M]	<10 ug/kg
2-Chlorotoluene	-	<9	<9	-	<9	<9	-	-	-	TM116[#]	<9 ug/kg
Propylbenzene	-	<11	<11	-	<11	<11	-	-	-	TM116[#]	<11 ug/kg
4-Chlorotoluene	-	<12	<12	-	<12	<12	-	-	-	TM116[#]	<12 ug/kg
1.2.4-Trimethylbenzene	-	<9	<9	-	<9	<9	-	-	-	TM116[#]	<9 ug/kg
4-Isopropyltoluene	-	<11	<11	-	<11	<11	-	-	-	TM116[#]	<11 ug/kg
1.3.5-Trimethylbenzene	-	<8	<8	-	<8	<8	-	-	-	TM116[#]	<8 ug/kg
1.2-Dichlorobenzene	-	<12	<12	-	<12	<12	-	-	-	TM116[#M]	<12 ug/kg
1.4-Dichlorobenzene	-	<5	<5	-	<5	<5	-	-	-	TM116[#M]	<5 ug/kg
sec-Butylbenzene	-	<10	<10	-	<10	<10	-	-	-	TM116[#]	<10 ug/kg
tert-Butylbenzene	-	<12	<12	-	<12	<12	-	-	-	TM116[#]	<12 ug/kg
1.3-Dichlorobenzene	-	<6	<6	-	<6	<6	-	-	-	TM116[#]	<6 ug/kg
n-Butylbenzene	-	<10	<10	-	<10	<10	-	-	-	TM116[#]	<10 ug/kg
1.2-Dibromo-3-chloropropane	-	<14	<14	-	<14	<14	-	-	-	TM116[#]	<14 ug/kg
1.2.4-Trichlorobenzene	-	<6	<6	-	<6	<6	-	-	-	TM116[#]	<6 ug/kg
Naphthalene	-	<13	<13	-	<13	<13	-	-	-	TM116[#]	<13 ug/kg
1.2.3-Trichlorobenzene	-	<11	<11	-	<11	<11	-	-	-	TM116[#]	<11 ug/kg

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ALcontrol Geochem Analytical Services
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[#] ISO 17025 accredited
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Job Number: 07/08409/02/01 **Matrix:** SOLID
Client: Celtic **Location:** C1077
Client Ref. No.: **Client Contact:** Simon Haunch

Sample Identity	TP 9	TP 9	TP 10	TP 12	TP 12	TP 13	WS 12	WS 12	WS 12	Method Code	LoD/Units
Depth (m)	0.5	1.4	2.4	0.8	1.7	2.0	0.5	1.5	2.7		
Sample Type	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID		
Sampled Date	14.05.07	14.05.07	14.05.07	15.05.07	15.05.07	15.05.07	15.05.07	15.05.07	15.05.07		
Sample Received Date	15.05.07	15.05.07	15.05.07	15.05.07	15.05.07	15.05.07	15.05.07	15.05.07	15.05.07		
Batch	1	1	1	1	1	1	1	1	1		
Sample Number(s)	**20**	**21-24**	**25-28**	**29**	**30-33**	**34-37**	**38-39**	**40**	**41-42**		
Volatile Organic Compounds (cont)											
Hexachlorobutadiene	-	<12	<12	-	<12	<12	-	-	-	TM116[#]	<12 ug/kg

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ALcontrol Geochem Analytical Services
Table Of Results

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Job Number: 07/08409/02/01 **Matrix:** SOLID
Client: Celtic **Location:** C1077
Client Ref. No.: **Client Contact:** Simon Haunch

Sample Identity	WS 13	WS 13	WS 15	WS 15	WS 16	WS 16	WS 17	WS 17		Method Code	LoD/Units
Depth (m)	1.5	1.5	0.5	1.5	1.1	4.5	0.5	1.2			
Sample Type	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID			
Sampled Date	14.05.07	15.05.07	15.05.07	15.05.07	15.05.07	15.05.07	15.05.07	15.05.07			
Sample Received Date	15.05.07	15.05.07	15.05.07	15.05.07	15.05.07	15.05.07	15.05.07	15.05.07			
Batch	1	1	1	1	1	1	1	1			
Sample Number(s)	**43-44**	**45**	**47**	**50**	**54-56**	**57-58**	**59**	**60**			
Total Sulphate	-	-	-	-	-	-	-	-		TM129[#M]	<100 mg/kg
Boron Water Soluble	-	-	-	<3.5	-	-	-	<3.5		TM129[#M]	<3.5 mg/kg
Arsenic	-	-	-	25	-	-	-	30		TM129[#M]	<3.0 mg/kg
Cadmium	-	-	-	<0.3	-	-	-	7.6		TM129	<0.3 mg/kg
Chromium	-	-	-	17	-	-	-	35		TM129[#M]	<4.5 mg/kg
Copper	-	-	-	88	-	-	-	78		TM129[#]	<6 mg/kg
Lead	-	-	-	26	-	-	-	330		TM129[#M]	<2 mg/kg
Mercury	-	-	-	<0.6	-	-	-	<0.6		TM129[#M]	<0.6 mg/kg
Nickel	-	-	-	44	-	-	-	25		TM129[#M]	<0.9 mg/kg
Selenium	-	-	-	<3	-	-	-	<3		TM129[#M]	<3 mg/kg
Zinc	-	-	-	27	-	-	-	1000		TM129[#M]	<2.5 mg/kg
Nitrate (soluble) as NO3	-	-	-	-	-	-	-	-		TM102[#]	<1 mg/kg
Nitrite (soluble) as NO2	-	-	-	-	-	-	-	-		TM103[#]	<0.1 mg/kg
Water Soluble Sulphate as SO4 2:1 Extract	-	-	-	-	-	-	-	-		TM098[#M]	<0.003 g/l
Acid Soluble Sulphide	-	-	-	-	-	-	-	-		TM101	<50 mg/kg
Phenols Monohydric	<0.15	-	-	-	<0.15	-	-	-		TM062[#M]	<0.15 mg/kg
Total Cyanide	-	-	-	-	-	-	-	-		TM153[#]	<1 mg/kg
Ammoniacal Nitrogen as N	-	-	-	-	-	-	-	-		TM024[#M]	<15 mg/kg
Asbestos Presence Screen	-	-	-	-	-	-	-	-		TM001	NONE
Elemental Sulphur	-	-	-	-	-	-	-	-		TM136[#M]	<70 mg/kg
pH Value	7.96	-	8.98	-	8.42	-	7.44	-		TM133[#M]	<1.00 pH Units

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Job Number: 07/08409/02/01 **Matrix:** SOLID
Client: Celtic **Location:** C1077
Client Ref. No.: **Client Contact:** Simon Haunch

Sample Identity	WS 13	WS 13	WS 15	WS 15	WS 16	WS 16	WS 17	WS 17		Method Code	LoD/Units
Depth (m)	1.5	1.5	0.5	1.5	1.1	4.5	0.5	1.2			
Sample Type	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID			
Sampled Date	14.05.07	15.05.07	15.05.07	15.05.07	15.05.07	15.05.07	15.05.07	15.05.07			
Sample Received Date	15.05.07	15.05.07	15.05.07	15.05.07	15.05.07	15.05.07	15.05.07	15.05.07			
Batch	1	1	1	1	1	1	1	1			
Sample Number(s)	**43-44**	**45**	**47**	**50**	**54-56**	**57-58**	**59**	**60**			
GRO (C4-C12)	-	<10	-	-	<10	110	-	-		TM089#M	<10 ug/kg
MTBE	-	<10	-	-	<10	<10	-	-		TM089#	<10 ug/kg
Benzene	-	<10	-	-	<10	<10	-	-		TM089#M	<10 ug/kg
Toluene	-	<10	-	-	<10	<10	-	-		TM089#M	<10 ug/kg
Ethyl benzene	-	<10	-	-	<10	<10	-	-		TM089#M	<10 ug/kg
m & p Xylene	-	<10	-	-	<10	<10	-	-		TM089#M	<10 ug/kg
o Xylene	-	<10	-	-	<10	<10	-	-		TM089#M	<10 ug/kg
Aliphatics C5-C6	-	<10	-	-	<10	<10	-	-		TM089	<10 ug/kg
Aliphatics >C6-C8	-	<10	-	-	<10	<10	-	-		TM089	<10 ug/kg
Aliphatics >C8-C10	-	<10	-	-	<10	<10	-	-		TM089	<10 ug/kg
Aliphatics >C10-C12	-	<10	-	-	<10	43	-	-		TM089	<10 ug/kg
Aliphatics >C12-C16	4100	-	-	-	<100	7800	-	-		TM173#	<100 ug/kg
Aliphatics >C16-C21	6400	-	-	-	<100	8100	-	-		TM173#	<100 ug/kg
Aliphatics >C21-C35	8000	-	-	-	<100	2900	-	-		TM173#	<100 ug/kg
Total Aliphatics C5-C35	18000	-	-	-	<100	19000	-	-		TM61/89	<100 ug/kg
Aromatics C6-C7	-	<10	-	-	<10	<10	-	-		TM089#M	<10 ug/kg
Aromatics >C7-C8	-	<10	-	-	<10	<10	-	-		TM089#M	<10 ug/kg
Aromatics >EC8-EC10	-	<10	-	-	<10	<10	-	-		TM089	<10 ug/kg
Aromatics >EC10-EC12	-	<10	-	-	<10	64	-	-		TM089	<10 ug/kg
Aromatics >EC12-EC16	12000	-	-	-	<100	87000	-	-		TM173#	<100 ug/kg
Aromatics >EC16-EC21	31000	-	-	-	290	280000	-	-		TM173#	<100 ug/kg
Aromatics >EC21-EC35	130000	-	-	-	4100	750000	-	-		TM173#	<100 ug/kg
Total Aromatics C6-C35	170000	-	-	-	4400	1100000	-	-		TM61/89	<100 ug/kg
TPH (Aliphatics and Aromatics C5-C35)	190000	-	-	-	4400	1100000	-	-		TM61/89	<100 ug/kg

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ALcontrol Geochem Analytical Services
Table Of Results

[#] ISO 17025 accredited
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Job Number: 07/08409/02/01 **Matrix:** SOLID
Client: Celtic **Location:** C1077
Client Ref. No.: **Client Contact:** Simon Haunch

Sample Identity	WS 13	WS 13	WS 15	WS 15	WS 16	WS 16	WS 17	WS 17		Method Code	LoD/Units
Depth (m)	1.5	1.5	0.5	1.5	1.1	4.5	0.5	1.2			
Sample Type	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID			
Sampled Date	14.05.07	15.05.07	15.05.07	15.05.07	15.05.07	15.05.07	15.05.07	15.05.07			
Sample Received Date	15.05.07	15.05.07	15.05.07	15.05.07	15.05.07	15.05.07	15.05.07	15.05.07			
Batch	1	1	1	1	1	1	1	1			
Sample Number(s)	**43-44**	**45**	**47**	**50**	**54-56**	**57-58**	**59**	**60**			
Phenols											
2-Chlorophenol	<100	-	-	-	<100	<400	-	-		TM157	<100 ug/kg
2-Methylphenol	<100	-	-	-	<100	<400	-	-		TM157	<100 ug/kg
2-Nitrophenol	<100	-	-	-	<100	<400	-	-		TM157	<100 ug/kg
2,4-Dichlorophenol	<100	-	-	-	<100	<400	-	-		TM157	<100 ug/kg
2,4-Dimethylphenol	<100	-	-	-	<100	<400	-	-		TM157	<100 ug/kg
2,4,5-Trichlorophenol	<100	-	-	-	<100	<400	-	-		TM157	<100 ug/kg
2,4,6-Trichlorophenol	<100	-	-	-	<100	<400	-	-		TM157	<100 ug/kg
4-Chloro-3-methylphenol	<100	-	-	-	<100	<400	-	-		TM157	<100 ug/kg
4-Methylphenol	<100	-	-	-	<100	<400	-	-		TM157	<100 ug/kg
4-Nitrophenol	<100	-	-	-	<100	<400	-	-		TM157	<100 ug/kg
Pentachlorophenol	<100	-	-	-	<100	<400	-	-		TM157	<100 ug/kg
Phenol	<100	-	-	-	<100	<400	-	-		TM157	<100 ug/kg
PAHs											
2-Chloronaphthalene	<100	-	-	-	<100	<400	-	-		TM157	<100 ug/kg
2-Methylnaphthalene	<100	-	-	-	<100	2300	-	-		TM157	<100 ug/kg
Acenaphthene	340	-	-	-	<100	9900	-	-		TM157	<100 ug/kg
Acenaphthylene	<100	-	-	-	<100	<400	-	-		TM157	<100 ug/kg
Anthracene	170	-	-	-	<100	9800	-	-		TM157	<100 ug/kg
Benzo(a)anthracene	490	-	-	-	240	11000	-	-		TM157	<100 ug/kg
Benzo(a)pyrene	450	-	-	-	250	10000	-	-		TM157	<100 ug/kg
Benzo(b)fluoranthene	570	-	-	-	290	9900	-	-		TM157	<100 ug/kg
Benzo(ghi)perylene	230	-	-	-	130	5300	-	-		TM157	<100 ug/kg
Benzo(k)fluoranthene	200	-	-	-	120	3800	-	-		TM157	<100 ug/kg
Chrysene	510	-	-	-	240	10000	-	-		TM157	<100 ug/kg
Dibenzo(a,h)anthracene	<100	-	-	-	<100	1200	-	-		TM157	<100 ug/kg
Fluoranthene	1100	-	-	-	440	36000	-	-		TM157	<100 ug/kg
Fluorene	<100	-	-	-	<100	8400	-	-		TM157	<100 ug/kg
Indeno(1,2,3-cd)pyrene	190	-	-	-	120	4400	-	-		TM157	<100 ug/kg
Naphthalene	<100	-	-	-	<100	2200	-	-		TM157	<100 ug/kg

All results expressed on a dry weight basis.

Date 19.06.2007

Validated ☑
Preliminary ☐

ALcontrol Geochem Analytical Services
Table Of Results

ISO 17025 accredited
M MCERTS accredited
* Subcontracted test
» Shown on prev. report

Job Number: 07/08409/02/01 **Matrix:** SOLID
Client: Celtic **Location:** C1077
Client Ref. No.: **Client Contact:** Simon Haunch

Sample Identity	WS 13	WS 13	WS 15	WS 15	WS 16	WS 16	WS 17	WS 17		Method Code	LoD/Units
Depth (m)	1.5	1.5	0.5	1.5	1.1	4.5	0.5	1.2			
Sample Type	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID			
Sampled Date	14.05.07	15.05.07	15.05.07	15.05.07	15.05.07	15.05.07	15.05.07	15.05.07			
Sample Received Date	15.05.07	15.05.07	15.05.07	15.05.07	15.05.07	15.05.07	15.05.07	15.05.07			
Batch	1	1	1	1	1	1	1	1			
Sample Number(s)	**43-44**	**45**	**47**	**50**	**54-56**	**57-58**	**59**	**60**			
PAHs (cont)											
Phenanthrene	730	-	-	-	240	45000	-	-		TM157	<100 ug/kg
Pyrene	1200	-	-	-	440	24000	-	-		TM157	<100 ug/kg
Phthalates											
Bis(2-ethylhexyl) phthalate	<100	-	-	-	150	<400	-	-		TM157	<100 ug/kg
Butylbenzyl phthalate	<100	-	-	-	<100	<400	-	-		TM157	<100 ug/kg
Di-n-butyl phthalate	<100	-	-	-	<100	<400	-	-		TM157	<100 ug/kg
Di-n-Octyl phthalate	<100	-	-	-	<100	<400	-	-		TM157	<100 ug/kg
Diethyl phthalate	<100	-	-	-	<100	<400	-	-		TM157	<100 ug/kg
Dimethyl phthalate	<100	-	-	-	<100	<400	-	-		TM157	<100 ug/kg
Other Semi-volatiles											
1,2-Dichlorobenzene	<100	-	-	-	<100	<400	-	-		TM157	<100 ug/kg
1,2,4-Trichlorobenzene	<100	-	-	-	<100	<400	-	-		TM157	<100 ug/kg
1,3-Dichlorobenzene	<100	-	-	-	<100	<400	-	-		TM157	<100 ug/kg
1,4-Dichlorobenzene	<100	-	-	-	<100	<400	-	-		TM157	<100 ug/kg
2-Nitroaniline	<100	-	-	-	<100	<400	-	-		TM157	<100 ug/kg
2,4-Dinitrotoluene	<100	-	-	-	<100	<400	-	-		TM157	<100 ug/kg
2,6-Dinitrotoluene	<100	-	-	-	<100	<400	-	-		TM157	<100 ug/kg
3-Nitroaniline	<100	-	-	-	<100	<400	-	-		TM157	<100 ug/kg
4-Bromophenylphenylether	<100	-	-	-	<100	<400	-	-		TM157	<100 ug/kg
4-Chloroaniline	<100	-	-	-	<100	<400	-	-		TM157	<100 ug/kg
4-Chlorophenylphenylether	<100	-	-	-	<100	<400	-	-		TM157	<100 ug/kg
4-Nitroaniline	<100	-	-	-	<100	<400	-	-		TM157	<100 ug/kg
Azobenzene	<100	-	-	-	<100	<400	-	-		TM157	<100 ug/kg
Bis(2-chloroethoxy)methane	<100	-	-	-	<100	<400	-	-		TM157	<100 ug/kg
Bis(2-chloroethyl)ether	<100	-	-	-	<100	<400	-	-		TM157	<100 ug/kg
Carbazole	<100	-	-	-	<100	2700	-	-		TM157	<100 ug/kg
Dibenzofuran	<100	-	-	-	<100	6200	-	-		TM157	<100 ug/kg
Hexachlorobenzene	<100	-	-	-	<100	<400	-	-		TM157	<100 ug/kg

All results expressed on a dry weight basis.

Date 19.06.2007

Validated ✓
Preliminary

ALcontrol Geochem Analytical Services
Table Of Results

ISO 17025 accredited
M MCERTS accredited
* Subcontracted test
» Shown on prev. report

Job Number: 07/08409/02/01 **Matrix:** SOLID
Client: Celtic **Location:** C1077
Client Ref. No.: **Client Contact:** Simon Haunch

Sample Identity	WS 13	WS 13	WS 15	WS 15	WS 16	WS 16	WS 17	WS 17		Method Code	LoD/Units
Depth (m)	1.5	1.5	0.5	1.5	1.1	4.5	0.5	1.2			
Sample Type	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID			
Sampled Date	14.05.07	15.05.07	15.05.07	15.05.07	15.05.07	15.05.07	15.05.07	15.05.07			
Sample Received Date	15.05.07	15.05.07	15.05.07	15.05.07	15.05.07	15.05.07	15.05.07	15.05.07			
Batch	1	1	1	1	1	1	1	1			
Sample Number(s)	**43-44**	**45**	**47**	**50**	**54-56**	**57-58**	**59**	**60**			
Other Semi-volatiles (cont)											
Hexachlorobutadiene	<100	-	-	-	<100	<400	-	-		TM157	<100 ug/kg
Hexachlorocyclopentadiene	<100	-	-	-	<100	<400	-	-		TM157	<100 ug/kg
Hexachloroethane	<100	-	-	-	<100	<400	-	-		TM157	<100 ug/kg
Isophorone	<100	-	-	-	<100	<400	-	-		TM157	<100 ug/kg
N-nitrosodi-n-propylamine	<100	-	-	-	<100	<400	-	-		TM157	<100 ug/kg
Nitrobenzene	<100	-	-	-	<100	<400	-	-		TM157	<100 ug/kg

All results expressed on a dry weight basis.

Date 19.06.2007

Validated ☑
Preliminary ☐

ALcontrol Geochem Analytical Services
Table Of Results

[#] ISO 17025 accredited
[M] MCERTS accredited
[*] Subcontracted test
» Shown on prev. report

Job Number: 07/08409/02/01 **Matrix:** SOLID
Client: Celtic **Location:** C1077
Client Ref. No.: **Client Contact:** Simon Haunch

Sample Identity	WS 13	WS 13	WS 15	WS 15	WS 16	WS 16	WS 17	WS 17		Method Code	LoD/Units
Depth (m)	1.5	1.5	0.5	1.5	1.1	4.5	0.5	1.2			
Sample Type	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID			
Sampled Date	14.05.07	15.05.07	15.05.07	15.05.07	15.05.07	15.05.07	15.05.07	15.05.07			
Sample Received Date	15.05.07	15.05.07	15.05.07	15.05.07	15.05.07	15.05.07	15.05.07	15.05.07			
Batch	1	1	1	1	1	1	1	1			
Sample Number(s)	**43-44**	**45**	**47**	**50**	**54-56**	**57-58**	**59**	**60**			
Volatile Organic Compounds											
Dichlorodifluoromethane	-	<4	-	-	<4	-	-	-		TM116[#]	<4 ug/kg
Chloromethane	-	<7	-	-	<7	-	-	-		TM116[#]	<7 ug/kg
Vinyl Chloride	-	<10	-	-	<10	-	-	-		TM116[#M]	<10 ug/kg
Bromomethane	-	<13	-	-	<13	-	-	-		TM116[#]	<13 ug/kg
Chloroethane	-	<14	-	-	<14	-	-	-		TM116[#]	<14 ug/kg
Trichlorofluoromethane	-	<6	-	-	<6	-	-	-		TM116[#M]	<6 ug/kg
trans-1-2-Dichloroethene	-	<11	-	-	<11	-	-	-		TM116[#]	<11 ug/kg
Dichloromethane	-	<10	-	-	<10	-	-	-		TM116[#]	<10 ug/kg
Carbon Disulphide	-	<7	-	-	<7	-	-	-		TM116[#M]	<7 ug/kg
1.1-Dichloroethene	-	<10	-	-	<10	-	-	-		TM116[#M]	<10 ug/kg
1.1-Dichloroethane	-	<8	-	-	<8	-	-	-		TM116[#M]	<8 ug/kg
Methyl Tertiary Butyl Ether	-	<11	-	-	<11	-	-	-		TM116[#M]	<11 ug/kg
cis-1-2-Dichloroethene	-	<5	-	-	<5	-	-	-		TM116[#M]	<5 ug/kg
Bromochloromethane	-	<14	-	-	<14	-	-	-		TM116[#]	<14 ug/kg
Chloroform	-	<8	-	-	<8	-	-	-		TM116[#M]	<8 ug/kg
2.2-Dichloropropane	-	<12	-	-	<12	-	-	-		TM116[#]	<12 ug/kg
1.2-Dichloroethane	-	<5	-	-	<5	-	-	-		TM116[#]	<5 ug/kg
1.1.1-Trichloroethane	-	<7	-	-	<7	-	-	-		TM116[#M]	<7 ug/kg
1.1-Dichloropropene	-	<11	-	-	<11	-	-	-		TM116[#M]	<11 ug/kg
Benzene	-	<9	-	-	<9	-	-	-		TM116[#M]	<9 ug/kg
Carbontetrachloride	-	<14	-	-	<14	-	-	-		TM116[#M]	<14 ug/kg
Dibromomethane	-	<9	-	-	<9	-	-	-		TM116[#]	<9 ug/kg
1.2-Dichloropropane	-	<12	-	-	<12	-	-	-		TM116[#M]	<12 ug/kg
Bromodichloromethane	-	<7	-	-	<7	-	-	-		TM116[#M]	<7 ug/kg
Trichloroethene	-	<9	-	-	<9	-	-	-		TM116[#M]	<9 ug/kg
cis-1-3-Dichloropropene	-	<14	-	-	<14	-	-	-		TM116[#M]	<14 ug/kg
trans-1-3-Dichloropropene	-	<14	-	-	<14	-	-	-		TM116[#M]	<14 ug/kg
1.1.2-Trichloroethane	-	<10	-	-	<10	-	-	-		TM116[#]	<10 ug/kg
Toluene	-	<5	-	-	<5	-	-	-		TM116[#M]	<5 ug/kg
1.3-Dichloropropane	-	<7	-	-	<7	-	-	-		TM116[#]	<7 ug/kg

All results expressed on a dry weight basis.

Date 19.06.2007

Validated ✓
Preliminary

ALcontrol Geochem Analytical Services
Table Of Results

[#] ISO 17025 accredited
[M] MCERTS accredited
* Subcontracted test
» Shown on prev. report

Job Number: 07/08409/02/01 **Matrix:** SOLID
Client: Celtic **Location:** C1077
Client Ref. No.: **Client Contact:** Simon Haunch

Sample Identity	WS 13	WS 13	WS 15	WS 15	WS 16	WS 16	WS 17	WS 17		Method Code	LoD/Units
Depth (m)	1.5	1.5	0.5	1.5	1.1	4.5	0.5	1.2			
Sample Type	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID			
Sampled Date	14.05.07	15.05.07	15.05.07	15.05.07	15.05.07	15.05.07	15.05.07	15.05.07			
Sample Received Date	15.05.07	15.05.07	15.05.07	15.05.07	15.05.07	15.05.07	15.05.07	15.05.07			
Batch	1	1	1	1	1	1	1	1			
Sample Number(s)	**43-44**	**45**	**47**	**50**	**54-56**	**57-58**	**59**	**60**			
Volatile Organic Compounds (cont)											
Dibromochloromethane	-	<13	-	-	<13	-	-	-		TM116[#]	<13 ug/kg
1.2-Dibromoethane	-	<12	-	-	<12	-	-	-		TM116[#]	<12 ug/kg
Tetrachloroethene	-	<5	-	-	<5	-	-	-		TM116[#]	<5 ug/kg
1.1.1.2-Tetrachloroethane	-	<10	-	-	<10	-	-	-		TM116[#M]	<10 ug/kg
Chlorobenzene	-	<5	-	-	<5	-	-	-		TM116[#M]	<5 ug/kg
Ethylbenzene	-	<4	-	-	<4	-	-	-		TM116[#]	<4 ug/kg
p/m-Xylene	-	<14	-	-	<14	-	-	-		TM116[#]	<14 ug/kg
Bromoform	-	<10	-	-	<10	-	-	-		TM116[#]	<10 ug/kg
Styrene	-	<10	-	-	<10	-	-	-		TM116[#]	<10 ug/kg
1.1.2.2-Tetrachloroethane	-	<10	-	-	<10	-	-	-		TM116[#]	<10 ug/kg
o-Xylene	-	<10	-	-	<10	-	-	-		TM116[#]	<10 ug/kg
1.2.3-Trichloropropane	-	<17	-	-	<17	-	-	-		TM116[#]	<17 ug/kg
Isopropylbenzene	-	<5	-	-	<5	-	-	-		TM116[#]	<5 ug/kg
Bromobenzene	-	<10	-	-	<10	-	-	-		TM116[#M]	<10 ug/kg
2-Chlorotoluene	-	<9	-	-	<9	-	-	-		TM116[#]	<9 ug/kg
Propylbenzene	-	<11	-	-	<11	-	-	-		TM116[#]	<11 ug/kg
4-Chlorotoluene	-	<12	-	-	<12	-	-	-		TM116[#]	<12 ug/kg
1.2.4-Trimethylbenzene	-	<9	-	-	<9	-	-	-		TM116[#]	<9 ug/kg
4-Isopropyltoluene	-	<11	-	-	<11	-	-	-		TM116[#]	<11 ug/kg
1.3.5-Trimethylbenzene	-	<8	-	-	<8	-	-	-		TM116[#]	<8 ug/kg
1.2-Dichlorobenzene	-	<12	-	-	<12	-	-	-		TM116[#M]	<12 ug/kg
1.4-Dichlorobenzene	-	<5	-	-	<5	-	-	-		TM116[#M]	<5 ug/kg
sec-Butylbenzene	-	<10	-	-	<10	-	-	-		TM116[#]	<10 ug/kg
tert-Butylbenzene	-	<12	-	-	<12	-	-	-		TM116[#]	<12 ug/kg
1.3-Dichlorobenzene	-	<6	-	-	<6	-	-	-		TM116[#]	<6 ug/kg
n-Butylbenzene	-	<10	-	-	<10	-	-	-		TM116[#]	<10 ug/kg
1.2-Dibromo-3-chloropropane	-	<14	-	-	<14	-	-	-		TM116[#]	<14 ug/kg
1.2.4-Trichlorobenzene	-	<6	-	-	<6	-	-	-		TM116[#]	<6 ug/kg
Naphthalene	-	<13	-	-	<13	-	-	-		TM116[#]	<13 ug/kg
1.2.3-Trichlorobenzene	-	<11	-	-	<11	-	-	-		TM116[#]	<11 ug/kg

All results expressed on a dry weight basis.

Date 19.06.2007

Validated ☑
Preliminary ☐

ALcontrol Geochem Analytical Services
Table Of Results

[#] ISO 17025 accredited
[M] MCERTS accredited
[*] Subcontracted test
» Shown on prev. report

Job Number: 07/08409/02/01 **Matrix:** SOLID
Client: Celtic **Location:** C1077
Client Ref. No.: **Client Contact:** Simon Haunch

Sample Identity	WS 13	WS 13	WS 15	WS 15	WS 16	WS 16	WS 17	WS 17		Method Code	LoD/Units
Depth (m)	1.5	1.5	0.5	1.5	1.1	4.5	0.5	1.2			
Sample Type	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID			
Sampled Date	14.05.07	15.05.07	15.05.07	15.05.07	15.05.07	15.05.07	15.05.07	15.05.07			
Sample Received Date	15.05.07	15.05.07	15.05.07	15.05.07	15.05.07	15.05.07	15.05.07	15.05.07			
Batch	1	1	1	1	1	1	1	1			
Sample Number(s)	**43-44**	**45**	**47**	**50**	**54-56**	**57-58**	**59**	**60**			
Volatile Organic Compounds (cont)											
Hexachlorobutadiene	-	<12	-	-	<12	-	-	-		TM116[#]	<12 ug/kg

All results expressed on a dry weight basis.

Date 19.06.2007

ALcontrol Geochem Analytical Services
Table Of Results - Appendix

Job Number: 07/08409/02/01
Client: Celtic
Client Ref. No.:

Report Key :

Results expressed as (e.g.) 1.03E-07 is equivalent to 1.03×10^{-7}

NDP	No Determination Possible	*	Subcontracted test
NFD	No Fibres Detected	»	Result previously reported (Incremental reports only)
#	ISO 17025 accredited	M	MCERTS Accredited
PFD	Possible Fibres Detected	EC	Equivalent Carbon (Aromatics C8-C35)

Note: Method detection limits are not always achievable due to various circumstances beyond our control.

Summary of Method Codes contained within report :

Method No.	Reference	Description	ISO 17025 Accredited	MCERTS Accredited	Wet/Dry Sample [1]	Surrogate Corrected
TM001	In - house Method	Screening of Soils for Fibres			WET	
TM024	Method 4500A & B, AWWA/APHA, 20th Ed., 1999	Determination of Exchangeable Ammonium in soil samples	✓	✓	WET	
TM062	MEWAM BOOK 124 1988.HMSO/ Method 17.7, Second Site property, March 2003	Determination of Phenolic compounds by HPLC with electro-chemical detection	✓	✓	WET	
TM074	Modified: US EPA Method 8100	Determination of Polynuclear Aromatic Hydrocarbons (PAH) by GC-MS. MCERTS Accreditation on Soils for Naphthalene except when Kerosene present.	✓		DRY	
TM074	Modified: US EPA Method 8100	Determination of Polynuclear Aromatic Hydrocarbons (PAH) by GC-MS. MCERTS Accreditation on Soils for Naphthalene except when Kerosene present.	✓	✓	DRY	
TM089	Modified: US EPA Methods 8020 & 602	Determination of Gasoline Range Hydrocarbons (GRO) and BTEX (MTBE) compounds by Headspace GC-FID (C4-C12)			WET	
TM089	Modified: US EPA Methods 8020 & 602	Determination of Gasoline Range Hydrocarbons (GRO) and BTEX (MTBE) compounds by Headspace GC-FID (C4-C12)	✓		WET	
TM089	Modified: US EPA Methods 8020 & 602	Determination of Gasoline Range Hydrocarbons (GRO) and BTEX (MTBE) compounds by Headspace GC-FID (C4-C12)	✓	✓	WET	
TM098	Method 4500E, AWWA/APHA, 20th Ed., 1999	Determination of Sulphate using the Kone Analyser	✓	✓	DRY	
TM101	Method 4500B & C, AWWA/APHA, 20th Ed., 1999	Determination of Sulphide in soil and water samples using the Kone Analyser			WET	
TM102	Method 4500H, AWWA/APHA, 20th Ed., 1999	Determination of Total Oxidised Nitrogen using the Kone Analyser	✓		DRY	
TM103	Method 4500H, AWWA/APHA, 20th Ed., 1999	Determination of Nitrite using the Kone Analyser	✓		DRY	
TM116	Modified: US EPA Method 8260, 8120, 8020, 624, 610 & 602	Determination of Volatile Organic Compounds by Headspace / GC-MS	✓		WET	
TM116	Modified: US EPA Method 8260, 8120, 8020, 624, 610 & 602	Determination of Volatile Organic Compounds by Headspace / GC-MS	✓	✓	WET	

[1] Applies to Solid samples only. **DRY** indicates samples have been dried at 35°C. **NA** = not applicable.

ALcontrol Geochem Analytical Services
Table Of Results - Appendix

Job Number: 07/08409/02/01
Client: Celtic
Client Ref. No.:

Report Key :

Results expressed as (e.g.) 1.03E-07 is equivalent to 1.03×10^{-7}

NDP	No Determination Possible	*	Subcontracted test
NFD	No Fibres Detected	»	Result previously reported (Incremental reports only)
#	ISO 17025 accredited	M	MCERTS Accredited
PFD	Possible Fibres Detected	EC	Equivalent Carbon (Aromatics C8-C35)

Note: Method detection limits are not always achievable due to various circumstances beyond our control.

Summary of Method Codes contained within report :

Method No.	Reference	Description	ISO 17025 Accredited	MCERTS Accredited	Wet/Dry Sample [1]	Surrogate Corrected
TM129	Method 3120B, AWWA/APHA, 20th Ed., 1999 / Modified: US EPA Method 3050B	Determination of Metal Cations by IRIS Emission Spectrometer			DRY	
TM129	Method 3120B, AWWA/APHA, 20th Ed., 1999 / Modified: US EPA Method 3050B	Determination of Metal Cations by IRIS Emission Spectrometer	✓		DRY	
TM129	Method 3120B, AWWA/APHA, 20th Ed., 1999 / Modified: US EPA Method 3050B	Determination of Metal Cations by IRIS Emission Spectrometer	✓	✓	DRY	
TM133	BS 1377: Part 3 1990	Determination of pH in Soil and Water using the GLpH pH Meter	✓	✓	WET	
TM136	Method 17.10, Second Site property, March 2003	Determination of Sulphur by HPLC	✓	✓	DRY	
TM153	Method 4500A,B,C, I, M AWWA/APHA, 20th Ed., 1999	Determination of Total Cyanide, Free (Easily Liberatable) Cyanide and Thiocyanate using the "Skalar SANS+ System" Segmented Flow Analyser	✓		WET	
TM154	In - house Method	Determination of Petroleum Hydrocarbons by EZ Flash GC-FID in the Carbon range C6- C40	✓		WET	
TM157		Determination of SVOC in Soils by GC-MS extracted by sonication in DCM/Acetone			WET	
TM173		Determination of Speciated Extractable Petroleum Hydrocarbons in Soils by GC-FID	✓		DRY	
TM61/89		see TM061 and TM089 for details			WET	

[1] Applies to Solid samples only. **DRY** indicates samples have been dried at 35°C. **NA** = not applicable.

ALcontrol Geochem Analytical Services
Table Of Results - Appendix

Job Number: 07/08409/02/01
Client: Celtic
Client Ref. No.:

Summary of Coolbox temperatures

Batch No.	Coolbox Temperature (°C)
1	18.2

ALcontrol Geochem Analytical Services
Sample Descriptions

Job Number: 07/08569/02/01
Client: Celtic Technologies
Client Ref : C1077

Grain sizes

<0.063mm	Very Fine
0.1mm - 0.063mm	Fine
0.1mm - 2mm	Medium
2mm - 10mm	Coarse
>10mm	Very Coarse

Sample Identity	Depth (m)	Colour	Grain Size	Description	Batch
TP15	2.0	Dark Brown	0.1mm - 0.063mm	Silty Clay with some Stones	1
TP16	2.5	Brown	0.1mm - 0.063mm	Silty Clay with some Stones	1
TP17	2.55	Brown	0.1mm - 0.063mm	Silty Clay with some Stones	1
TP17	9.0	Brown	<0.063mm	Clay	1
TP18	0.9	Dark Brown	0.1mm - 0.063mm	Silty Clay with some Stones	1
TP19	1.0	Brown	0.1mm - 0.063mm	Sludge/Sediment with some Stones	1
TP20	0.9	Brown	<0.063mm	Silty Clay with some Stones	1
TP21	1.2	Brown	0.1mm - 0.063mm	Silty Clay with some Stones	1
TP23	0.4	Brown	0.1mm - 0.063mm	Top Soil with some Stones	1
WS1	0.5	Brown	0.1mm - 0.063mm	Top Soil with some Stones	1
WS1	2.5	Brown	0.1mm - 2mm	Sand with some Stones	1
WS2	0.5	Brown	0.1mm - 0.063mm	Silty Clay with some Stones	1
WS2	2.5	Grey	<0.063mm	Clay with some Stones	1
WS3	0.5	Dark Brown	0.1mm - 0.063mm	Silty Clay with some Stones	1
WS3	1.0	Dark Brown	0.1mm - 0.063mm	Top Soil with some Stones	1
WS4	0.4	Brown	0.1mm - 0.063mm	Top Soil with some Stones	1
WS5	0.7	Brown	0.1mm - 0.063mm	Silty Clay with some Stones	1
WS5	1.5	Dark Brown	0.1mm - 0.063mm	Top Soil with some Stones	1
WS5	2.7	Brown	<0.063mm	Silty Clay with some Stones	1
WS6	1.5	Brown	0.1mm - 0.063mm	Silty Clay with some Stones	1
WS18	2.3	Dark Brown	0.1mm - 0.063mm	Silty Clay with some Stones	1

* These descriptions are only intended to act as a cross check if sample identities are questioned, and to provide a log of sample matrices with respect to MCERTS validation. They are not intended as full geological descriptions.

We are accredited to MCERTS for sand, clay and loam/topsoil, or any of these materials-whether these are derived from naturally occurring soil profiles, or from fill/made ground, as long as these materials constitute the major part of the sample.
Other coarse granular materials such as concrete, gravel and brick are not accredited if they comprise the major part of the sample.
[1] Sample Description supplied by client

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* Subcontracted test
» Shown on prev. report

Job Number: 07/08569/02/01 **Matrix:** SOLID
Client: Celtic Technologies **Location:** TEN ACRES LANE
Client Ref. No.: C1077 **Client Contact:** Simon Haunch

Sample Identity	TP15	TP16	TP17	TP17	TP18	TP19	TP20	TP21	TP23	Method Code	LoD/Units
Depth (m)	2.0	2.5	2.55	9.0	0.9	1.0	0.9	1.2	0.4		
Sample Type	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID		
Sampled Date	16.05.07	16.05.07	16.05.07	16.05.07	16.05.07	16.05.07	16.05.07	16.05.07	15.05.07		
Sample Received Date	17.05.07	17.05.07	17.05.07	17.05.07	17.05.07	17.05.07	17.05.07	17.05.07	17.05.07		
Batch	1	1	1	1	1	1	1	1	1		
Sample Number(s)	1-5	6-9	10-12	13	14-16	17-20	21-24	25-28	29-33		
Total Sulphate	2000	880	-	-	-	1100	2700	2700	2000	TM129#M	<100 mg/kg
Boron Water Soluble	-	-	-	-	<3.5	<3.5	28	11	<3.5	TM129#M	<3.5 mg/kg
Arsenic	-	-	-	-	37	17	47	74	89	TM129#M	<3.0 mg/kg
Cadmium	-	-	-	-	2.6	<0.3	8.2	9.5	0.6	TM129	<0.3 mg/kg
Chromium	-	-	-	-	26	27	360	170	26	TM129#M	<4.5 mg/kg
Copper	-	-	-	-	180	92	710	870	1100	TM129#	<6 mg/kg
Lead	-	-	-	-	260	250	1300	1900	230	TM129#M	<2 mg/kg
Mercury	-	-	-	-	<0.6	<0.6	0.8	4.1	<0.6	TM129#M	<0.6 mg/kg
Nickel	-	-	-	-	27	24	98	310	31	TM129#M	<0.9 mg/kg
Selenium	-	-	-	-	<3	<3	<3	<3	<3	TM129#M	<3 mg/kg
Zinc	-	-	-	-	450	360	2300	3000	210	TM129#M	<2.5 mg/kg
Total Oxidised Nitrogen as N	-	-	-	-	<1	13	-	6	2	TM102#	<1 mg/kg
Water Soluble Sulphate as SO4 2:1 Extract	0.49	0.14	-	-	-	0.13	0.34	0.42	0.062	TM098#M	<0.003 g/l
Acid Soluble Sulphide	<50	<50	-	-	-	<50	570	120	<50	TM101	<50 mg/kg
Chloride (soluble)	18	8	-	-	-	8	150	76	10	TM097#M	<2 mg/kg
Total Organic Carbon	-	-	-	-	-	-	-	-	-	TM132#M	<0.2 %
Phenols Monohydric	-	<0.15	-	-	-	-	0.27	-	-	TM062#M	<0.15 mg/kg
Total Cyanide	-	-	-	-	<1	<1	9	-	-	TM153#	<1 mg/kg
Asbestos Presence Screen	-	-	-	-	No Fibres Detected	No Fibres Detected	No Fibres Detected	-	-	TM001	NONE
Calorific Value	-	1400	-	-	-	-	2800	2400	-	TM132#	<100 KJ/Kg
Elemental Sulphur	-	-	-	-	<70	-	-	-	-	TM136#	<70 mg/kg
pH Value	9.11	8.81	8.33	8.50	7.69	8.06	7.85	7.40	7.74	TM133#M	<1.00 pH Units

All results expressed on a dry weight basis.

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[#] ISO 17025 accredited
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[*] Subcontracted test
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Job Number: 07/08569/02/01 **Matrix:** SOLID
Client: Celtic Technologies **Location:** TEN ACRES LANE
Client Ref. No.: C1077 **Client Contact:** Simon Haunch

Sample Identity	TP15	TP16	TP17	TP17	TP18	TP19	TP20	TP21	TP23	Method Code	LoD/Units
Depth (m)	2.0	2.5	2.55	9.0	0.9	1.0	0.9	1.2	0.4		
Sample Type	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID		
Sampled Date	16.05.07	16.05.07	16.05.07	16.05.07	16.05.07	16.05.07	16.05.07	16.05.07	15.05.07		
Sample Received Date	17.05.07	17.05.07	17.05.07	17.05.07	17.05.07	17.05.07	17.05.07	17.05.07	17.05.07		
Batch	1	1	1	1	1	1	1	1	1		
Sample Number(s)	**1-5**	**6-9**	**10-12**	**13**	**14-16**	**17-20**	**21-24**	**25-28**	**29-33**		
TPH C6-40	710	1600	430	520	1700	-	5400	5400	1000	TM154[#]	<10 mg/kg

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Job Number: 07/08569/02/01 **Matrix:** SOLID
Client: Celtic Technologies **Location:** TEN ACRES LANE
Client Ref. No.: C1077 **Client Contact:** Simon Haunch

Sample Identity	TP15	TP16	TP17	TP17	TP18	TP19	TP20	TP21	TP23	Method Code	LoD/Units
Depth (m)	2.0	2.5	2.55	9.0	0.9	1.0	0.9	1.2	0.4		
Sample Type	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID		
Sampled Date	16.05.07	16.05.07	16.05.07	16.05.07	16.05.07	16.05.07	16.05.07	16.05.07	15.05.07		
Sample Received Date	17.05.07	17.05.07	17.05.07	17.05.07	17.05.07	17.05.07	17.05.07	17.05.07	17.05.07		
Batch	1	1	1	1	1	1	1	1	1		
Sample Number(s)	**1-5**	**6-9**	**10-12**	**13**	**14-16**	**17-20**	**21-24**	**25-28**	**29-33**		
PAH by GCMS											
Naphthalene	-	440	-	-	-	-	7600	-	-	TM074[#M]	<10 ug/kg
Acenaphthylene	-	79	-	-	-	-	1300	-	-	TM074[#M]	<5 ug/kg
Acenaphthene	-	1200	-	-	-	-	5600	-	-	TM074[#M]	<14 ug/kg
Fluorene	-	740	-	-	-	-	7000	-	-	TM074[#M]	<12 ug/kg
Phenanthrene	-	9000	-	-	-	-	40000	-	-	TM074[#M]	<21 ug/kg
Anthracene	-	2200	-	-	-	-	8700	-	-	TM074[#M]	<9 ug/kg
Fluoranthene	-	15000	-	-	-	-	46000	-	-	TM074[#M]	<25 ug/kg
Pyrene	-	12000	-	-	-	-	40000	-	-	TM074[#M]	<22 ug/kg
Benz(a)anthracene	-	6900	-	-	-	-	19000	-	-	TM074[#M]	<12 ug/kg
Chrysene	-	6600	-	-	-	-	20000	-	-	TM074[#M]	<10 ug/kg
Benzo(b)fluoranthene	-	9000	-	-	-	-	18000	-	-	TM074[#M]	<16 ug/kg
Benzo(k)fluoranthene	-	4000	-	-	-	-	8900	-	-	TM074[#M]	<25 ug/kg
Benzo(a)pyrene	-	6400	-	-	-	-	17000	-	-	TM074[#M]	<12 ug/kg
Indeno(123cd)pyrene	-	3700	-	-	-	-	9600	-	-	TM074[#M]	<11 ug/kg
Dibenzo(ah)anthracene	-	690	-	-	-	-	1800	-	-	TM074[#M]	<8 ug/kg
Benzo(ghi)perylene	-	4000	-	-	-	-	11000	-	-	TM074[#M]	<10 ug/kg
PAH 16 Total	-	82000	-	-	-	-	260000	-	-	TM074[#M]	<25 ug/kg

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Job Number: 07/08569/02/01 **Matrix:** SOLID
Client: Celtic Technologies **Location:** TEN ACRES LANE
Client Ref. No.: C1077 **Client Contact:** Simon Haunch

Sample Identity	TP15	TP16	TP17	TP17	TP18	TP19	TP20	TP21	TP23	Method Code	LoD/Units
Depth (m)	2.0	2.5	2.55	9.0	0.9	1.0	0.9	1.2	0.4		
Sample Type	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID		
Sampled Date	16.05.07	16.05.07	16.05.07	16.05.07	16.05.07	16.05.07	16.05.07	16.05.07	15.05.07		
Sample Received Date	17.05.07	17.05.07	17.05.07	17.05.07	17.05.07	17.05.07	17.05.07	17.05.07	17.05.07		
Batch	1	1	1	1	1	1	1	1	1		
Sample Number(s)	**1-5**	**6-9**	**10-12**	**13**	**14-16**	**17-20**	**21-24**	**25-28**	**29-33**		
SVOC by GCMS											
Phenols											
2-Chlorophenol	-	<100	-	-	-	<100	<100	-	-	TM157	<100 ug/kg
2-Methylphenol	-	<100	-	-	-	<100	<100	-	-	TM157	<100 ug/kg
2-Nitrophenol	-	<100	-	-	-	<100	<100	-	-	TM157	<100 ug/kg
2,4-Dichlorophenol	-	<100	-	-	-	<100	<100	-	-	TM157	<100 ug/kg
2,4-Dimethylphenol	-	<100	-	-	-	<100	<100	-	-	TM157	<100 ug/kg
2,4,5-Trichlorophenol	-	<100	-	-	-	<100	<100	-	-	TM157	<100 ug/kg
2,4,6-Trichlorophenol	-	<100	-	-	-	<100	<100	-	-	TM157	<100 ug/kg
4-Chloro-3-methylphenol	-	<100	-	-	-	<100	<100	-	-	TM157	<100 ug/kg
4-Methylphenol	-	<100	-	-	-	<100	<100	-	-	TM157	<100 ug/kg
4-Nitrophenol	-	<100	-	-	-	<100	<100	-	-	TM157	<100 ug/kg
Pentachlorophenol	-	<100	-	-	-	<100	<100	-	-	TM157	<100 ug/kg
Phenol	-	<100	-	-	-	<100	<100	-	-	TM157	<100 ug/kg

All results expressed on a dry weight basis.

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Job Number: 07/08569/02/01 **Matrix:** SOLID
Client: Celtic Technologies **Location:** TEN ACRES LANE
Client Ref. No.: C1077 **Client Contact:** Simon Haunch

Sample Identity	TP15	TP16	TP17	TP17	TP18	TP19	TP20	TP21	TP23	Method Code	LoD/Units
Depth (m)	2.0	2.5	2.55	9.0	0.9	1.0	0.9	1.2	0.4		
Sample Type	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID		
Sampled Date	16.05.07	16.05.07	16.05.07	16.05.07	16.05.07	16.05.07	16.05.07	16.05.07	15.05.07		
Sample Received Date	17.05.07	17.05.07	17.05.07	17.05.07	17.05.07	17.05.07	17.05.07	17.05.07	17.05.07		
Batch	1	1	1	1	1	1	1	1	1		
Sample Number(s)	**1-5**	**6-9**	**10-12**	**13**	**14-16**	**17-20**	**21-24**	**25-28**	**29-33**		
PAHs											
2-Chloronaphthalene	-	<100	-	-	-	<100	<100	-	-	TM157	<100 ug/kg
2-Methylnaphthalene	-	310	-	-	-	160	750	-	-	TM157	<100 ug/kg
Phthalates											
Bis(2-ethylhexyl) phthalate	-	<100	-	-	-	<100	1200	-	-	TM157	<100 ug/kg
Butylbenzyl phthalate	-	<100	-	-	-	<100	260	-	-	TM157	<100 ug/kg
Di-n-butyl phthalate	-	<100	-	-	-	<100	180	-	-	TM157	<100 ug/kg
Di-n-Octyl phthalate	-	<100	-	-	-	<100	<100	-	-	TM157	<100 ug/kg
Diethyl phthalate	-	<100	-	-	-	<100	<100	-	-	TM157	<100 ug/kg
Dimethyl phthalate	-	<100	-	-	-	<100	<100	-	-	TM157	<100 ug/kg
Other Semi-volatiles											
1,2-Dichlorobenzene	-	<100	-	-	-	<100	<100	-	-	TM157	<100 ug/kg
1,2,4-Trichlorobenzene	-	<100	-	-	-	<100	<100	-	-	TM157	<100 ug/kg
1,3-Dichlorobenzene	-	<100	-	-	-	<100	<100	-	-	TM157	<100 ug/kg
1,4-Dichlorobenzene	-	<100	-	-	-	<100	<100	-	-	TM157	<100 ug/kg
2-Nitroaniline	-	<100	-	-	-	<100	<100	-	-	TM157	<100 ug/kg
2,4-Dinitrotoluene	-	<100	-	-	-	<100	<100	-	-	TM157	<100 ug/kg
2,6-Dinitrotoluene	-	<100	-	-	-	<100	<100	-	-	TM157	<100 ug/kg
3-Nitroaniline	-	<100	-	-	-	<100	<100	-	-	TM157	<100 ug/kg
4-Bromophenylphenylether	-	<100	-	-	-	<100	<100	-	-	TM157	<100 ug/kg
4-Chloroaniline	-	<100	-	-	-	<100	<100	-	-	TM157	<100 ug/kg
4-Chlorophenylphenylether	-	<100	-	-	-	<100	<100	-	-	TM157	<100 ug/kg
4-Nitroaniline	-	<100	-	-	-	<100	<100	-	-	TM157	<100 ug/kg
Azobenzene	-	<100	-	-	-	<100	<100	-	-	TM157	<100 ug/kg
Bis(2-chloroethoxy)methane	-	<100	-	-	-	<100	<100	-	-	TM157	<100 ug/kg
Bis(2-chloroethyl)ether	-	<100	-	-	-	<100	<100	-	-	TM157	<100 ug/kg
Carbazole	-	1900	-	-	-	<100	580	-	-	TM157	<100 ug/kg
Dibenzofuran	-	650	-	-	-	<100	890	-	-	TM157	<100 ug/kg
Hexachlorobenzene	-	<100	-	-	-	<100	<100	-	-	TM157	<100 ug/kg

All results expressed on a dry weight basis.

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Preliminary

ALcontrol Geochem Analytical Services
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ISO 17025 accredited
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Job Number: 07/08569/02/01 **Matrix:** SOLID
Client: Celtic Technologies **Location:** TEN ACRES LANE
Client Ref. No.: C1077 **Client Contact:** Simon Haunch

Sample Identity	TP15	TP16	TP17	TP17	TP18	TP19	TP20	TP21	TP23	Method Code	LoD/Units
Depth (m)	2.0	2.5	2.55	9.0	0.9	1.0	0.9	1.2	0.4		
Sample Type	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID		
Sampled Date	16.05.07	16.05.07	16.05.07	16.05.07	16.05.07	16.05.07	16.05.07	16.05.07	15.05.07		
Sample Received Date	17.05.07	17.05.07	17.05.07	17.05.07	17.05.07	17.05.07	17.05.07	17.05.07	17.05.07		
Batch	1	1	1	1	1	1	1	1	1		
Sample Number(s)	**1-5**	**6-9**	**10-12**	**13**	**14-16**	**17-20**	**21-24**	**25-28**	**29-33**		
Other Semi-volatiles (cont)											
Hexachlorobutadiene	-	<100	-	-	-	<100	<100	-	-	TM157	<100 ug/kg
Hexachlorocyclopentadiene	-	<100	-	-	-	<100	<100	-	-	TM157	<100 ug/kg
Hexachloroethane	-	<100	-	-	-	<100	<100	-	-	TM157	<100 ug/kg
Isophorone	-	<100	-	-	-	<100	<100	-	-	TM157	<100 ug/kg
N-nitrosodi-n-propylamine	-	<100	-	-	-	<100	<100	-	-	TM157	<100 ug/kg
Nitrobenzene	-	<100	-	-	-	<100	<100	-	-	TM157	<100 ug/kg

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Job Number: 07/08569/02/01 **Matrix:** SOLID
Client: Celtic Technologies **Location:** TEN ACRES LANE
Client Ref. No.: C1077 **Client Contact:** Simon Haunch

Sample Identity	TP15	TP16	TP17	TP17	TP18	TP19	TP20	TP21	TP23	Method Code	LoD/Units
Depth (m)	2.0	2.5	2.55	9.0	0.9	1.0	0.9	1.2	0.4		
Sample Type	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID		
Sampled Date	16.05.07	16.05.07	16.05.07	16.05.07	16.05.07	16.05.07	16.05.07	16.05.07	15.05.07		
Sample Received Date	17.05.07	17.05.07	17.05.07	17.05.07	17.05.07	17.05.07	17.05.07	17.05.07	17.05.07		
Batch	1	1	1	1	1	1	1	1	1		
Sample Number(s)	**1-5**	**6-9**	**10-12**	**13**	**14-16**	**17-20**	**21-24**	**25-28**	**29-33**		
Volatile Organic Compounds											
Dichlorodifluoromethane	<4	<4	-	-	-	<4	<4	<4	<4	TM116[#]	<4 ug/kg
Chloromethane	<7	<7	-	-	-	<7	<7	<7	<7	TM116[#]	<7 ug/kg
Vinyl Chloride	<10	<10	-	-	-	<10	<10	<10	<10	TM116[#M]	<10 ug/kg
Bromomethane	<13	<13	-	-	-	<13	<13	<13	<13	TM116[#]	<13 ug/kg
Chloroethane	<14	<14	-	-	-	<14	<14	<14	<14	TM116[#]	<14 ug/kg
Trichlorofluoromethane	<6	<6	-	-	-	<6	<6	<6	<6	TM116[#M]	<6 ug/kg
trans-1-2-Dichloroethene	<11	<11	-	-	-	<11	<11	<11	<11	TM116[#]	<11 ug/kg
Dichloromethane	<10	<10	-	-	-	<10	<10	<10	<10	TM116[#]	<10 ug/kg
Carbon Disulphide	<7	<7	-	-	-	<7	<7	<7	<7	TM116[#M]	<7 ug/kg
1.1-Dichloroethene	<10	<10	-	-	-	<10	<10	<10	<10	TM116[#M]	<10 ug/kg
1.1-Dichloroethane	<8	<8	-	-	-	<8	<8	<8	<8	TM116[#M]	<8 ug/kg
Methyl Tertiary Butyl Ether	<11	<11	-	-	-	<11	<11	<11	<11	TM116[#M]	<11 ug/kg
cis-1-2-Dichloroethene	<5	<5	-	-	-	<5	<5	<5	<5	TM116[#M]	<5 ug/kg
Bromochloromethane	<14	<14	-	-	-	<14	<14	<14	<14	TM116[#]	<14 ug/kg
Chloroform	<8	<8	-	-	-	<8	<8	<8	<8	TM116[#M]	<8 ug/kg
2.2-Dichloropropane	<12	<12	-	-	-	<12	<12	<12	<12	TM116[#]	<12 ug/kg
1.2-Dichloroethane	<5	<5	-	-	-	<5	<5	<5	<5	TM116[#]	<5 ug/kg
1.1.1-Trichloroethane	<7	<7	-	-	-	<7	<7	<7	<7	TM116[#M]	<7 ug/kg
1.1-Dichloropropene	<11	<11	-	-	-	<11	<11	<11	<11	TM116[#M]	<11 ug/kg
Benzene	<9	<9	-	-	-	<9	<9	<9	<9	TM116[#M]	<9 ug/kg
Carbontetrachloride	<14	<14	-	-	-	<14	<14	<14	<14	TM116[#M]	<14 ug/kg
Dibromomethane	<9	<9	-	-	-	<9	<9	<9	<9	TM116[#]	<9 ug/kg
1.2-Dichloropropane	<12	<12	-	-	-	<12	<12	<12	<12	TM116[#M]	<12 ug/kg
Bromodichloromethane	<7	<7	-	-	-	<7	<7	<7	<7	TM116[#M]	<7 ug/kg
Trichloroethene	<9	<9	-	-	-	<9	<9	<9	<9	TM116[#M]	<9 ug/kg
cis-1-3-Dichloropropene	<14	<14	-	-	-	<14	<14	<14	<14	TM116[#M]	<14 ug/kg
trans-1-3-Dichloropropene	<14	<14	-	-	-	<14	<14	<14	<14	TM116[#M]	<14 ug/kg
1.1.2-Trichloroethane	<10	<10	-	-	-	<10	<10	<10	<10	TM116[#]	<10 ug/kg
Toluene	<5	<5	-	-	-	<5	<5	<5	<5	TM116[#M]	<5 ug/kg
1.3-Dichloropropane	<7	<7	-	-	-	<7	<7	<7	<7	TM116[#]	<7 ug/kg

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Table Of Results

[#] ISO 17025 accredited
[M] MCERTS accredited
* Subcontracted test
» Shown on prev. report

Job Number: 07/08569/02/01 **Matrix:** SOLID
Client: Celtic Technologies **Location:** TEN ACRES LANE
Client Ref. No.: C1077 **Client Contact:** Simon Haunch

Sample Identity	TP15	TP16	TP17	TP17	TP18	TP19	TP20	TP21	TP23	Method Code	LoD/Units
Depth (m)	2.0	2.5	2.55	9.0	0.9	1.0	0.9	1.2	0.4		
Sample Type	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID		
Sampled Date	16.05.07	16.05.07	16.05.07	16.05.07	16.05.07	16.05.07	16.05.07	16.05.07	15.05.07		
Sample Received Date	17.05.07	17.05.07	17.05.07	17.05.07	17.05.07	17.05.07	17.05.07	17.05.07	17.05.07		
Batch	1	1	1	1	1	1	1	1	1		
Sample Number(s)	**1-5**	**6-9**	**10-12**	**13**	**14-16**	**17-20**	**21-24**	**25-28**	**29-33**		
Volatile Organic Compounds (cont)											
Dibromochloromethane	<13	<13	-	-	-	<13	<13	<13	<13	TM116[#]	<13 ug/kg
1.2-Dibromoethane	<12	<12	-	-	-	<12	<12	<12	<12	TM116[#]	<12 ug/kg
Tetrachloroethene	<5	<5	-	-	-	<5	<5	<5	<5	TM116[#]	<5 ug/kg
1.1.1.2-Tetrachloroethane	<10	<10	-	-	-	<10	<10	<10	<10	TM116[#M]	<10 ug/kg
Chlorobenzene	<5	<5	-	-	-	<5	<5	<5	<5	TM116[#M]	<5 ug/kg
Ethylbenzene	<4	<4	-	-	-	<4	29	<4	<4	TM116[#]	<4 ug/kg
p/m-Xylene	<14	<14	-	-	-	<14	56	<14	<14	TM116[#]	<14 ug/kg
Bromoform	<10	<10	-	-	-	<10	<10	<10	<10	TM116[#]	<10 ug/kg
Styrene	<10	<10	-	-	-	<10	<10	<10	<10	TM116[#]	<10 ug/kg
1.1.2.2-Tetrachloroethane	<10	<10	-	-	-	<10	<10	<10	<10	TM116[#]	<10 ug/kg
o-Xylene	<10	<10	-	-	-	<10	<10	<10	<10	TM116[#]	<10 ug/kg
1.2.3-Trichloropropane	<17	<17	-	-	-	<17	<17	<17	<17	TM116[#]	<17 ug/kg
Isopropylbenzene	<5	<5	-	-	-	<5	<5	<5	<5	TM116[#]	<5 ug/kg
Bromobenzene	<10	<10	-	-	-	<10	<10	<10	<10	TM116[#M]	<10 ug/kg
2-Chlorotoluene	<9	<9	-	-	-	<9	<9	<9	<9	TM116[#]	<9 ug/kg
Propylbenzene	<11	<11	-	-	-	<11	<11	<11	<11	TM116[#]	<11 ug/kg
4-Chlorotoluene	<12	<12	-	-	-	<12	<12	<12	<12	TM116[#]	<12 ug/kg
1.2.4-Trimethylbenzene	<9	<9	-	-	-	<9	<9	<9	<9	TM116[#]	<9 ug/kg
4-Isopropyltoluene	<11	<11	-	-	-	<11	<11	<11	<11	TM116[#]	<11 ug/kg
1.3.5-Trimethylbenzene	<8	<8	-	-	-	<8	<8	<8	<8	TM116[#]	<8 ug/kg
1.2-Dichlorobenzene	<12	<12	-	-	-	<12	<12	<12	<12	TM116[#M]	<12 ug/kg
1.4-Dichlorobenzene	<5	<5	-	-	-	<5	<5	<5	<5	TM116[#M]	<5 ug/kg
sec-Butylbenzene	<10	<10	-	-	-	<10	<10	<10	<10	TM116[#]	<10 ug/kg
tert-Butylbenzene	<12	<12	-	-	-	<12	<12	<12	<12	TM116[#]	<12 ug/kg
1.3-Dichlorobenzene	<6	<6	-	-	-	<6	<6	<6	<6	TM116[#]	<6 ug/kg
n-Butylbenzene	<10	<10	-	-	-	<10	<10	<10	<10	TM116[#]	<10 ug/kg
1.2-Dibromo-3-chloropropane	<14	<14	-	-	-	<14	<14	<14	<14	TM116[#]	<14 ug/kg
1.2.4-Trichlorobenzene	<6	<6	-	-	-	<6	<6	<6	<6	TM116[#]	<6 ug/kg
Naphthalene	<13	<13	-	-	-	<13	<13	<13	<13	TM116[#]	<13 ug/kg
1.2.3-Trichlorobenzene	<11	<11	-	-	-	<11	<11	<11	<11	TM116[#]	<11 ug/kg

All results expressed on a dry weight basis.

Date 05.07.2007

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ALcontrol Geochem Analytical Services
Table Of Results

[#] ISO 17025 accredited
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Job Number: 07/08569/02/01 **Matrix:** SOLID
Client: Celtic Technologies **Location:** TEN ACRES LANE
Client Ref. No.: C1077 **Client Contact:** Simon Haunch

Sample Identity	TP15	TP16	TP17	TP17	TP18	TP19	TP20	TP21	TP23	Method Code	LoD/Units
Depth (m)	2.0	2.5	2.55	9.0	0.9	1.0	0.9	1.2	0.4		
Sample Type	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID		
Sampled Date	16.05.07	16.05.07	16.05.07	16.05.07	16.05.07	16.05.07	16.05.07	16.05.07	15.05.07		
Sample Received Date	17.05.07	17.05.07	17.05.07	17.05.07	17.05.07	17.05.07	17.05.07	17.05.07	17.05.07		
Batch	1	1	1	1	1	1	1	1	1		
Sample Number(s)	**1-5**	**6-9**	**10-12**	**13**	**14-16**	**17-20**	**21-24**	**25-28**	**29-33**		
Volatile Organic Compounds (cont)											
Hexachlorobutadiene	<12	<12	-	-	-	<12	<12	<12	<12	TM116[#]	<12 ug/kg

All results expressed on a dry weight basis.

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ALcontrol Geochem Analytical Services
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Job Number: 07/08569/02/01 **Matrix:** SOLID
Client: Celtic Technologies **Location:** TEN ACRES LANE
Client Ref. No.: C1077 **Client Contact:** Simon Haunch

Sample Identity	WS1	WS1	WS2	WS2	WS3	WS3	WS4	WS5	WS5	Method Code	LoD/Units
Depth (m)	0.5	2.5	0.5	2.5	0.5	1.0	0.4	0.7	1.5		
Sample Type	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID		
Sampled Date	15.05.07	15.05.07	16.05.07	16.05.07	16.05.07	16.05.07	16.05.07	16.05.07	16.05.07		
Sample Received Date	17.05.07	17.05.07	17.05.07	17.05.07	17.05.07	17.05.07	17.05.07	17.05.07	17.05.07		
Batch	1	1	1	1	1	1	1	1	1		
Sample Number(s)	**34**	**35**	**36-37**	**38-39**	**40-41**	**42-43**	**44-46**	**47**	**48-49**		
Total Sulphate	-	-	-	-	-	1600	-	760	-	TM129#M	<100 mg/kg
Boron Water Soluble	-	-	11	<3.5	<3.5	-	<3.5	-	-	TM129#M	<3.5 mg/kg
Arsenic	-	-	73	5	6	-	29	-	-	TM129#M	<3.0 mg/kg
Cadmium	-	-	<0.3	<0.3	0.4	-	0.7	-	-	TM129	<0.3 mg/kg
Chromium	-	-	26	26	14	-	34	-	-	TM129#M	<4.5 mg/kg
Copper	-	-	97	28	20	-	140	-	-	TM129#	<6 mg/kg
Lead	-	-	24	13	58	-	330	-	-	TM129#M	<2 mg/kg
Mercury	-	-	<0.6	<0.6	<0.6	-	<0.6	-	-	TM129#M	<0.6 mg/kg
Nickel	-	-	65	34	11	-	45	-	-	TM129#M	<0.9 mg/kg
Selenium	-	-	<3	<3	<3	-	<3	-	-	TM129#M	<3 mg/kg
Zinc	-	-	39	91	62	-	570	-	-	TM129#M	<2.5 mg/kg
Total Oxidised Nitrogen as N	-	-	-	-	<1	-	-	-	-	TM102#	<1 mg/kg
Water Soluble Sulphate as SO4 2:1 Extract	-	-	-	-	-	0.40	-	0.11	-	TM098#M	<0.003 g/l
Acid Soluble Sulphide	-	-	-	-	-	120	-	<50	-	TM101	<50 mg/kg
Chloride (soluble)	-	-	-	-	-	86	-	14	-	TM097#M	<2 mg/kg
Total Organic Carbon	8.2	-	-	-	-	-	-	-	-	TM132#M	<0.2 %
Phenols Monohydric	-	-	-	-	-	-	-	-	-	TM062#M	<0.15 mg/kg
Total Cyanide	-	-	-	-	<1	-	<1	-	-	TM153#	<1 mg/kg
Asbestos Presence Screen	No Fibres Detected	-	-	-	No Fibres Detected	-	No Fibres Detected	No Fibres Detected	-	TM001	NONE
Calorific Value	-	-	-	-	-	-	-	-	-	TM132#	<100 KJ/Kg
Elemental Sulphur	<70	-	-	-	-	-	<70	-	-	TM136#	<70 mg/kg
pH Value	7.20	7.70	7.96	8.13	8.24	6.93	8.05	-	-	TM133#M	<1.00 pH Units

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Job Number: 07/08569/02/01 **Matrix:** SOLID
Client: Celtic Technologies **Location:** TEN ACRES LANE
Client Ref. No.: C1077 **Client Contact:** Simon Haunch

Sample Identity	WS1	WS1	WS2	WS2	WS3	WS3	WS4	WS5	WS5	Method Code	LoD/Units
Depth (m)	0.5	2.5	0.5	2.5	0.5	1.0	0.4	0.7	1.5		
Sample Type	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID		
Sampled Date	15.05.07	15.05.07	16.05.07	16.05.07	16.05.07	16.05.07	16.05.07	16.05.07	16.05.07		
Sample Received Date	17.05.07	17.05.07	17.05.07	17.05.07	17.05.07	17.05.07	17.05.07	17.05.07	17.05.07		
Batch	1	1	1	1	1	1	1	1	1		
Sample Number(s)	**34**	**35**	**36-37**	**38-39**	**40-41**	**42-43**	**44-46**	**47**	**48-49**		
GRO (C4-C12)	-	-	-	-	-	-	<10	-	-	TM089	<10 ug/kg
MTBE	-	-	-	-	-	-	<10	-	-	TM089[#]	<10 ug/kg
Benzene	-	-	-	-	-	-	<10	-	-	TM089[#M]	<10 ug/kg
Toluene	-	-	-	-	-	-	<10	-	-	TM089[#M]	<10 ug/kg
Ethyl benzene	-	-	-	-	-	-	<10	-	-	TM089[#M]	<10 ug/kg
m & p Xylene	-	-	-	-	-	-	<10	-	-	TM089[#M]	<10 ug/kg
o Xylene	-	-	-	-	-	-	<10	-	-	TM089[#M]	<10 ug/kg
Aliphatics C5-C6	-	-	-	-	-	-	<10	-	-	TM089	<10 ug/kg
Aliphatics >C6-C8	-	-	-	-	-	-	<10	-	-	TM089	<10 ug/kg
Aliphatics >C8-C10	-	-	-	-	-	-	<10	-	-	TM089	<10 ug/kg
Aliphatics >C10-C12	-	-	-	-	-	-	<10	-	-	TM089	<10 ug/kg
Aliphatics >C12-C16	-	-	-	-	-	-	330	-	-	TM173[#]	<100 ug/kg
Aliphatics >C16-C21	-	-	-	-	-	-	3000	-	-	TM173[#]	<100 ug/kg
Aliphatics >C21-C35	-	-	-	-	-	-	27000	-	-	TM173[#]	<100 ug/kg
Total Aliphatics C5-C35	-	-	-	-	-	-	30000	-	-	TM61/89	<100 ug/kg
Aromatics C6-C7	-	-	-	-	-	-	<10	-	-	TM089	<10 ug/kg
Aromatics >C7-C8	-	-	-	-	-	-	<10	-	-	TM089	<10 ug/kg
Aromatics >EC8-EC10	-	-	-	-	-	-	<10	-	-	TM089	<10 ug/kg
Aromatics >EC10-EC12	-	-	-	-	-	-	<10	-	-	TM089	<10 ug/kg
Aromatics >EC12-EC16	-	-	-	-	-	-	2500	-	-	TM173[#]	<100 ug/kg
Aromatics >EC16-EC21	-	-	-	-	-	-	15000	-	-	TM173[#]	<100 ug/kg
Aromatics >EC21-EC35	-	-	-	-	-	-	200000	-	-	TM173[#]	<100 ug/kg
Total Aromatics C6-C35	-	-	-	-	-	-	220000	-	-	TM61/89	<100 ug/kg
TPH (Aliphatics and Aromatics C5-C35)	-	-	-	-	-	-	250000	-	-	TM61/89	<100 ug/kg

All results expressed on a dry weight basis.

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ALcontrol Geochem Analytical Services
Table Of Results

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Job Number: 07/08569/02/01 **Matrix:** SOLID
Client: Celtic Technologies **Location:** TEN ACRES LANE
Client Ref. No.: C1077 **Client Contact:** Simon Haunch

Sample Identity	WS1	WS1	WS2	WS2	WS3	WS3	WS4	WS5	WS5	Method Code	LoD/Units
Depth (m)	0.5	2.5	0.5	2.5	0.5	1.0	0.4	0.7	1.5		
Sample Type	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID		
Sampled Date	15.05.07	15.05.07	16.05.07	16.05.07	16.05.07	16.05.07	16.05.07	16.05.07	16.05.07		
Sample Received Date	17.05.07	17.05.07	17.05.07	17.05.07	17.05.07	17.05.07	17.05.07	17.05.07	17.05.07		
Batch	1	1	1	1	1	1	1	1	1		
Sample Number(s)	**34**	**35**	**36-37**	**38-39**	**40-41**	**42-43**	**44-46**	**47**	**48-49**		
TPH C6-40	-	350	210	16	3200	1100	700	-	500	TM154[#]	<10 mg/kg

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ALcontrol Geochem Analytical Services
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Job Number: 07/08569/02/01 **Matrix:** SOLID
Client: Celtic Technologies **Location:** TEN ACRES LANE
Client Ref. No.: C1077 **Client Contact:** Simon Haunch

Sample Identity	WS1	WS1	WS2	WS2	WS3	WS3	WS4	WS5	WS5	Method Code	LoD/Units
Depth (m)	0.5	2.5	0.5	2.5	0.5	1.0	0.4	0.7	1.5		
Sample Type	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID		
Sampled Date	15.05.07	15.05.07	16.05.07	16.05.07	16.05.07	16.05.07	16.05.07	16.05.07	16.05.07		
Sample Received Date	17.05.07	17.05.07	17.05.07	17.05.07	17.05.07	17.05.07	17.05.07	17.05.07	17.05.07		
Batch	1	1	1	1	1	1	1	1	1		
Sample Number(s)	**34**	**35**	**36-37**	**38-39**	**40-41**	**42-43**	**44-46**	**47**	**48-49**		
Phenols											
2-Chlorophenol	-	-	-	-	-	-	<100	-	<100	TM157	<100 ug/kg
2-Methylphenol	-	-	-	-	-	-	<100	-	<100	TM157	<100 ug/kg
2-Nitrophenol	-	-	-	-	-	-	<100	-	<100	TM157	<100 ug/kg
2,4-Dichlorophenol	-	-	-	-	-	-	<100	-	<100	TM157	<100 ug/kg
2,4-Dimethylphenol	-	-	-	-	-	-	<100	-	<100	TM157	<100 ug/kg
2,4,5-Trichlorophenol	-	-	-	-	-	-	<100	-	<100	TM157	<100 ug/kg
2,4,6-Trichlorophenol	-	-	-	-	-	-	<100	-	<100	TM157	<100 ug/kg
4-Chloro-3-methylphenol	-	-	-	-	-	-	<100	-	<100	TM157	<100 ug/kg
4-Methylphenol	-	-	-	-	-	-	<100	-	<100	TM157	<100 ug/kg
4-Nitrophenol	-	-	-	-	-	-	<100	-	<100	TM157	<100 ug/kg
Pentachlorophenol	-	-	-	-	-	-	<100	-	<100	TM157	<100 ug/kg
Phenol	-	-	-	-	-	-	<100	-	<100	TM157	<100 ug/kg
PAHs											
2-Chloronaphthalene	-	-	-	-	-	-	<100	-	<100	TM157	<100 ug/kg
2-Methylnaphthalene	-	-	-	-	-	-	1800	-	<100	TM157	<100 ug/kg
Phthalates											
Bis(2-ethylhexyl) phthalate	-	-	-	-	-	-	<100	-	<100	TM157	<100 ug/kg
Butylbenzyl phthalate	-	-	-	-	-	-	<100	-	<100	TM157	<100 ug/kg
Di-n-butyl phthalate	-	-	-	-	-	-	<100	-	<100	TM157	<100 ug/kg
Di-n-Octyl phthalate	-	-	-	-	-	-	<100	-	<100	TM157	<100 ug/kg
Diethyl phthalate	-	-	-	-	-	-	<100	-	<100	TM157	<100 ug/kg
Dimethyl phthalate	-	-	-	-	-	-	<100	-	<100	TM157	<100 ug/kg
Other Semi-volatiles											
1,2-Dichlorobenzene	-	-	-	-	-	-	<100	-	<100	TM157	<100 ug/kg
1,2,4-Trichlorobenzene	-	-	-	-	-	-	<100	-	<100	TM157	<100 ug/kg
1,3-Dichlorobenzene	-	-	-	-	-	-	<100	-	<100	TM157	<100 ug/kg
1,4-Dichlorobenzene	-	-	-	-	-	-	<100	-	<100	TM157	<100 ug/kg

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Job Number: 07/08569/02/01 **Matrix:** SOLID
Client: Celtic Technologies **Location:** TEN ACRES LANE
Client Ref. No.: C1077 **Client Contact:** Simon Haunch

Sample Identity	WS1	WS1	WS2	WS2	WS3	WS3	WS4	WS5	WS5	Method Code	LoD/Units
Depth (m)	0.5	2.5	0.5	2.5	0.5	1.0	0.4	0.7	1.5		
Sample Type	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID		
Sampled Date	15.05.07	15.05.07	16.05.07	16.05.07	16.05.07	16.05.07	16.05.07	16.05.07	16.05.07		
Sample Received Date	17.05.07	17.05.07	17.05.07	17.05.07	17.05.07	17.05.07	17.05.07	17.05.07	17.05.07		
Batch	1	1	1	1	1	1	1	1	1		
Sample Number(s)	**34**	**35**	**36-37**	**38-39**	**40-41**	**42-43**	**44-46**	**47**	**48-49**		
Other Semi-volatiles (cont)											
2-Nitroaniline	-	-	-	-	-	-	<100	-	<100	TM157	<100 ug/kg
2,4-Dinitrotoluene	-	-	-	-	-	-	<100	-	<100	TM157	<100 ug/kg
2,6-Dinitrotoluene	-	-	-	-	-	-	<100	-	<100	TM157	<100 ug/kg
3-Nitroaniline	-	-	-	-	-	-	<100	-	<100	TM157	<100 ug/kg
4-Bromophenylphenylether	-	-	-	-	-	-	<100	-	<100	TM157	<100 ug/kg
4-Chloroaniline	-	-	-	-	-	-	<100	-	<100	TM157	<100 ug/kg
4-Chlorophenylphenylether	-	-	-	-	-	-	<100	-	<100	TM157	<100 ug/kg
4-Nitroaniline	-	-	-	-	-	-	<100	-	<100	TM157	<100 ug/kg
Azobenzene	-	-	-	-	-	-	<100	-	<100	TM157	<100 ug/kg
Bis(2-chloroethoxy)methane	-	-	-	-	-	-	<100	-	<100	TM157	<100 ug/kg
Bis(2-chloroethyl)ether	-	-	-	-	-	-	<100	-	<100	TM157	<100 ug/kg
Carbazole	-	-	-	-	-	-	1400	-	<100	TM157	<100 ug/kg
Dibenzofuran	-	-	-	-	-	-	2700	-	<100	TM157	<100 ug/kg
Hexachlorobenzene	-	-	-	-	-	-	<100	-	<100	TM157	<100 ug/kg
Hexachlorobutadiene	-	-	-	-	-	-	<100	-	<100	TM157	<100 ug/kg
Hexachlorocyclopentadiene	-	-	-	-	-	-	<100	-	<100	TM157	<100 ug/kg
Hexachloroethane	-	-	-	-	-	-	<100	-	<100	TM157	<100 ug/kg
Isophorone	-	-	-	-	-	-	<100	-	<100	TM157	<100 ug/kg
N-nitrosodi-n-propylamine	-	-	-	-	-	-	<100	-	<100	TM157	<100 ug/kg
Nitrobenzene	-	-	-	-	-	-	<100	-	<100	TM157	<100 ug/kg

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» Shown on prev. report

Job Number: 07/08569/02/01 **Matrix:** SOLID
Client: Celtic Technologies **Location:** TEN ACRES LANE
Client Ref. No.: C1077 **Client Contact:** Simon Haunch

Sample Identity	WS1	WS1	WS2	WS2	WS3	WS3	WS4	WS5	WS5	Method Code	LoD/Units
Depth (m)	0.5	2.5	0.5	2.5	0.5	1.0	0.4	0.7	1.5		
Sample Type	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID		
Sampled Date	15.05.07	15.05.07	16.05.07	16.05.07	16.05.07	16.05.07	16.05.07	16.05.07	16.05.07		
Sample Received Date	17.05.07	17.05.07	17.05.07	17.05.07	17.05.07	17.05.07	17.05.07	17.05.07	17.05.07		
Batch	1	1	1	1	1	1	1	1	1		
Sample Number(s)	**34**	**35**	**36-37**	**38-39**	**40-41**	**42-43**	**44-46**	**47**	**48-49**		
Volatile Organic Compounds											
Dichlorodifluoromethane	-	-	-	-	-	-	<4	-	-	TM116[#]	<4 ug/kg
Chloromethane	-	-	-	-	-	-	<7	-	-	TM116[#]	<7 ug/kg
Vinyl Chloride	-	-	-	-	-	-	<10	-	-	TM116[#M]	<10 ug/kg
Bromomethane	-	-	-	-	-	-	<13	-	-	TM116[#]	<13 ug/kg
Chloroethane	-	-	-	-	-	-	<14	-	-	TM116[#]	<14 ug/kg
Trichlorofluoromethane	-	-	-	-	-	-	<6	-	-	TM116[#M]	<6 ug/kg
trans-1-2-Dichloroethene	-	-	-	-	-	-	<11	-	-	TM116[#]	<11 ug/kg
Dichloromethane	-	-	-	-	-	-	<10	-	-	TM116[#]	<10 ug/kg
Carbon Disulphide	-	-	-	-	-	-	<7	-	-	TM116[#M]	<7 ug/kg
1.1-Dichloroethene	-	-	-	-	-	-	<10	-	-	TM116[#M]	<10 ug/kg
1.1-Dichloroethane	-	-	-	-	-	-	<8	-	-	TM116[#M]	<8 ug/kg
Methyl Tertiary Butyl Ether	-	-	-	-	-	-	<11	-	-	TM116[#M]	<11 ug/kg
cis-1-2-Dichloroethene	-	-	-	-	-	-	<5	-	-	TM116[#M]	<5 ug/kg
Bromochloromethane	-	-	-	-	-	-	<14	-	-	TM116[#]	<14 ug/kg
Chloroform	-	-	-	-	-	-	<8	-	-	TM116[#M]	<8 ug/kg
2.2-Dichloropropane	-	-	-	-	-	-	<12	-	-	TM116[#]	<12 ug/kg
1.2-Dichloroethane	-	-	-	-	-	-	<5	-	-	TM116[#]	<5 ug/kg
1.1.1-Trichloroethane	-	-	-	-	-	-	<7	-	-	TM116[#M]	<7 ug/kg
1.1-Dichloropropene	-	-	-	-	-	-	<11	-	-	TM116[#M]	<11 ug/kg
Benzene	-	-	-	-	-	-	<9	-	-	TM116[#M]	<9 ug/kg
Carbontetrachloride	-	-	-	-	-	-	<14	-	-	TM116[#M]	<14 ug/kg
Dibromomethane	-	-	-	-	-	-	<9	-	-	TM116[#]	<9 ug/kg
1.2-Dichloropropane	-	-	-	-	-	-	<12	-	-	TM116[#M]	<12 ug/kg
Bromodichloromethane	-	-	-	-	-	-	<7	-	-	TM116[#M]	<7 ug/kg
Trichloroethene	-	-	-	-	-	-	<9	-	-	TM116[#M]	<9 ug/kg
cis-1-3-Dichloropropene	-	-	-	-	-	-	<14	-	-	TM116[#M]	<14 ug/kg
trans-1-3-Dichloropropene	-	-	-	-	-	-	<14	-	-	TM116[#M]	<14 ug/kg
1.1.2-Trichloroethane	-	-	-	-	-	-	<10	-	-	TM116[#]	<10 ug/kg
Toluene	-	-	-	-	-	-	<5	-	-	TM116[#M]	<5 ug/kg
1.3-Dichloropropane	-	-	-	-	-	-	<7	-	-	TM116[#]	<7 ug/kg

All results expressed on a dry weight basis.

Date 05.07.2007

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ALcontrol Geochem Analytical Services
Table Of Results

[#] ISO 17025 accredited
[M] MCERTS accredited
* Subcontracted test
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Job Number: 07/08569/02/01 **Matrix:** SOLID
Client: Celtic Technologies **Location:** TEN ACRES LANE
Client Ref. No.: C1077 **Client Contact:** Simon Haunch

Sample Identity	WS1	WS1	WS2	WS2	WS3	WS3	WS4	WS5	WS5	Method Code	LoD/Units
Depth (m)	0.5	2.5	0.5	2.5	0.5	1.0	0.4	0.7	1.5		
Sample Type	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID		
Sampled Date	15.05.07	15.05.07	16.05.07	16.05.07	16.05.07	16.05.07	16.05.07	16.05.07	16.05.07		
Sample Received Date	17.05.07	17.05.07	17.05.07	17.05.07	17.05.07	17.05.07	17.05.07	17.05.07	17.05.07		
Batch	1	1	1	1	1	1	1	1	1		
Sample Number(s)	**34**	**35**	**36-37**	**38-39**	**40-41**	**42-43**	**44-46**	**47**	**48-49**		
Volatile Organic Compounds (cont)											
Dibromochloromethane	-	-	-	-	-	-	<13	-	-	TM116[#]	<13 ug/kg
1.2-Dibromoethane	-	-	-	-	-	-	<12	-	-	TM116[#]	<12 ug/kg
Tetrachloroethene	-	-	-	-	-	-	<5	-	-	TM116[#]	<5 ug/kg
1.1.1.2-Tetrachloroethane	-	-	-	-	-	-	<10	-	-	TM116[#M]	<10 ug/kg
Chlorobenzene	-	-	-	-	-	-	<5	-	-	TM116[#M]	<5 ug/kg
Ethylbenzene	-	-	-	-	-	-	<4	-	-	TM116[#]	<4 ug/kg
p/m-Xylene	-	-	-	-	-	-	<14	-	-	TM116[#]	<14 ug/kg
Bromoform	-	-	-	-	-	-	<10	-	-	TM116[#]	<10 ug/kg
Styrene	-	-	-	-	-	-	<10	-	-	TM116[#]	<10 ug/kg
1.1.2.2-Tetrachloroethane	-	-	-	-	-	-	<10	-	-	TM116[#]	<10 ug/kg
o-Xylene	-	-	-	-	-	-	<10	-	-	TM116[#]	<10 ug/kg
1.2.3-Trichloropropane	-	-	-	-	-	-	<17	-	-	TM116[#]	<17 ug/kg
Isopropylbenzene	-	-	-	-	-	-	<5	-	-	TM116[#]	<5 ug/kg
Bromobenzene	-	-	-	-	-	-	<10	-	-	TM116[#M]	<10 ug/kg
2-Chlorotoluene	-	-	-	-	-	-	<9	-	-	TM116[#]	<9 ug/kg
Propylbenzene	-	-	-	-	-	-	<11	-	-	TM116[#]	<11 ug/kg
4-Chlorotoluene	-	-	-	-	-	-	<12	-	-	TM116[#]	<12 ug/kg
1.2.4-Trimethylbenzene	-	-	-	-	-	-	<9	-	-	TM116[#]	<9 ug/kg
4-Isopropyltoluene	-	-	-	-	-	-	<11	-	-	TM116[#]	<11 ug/kg
1.3.5-Trimethylbenzene	-	-	-	-	-	-	<8	-	-	TM116[#]	<8 ug/kg
1.2-Dichlorobenzene	-	-	-	-	-	-	<12	-	-	TM116[#M]	<12 ug/kg
1.4-Dichlorobenzene	-	-	-	-	-	-	<5	-	-	TM116[#M]	<5 ug/kg
sec-Butylbenzene	-	-	-	-	-	-	<10	-	-	TM116[#]	<10 ug/kg
tert-Butylbenzene	-	-	-	-	-	-	<12	-	-	TM116[#]	<12 ug/kg
1.3-Dichlorobenzene	-	-	-	-	-	-	<6	-	-	TM116[#]	<6 ug/kg
n-Butylbenzene	-	-	-	-	-	-	<10	-	-	TM116[#]	<10 ug/kg
1.2-Dibromo-3-chloropropane	-	-	-	-	-	-	<14	-	-	TM116[#]	<14 ug/kg
1.2.4-Trichlorobenzene	-	-	-	-	-	-	<6	-	-	TM116[#]	<6 ug/kg
Naphthalene	-	-	-	-	-	-	<13	-	-	TM116[#]	<13 ug/kg
1.2.3-Trichlorobenzene	-	-	-	-	-	-	<11	-	-	TM116[#]	<11 ug/kg

All results expressed on a dry weight basis.

Date 05.07.2007

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ALcontrol Geochem Analytical Services
Table Of Results

[#] ISO 17025 accredited
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Job Number: 07/08569/02/01 **Matrix:** SOLID
Client: Celtic Technologies **Location:** TEN ACRES LANE
Client Ref. No.: C1077 **Client Contact:** Simon Haunch

Sample Identity	WS1	WS1	WS2	WS2	WS3	WS3	WS4	WS5	WS5	Method Code	LoD/Units
Depth (m)	0.5	2.5	0.5	2.5	0.5	1.0	0.4	0.7	1.5		
Sample Type	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID		
Sampled Date	15.05.07	15.05.07	16.05.07	16.05.07	16.05.07	16.05.07	16.05.07	16.05.07	16.05.07		
Sample Received Date	17.05.07	17.05.07	17.05.07	17.05.07	17.05.07	17.05.07	17.05.07	17.05.07	17.05.07		
Batch	1	1	1	1	1	1	1	1	1		
Sample Number(s)	**34**	**35**	**36-37**	**38-39**	**40-41**	**42-43**	**44-46**	**47**	**48-49**		
Volatile Organic Compounds (cont)											
Hexachlorobutadiene	-	-	-	-	-	-	<12	-	-	TM116[#]	<12 ug/kg

All results expressed on a dry weight basis.

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ALcontrol Geochem Analytical Services
Table Of Results

[#] ISO 17025 accredited
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Job Number: 07/08569/02/01 **Matrix:** SOLID
Client: Celtic Technologies **Location:** TEN ACRES LANE
Client Ref. No.: C1077 **Client Contact:** Simon Haunch

Sample Identity	WS5	WS6	WS18							Method Code	LoD/Units
Depth (m)	2.7	1.5	2.3								
Sample Type	SOLID	SOLID	SOLID								
Sampled Date	16.05.07	16.05.07	15.05.07								
Sample Received Date	17.05.07	17.05.07	17.05.07								
Batch	1	1	1								
Sample Number(s)	**50-51**	**52-56**	**57-58**								
Total Sulphate	-	-	3700							TM129[#M]	<100 mg/kg
Boron Water Soluble	-	<3.5	<3.5							TM129[#M]	<3.5 mg/kg
Arsenic	-	190	7							TM129[#M]	<3.0 mg/kg
Cadmium	-	0.8	0.4							TM129	<0.3 mg/kg
Chromium	-	25	17							TM129[#M]	<4.5 mg/kg
Copper	-	170	85							TM129[#]	<6 mg/kg
Lead	-	240	140							TM129[#M]	<2 mg/kg
Mercury	-	1.9	<0.6							TM129[#M]	<0.6 mg/kg
Nickel	-	36	18							TM129[#M]	<0.9 mg/kg
Selenium	-	<3	<3							TM129[#M]	<3 mg/kg
Zinc	-	120	200							TM129[#M]	<2.5 mg/kg
Total Oxidised Nitrogen as N	<1	3	-							TM102[#]	<1 mg/kg
Water Soluble Sulphate as SO4 2:1 Extract	-	-	0.89							TM098[#M]	<0.003 g/l
Acid Soluble Sulphide	-	-	220							TM101	<50 mg/kg
Chloride (soluble)	-	-	180							TM097[#M]	<2 mg/kg
Total Organic Carbon	-	-	-							TM132[#M]	<0.2 %
Phenols Monohydric	-	<0.15	-							TM062[#M]	<0.15 mg/kg
Total Cyanide	<1	-	-							TM153[#]	<1 mg/kg
Asbestos Presence Screen	No Fibres Detected	-	-							TM001	NONE
Calorific Value	-	-	-							TM132[#]	<100 KJ/Kg
Elemental Sulphur	-	-	-							TM136[#]	<70 mg/kg
pH Value	-	-	-							TM133[#M]	<1.00 pH Units

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ALcontrol Geochem Analytical Services
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Job Number: 07/08569/02/01 **Matrix:** SOLID
Client: Celtic Technologies **Location:** TEN ACRES LANE
Client Ref. No.: C1077 **Client Contact:** Simon Haunch

Sample Identity	WS5	WS6	WS18							Method Code	LoD/Units
Depth (m)	2.7	1.5	2.3								
Sample Type	SOLID	SOLID	SOLID								
Sampled Date	16.05.07	16.05.07	15.05.07								
Sample Received Date	17.05.07	17.05.07	17.05.07								
Batch	1	1	1								
Sample Number(s)	**50-51**	**52-56**	**57-58**								
TPH C6-40	320	400	-							TM154[#]	<10 mg/kg

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ALcontrol Geochem Analytical Services
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Job Number: 07/08569/02/01 **Matrix:** SOLID
Client: Celtic Technologies **Location:** TEN ACRES LANE
Client Ref. No.: C1077 **Client Contact:** Simon Haunch

Sample Identity	WS5	WS6	WS18							Method Code	LoD/Units
Depth (m)	2.7	1.5	2.3								
Sample Type	SOLID	SOLID	SOLID								
Sampled Date	16.05.07	16.05.07	15.05.07								
Sample Received Date	17.05.07	17.05.07	17.05.07								
Batch	1	1	1								
Sample Number(s)	**50-51**	**52-56**	**57-58**								
PAH by GCMS											
Naphthalene	-	510	-							TM074#M	<10 ug/kg
Acenaphthylene	-	550	-							TM074#M	<5 ug/kg
Acenaphthene	-	290	-							TM074#M	<14 ug/kg
Fluorene	-	390	-							TM074#M	<12 ug/kg
Phenanthrene	-	3400	-							TM074#M	<21 ug/kg
Anthracene	-	870	-							TM074#M	<9 ug/kg
Fluoranthene	-	4800	-							TM074#M	<25 ug/kg
Pyrene	-	5200	-							TM074#M	<22 ug/kg
Benz(a)anthracene	-	3100	-							TM074#M	<12 ug/kg
Chrysene	-	3400	-							TM074#M	<10 ug/kg
Benzo(b)fluoranthene	-	3700	-							TM074#M	<16 ug/kg
Benzo(k)fluoranthene	-	2600	-							TM074#M	<25 ug/kg
Benzo(a)pyrene	-	4500	-							TM074#M	<12 ug/kg
Indeno(123cd)pyrene	-	3100	-							TM074#M	<11 ug/kg
Dibenzo(ah)anthracene	-	510	-							TM074#M	<8 ug/kg
Benzo(ghi)perylene	-	3800	-							TM074#M	<10 ug/kg
PAH 16 Total	-	41000	-							TM074#M	<25 ug/kg

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ALcontrol Geochem Analytical Services
Table Of Results

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Job Number: 07/08569/02/01 **Matrix:** SOLID
Client: Celtic Technologies **Location:** TEN ACRES LANE
Client Ref. No.: C1077 **Client Contact:** Simon Haunch

Sample Identity	WS5	WS6	WS18							Method Code	LoD/Units
Depth (m)	2.7	1.5	2.3								
Sample Type	SOLID	SOLID	SOLID								
Sampled Date	16.05.07	16.05.07	15.05.07								
Sample Received Date	17.05.07	17.05.07	17.05.07								
Batch	1	1	1								
Sample Number(s)	**50-51**	**52-56**	**57-58**								
SVOC by GCMS											
Phenols											
2-Chlorophenol	-	<100	-							TM157	<100 ug/kg
2-Methylphenol	-	<100	-							TM157	<100 ug/kg
2-Nitrophenol	-	<100	-							TM157	<100 ug/kg
2,4-Dichlorophenol	-	<100	-							TM157	<100 ug/kg
2,4-Dimethylphenol	-	<100	-							TM157	<100 ug/kg
2,4,5-Trichlorophenol	-	<100	-							TM157	<100 ug/kg
2,4,6-Trichlorophenol	-	<100	-							TM157	<100 ug/kg
4-Chloro-3-methylphenol	-	<100	-							TM157	<100 ug/kg
4-Methylphenol	-	<100	-							TM157	<100 ug/kg
4-Nitrophenol	-	<100	-							TM157	<100 ug/kg
Pentachlorophenol	-	<100	-							TM157	<100 ug/kg
Phenol	-	<100	-							TM157	<100 ug/kg

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ALcontrol Geochem Analytical Services
Table Of Results

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Job Number: 07/08569/02/01 **Matrix:** SOLID
Client: Celtic Technologies **Location:** TEN ACRES LANE
Client Ref. No.: C1077 **Client Contact:** Simon Haunch

Sample Identity	WS5	WS6	WS18							Method Code	LoD/Units
Depth (m)	2.7	1.5	2.3								
Sample Type	SOLID	SOLID	SOLID								
Sampled Date	16.05.07	16.05.07	15.05.07								
Sample Received Date	17.05.07	17.05.07	17.05.07								
Batch	1	1	1								
Sample Number(s)	**50-51**	**52-56**	**57-58**								
PAHs											
2-Chloronaphthalene	-	<100	-							TM157	<100 ug/kg
2-Methylnaphthalene	-	190	-							TM157	<100 ug/kg
Phthalates											
Bis(2-ethylhexyl) phthalate	-	<100	-							TM157	<100 ug/kg
Butylbenzyl phthalate	-	<100	-							TM157	<100 ug/kg
Di-n-butyl phthalate	-	<100	-							TM157	<100 ug/kg
Di-n-Octyl phthalate	-	<100	-							TM157	<100 ug/kg
Diethyl phthalate	-	<100	-							TM157	<100 ug/kg
Dimethyl phthalate	-	<100	-							TM157	<100 ug/kg
Other Semi-volatiles											
1,2-Dichlorobenzene	-	<100	-							TM157	<100 ug/kg
1,2,4-Trichlorobenzene	-	<100	-							TM157	<100 ug/kg
1,3-Dichlorobenzene	-	<100	-							TM157	<100 ug/kg
1,4-Dichlorobenzene	-	<100	-							TM157	<100 ug/kg
2-Nitroaniline	-	<100	-							TM157	<100 ug/kg
2,4-Dinitrotoluene	-	<100	-							TM157	<100 ug/kg
2,6-Dinitrotoluene	-	<100	-							TM157	<100 ug/kg
3-Nitroaniline	-	<100	-							TM157	<100 ug/kg
4-Bromophenylphenylether	-	<100	-							TM157	<100 ug/kg
4-Chloroaniline	-	<100	-							TM157	<100 ug/kg
4-Chlorophenylphenylether	-	<100	-							TM157	<100 ug/kg
4-Nitroaniline	-	<100	-							TM157	<100 ug/kg
Azobenzene	-	<100	-							TM157	<100 ug/kg
Bis(2-chloroethoxy)methane	-	<100	-							TM157	<100 ug/kg
Bis(2-chloroethyl)ether	-	<100	-							TM157	<100 ug/kg
Carbazole	-	160	-							TM157	<100 ug/kg
Dibenzofuran	-	130	-							TM157	<100 ug/kg
Hexachlorobenzene	-	<100	-							TM157	<100 ug/kg

All results expressed on a dry weight basis.

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ALcontrol Geochem Analytical Services
Table Of Results

[#] ISO 17025 accredited
[M] MCERTS accredited
[*] Subcontracted test
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Job Number: 07/08569/02/01 **Matrix:** SOLID
Client: Celtic Technologies **Location:** TEN ACRES LANE
Client Ref. No.: C1077 **Client Contact:** Simon Haunch

Sample Identity	WS5	WS6	WS18							Method Code	LoD/Units
Depth (m)	2.7	1.5	2.3								
Sample Type	SOLID	SOLID	SOLID								
Sampled Date	16.05.07	16.05.07	15.05.07								
Sample Received Date	17.05.07	17.05.07	17.05.07								
Batch	1	1	1								
Sample Number(s)	**50-51**	**52-56**	**57-58**								
Other Semi-volatiles (cont)											
Hexachlorobutadiene	-	<100	-							TM157	<100 ug/kg
Hexachlorocyclopentadiene	-	<100	-							TM157	<100 ug/kg
Hexachloroethane	-	<100	-							TM157	<100 ug/kg
Isophorone	-	<100	-							TM157	<100 ug/kg
N-nitrosodi-n-propylamine	-	<100	-							TM157	<100 ug/kg
Nitrobenzene	-	<100	-							TM157	<100 ug/kg

All results expressed on a dry weight basis.

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ALcontrol Geochem Analytical Services
Table Of Results

[#] ISO 17025 accredited
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[*] Subcontracted test
» Shown on prev. report

Job Number: 07/08569/02/01 **Matrix:** SOLID
Client: Celtic Technologies **Location:** TEN ACRES LANE
Client Ref. No.: C1077 **Client Contact:** Simon Haunch

Sample Identity	WS5	WS6	WS18							Method Code	LoD/Units
Depth (m)	2.7	1.5	2.3								
Sample Type	SOLID	SOLID	SOLID								
Sampled Date	16.05.07	16.05.07	15.05.07								
Sample Received Date	17.05.07	17.05.07	17.05.07								
Batch	1	1	1								
Sample Number(s)	**50-51**	**52-56**	**57-58**								
Volatile Organic Compounds											
Dichlorodifluoromethane	<4	<4	-							TM116[#]	<4 ug/kg
Chloromethane	<7	<7	-							TM116[#]	<7 ug/kg
Vinyl Chloride	<10	<10	-							TM116[#M]	<10 ug/kg
Bromomethane	<13	<13	-							TM116[#]	<13 ug/kg
Chloroethane	<14	<14	-							TM116[#]	<14 ug/kg
Trichlorofluoromethane	<6	<6	-							TM116[#M]	<6 ug/kg
trans-1-2-Dichloroethene	<11	<11	-							TM116[#]	<11 ug/kg
Dichloromethane	<10	<10	-							TM116[#]	<10 ug/kg
Carbon Disulphide	<7	<7	-							TM116[#M]	<7 ug/kg
1.1-Dichloroethene	<10	<10	-							TM116[#M]	<10 ug/kg
1.1-Dichloroethane	<8	<8	-							TM116[#M]	<8 ug/kg
Methyl Tertiary Butyl Ether	<11	<11	-							TM116[#M]	<11 ug/kg
cis-1-2-Dichloroethene	<5	<5	-							TM116[#M]	<5 ug/kg
Bromochloromethane	<14	<14	-							TM116[#]	<14 ug/kg
Chloroform	<8	<8	-							TM116[#M]	<8 ug/kg
2.2-Dichloropropane	<12	<12	-							TM116[#]	<12 ug/kg
1.2-Dichloroethane	<5	<5	-							TM116[#]	<5 ug/kg
1.1.1-Trichloroethane	<7	<7	-							TM116[#M]	<7 ug/kg
1.1-Dichloropropene	<11	<11	-							TM116[#M]	<11 ug/kg
Benzene	<9	<9	-							TM116[#M]	<9 ug/kg
Carbontetrachloride	<14	<14	-							TM116[#M]	<14 ug/kg
Dibromomethane	<9	<9	-							TM116[#]	<9 ug/kg
1.2-Dichloropropane	<12	<12	-							TM116[#M]	<12 ug/kg
Bromodichloromethane	<7	<7	-							TM116[#M]	<7 ug/kg
Trichloroethene	<9	<9	-							TM116[#M]	<9 ug/kg
cis-1-3-Dichloropropene	<14	<14	-							TM116[#M]	<14 ug/kg
trans-1-3-Dichloropropene	<14	<14	-							TM116[#M]	<14 ug/kg
1.1.2-Trichloroethane	<10	<10	-							TM116[#]	<10 ug/kg
Toluene	<5	<5	-							TM116[#M]	<5 ug/kg
1.3-Dichloropropane	<7	<7	-							TM116[#]	<7 ug/kg

All results expressed on a dry weight basis.

Date 05.07.2007

Validated ✓
Preliminary

ALcontrol Geochem Analytical Services
Table Of Results

ISO 17025 accredited
M MCERTS accredited
* Subcontracted test
» Shown on prev. report

Job Number: 07/08569/02/01 **Matrix:** SOLID
Client: Celtic Technologies **Location:** TEN ACRES LANE
Client Ref. No.: C1077 **Client Contact:** Simon Haunch

Sample Identity	WS5	WS6	WS18							Method Code	LoD/Units
Depth (m)	2.7	1.5	2.3								
Sample Type	SOLID	SOLID	SOLID								
Sampled Date	16.05.07	16.05.07	15.05.07								
Sample Received Date	17.05.07	17.05.07	17.05.07								
Batch	1	1	1								
Sample Number(s)	**50-51**	**52-56**	**57-58**								
Volatile Organic Compounds (cont)											
Dibromochloromethane	<13	<13	-							TM116#	<13 ug/kg
1.2-Dibromoethane	<12	<12	-							TM116#	<12 ug/kg
Tetrachloroethene	<5	<5	-							TM116#	<5 ug/kg
1.1.1.2-Tetrachloroethane	<10	<10	-							TM116#M	<10 ug/kg
Chlorobenzene	<5	<5	-							TM116#M	<5 ug/kg
Ethylbenzene	<4	<4	-							TM116#	<4 ug/kg
p/m-Xylene	<14	<14	-							TM116#	<14 ug/kg
Bromoform	<10	<10	-							TM116#	<10 ug/kg
Styrene	<10	<10	-							TM116#	<10 ug/kg
1.1.2.2-Tetrachloroethane	<10	<10	-							TM116#	<10 ug/kg
o-Xylene	<10	<10	-							TM116#	<10 ug/kg
1.2.3-Trichloropropane	<17	<17	-							TM116#	<17 ug/kg
Isopropylbenzene	<5	<5	-							TM116#	<5 ug/kg
Bromobenzene	<10	<10	-							TM116#M	<10 ug/kg
2-Chlorotoluene	<9	<9	-							TM116#	<9 ug/kg
Propylbenzene	<11	<11	-							TM116#	<11 ug/kg
4-Chlorotoluene	<12	<12	-							TM116#	<12 ug/kg
1.2.4-Trimethylbenzene	<9	<9	-							TM116#	<9 ug/kg
4-Isopropyltoluene	<11	<11	-							TM116#	<11 ug/kg
1.3.5-Trimethylbenzene	<8	<8	-							TM116#	<8 ug/kg
1.2-Dichlorobenzene	<12	<12	-							TM116#M	<12 ug/kg
1.4-Dichlorobenzene	<5	<5	-							TM116#M	<5 ug/kg
sec-Butylbenzene	<10	<10	-							TM116#	<10 ug/kg
tert-Butylbenzene	<12	<12	-							TM116#	<12 ug/kg
1.3-Dichlorobenzene	<6	<6	-							TM116#	<6 ug/kg
n-Butylbenzene	<10	<10	-							TM116#	<10 ug/kg
1.2-Dibromo-3-chloropropane	<14	<14	-							TM116#	<14 ug/kg
1.2.4-Trichlorobenzene	<6	<6	-							TM116#	<6 ug/kg
Naphthalene	<13	<13	-							TM116#	<13 ug/kg
1.2.3-Trichlorobenzene	<11	<11	-							TM116#	<11 ug/kg

All results expressed on a dry weight basis.

Date 05.07.2007

Validated ✓
Preliminary

ALcontrol Geochem Analytical Services
Table Of Results

[#] ISO 17025 accredited
[M] MCERTS accredited
[*] Subcontracted test
» Shown on prev. report

Job Number: 07/08569/02/01 **Matrix:** SOLID
Client: Celtic Technologies **Location:** TEN ACRES LANE
Client Ref. No.: C1077 **Client Contact:** Simon Haunch

Sample Identity	WS5	WS6	WS18							Method Code	LoD/Units
Depth (m)	2.7	1.5	2.3								
Sample Type	SOLID	SOLID	SOLID								
Sampled Date	16.05.07	16.05.07	15.05.07								
Sample Received Date	17.05.07	17.05.07	17.05.07								
Batch	1	1	1								
Sample Number(s)	**50-51**	**52-56**	**57-58**								
Volatile Organic Compounds (cont)											
Hexachlorobutadiene	<12	<12	-							TM116[#]	<12 ug/kg

All results expressed on a dry weight basis.

Date 05.07.2007

ALcontrol Geochem Analytical Services
Table Of Results - Appendix

Job Number: 07/08569/02/01
Client: Celtic Technologies
Client Ref. No.: C1077

Report Key :

Results expressed as (e.g.) 1.03E-07 is equivalent to 1.03×10^{-7}

NDP	No Determination Possible	*	Subcontracted test
NFD	No Fibres Detected	»	Result previously reported (Incremental reports only)
#	ISO 17025 accredited	M	MCERTS Accredited
PFD	Possible Fibres Detected	EC	Equivalent Carbon (Aromatics C8-C35)

Note: Method detection limits are not always achievable due to various circumstances beyond our control.

Summary of Method Codes contained within report :

Method No.	Reference	Description	ISO 17025 Accredited	MCERTS Accredited	Wet/Dry Sample [1]	Surrogate Corrected
TM001	In - house Method	Screening of Soils for Fibres			WET	
TM062	MEWAM BOOK 124 1988.HMSO/ Method 17.7, Second Site property, March 2003	Determination of Phenolic compounds by HPLC with electro-chemical detection	✓	✓	WET	
TM074	Modified: US EPA Method 8100	Determination of Polynuclear Aromatic Hydrocarbons (PAH) by GC-MS. MCERTS Accreditation on Soils for Naphthalene except when Kerosene present.	✓		DRY	
TM074	Modified: US EPA Method 8100	Determination of Polynuclear Aromatic Hydrocarbons (PAH) by GC-MS. MCERTS Accreditation on Soils for Naphthalene except when Kerosene present.	✓	✓	DRY	
TM089	Modified: US EPA Methods 8020 & 602	Determination of Gasoline Range Hydrocarbons (GRO) and BTEX (MTBE) compounds by Headspace GC-FID (C4-C12)			WET	
TM089	Modified: US EPA Methods 8020 & 602	Determination of Gasoline Range Hydrocarbons (GRO) and BTEX (MTBE) compounds by Headspace GC-FID (C4-C12)	✓		WET	
TM089	Modified: US EPA Methods 8020 & 602	Determination of Gasoline Range Hydrocarbons (GRO) and BTEX (MTBE) compounds by Headspace GC-FID (C4-C12)	✓	✓	WET	
TM097	Modified: US EPA Method 325.1 & 325.2	Determination of Chloride using the Kone Analyser	✓	✓	DRY	
TM098	Method 4500E, AWWA/APHA, 20th Ed., 1999	Determination of Sulphate using the Kone Analyser	✓	✓	DRY	
TM101	Method 4500B & C, AWWA/APHA, 20th Ed., 1999	Determination of Sulphide in soil and water samples using the Kone Analyser			WET	
TM102	Method 4500H, AWWA/APHA, 20th Ed., 1999	Determination of Total Oxidised Nitrogen using the Kone Analyser	✓		DRY	
TM116	Modified: US EPA Method 8260, 8120, 8020, 624, 610 & 602	Determination of Volatile Organic Compounds by Headspace / GC-MS			WET	
TM116	Modified: US EPA Method 8260, 8120, 8020, 624, 610 & 602	Determination of Volatile Organic Compounds by Headspace / GC-MS	✓		WET	
TM116	Modified: US EPA Method 8260, 8120, 8020, 624, 610 & 602	Determination of Volatile Organic Compounds by Headspace / GC-MS	✓	✓	WET	

[1] Applies to Solid samples only. **DRY** indicates samples have been dried at 35°C. **NA** = not applicable.

ALcontrol Geochem Analytical Services
Table Of Results - Appendix

Job Number: 07/08569/02/01
Client: Celtic Technologies
Client Ref. No.: C1077

Report Key :

Results expressed as (e.g.) 1.03E-07 is equivalent to 1.03×10^{-7}

NDP	No Determination Possible	*	Subcontracted test
NFD	No Fibres Detected	»	Result previously reported (Incremental reports only)
#	ISO 17025 accredited	M	MCERTS Accredited
PFD	Possible Fibres Detected	EC	Equivalent Carbon (Aromatics C8-C35)

Note: Method detection limits are not always achievable due to various circumstances beyond our control.

Summary of Method Codes contained within report :

Method No.	Reference	Description	ISO 17025 Accredited	MCERTS Accredited	Wet/Dry Sample [1]	Surrogate Corrected
TM129	Method 3120B, AWWA/APHA, 20th Ed., 1999 / Modified: US EPA Method 3050B	Determination of Metal Cations by IRIS Emission Spectrometer			DRY	
TM129	Method 3120B, AWWA/APHA, 20th Ed., 1999 / Modified: US EPA Method 3050B	Determination of Metal Cations by IRIS Emission Spectrometer	✓		DRY	
TM129	Method 3120B, AWWA/APHA, 20th Ed., 1999 / Modified: US EPA Method 3050B	Determination of Metal Cations by IRIS Emission Spectrometer	✓	✓	DRY	
TM132	In - house Method	ELTRA CS800 Operators Guide	✓		DRY	
TM132	In - house Method	ELTRA CS800 Operators Guide	✓	✓	DRY	
TM133	BS 1377: Part 3 1990	Determination of pH in Soil and Water using the GLpH pH Meter	✓	✓	WET	
TM136	Method 17.10, Second Site property, March 2003	Determination of Sulphur by HPLC	✓		DRY	
TM143	Modified: US EPA Method 8270C	Determination of Semivolatile Organic Compounds by GC-MS			WET	
TM153	Method 4500A,B,C, I, M AWWA/APHA, 20th Ed., 1999	Determination of Total Cyanide, Free (Easily Liberatable) Cyanide and Thiocyanate using the "Skalar SANS+ System" Segmented Flow Analyser	✓		WET	
TM154	In - house Method	Determination of Petroleum Hydrocarbons by EZ Flash GC-FID in the Carbon range C6- C40	✓		WET	
TM157		Determination of SVOC in Soils by GC-MS extracted by sonication in DCM/Acetone			WET	
TM173		Determination of Speciated Extractable Petroleum Hydrocarbons in Soils by GC-FID	✓		DRY	
TM61/89		see TM061 and TM089 for details			WET	

[1] Applies to Solid samples only. **DRY** indicates samples have been dried at 35°C. **NA** = not applicable.

ALcontrol Geochem Analytical Services
Table Of Results - Appendix

Job Number: 07/08569/02/01
Client: Celtic Technologies
Client Ref. No.: C1077

Summary of Coolbox temperatures

Batch No.	Coolbox Temperature (°C)
1	10

ALcontrol Geochem Analytical Services
Sample Descriptions

Job Number: 07/08569/02/01
Client: Celtic Technologies
Client Ref : C1077

Grain sizes

<0.063mm	Very Fine
0.1mm - 0.063mm	Fine
0.1mm - 2mm	Medium
2mm - 10mm	Coarse
>10mm	Very Coarse

Sample Identity	Depth (m)	Colour	Grain Size	Description	Batch
WS8	0.4	Red	0.1mm - 2mm	Sandy Clay with some Stones	2
WS8	1.1	Grey	<0.063mm	Clay with some Stones	2
WS9	0.2	Dark Brown	0.1mm - 2mm	Sandy Clay with some Stones	2
WS9	2.5	Dark Grey	<0.063mm	Clay with some Stones	2
WS10	0.2	Dark Brown	0.1mm - 0.063mm	Silty Clay with some Vegetation	2
WS10	1.6	Rust	<0.063mm	Clay with some Stones	2
WS11	0.4	Beige	0.1mm - 2mm	Sandy Clay with some Stones	2
WS11	2.0	Dark Brown	<0.063mm	Clay with some Stones	2
WS18	2.3	Black	2mm - 10mm	Stones	2
WS19	0.5	Black	0.1mm - 0.063mm	Silty Clay with some Metal	2
WS19	2.6	Light Brown	0.1mm - 2mm	Sand with some Stones	2
WS19	4.7	Brown	<0.063mm	Clay with some Stones	2
WS21	0.5	Black	<0.063mm	Clay with some Stones	2
WS21	1.7	Grey	<0.063mm	Clay with some Stones	2

* These descriptions are only intended to act as a cross check if sample identities are questioned, and to provide a log of sample matrices with respect to MCERTS validation. They are not intended as full geological descriptions.

We are accredited to MCERTS for sand, clay and loam/topsoil, or any of these materials-whether these are derived from naturally occurring soil profiles, or from fill/made ground, as long as these materials constitute the major part of the sample.
Other coarse granular materials such as concrete, gravel and brick are not accredited if they comprise the major part of the sample.
[1] Sample Description supplied by client

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Preliminary ☐

ALcontrol Geochem Analytical Services
Table Of Results

[#] ISO 17025 accredited
[M] MCERTS accredited
* Subcontracted test
» Shown on prev. report

Job Number: 07/08569/02/01 **Matrix:** SOLID
Client: Celtic Technologies **Location:** TEN ACRES LANE
Client Ref. No.: C1077 **Client Contact:** Simon Haunch

Sample Identity	WS8	WS8	WS9	WS9	WS10	WS10	WS11	WS11	WS18	Method Code	LoD/Units
Depth (m)	0.4	1.1	0.2	2.5	0.2	1.6	0.4	2.0	2.3		
Sample Type	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID		
Sampled Date	17.05.07	17.05.07	17.05.07	17.05.07	17.05.07	17.05.07	17.05.07	17.05.07	17.05.07		
Sample Received Date	18.05.07	18.05.07	18.05.07	18.05.07	18.05.07	18.05.07	18.05.07	18.05.07	18.05.07		
Batch	2	2	2	2	2	2	2	2	2		
Sample Number(s)	**60-61**	**62-64**	**65-66**	**67-68**	**69-70**	**71-72**	**73-74**	**75-77**	**78**		
Total Sulphate	-	720	-	-	-	170	-	-	660	TM129[#M]	<100 mg/kg
Boron Water Soluble	-	<3.5	-	-	<3.5	-	<3.5	-	-	TM129[#M]	<3.5 mg/kg
Arsenic	-	<3	-	-	23	-	11	-	-	TM129[#M]	<3.0 mg/kg
Cadmium	-	<0.3	-	-	<0.3	-	1.3	-	-	TM129	<0.3 mg/kg
Chromium	-	21	-	-	25	-	44	-	-	TM129[#M]	<4.5 mg/kg
Copper	-	29	-	-	70	-	72	-	-	TM129[#]	<6 mg/kg
Lead	-	16	-	-	150	-	190	-	-	TM129[#M]	<2 mg/kg
Mercury	-	<0.6	-	-	<0.6	-	<0.6	-	-	TM129[#M]	<0.6 mg/kg
Nickel	-	20	-	-	24	-	81	-	-	TM129[#M]	<0.9 mg/kg
Selenium	-	<3	-	-	<3	-	<3	-	-	TM129[#M]	<3 mg/kg
Zinc	-	36	-	-	100	-	150	-	-	TM129[#M]	<2.5 mg/kg
Total Oxidised Nitrogen as N	-	-	-	-	-	-	3	-	-	TM102[#]	<1 mg/kg
Water Soluble Sulphate as SO4 2:1 Extract	-	0.21	-	-	-	0.037	-	-	0.43	TM098[#M]	<0.003 g/l
Acid Soluble Sulphide	-	<50	-	-	-	<50	-	-	54	TM101	<50 mg/kg
Chloride (soluble)	-	6	-	-	-	12	-	-	16	TM097[#M]	<2 mg/kg
Total Organic Carbon	-	-	-	-	-	-	3.0	-	4.6	TM132[#M]	<0.2 %
Phenols Monohydric	-	-	<0.15	-	-	-	-	<0.15	-	TM062[#M]	<0.15 mg/kg
Total Cyanide	<1	-	<1	-	<1	-	-	-	-	TM153[#]	<1 mg/kg
Asbestos Presence Screen	No Fibres Detected	-	No Fibres Detected	-	No Fibres Detected	-	-	-	-	TM001	NONE
Elemental Sulphur	-	-	<70	-	-	-	-	-	-	TM136[#]	<70 mg/kg
pH Value	7.82	5.95	8.04	-	5.63	6.81	8.23	-	7.76	TM133[#M]	<1.00 pH Units
TPH C6-40	310	-	600	<10	290	<10	700	-	19000	TM154[#]	<10 mg/kg

All results expressed on a dry weight basis.

Date 02.07.2007

Validated ☑
Preliminary ☐

ALcontrol Geochem Analytical Services
Table Of Results

[#] ISO 17025 accredited
[M] MCERTS accredited
* Subcontracted test
» Shown on prev. report

Job Number: 07/08569/02/01 **Matrix:** SOLID
Client: Celtic Technologies **Location:** TEN ACRES LANE
Client Ref. No.: C1077 **Client Contact:** Simon Haunch

Sample Identity	WS8	WS8	WS9	WS9	WS10	WS10	WS11	WS11	WS18	Method Code	LoD/Units
Depth (m)	0.4	1.1	0.2	2.5	0.2	1.6	0.4	2.0	2.3		
Sample Type	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID		
Sampled Date	17.05.07	17.05.07	17.05.07	17.05.07	17.05.07	17.05.07	17.05.07	17.05.07	17.05.07		
Sample Received Date	18.05.07	18.05.07	18.05.07	18.05.07	18.05.07	18.05.07	18.05.07	18.05.07	18.05.07		
Batch	2	2	2	2	2	2	2	2	2		
Sample Number(s)	**60-61**	**62-64**	**65-66**	**67-68**	**69-70**	**71-72**	**73-74**	**75-77**	**78**		
PAH by GCMS											
Naphthalene	-	-	730	-	-	-	-	650	-	TM074[#M]	<10 ug/kg
Acenaphthylene	-	-	150	-	-	-	-	30	-	TM074[#M]	<5 ug/kg
Acenaphthene	-	-	730	-	-	-	-	530	-	TM074[#M]	<14 ug/kg
Fluorene	-	-	570	-	-	-	-	460	-	TM074[#M]	<12 ug/kg
Phenanthrene	-	-	5000	-	-	-	-	3900	-	TM074[#M]	<21 ug/kg
Anthracene	-	-	1200	-	-	-	-	840	-	TM074[#M]	<9 ug/kg
Fluoranthene	-	-	7400	-	-	-	-	5900	-	TM074[#M]	<25 ug/kg
Pyrene	-	-	6600	-	-	-	-	5000	-	TM074[#M]	<22 ug/kg
Benz(a)anthracene	-	-	3300	-	-	-	-	2200	-	TM074[#M]	<12 ug/kg
Chrysene	-	-	3400	-	-	-	-	2600	-	TM074[#M]	<10 ug/kg
Benzo(b)fluoranthene	-	-	2900	-	-	-	-	2800	-	TM074[#M]	<16 ug/kg
Benzo(k)fluoranthene	-	-	1800	-	-	-	-	1100	-	TM074[#M]	<25 ug/kg
Benzo(a)pyrene	-	-	3200	-	-	-	-	2100	-	TM074[#M]	<12 ug/kg
Indeno(123cd)pyrene	-	-	1800	-	-	-	-	1300	-	TM074[#M]	<11 ug/kg
Dibenzo(ah)anthracene	-	-	360	-	-	-	-	220	-	TM074[#M]	<8 ug/kg
Benzo(ghi)perylene	-	-	2100	-	-	-	-	1400	-	TM074[#M]	<10 ug/kg
PAH 16 Total	-	-	41000	-	-	-	-	31000	-	TM074[#M]	<25 ug/kg

All results expressed on a dry weight basis.

Date 02.07.2007

Validated ☑
Preliminary ☐

ALcontrol Geochem Analytical Services
Table Of Results

[#] ISO 17025 accredited
[M] MCERTS accredited
[*] Subcontracted test
» Shown on prev. report

Job Number: 07/08569/02/01 **Matrix:** SOLID
Client: Celtic Technologies **Location:** TEN ACRES LANE
Client Ref. No.: C1077 **Client Contact:** Simon Haunch

Sample Identity	WS8	WS8	WS9	WS9	WS10	WS10	WS11	WS11	WS18	Method Code	LoD/Units
Depth (m)	0.4	1.1	0.2	2.5	0.2	1.6	0.4	2.0	2.3		
Sample Type	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID		
Sampled Date	17.05.07	17.05.07	17.05.07	17.05.07	17.05.07	17.05.07	17.05.07	17.05.07	17.05.07		
Sample Received Date	18.05.07	18.05.07	18.05.07	18.05.07	18.05.07	18.05.07	18.05.07	18.05.07	18.05.07		
Batch	2	2	2	2	2	2	2	2	2		
Sample Number(s)	**60-61**	**62-64**	**65-66**	**67-68**	**69-70**	**71-72**	**73-74**	**75-77**	**78**		
SVOC by GCMS											
Phenols											
2-Chlorophenol	<100	-	-	-	-	<100	-	<100	<100	TM157	<100 ug/kg
2-Methylphenol	<100	-	-	-	-	<100	-	<100	<100	TM157	<100 ug/kg
2-Nitrophenol	<100	-	-	-	-	<100	-	<100	<100	TM157	<100 ug/kg
2,4-Dichlorophenol	<100	-	-	-	-	<100	-	<100	<100	TM157	<100 ug/kg
2,4-Dimethylphenol	<100	-	-	-	-	<100	-	<100	<100	TM157	<100 ug/kg
2,4,5-Trichlorophenol	<100	-	-	-	-	<100	-	<100	<100	TM157	<100 ug/kg
2,4,6-Trichlorophenol	<100	-	-	-	-	<100	-	<100	<100	TM157	<100 ug/kg
4-Chloro-3-methylphenol	<100	-	-	-	-	<100	-	<100	<100	TM157	<100 ug/kg
4-Methylphenol	<100	-	-	-	-	<100	-	<100	<100	TM157	<100 ug/kg
4-Nitrophenol	<100	-	-	-	-	<100	-	<100	<100	TM157	<100 ug/kg
Pentachlorophenol	<100	-	-	-	-	<100	-	<100	<100	TM157	<100 ug/kg
Phenol	<100	-	-	-	-	<100	-	<100	<100	TM157	<100 ug/kg

All results expressed on a dry weight basis.

Date 02.07.2007

Validated ✓
Preliminary

ALcontrol Geochem Analytical Services
Table Of Results

ISO 17025 accredited
M MCERTS accredited
* Subcontracted test
» Shown on prev. report

Job Number: 07/08569/02/01 **Matrix:** SOLID
Client: Celtic Technologies **Location:** TEN ACRES LANE
Client Ref. No.: C1077 **Client Contact:** Simon Haunch

Sample Identity	WS8	WS8	WS9	WS9	WS10	WS10	WS11	WS11	WS18	Method Code	LoD/Units
Depth (m)	0.4	1.1	0.2	2.5	0.2	1.6	0.4	2.0	2.3		
Sample Type	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID		
Sampled Date	17.05.07	17.05.07	17.05.07	17.05.07	17.05.07	17.05.07	17.05.07	17.05.07	17.05.07		
Sample Received Date	18.05.07	18.05.07	18.05.07	18.05.07	18.05.07	18.05.07	18.05.07	18.05.07	18.05.07		
Batch	2	2	2	2	2	2	2	2	2		
Sample Number(s)	**60-61**	**62-64**	**65-66**	**67-68**	**69-70**	**71-72**	**73-74**	**75-77**	**78**		
PAHs											
2-Chloronaphthalene	<100	-	-	-	-	<100	-	<100	<100	TM157	<100 ug/kg
2-Methylnaphthalene	150	-	-	-	-	<100	-	<100	12000	TM157	<100 ug/kg
Phthalates											
Bis(2-ethylhexyl) phthalate	<100	-	-	-	-	<100	-	<100	530	TM157	<100 ug/kg
Butylbenzyl phthalate	<100	-	-	-	-	<100	-	<100	<100	TM157	<100 ug/kg
Di-n-butyl phthalate	<100	-	-	-	-	<100	-	<100	<100	TM157	<100 ug/kg
Di-n-Octyl phthalate	<100	-	-	-	-	<100	-	<100	<100	TM157	<100 ug/kg
Diethyl phthalate	<100	-	-	-	-	<100	-	<100	<100	TM157	<100 ug/kg
Dimethyl phthalate	<100	-	-	-	-	<100	-	<100	<100	TM157	<100 ug/kg
Other Semi-volatiles											
1,2-Dichlorobenzene	<100	-	-	-	-	<100	-	<100	<100	TM157	<100 ug/kg
1,2,4-Trichlorobenzene	<100	-	-	-	-	<100	-	<100	<100	TM157	<100 ug/kg
1,3-Dichlorobenzene	<100	-	-	-	-	<100	-	<100	<100	TM157	<100 ug/kg
1,4-Dichlorobenzene	<100	-	-	-	-	<100	-	<100	<100	TM157	<100 ug/kg
2-Nitroaniline	<100	-	-	-	-	<100	-	<100	<100	TM157	<100 ug/kg
2,4-Dinitrotoluene	<100	-	-	-	-	<100	-	<100	<100	TM157	<100 ug/kg
2,6-Dinitrotoluene	<100	-	-	-	-	<100	-	<100	<100	TM157	<100 ug/kg
3-Nitroaniline	<100	-	-	-	-	<100	-	<100	<100	TM157	<100 ug/kg
4-Bromophenylphenylether	<100	-	-	-	-	<100	-	<100	<100	TM157	<100 ug/kg
4-Chloroaniline	<100	-	-	-	-	<100	-	<100	<100	TM157	<100 ug/kg
4-Chlorophenylphenylether	<100	-	-	-	-	<100	-	<100	<100	TM157	<100 ug/kg
4-Nitroaniline	<100	-	-	-	-	<100	-	<100	<100	TM157	<100 ug/kg
Azobenzene	<100	-	-	-	-	<100	-	<100	220	TM157	<100 ug/kg
Bis(2-chloroethoxy)methane	<100	-	-	-	-	<100	-	<100	<100	TM157	<100 ug/kg
Bis(2-chloroethyl)ether	<100	-	-	-	-	<100	-	<100	<100	TM157	<100 ug/kg
Carbazole	<100	-	-	-	-	<100	-	<100	2500	TM157	<100 ug/kg
Dibenzofuran	<100	-	-	-	-	<100	-	<100	15000	TM157	<100 ug/kg
Hexachlorobenzene	<100	-	-	-	-	<100	-	<100	<100	TM157	<100 ug/kg

All results expressed on a dry weight basis.

Date 02.07.2007

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Preliminary

ALcontrol Geochem Analytical Services
Table Of Results

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Job Number: 07/08569/02/01 **Matrix:** SOLID
Client: Celtic Technologies **Location:** TEN ACRES LANE
Client Ref. No.: C1077 **Client Contact:** Simon Haunch

Sample Identity	WS8	WS8	WS9	WS9	WS10	WS10	WS11	WS11	WS18	Method Code	LoD/Units
Depth (m)	0.4	1.1	0.2	2.5	0.2	1.6	0.4	2.0	2.3		
Sample Type	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID		
Sampled Date	17.05.07	17.05.07	17.05.07	17.05.07	17.05.07	17.05.07	17.05.07	17.05.07	17.05.07		
Sample Received Date	18.05.07	18.05.07	18.05.07	18.05.07	18.05.07	18.05.07	18.05.07	18.05.07	18.05.07		
Batch	2	2	2	2	2	2	2	2	2		
Sample Number(s)	**60-61**	**62-64**	**65-66**	**67-68**	**69-70**	**71-72**	**73-74**	**75-77**	**78**		
Other Semi-volatiles (cont)											
Hexachlorobutadiene	<100	-	-	-	-	<100	-	<100	<100	TM157	<100 ug/kg
Hexachlorocyclopentadiene	<100	-	-	-	-	<100	-	<100	<100	TM157	<100 ug/kg
Hexachloroethane	<100	-	-	-	-	<100	-	<100	<100	TM157	<100 ug/kg
Isophorone	<100	-	-	-	-	<100	-	<100	<100	TM157	<100 ug/kg
N-nitrosodi-n-propylamine	<100	-	-	-	-	<100	-	<100	<100	TM157	<100 ug/kg
Nitrobenzene	<100	-	-	-	-	<100	-	<100	<100	TM157	<100 ug/kg

All results expressed on a dry weight basis.

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ALcontrol Geochem Analytical Services
Table Of Results

[#] ISO 17025 accredited
[M] MCERTS accredited
[*] Subcontracted test
» Shown on prev. report

Job Number: 07/08569/02/01 **Matrix:** SOLID
Client: Celtic Technologies **Location:** TEN ACRES LANE
Client Ref. No.: C1077 **Client Contact:** Simon Haunch

Sample Identity	WS8	WS8	WS9	WS9	WS10	WS10	WS11	WS11	WS18	Method Code	LoD/Units
Depth (m)	0.4	1.1	0.2	2.5	0.2	1.6	0.4	2.0	2.3		
Sample Type	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID		
Sampled Date	17.05.07	17.05.07	17.05.07	17.05.07	17.05.07	17.05.07	17.05.07	17.05.07	17.05.07		
Sample Received Date	18.05.07	18.05.07	18.05.07	18.05.07	18.05.07	18.05.07	18.05.07	18.05.07	18.05.07		
Batch	2	2	2	2	2	2	2	2	2		
Sample Number(s)	**60-61**	**62-64**	**65-66**	**67-68**	**69-70**	**71-72**	**73-74**	**75-77**	**78**		
Volatile Organic Compounds											
Dichlorodifluoromethane	-	<4	-	-	<4	-	-	<4	<4	TM116[#]	<4 ug/kg
Chloromethane	-	<7	-	-	13	-	-	<7	<7	TM116[#]	<7 ug/kg
Vinyl Chloride	-	<10	-	-	<10	-	-	<10	<10	TM116[#M]	<10 ug/kg
Bromomethane	-	<13	-	-	<13	-	-	<13	<13	TM116[#]	<13 ug/kg
Chloroethane	-	<14	-	-	<14	-	-	<14	<14	TM116[#]	<14 ug/kg
Trichlorofluoromethane	-	<6	-	-	<6	-	-	<6	<6	TM116[#M]	<6 ug/kg
trans-1-2-Dichloroethene	-	<11	-	-	<11	-	-	<11	<11	TM116[#]	<11 ug/kg
Dichloromethane	-	<10	-	-	<10	-	-	<10	<10	TM116[#]	<10 ug/kg
Carbon Disulphide	-	<7	-	-	<7	-	-	<7	<7	TM116[#M]	<7 ug/kg
1.1-Dichloroethene	-	<10	-	-	<10	-	-	<10	<10	TM116[#M]	<10 ug/kg
1.1-Dichloroethane	-	<8	-	-	<8	-	-	<8	<8	TM116[#M]	<8 ug/kg
Methyl Tertiary Butyl Ether	-	<11	-	-	<11	-	-	<11	<11	TM116[#M]	<11 ug/kg
cis-1-2-Dichloroethene	-	<5	-	-	<5	-	-	<5	<5	TM116[#M]	<5 ug/kg
Bromochloromethane	-	<14	-	-	<14	-	-	<14	<14	TM116[#]	<14 ug/kg
Chloroform	-	<8	-	-	<8	-	-	<8	<8	TM116[#M]	<8 ug/kg
2.2-Dichloropropane	-	<12	-	-	<12	-	-	<12	<12	TM116[#]	<12 ug/kg
1.2-Dichloroethane	-	<5	-	-	<5	-	-	<5	<5	TM116[#]	<5 ug/kg
1.1.1-Trichloroethane	-	<7	-	-	<7	-	-	<7	<7	TM116[#M]	<7 ug/kg
1.1-Dichloropropene	-	<11	-	-	<11	-	-	<11	<11	TM116[#M]	<11 ug/kg
Benzene	-	<9	-	-	<9	-	-	<9	<9	TM116[#M]	<9 ug/kg
Carbontetrachloride	-	<14	-	-	<14	-	-	<14	<14	TM116[#M]	<14 ug/kg
Dibromomethane	-	<9	-	-	<9	-	-	<9	<9	TM116[#]	<9 ug/kg
1.2-Dichloropropane	-	<12	-	-	<12	-	-	<12	<12	TM116[#M]	<12 ug/kg
Bromodichloromethane	-	<7	-	-	<7	-	-	<7	<7	TM116[#M]	<7 ug/kg
Trichloroethene	-	<9	-	-	<9	-	-	<9	<9	TM116[#M]	<9 ug/kg
cis-1-3-Dichloropropene	-	<14	-	-	<14	-	-	<14	<14	TM116[#M]	<14 ug/kg
trans-1-3-Dichloropropene	-	<14	-	-	<14	-	-	<14	<14	TM116[#M]	<14 ug/kg
1.1.2-Trichloroethane	-	<10	-	-	<10	-	-	<10	<10	TM116[#]	<10 ug/kg
Toluene	-	17	-	-	<5	-	-	<5	<5	TM116[#M]	<5 ug/kg
1.3-Dichloropropane	-	<7	-	-	<7	-	-	<7	<7	TM116[#]	<7 ug/kg

All results expressed on a dry weight basis.

Date 02.07.2007

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ALcontrol Geochem Analytical Services
Table Of Results

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* Subcontracted test
» Shown on prev. report

Job Number: 07/08569/02/01 **Matrix:** SOLID
Client: Celtic Technologies **Location:** TEN ACRES LANE
Client Ref. No.: C1077 **Client Contact:** Simon Haunch

Sample Identity	WS8	WS8	WS9	WS9	WS10	WS10	WS11	WS11	WS18	Method Code	LoD/Units
Depth (m)	0.4	1.1	0.2	2.5	0.2	1.6	0.4	2.0	2.3		
Sample Type	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID		
Sampled Date	17.05.07	17.05.07	17.05.07	17.05.07	17.05.07	17.05.07	17.05.07	17.05.07	17.05.07		
Sample Received Date	18.05.07	18.05.07	18.05.07	18.05.07	18.05.07	18.05.07	18.05.07	18.05.07	18.05.07		
Batch	2	2	2	2	2	2	2	2	2		
Sample Number(s)	**60-61**	**62-64**	**65-66**	**67-68**	**69-70**	**71-72**	**73-74**	**75-77**	**78**		
Volatile Organic Compounds (cont)											
Dibromochloromethane	-	<13	-	-	<13	-	-	<13	<13	TM116#	<13 ug/kg
1.2-Dibromoethane	-	<12	-	-	<12	-	-	<12	<12	TM116#	<12 ug/kg
Tetrachloroethene	-	<5	-	-	<5	-	-	<5	<5	TM116#	<5 ug/kg
1.1.1.2-Tetrachloroethane	-	<10	-	-	<10	-	-	<10	<10	TM116#M	<10 ug/kg
Chlorobenzene	-	<5	-	-	<5	-	-	<5	<5	TM116#M	<5 ug/kg
Ethylbenzene	-	<4	-	-	<4	-	-	<4	<4	TM116#	<4 ug/kg
p/m-Xylene	-	<14	-	-	<14	-	-	<14	<14	TM116#	<14 ug/kg
Bromoform	-	<10	-	-	<10	-	-	<10	<10	TM116#	<10 ug/kg
Styrene	-	<10	-	-	<10	-	-	<10	<10	TM116#	<10 ug/kg
1.1.2.2-Tetrachloroethane	-	<10	-	-	<10	-	-	<10	<10	TM116#	<10 ug/kg
o-Xylene	-	<10	-	-	<10	-	-	<10	<10	TM116#	<10 ug/kg
1.2.3-Trichloropropane	-	<17	-	-	<17	-	-	<17	<17	TM116#	<17 ug/kg
Isopropylbenzene	-	<5	-	-	<5	-	-	<5	46	TM116#	<5 ug/kg
Bromobenzene	-	<10	-	-	<10	-	-	<10	<10	TM116#M	<10 ug/kg
2-Chlorotoluene	-	<9	-	-	<9	-	-	<9	<9	TM116#	<9 ug/kg
Propylbenzene	-	<11	-	-	<11	-	-	<11	<11	TM116#	<11 ug/kg
4-Chlorotoluene	-	<12	-	-	<12	-	-	<12	<12	TM116#	<12 ug/kg
1.2.4-Trimethylbenzene	-	<9	-	-	<9	-	-	<9	15	TM116#	<9 ug/kg
4-Isopropyltoluene	-	<11	-	-	<11	-	-	<11	<11	TM116#	<11 ug/kg
1.3.5-Trimethylbenzene	-	<8	-	-	<8	-	-	<8	11	TM116#	<8 ug/kg
1.2-Dichlorobenzene	-	<12	-	-	<12	-	-	<12	<12	TM116#M	<12 ug/kg
1.4-Dichlorobenzene	-	<5	-	-	<5	-	-	<5	<5	TM116#M	<5 ug/kg
sec-Butylbenzene	-	<10	-	-	<10	-	-	<10	<10	TM116#	<10 ug/kg
tert-Butylbenzene	-	<12	-	-	<12	-	-	<12	<12	TM116#	<12 ug/kg
1.3-Dichlorobenzene	-	<6	-	-	<6	-	-	<6	<6	TM116#	<6 ug/kg
n-Butylbenzene	-	<10	-	-	<10	-	-	<10	<10	TM116#	<10 ug/kg
1.2-Dibromo-3-chloropropane	-	<14	-	-	<14	-	-	<14	<14	TM116#	<14 ug/kg
1.2.4-Trichlorobenzene	-	<6	-	-	<6	-	-	<6	<6	TM116#	<6 ug/kg
Naphthalene	-	<13	-	-	<13	-	-	<13	130	TM116#	<13 ug/kg
1.2.3-Trichlorobenzene	-	<11	-	-	<11	-	-	<11	<11	TM116#	<11 ug/kg

All results expressed on a dry weight basis.

Date 02.07.2007

Validated ✓
Preliminary

ALcontrol Geochem Analytical Services
Table Of Results

[#] ISO 17025 accredited
[M] MCERTS accredited
* Subcontracted test
» Shown on prev. report

Job Number: 07/08569/02/01 **Matrix:** SOLID
Client: Celtic Technologies **Location:** TEN ACRES LANE
Client Ref. No.: C1077 **Client Contact:** Simon Haunch

Sample Identity	WS8	WS8	WS9	WS9	WS10	WS10	WS11	WS11	WS18	Method Code	LoD/Units
Depth (m)	0.4	1.1	0.2	2.5	0.2	1.6	0.4	2.0	2.3		
Sample Type	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID		
Sampled Date	17.05.07	17.05.07	17.05.07	17.05.07	17.05.07	17.05.07	17.05.07	17.05.07	17.05.07		
Sample Received Date	18.05.07	18.05.07	18.05.07	18.05.07	18.05.07	18.05.07	18.05.07	18.05.07	18.05.07		
Batch	2	2	2	2	2	2	2	2	2		
Sample Number(s)	**60-61**	**62-64**	**65-66**	**67-68**	**69-70**	**71-72**	**73-74**	**75-77**	**78**		
Volatile Organic Compounds (cont)											
Hexachlorobutadiene	-	<12	-	-	<12	-	-	<12	<12	TM116[#]	<12 ug/kg

All results expressed on a dry weight basis.

Date 02.07.2007

Validated ☑
Preliminary ☐

ALcontrol Geochem Analytical Services
Table Of Results

ISO 17025 accredited
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* Subcontracted test
» Shown on prev. report

Job Number: 07/08569/02/01 **Matrix:** SOLID
Client: Celtic Technologies **Location:** TEN ACRES LANE
Client Ref. No.: C1077 **Client Contact:** Simon Haunch

Sample Identity	WS19	WS19	WS19	WS21	WS21					Method Code	LoD/Units
Depth (m)	0.5	2.6	4.7	0.5	1.7						
Sample Type	SOLID	SOLID	SOLID	SOLID	SOLID						
Sampled Date	17.05.07	17.05.07	17.05.07	17.05.07	17.05.07						
Sample Received Date	18.05.07	18.05.07	18.05.07	18.05.07	18.05.07						
Batch	2	2	2	2	2						
Sample Number(s)	**79**	**80,83**	**81-82**	**84-86**	**87-88**						
Total Sulphate	1300	-	-	910	-					TM129#M	<100 mg/kg
Boron Water Soluble	-	31	<3.5	-	<3.5					TM129#M	<3.5 mg/kg
Arsenic	-	<3	6	-	12					TM129#M	<3.0 mg/kg
Cadmium	-	<0.3	<0.3	-	<0.3					TM129	<0.3 mg/kg
Chromium	-	730	25	-	29					TM129#M	<4.5 mg/kg
Copper	-	110	60	-	300					TM129#	<6 mg/kg
Lead	-	26	21	-	120					TM129#M	<2 mg/kg
Mercury	-	<0.6	<0.6	-	<0.6					TM129#M	<0.6 mg/kg
Nickel	-	360	31	-	31					TM129#M	<0.9 mg/kg
Selenium	-	<3	<3	-	<3					TM129#M	<3 mg/kg
Zinc	-	78	79	-	240					TM129#M	<2.5 mg/kg
Total Oxidised Nitrogen as N	-	<1	-	<1	-					TM102#	<1 mg/kg
Water Soluble Sulphate as SO4 2:1 Extract	0.042	-	-	0.029	-					TM098#M	<0.003 g/l
Acid Soluble Sulphide	<50	-	-	<50	-					TM101	<50 mg/kg
Chloride (soluble)	18	-	-	4	-					TM097#M	<2 mg/kg
Total Organic Carbon	-	-	-	-	-					TM132#M	<0.2 %
Phenols Monohydric	<0.15	<0.15	-	-	-					TM062#M	<0.15 mg/kg
Total Cyanide	<1	-	-	<1	-					TM153#	<1 mg/kg
Asbestos Presence Screen	No Fibres Detected	-	-	No Fibres Detected	-					TM001	NONE
Elemental Sulphur	-	<70	-	-	<70					TM136#	<70 mg/kg
pH Value	8.34	9.44	8.19	8.10	8.16					TM133#M	<1.00 pH Units
TPH C6-40	720	-	600	-	480					TM154#	<10 mg/kg

All results expressed on a dry weight basis.

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Validated ✓
Preliminary

ALcontrol Geochem Analytical Services
Table Of Results

ISO 17025 accredited
M MCERTS accredited
* Subcontracted test
» Shown on prev. report

Job Number: 07/08569/02/01 **Matrix:** SOLID
Client: Celtic Technologies **Location:** TEN ACRES LANE
Client Ref. No.: C1077 **Client Contact:** Simon Haunch

Sample Identity	WS19	WS19	WS19	WS21	WS21					Method Code	LoD/Units
Depth (m)	0.5	2.6	4.7	0.5	1.7						
Sample Type	SOLID	SOLID	SOLID	SOLID	SOLID						
Sampled Date	17.05.07	17.05.07	17.05.07	17.05.07	17.05.07						
Sample Received Date	18.05.07	18.05.07	18.05.07	18.05.07	18.05.07						
Batch	2	2	2	2	2						
Sample Number(s)	**79**	**80,83**	**81-82**	**84-86**	**87-88**						
PAH by GCMS											
Naphthalene	210	55	-	-	-					TM074#M	<10 ug/kg
Acenaphthylene	55	6	-	-	-					TM074#M	<5 ug/kg
Acenaphthene	290	49	-	-	-					TM074#M	<14 ug/kg
Fluorene	220	32	-	-	-					TM074#M	<12 ug/kg
Phenanthrene	2200	280	-	-	-					TM074#M	<21 ug/kg
Anthracene	520	54	-	-	-					TM074#M	<9 ug/kg
Fluoranthene	3500	420	-	-	-					TM074#M	<25 ug/kg
Pyrene	3000	370	-	-	-					TM074#M	<22 ug/kg
Benz(a)anthracene	1500	190	-	-	-					TM074#M	<12 ug/kg
Chrysene	1600	200	-	-	-					TM074#M	<10 ug/kg
Benzo(b)fluoranthene	1600	200	-	-	-					TM074#M	<16 ug/kg
Benzo(k)fluoranthene	690	110	-	-	-					TM074#M	<25 ug/kg
Benzo(a)pyrene	1500	190	-	-	-					TM074#M	<12 ug/kg
Indeno(123cd)pyrene	850	89	-	-	-					TM074#M	<11 ug/kg
Dibenzo(ah)anthracene	130	14	-	-	-					TM074#M	<8 ug/kg
Benzo(ghi)perylene	930	120	-	-	-					TM074#M	<10 ug/kg
PAH 16 Total	19000	2400	-	-	-					TM074#M	<25 ug/kg

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ALcontrol Geochem Analytical Services
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Job Number: 07/08569/02/01 **Matrix:** SOLID
Client: Celtic Technologies **Location:** TEN ACRES LANE
Client Ref. No.: C1077 **Client Contact:** Simon Haunch

Sample Identity	WS19	WS19	WS19	WS21	WS21					Method Code	LoD/Units
Depth (m)	0.5	2.6	4.7	0.5	1.7						
Sample Type	SOLID	SOLID	SOLID	SOLID	SOLID						
Sampled Date	17.05.07	17.05.07	17.05.07	17.05.07	17.05.07						
Sample Received Date	18.05.07	18.05.07	18.05.07	18.05.07	18.05.07						
Batch	2	2	2	2	2						
Sample Number(s)	**79**	**80,83**	**81-82**	**84-86**	**87-88**						
SVOC by GCMS											
Phenols											
2-Chlorophenol	-	-	<100	-	-					TM157	<100 ug/kg
2-Methylphenol	-	-	<100	-	-					TM157	<100 ug/kg
2-Nitrophenol	-	-	<100	-	-					TM157	<100 ug/kg
2,4-Dichlorophenol	-	-	<100	-	-					TM157	<100 ug/kg
2,4-Dimethylphenol	-	-	<100	-	-					TM157	<100 ug/kg
2,4,5-Trichlorophenol	-	-	<100	-	-					TM157	<100 ug/kg
2,4,6-Trichlorophenol	-	-	<100	-	-					TM157	<100 ug/kg
4-Chloro-3-methylphenol	-	-	<100	-	-					TM157	<100 ug/kg
4-Methylphenol	-	-	<100	-	-					TM157	<100 ug/kg
4-Nitrophenol	-	-	<100	-	-					TM157	<100 ug/kg
Pentachlorophenol	-	-	<100	-	-					TM157	<100 ug/kg
Phenol	-	-	<100	-	-					TM157	<100 ug/kg

All results expressed on a dry weight basis.

Date 02.07.2007

Validated ✓
Preliminary

ALcontrol Geochem Analytical Services
Table Of Results

ISO 17025 accredited
M MCERTS accredited
* Subcontracted test
» Shown on prev. report

Job Number: 07/08569/02/01 **Matrix:** SOLID
Client: Celtic Technologies **Location:** TEN ACRES LANE
Client Ref. No.: C1077 **Client Contact:** Simon Haunch

Sample Identity	WS19	WS19	WS19	WS21	WS21					Method Code	LoD/Units
Depth (m)	0.5	2.6	4.7	0.5	1.7						
Sample Type	SOLID	SOLID	SOLID	SOLID	SOLID						
Sampled Date	17.05.07	17.05.07	17.05.07	17.05.07	17.05.07						
Sample Received Date	18.05.07	18.05.07	18.05.07	18.05.07	18.05.07						
Batch	2	2	2	2	2						
Sample Number(s)	**79**	**80,83**	**81-82**	**84-86**	**87-88**						
PAHs											
2-Chloronaphthalene	-	-	<100	-	-					TM157	<100 ug/kg
2-Methylnaphthalene	-	-	<100	-	-					TM157	<100 ug/kg
Phthalates											
Bis(2-ethylhexyl) phthalate	-	-	<100	-	-					TM157	<100 ug/kg
Butylbenzyl phthalate	-	-	<100	-	-					TM157	<100 ug/kg
Di-n-butyl phthalate	-	-	<100	-	-					TM157	<100 ug/kg
Di-n-Octyl phthalate	-	-	<100	-	-					TM157	<100 ug/kg
Diethyl phthalate	-	-	<100	-	-					TM157	<100 ug/kg
Dimethyl phthalate	-	-	<100	-	-					TM157	<100 ug/kg
Other Semi-volatiles											
1,2-Dichlorobenzene	-	-	<100	-	-					TM157	<100 ug/kg
1,2,4-Trichlorobenzene	-	-	<100	-	-					TM157	<100 ug/kg
1,3-Dichlorobenzene	-	-	<100	-	-					TM157	<100 ug/kg
1,4-Dichlorobenzene	-	-	<100	-	-					TM157	<100 ug/kg
2-Nitroaniline	-	-	<100	-	-					TM157	<100 ug/kg
2,4-Dinitrotoluene	-	-	<100	-	-					TM157	<100 ug/kg
2,6-Dinitrotoluene	-	-	<100	-	-					TM157	<100 ug/kg
3-Nitroaniline	-	-	<100	-	-					TM157	<100 ug/kg
4-Bromophenylphenylether	-	-	<100	-	-					TM157	<100 ug/kg
4-Chloroaniline	-	-	<100	-	-					TM157	<100 ug/kg
4-Chlorophenylphenylether	-	-	<100	-	-					TM157	<100 ug/kg
4-Nitroaniline	-	-	<100	-	-					TM157	<100 ug/kg
Azobenzene	-	-	<100	-	-					TM157	<100 ug/kg
Bis(2-chloroethoxy)methane	-	-	<100	-	-					TM157	<100 ug/kg
Bis(2-chloroethyl)ether	-	-	<100	-	-					TM157	<100 ug/kg
Carbazole	-	-	<100	-	-					TM157	<100 ug/kg
Dibenzofuran	-	-	<100	-	-					TM157	<100 ug/kg
Hexachlorobenzene	-	-	<100	-	-					TM157	<100 ug/kg

All results expressed on a dry weight basis.

Date 02.07.2007

Validated ✓
Preliminary

ALcontrol Geochem Analytical Services
Table Of Results

[#] ISO 17025 accredited
[M] MCERTS accredited
[*] Subcontracted test
[»] Shown on prev. report

Job Number: 07/08569/02/01 **Matrix:** SOLID
Client: Celtic Technologies **Location:** TEN ACRES LANE
Client Ref. No.: C1077 **Client Contact:** Simon Haunch

Sample Identity	WS19	WS19	WS19	WS21	WS21					Method Code	LoD/Units
Depth (m)	0.5	2.6	4.7	0.5	1.7						
Sample Type	SOLID	SOLID	SOLID	SOLID	SOLID						
Sampled Date	17.05.07	17.05.07	17.05.07	17.05.07	17.05.07						
Sample Received Date	18.05.07	18.05.07	18.05.07	18.05.07	18.05.07						
Batch	2	2	2	2	2						
Sample Number(s)	**79**	**80,83**	**81-82**	**84-86**	**87-88**						
Other Semi-volatiles (cont)											
Hexachlorobutadiene	-	-	<100	-	-					TM157	<100 ug/kg
Hexachlorocyclopentadiene	-	-	<100	-	-					TM157	<100 ug/kg
Hexachloroethane	-	-	<100	-	-					TM157	<100 ug/kg
Isophorone	-	-	<100	-	-					TM157	<100 ug/kg
N-nitrosodi-n-propylamine	-	-	<100	-	-					TM157	<100 ug/kg
Nitrobenzene	-	-	<100	-	-					TM157	<100 ug/kg

All results expressed on a dry weight basis.

Date 02.07.2007

Validated ☑
Preliminary ☐

ALcontrol Geochem Analytical Services
Table Of Results

[#] ISO 17025 accredited
[M] MCERTS accredited
* Subcontracted test
» Shown on prev. report

Job Number: 07/08569/02/01 **Matrix:** SOLID
Client: Celtic Technologies **Location:** TEN ACRES LANE
Client Ref. No.: C1077 **Client Contact:** Simon Haunch

Sample Identity	WS19	WS19	WS19	WS21	WS21					Method Code	LoD/Units
Depth (m)	0.5	2.6	4.7	0.5	1.7						
Sample Type	SOLID	SOLID	SOLID	SOLID	SOLID						
Sampled Date	17.05.07	17.05.07	17.05.07	17.05.07	17.05.07						
Sample Received Date	18.05.07	18.05.07	18.05.07	18.05.07	18.05.07						
Batch	2	2	2	2	2						
Sample Number(s)	**79**	**80,83**	**81-82**	**84-86**	**87-88**						
Volatile Organic Compounds											
Dichlorodifluoromethane	-	-	<4	-	-					TM116[#]	<4 ug/kg
Chloromethane	-	-	<7	-	-					TM116[#]	<7 ug/kg
Vinyl Chloride	-	-	<10	-	-					TM116[#M]	<10 ug/kg
Bromomethane	-	-	<13	-	-					TM116[#]	<13 ug/kg
Chloroethane	-	-	<14	-	-					TM116[#]	<14 ug/kg
Trichlorofluoromethane	-	-	<6	-	-					TM116[#M]	<6 ug/kg
trans-1-2-Dichloroethene	-	-	<11	-	-					TM116[#]	<11 ug/kg
Dichloromethane	-	-	<10	-	-					TM116[#]	<10 ug/kg
Carbon Disulphide	-	-	<7	-	-					TM116[#M]	<7 ug/kg
1.1-Dichloroethene	-	-	<10	-	-					TM116[#M]	<10 ug/kg
1.1-Dichloroethane	-	-	<8	-	-					TM116[#M]	<8 ug/kg
Methyl Tertiary Butyl Ether	-	-	<11	-	-					TM116[#M]	<11 ug/kg
cis-1-2-Dichloroethene	-	-	<5	-	-					TM116[#M]	<5 ug/kg
Bromochloromethane	-	-	<14	-	-					TM116[#]	<14 ug/kg
Chloroform	-	-	<8	-	-					TM116[#M]	<8 ug/kg
2.2-Dichloropropane	-	-	<12	-	-					TM116[#]	<12 ug/kg
1.2-Dichloroethane	-	-	<5	-	-					TM116[#]	<5 ug/kg
1.1.1-Trichloroethane	-	-	<7	-	-					TM116[#M]	<7 ug/kg
1.1-Dichloropropene	-	-	<11	-	-					TM116[#M]	<11 ug/kg
Benzene	-	-	12	-	-					TM116[#M]	<9 ug/kg
Carbontetrachloride	-	-	<14	-	-					TM116[#M]	<14 ug/kg
Dibromomethane	-	-	<9	-	-					TM116[#]	<9 ug/kg
1.2-Dichloropropane	-	-	<12	-	-					TM116[#M]	<12 ug/kg
Bromodichloromethane	-	-	<7	-	-					TM116[#M]	<7 ug/kg
Trichloroethene	-	-	<9	-	-					TM116[#M]	<9 ug/kg
cis-1-3-Dichloropropene	-	-	<14	-	-					TM116[#M]	<14 ug/kg
trans-1-3-Dichloropropene	-	-	<14	-	-					TM116[#M]	<14 ug/kg
1.1.2-Trichloroethane	-	-	<10	-	-					TM116[#]	<10 ug/kg
Toluene	-	-	25	-	-					TM116[#M]	<5 ug/kg
1.3-Dichloropropane	-	-	<7	-	-					TM116[#]	<7 ug/kg

All results expressed on a dry weight basis.

Date 02.07.2007

Validated ✓
Preliminary

ALcontrol Geochem Analytical Services
Table Of Results

[#] ISO 17025 accredited
[M] MCERTS accredited
* Subcontracted test
» Shown on prev. report

Job Number: 07/08569/02/01 **Matrix:** SOLID
Client: Celtic Technologies **Location:** TEN ACRES LANE
Client Ref. No.: C1077 **Client Contact:** Simon Haunch

Sample Identity	WS19	WS19	WS19	WS21	WS21					Method Code	LoD/Units
Depth (m)	0.5	2.6	4.7	0.5	1.7						
Sample Type	SOLID	SOLID	SOLID	SOLID	SOLID						
Sampled Date	17.05.07	17.05.07	17.05.07	17.05.07	17.05.07						
Sample Received Date	18.05.07	18.05.07	18.05.07	18.05.07	18.05.07						
Batch	2	2	2	2	2						
Sample Number(s)	**79**	**80,83**	**81-82**	**84-86**	**87-88**						
Volatile Organic Compounds (cont)											
Dibromochloromethane	-	-	<13	-	-					TM116#	<13 ug/kg
1.2-Dibromoethane	-	-	<12	-	-					TM116#	<12 ug/kg
Tetrachloroethene	-	-	<5	-	-					TM116#	<5 ug/kg
1.1.1.2-Tetrachloroethane	-	-	<10	-	-					TM116#M	<10 ug/kg
Chlorobenzene	-	-	<5	-	-					TM116#M	<5 ug/kg
Ethylbenzene	-	-	6	-	-					TM116#	<4 ug/kg
p/m-Xylene	-	-	19	-	-					TM116#	<14 ug/kg
Bromoform	-	-	<10	-	-					TM116#	<10 ug/kg
Styrene	-	-	<10	-	-					TM116#	<10 ug/kg
1.1.2.2-Tetrachloroethane	-	-	<10	-	-					TM116#	<10 ug/kg
o-Xylene	-	-	<10	-	-					TM116#	<10 ug/kg
1.2.3-Trichloropropane	-	-	<17	-	-					TM116#	<17 ug/kg
Isopropylbenzene	-	-	<5	-	-					TM116#	<5 ug/kg
Bromobenzene	-	-	<10	-	-					TM116#M	<10 ug/kg
2-Chlorotoluene	-	-	<9	-	-					TM116#	<9 ug/kg
Propylbenzene	-	-	<11	-	-					TM116#	<11 ug/kg
4-Chlorotoluene	-	-	<12	-	-					TM116#	<12 ug/kg
1.2.4-Trimethylbenzene	-	-	<9	-	-					TM116#	<9 ug/kg
4-Isopropyltoluene	-	-	<11	-	-					TM116#	<11 ug/kg
1.3.5-Trimethylbenzene	-	-	<8	-	-					TM116#	<8 ug/kg
1.2-Dichlorobenzene	-	-	<12	-	-					TM116#M	<12 ug/kg
1.4-Dichlorobenzene	-	-	<5	-	-					TM116#M	<5 ug/kg
sec-Butylbenzene	-	-	<10	-	-					TM116#	<10 ug/kg
tert-Butylbenzene	-	-	<12	-	-					TM116#	<12 ug/kg
1.3-Dichlorobenzene	-	-	<6	-	-					TM116#	<6 ug/kg
n-Butylbenzene	-	-	<10	-	-					TM116#	<10 ug/kg
1.2-Dibromo-3-chloropropane	-	-	<14	-	-					TM116#	<14 ug/kg
1.2.4-Trichlorobenzene	-	-	<6	-	-					TM116#	<6 ug/kg
Naphthalene	-	-	<13	-	-					TM116#	<13 ug/kg
1.2.3-Trichlorobenzene	-	-	<11	-	-					TM116#	<11 ug/kg

All results expressed on a dry weight basis.

Date 02.07.2007

Validated ☑
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ALcontrol Geochem Analytical Services
Table Of Results

[#] ISO 17025 accredited
[M] MCERTS accredited
[*] Subcontracted test
» Shown on prev. report

Job Number: 07/08569/02/01 **Matrix:** SOLID
Client: Celtic Technologies **Location:** TEN ACRES LANE
Client Ref. No.: C1077 **Client Contact:** Simon Haunch

Sample Identity	WS19	WS19	WS19	WS21	WS21					Method Code	LoD/Units
Depth (m)	0.5	2.6	4.7	0.5	1.7						
Sample Type	SOLID	SOLID	SOLID	SOLID	SOLID						
Sampled Date	17.05.07	17.05.07	17.05.07	17.05.07	17.05.07						
Sample Received Date	18.05.07	18.05.07	18.05.07	18.05.07	18.05.07						
Batch	2	2	2	2	2						
Sample Number(s)	**79**	**80,83**	**81-82**	**84-86**	**87-88**						
Volatile Organic Compounds (cont)											
Hexachlorobutadiene	-	-	<12	-	-					TM116[#]	<12 ug/kg

All results expressed on a dry weight basis.

Date 02.07.2007

ALcontrol Geochem Analytical Services
Table Of Results - Appendix

Job Number: 07/08569/02/01
Client: Celtic Technologies
Client Ref. No.: C1077

Report Key :

Results expressed as (e.g.) 1.03E-07 is equivalent to 1.03×10^{-7}

NDP	No Determination Possible	*	Subcontracted test
NFD	No Fibres Detected	»	Result previously reported (Incremental reports only)
#	ISO 17025 accredited	M	MCERTS Accredited
PFD	Possible Fibres Detected	EC	Equivalent Carbon (Aromatics C8-C35)

Note: Method detection limits are not always achievable due to various circumstances beyond our control.

Summary of Method Codes contained within report :

Method No.	Reference	Description	ISO 17025 Accredited	MCERTS Accredited	Wet/Dry Sample [1]	Surrogate Corrected
TM001	In - house Method	Screening of Soils for Fibres			WET	
TM062	MEWAM BOOK 124 1988.HMSO/ Method 17.7, Second Site property, March 2003	Determination of Phenolic compounds by HPLC with electro-chemical detection	✓	✓	WET	
TM074	Modified: US EPA Method 8100	Determination of Polynuclear Aromatic Hydrocarbons (PAH) by GC-MS. MCERTS Accreditation on Soils for Naphthalene except when Kerosene present.	✓		DRY	
TM074	Modified: US EPA Method 8100	Determination of Polynuclear Aromatic Hydrocarbons (PAH) by GC-MS. MCERTS Accreditation on Soils for Naphthalene except when Kerosene present.	✓	✓	DRY	
TM097	Modified: US EPA Method 325.1 & 325.2	Determination of Chloride using the Kone Analyser	✓	✓	DRY	
TM098	Method 4500E, AWWA/APHA, 20th Ed., 1999	Determination of Sulphate using the Kone Analyser	✓	✓	DRY	
TM101	Method 4500B & C, AWWA/APHA, 20th Ed., 1999	Determination of Sulphide in soil and water samples using the Kone Analyser			WET	
TM102	Method 4500H, AWWA/APHA, 20th Ed., 1999	Determination of Total Oxidised Nitrogen using the Kone Analyser	✓		DRY	
TM116	Modified: US EPA Method 8260, 8120, 8020, 624, 610 & 602	Determination of Volatile Organic Compounds by Headspace / GC-MS			WET	
TM116	Modified: US EPA Method 8260, 8120, 8020, 624, 610 & 602	Determination of Volatile Organic Compounds by Headspace / GC-MS	✓		WET	
TM116	Modified: US EPA Method 8260, 8120, 8020, 624, 610 & 602	Determination of Volatile Organic Compounds by Headspace / GC-MS	✓	✓	WET	
TM129	Method 3120B, AWWA/APHA, 20th Ed., 1999 / Modified: US EPA Method 3050B	Determination of Metal Cations by IRIS Emission Spectrometer			DRY	
TM129	Method 3120B, AWWA/APHA, 20th Ed., 1999 / Modified: US EPA Method 3050B	Determination of Metal Cations by IRIS Emission Spectrometer	✓		DRY	
TM129	Method 3120B, AWWA/APHA, 20th Ed., 1999 / Modified: US EPA Method 3050B	Determination of Metal Cations by IRIS Emission Spectrometer	✓	✓	DRY	

[1] Applies to Solid samples only. **DRY** indicates samples have been dried at 35°C. **NA** = not applicable.

ALcontrol Geochem Analytical Services
Table Of Results - Appendix

Job Number: 07/08569/02/01
Client: Celtic Technologies
Client Ref. No.: C1077

Report Key :

Results expressed as (e.g.) 1.03E-07 is equivalent to 1.03×10^{-7}

NDP	No Determination Possible	*	Subcontracted test
NFD	No Fibres Detected	»	Result previously reported (Incremental reports only)
#	ISO 17025 accredited	M	MCERTS Accredited
PFD	Possible Fibres Detected	EC	Equivalent Carbon (Aromatics C8-C35)

Note: Method detection limits are not always achievable due to various circumstances beyond our control.

Summary of Method Codes contained within report :

Method No.	Reference	Description	ISO 17025 Accredited	MCERTS Accredited	Wet/Dry Sample [1]	Surrogate Corrected
TM132	In - house Method	ELTRA CS800 Operators Guide	✓	✓	DRY	
TM133	BS 1377: Part 3 1990	Determination of pH in Soil and Water using the GLpH pH Meter	✓	✓	WET	
TM136	Method 17.10, Second Site property, March 2003	Determination of Sulphur by HPLC	✓		DRY	
TM143	Modified: US EPA Method 8270C	Determination of Semivolatile Organic Compounds by GC-MS			WET	
TM153	Method 4500A,B,C, I, M AWWA/APHA, 20th Ed., 1999	Determination of Total Cyanide, Free (Easily Liberatable) Cyanide and Thiocyanate using the "Skalar SANS+ System" Segmented Flow Analyser	✓		WET	
TM154	In - house Method	Determination of Petroleum Hydrocarbons by EZ Flash GC-FID in the Carbon range C6- C40	✓		WET	
TM157		Determination of SVOC in Soils by GC-MS extracted by sonication in DCM/Acetone			WET	

[1] Applies to Solid samples only. **DRY** indicates samples have been dried at 35°C. **NA** = not applicable.

ALcontrol Geochem Analytical Services
Table Of Results - Appendix

Job Number: 07/08569/02/01
Client: Celtic Technologies
Client Ref. No.: C1077

Summary of Coolbox temperatures

Batch No.	Coolbox Temperature (°C)
2	7.C

ALcontrol Geochem Analytical Services
Sample Descriptions

Job Number: 07/08569/02/01
Client: Celtic Technologies
Client Ref : C1077

Grain sizes

<0.063mm	Very Fine
0.1mm - 0.063mm	Fine
0.1mm - 2mm	Medium
2mm - 10mm	Coarse
>10mm	Very Coarse

Sample Identity	Depth (m)	Colour	Grain Size	Description	Batch
TP22	0.5-0.7	Dark Brown	0.1mm - 2mm	Sand with some Stones	3
TP22	0.5-0.8	Brown	0.1mm - 2mm	Sand with some Crushed Brick	3
TP24	0-0.45	Black	0.1mm - 2mm	Sand with some Stones	3
TP27	3.1	Dark Grey	0.1mm - 2mm	Sand with some Stones	3
TP30	1.1-2.8	Brown	0.1mm - 0.063mm	Silty Clay with some Vegetation	3
TP34	2.4	Black	0.1mm - 2mm	Sandy Clay with some Stones	3
TP34	2.5	Black	0.1mm - 0.063mm	Silty Clay with some Stones	3
TP35	0.6-1.2	Dark Grey	0.1mm - 2mm	Sandy Clay with some Stones	3

* These descriptions are only intended to act as a cross check if sample identities are questioned, and to provide a log of sample matrices with respect to MCERTS validation. They are not intended as full geological descriptions.

We are accredited to MCERTS for sand, clay and loam/topsoil, or any of these materials-whether these are derived from naturally occurring soil profiles, or from fill/made ground, as long as these materials constitute the major part of the sample.
Other coarse granular materials such as concrete, gravel and brick are not accredited if they comprise the major part of the sample.
[1] Sample Description supplied by client

Validated ✓
Preliminary

ALcontrol Geochem Analytical Services
Table Of Results

[#] ISO 17025 accredited
[M] MCERTS accredited
* Subcontracted test
» Shown on prev. report

Job Number: 07/08569/02/01 **Matrix:** SOLID
Client: Celtic Technologies **Location:** TEN ACRES LANE
Client Ref. No.: C1077 **Client Contact:** Simon Haunch

Sample Identity	TP22	TP22	TP24	TP27	TP30	TP34	TP34	TP35		Method Code	LoD/Units
Depth (m)	0.5-0.7	0.5-0.8	0-0.45	3.1	1.1-2.8	2.4	2.5	0.6-1.2			
Sample Type	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID			
Sampled Date	17.05.07	17.05.07	17.05.07	17.05.07	17.05.07	17.05.07	17.05.07	17.05.07			
Sample Received Date	19.05.07	19.05.07	19.05.07	19.05.07	19.05.07	19.05.07	19.05.07	19.05.07			
Batch	3	3	3	3	3	3	3	3			
Sample Number(s)	**89-90**	**91-92**	**93-95**	**96-99**	**100-104**	**105**	**106-108**	**109-112**			
Total Sulphate	-	-	770	-	1600	-	860	5800		TM129[#M]	<100 mg/kg
Boron Water Soluble	-	<3.5	<3.5	<3.5	-	-	-	<3.5		TM129[#M]	<3.5 mg/kg
Arsenic	-	35	28	18	-	-	-	28		TM129[#M]	<3.0 mg/kg
Cadmium	-	<0.3	0.6	0.4	-	-	-	<0.3		TM129	<0.3 mg/kg
Chromium	-	12	21	23	-	-	-	13		TM129[#M]	<4.5 mg/kg
Copper	-	29	180	130	-	-	-	35		TM129[#]	<6 mg/kg
Lead	-	39	210	290	-	-	-	27		TM129[#M]	<2 mg/kg
Mercury	-	<0.6	<0.6	<0.6	-	-	-	<0.6		TM129[#M]	<0.6 mg/kg
Nickel	-	57	61	47	-	-	-	17		TM129[#M]	<0.9 mg/kg
Selenium	-	<3	<3	<3	-	-	-	<3		TM129[#M]	<3 mg/kg
Zinc	-	76	260	260	-	-	-	40		TM129[#M]	<2.5 mg/kg
Total Oxidised Nitrogen as N	-	<1	-	<1	-	-	-	<1		TM102[#]	<1 mg/kg
Water Soluble Sulphate as SO4 2:1 Extract	-	-	0.064	-	0.22	-	-	0.089		TM098[#M]	<0.003 g/l
Acid Soluble Sulphide	-	-	<50	-	<50	-	-	<50		TM101	<50 mg/kg
Chloride (soluble)	-	-	8	-	18	-	-	32		TM097[#M]	<2 mg/kg
Phenols Monohydric	<0.15	-	-	-	-	-	-	-		TM062[#M]	<0.15 mg/kg
Total Cyanide	-	<1	-	<1	-	-	-	-		TM153[#]	<1 mg/kg
Asbestos Presence Screen	-	No Fibres Detected	-	No Fibres Detected	-	-	No Fibres Detected	-		TM001	NONE
Calorific Value	-	-	-	-	-	6600	-	7100		TM132[#]	<100 KJ/Kg
Elemental Sulphur	-	<70	-	-	-	-	-	-		TM136[#]	<70 mg/kg
pH Value	8.29	8.17	7.87	7.71	8.24	8.28	8.36	6.34		TM133[#M]	<1.00 pH Units
TPH C6-40	210	-	270	-	2000	-	270	240		TM154[#]	<10 mg/kg

All results expressed on a dry weight basis.

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ALcontrol Geochem Analytical Services
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Job Number: 07/08569/02/01 **Matrix:** SOLID
Client: Celtic Technologies **Location:** TEN ACRES LANE
Client Ref. No.: C1077 **Client Contact:** Simon Haunch

Sample Identity	TP22	TP22	TP24	TP27	TP30	TP34	TP34	TP35		Method Code	LoD/Units
Depth (m)	0.5-0.7	0.5-0.8	0-0.45	3.1	1.1-2.8	2.4	2.5	0.6-1.2			
Sample Type	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID			
Sampled Date	17.05.07	17.05.07	17.05.07	17.05.07	17.05.07	17.05.07	17.05.07	17.05.07			
Sample Received Date	19.05.07	19.05.07	19.05.07	19.05.07	19.05.07	19.05.07	19.05.07	19.05.07			
Batch	3	3	3	3	3	3	3	3			
Sample Number(s)	**89-90**	**91-92**	**93-95**	**96-99**	**100-104**	**105**	**106-108**	**109-112**			
PAH by GCMS											
Naphthalene	450	-	-	-	-	-	-	-		TM074#M	<10 ug/kg
Acenaphthylene	6	-	-	-	-	-	-	-		TM074#M	<5 ug/kg
Acenaphthene	63	-	-	-	-	-	-	-		TM074#M	<14 ug/kg
Fluorene	39	-	-	-	-	-	-	-		TM074#M	<12 ug/kg
Phenanthrene	520	-	-	-	-	-	-	-		TM074#M	<21 ug/kg
Anthracene	77	-	-	-	-	-	-	-		TM074#M	<9 ug/kg
Fluoranthene	650	-	-	-	-	-	-	-		TM074#M	<25 ug/kg
Pyrene	530	-	-	-	-	-	-	-		TM074#M	<22 ug/kg
Benz(a)anthracene	130	-	-	-	-	-	-	-		TM074#M	<12 ug/kg
Chrysene	130	-	-	-	-	-	-	-		TM074#M	<10 ug/kg
Benzo(b)fluoranthene	76	-	-	-	-	-	-	-		TM074#M	<16 ug/kg
Benzo(k)fluoranthene	29	-	-	-	-	-	-	-		TM074#M	<25 ug/kg
Benzo(a)pyrene	47	-	-	-	-	-	-	-		TM074#M	<12 ug/kg
Indeno(123cd)pyrene	12	-	-	-	-	-	-	-		TM074#M	<11 ug/kg
Dibenzo(ah)anthracene	<8	-	-	-	-	-	-	-		TM074#M	<8 ug/kg
Benzo(ghi)perylene	15	-	-	-	-	-	-	-		TM074#M	<10 ug/kg
PAH 16 Total	2800	-	-	-	-	-	-	-		TM074#M	<25 ug/kg

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Job Number: 07/08569/02/01 **Matrix:** SOLID
Client: Celtic Technologies **Location:** TEN ACRES LANE
Client Ref. No.: C1077 **Client Contact:** Simon Haunch

Sample Identity	TP22	TP22	TP24	TP27	TP30	TP34	TP34	TP35		Method Code	LoD/Units
Depth (m)	0.5-0.7	0.5-0.8	0-0.45	3.1	1.1-2.8	2.4	2.5	0.6-1.2			
Sample Type	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID			
Sampled Date	17.05.07	17.05.07	17.05.07	17.05.07	17.05.07	17.05.07	17.05.07	17.05.07			
Sample Received Date	19.05.07	19.05.07	19.05.07	19.05.07	19.05.07	19.05.07	19.05.07	19.05.07			
Batch	3	3	3	3	3	3	3	3			
Sample Number(s)	**89-90**	**91-92**	**93-95**	**96-99**	**100-104**	**105**	**106-108**	**109-112**			
SVOC by GCMS											
Phenols											
2-Chlorophenol	<100	-	-	-	-	-	<100	-		TM157	<100 ug/kg
2-Methylphenol	<100	-	-	-	-	-	<100	-		TM157	<100 ug/kg
2-Nitrophenol	<100	-	-	-	-	-	<100	-		TM157	<100 ug/kg
2,4-Dichlorophenol	<100	-	-	-	-	-	<100	-		TM157	<100 ug/kg
2,4-Dimethylphenol	<100	-	-	-	-	-	<100	-		TM157	<100 ug/kg
2,4,5-Trichlorophenol	<100	-	-	-	-	-	<100	-		TM157	<100 ug/kg
2,4,6-Trichlorophenol	<100	-	-	-	-	-	<100	-		TM157	<100 ug/kg
4-Chloro-3-methylphenol	<100	-	-	-	-	-	<100	-		TM157	<100 ug/kg
4-Methylphenol	<100	-	-	-	-	-	<100	-		TM157	<100 ug/kg
4-Nitrophenol	<100	-	-	-	-	-	<100	-		TM157	<100 ug/kg
Pentachlorophenol	<100	-	-	-	-	-	<100	-		TM157	<100 ug/kg
Phenol	<100	-	-	-	-	-	<100	-		TM157	<100 ug/kg

All results expressed on a dry weight basis.

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Job Number: 07/08569/02/01 **Matrix:** SOLID
Client: Celtic Technologies **Location:** TEN ACRES LANE
Client Ref. No.: C1077 **Client Contact:** Simon Haunch

Sample Identity	TP22	TP22	TP24	TP27	TP30	TP34	TP34	TP35		Method Code	LoD/Units
Depth (m)	0.5-0.7	0.5-0.8	0-0.45	3.1	1.1-2.8	2.4	2.5	0.6-1.2			
Sample Type	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID			
Sampled Date	17.05.07	17.05.07	17.05.07	17.05.07	17.05.07	17.05.07	17.05.07	17.05.07			
Sample Received Date	19.05.07	19.05.07	19.05.07	19.05.07	19.05.07	19.05.07	19.05.07	19.05.07			
Batch	3	3	3	3	3	3	3	3			
Sample Number(s)	**89-90**	**91-92**	**93-95**	**96-99**	**100-104**	**105**	**106-108**	**109-112**			
PAHs											
2-Chloronaphthalene	<100	-	-	-	-	-	<100	-		TM157	<100 ug/kg
2-Methylnaphthalene	<100	-	-	-	-	-	4000	-		TM157	<100 ug/kg
Phthalates											
Bis(2-ethylhexyl) phthalate	<100	-	-	-	-	-	<100	-		TM157	<100 ug/kg
Butylbenzyl phthalate	<100	-	-	-	-	-	<100	-		TM157	<100 ug/kg
Di-n-butyl phthalate	<100	-	-	-	-	-	<100	-		TM157	<100 ug/kg
Di-n-Octyl phthalate	<100	-	-	-	-	-	<100	-		TM157	<100 ug/kg
Diethyl phthalate	<100	-	-	-	-	-	<100	-		TM157	<100 ug/kg
Dimethyl phthalate	<100	-	-	-	-	-	<100	-		TM157	<100 ug/kg
Other Semi-volatiles											
1,2-Dichlorobenzene	<100	-	-	-	-	-	<100	-		TM157	<100 ug/kg
1,2,4-Trichlorobenzene	<100	-	-	-	-	-	<100	-		TM157	<100 ug/kg
1,3-Dichlorobenzene	<100	-	-	-	-	-	<100	-		TM157	<100 ug/kg
1,4-Dichlorobenzene	<100	-	-	-	-	-	<100	-		TM157	<100 ug/kg
2-Nitroaniline	<100	-	-	-	-	-	<100	-		TM157	<100 ug/kg
2,4-Dinitrotoluene	<100	-	-	-	-	-	<100	-		TM157	<100 ug/kg
2,6-Dinitrotoluene	<100	-	-	-	-	-	<100	-		TM157	<100 ug/kg
3-Nitroaniline	<100	-	-	-	-	-	<100	-		TM157	<100 ug/kg
4-Bromophenylphenylether	<100	-	-	-	-	-	<100	-		TM157	<100 ug/kg
4-Chloroaniline	<100	-	-	-	-	-	<100	-		TM157	<100 ug/kg
4-Chlorophenylphenylether	<100	-	-	-	-	-	<100	-		TM157	<100 ug/kg
4-Nitroaniline	<100	-	-	-	-	-	<100	-		TM157	<100 ug/kg
Azobenzene	<100	-	-	-	-	-	<100	-		TM157	<100 ug/kg
Bis(2-chloroethoxy)methane	<100	-	-	-	-	-	<100	-		TM157	<100 ug/kg
Bis(2-chloroethyl)ether	<100	-	-	-	-	-	<100	-		TM157	<100 ug/kg
Carbazole	<100	-	-	-	-	-	<100	-		TM157	<100 ug/kg
Dibenzofuran	<100	-	-	-	-	-	1000	-		TM157	<100 ug/kg
Hexachlorobenzene	<100	-	-	-	-	-	<100	-		TM157	<100 ug/kg

All results expressed on a dry weight basis.

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ALcontrol Geochem Analytical Services
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Job Number: 07/08569/02/01 **Matrix:** SOLID
Client: Celtic Technologies **Location:** TEN ACRES LANE
Client Ref. No.: C1077 **Client Contact:** Simon Haunch

Sample Identity	TP22	TP22	TP24	TP27	TP30	TP34	TP34	TP35		Method Code	LoD/Units
Depth (m)	0.5-0.7	0.5-0.8	0-0.45	3.1	1.1-2.8	2.4	2.5	0.6-1.2			
Sample Type	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID			
Sampled Date	17.05.07	17.05.07	17.05.07	17.05.07	17.05.07	17.05.07	17.05.07	17.05.07			
Sample Received Date	19.05.07	19.05.07	19.05.07	19.05.07	19.05.07	19.05.07	19.05.07	19.05.07			
Batch	3	3	3	3	3	3	3	3			
Sample Number(s)	**89-90**	**91-92**	**93-95**	**96-99**	**100-104**	**105**	**106-108**	**109-112**			
Other Semi-volatiles (cont)											
Hexachlorobutadiene	<100	-	-	-	-	-	<100	-		TM157	<100 ug/kg
Hexachlorocyclopentadiene	<100	-	-	-	-	-	<100	-		TM157	<100 ug/kg
Hexachloroethane	<100	-	-	-	-	-	<100	-		TM157	<100 ug/kg
Isophorone	<100	-	-	-	-	-	<100	-		TM157	<100 ug/kg
N-nitrosodi-n-propylamine	<100	-	-	-	-	-	<100	-		TM157	<100 ug/kg
Nitrobenzene	<100	-	-	-	-	-	<100	-		TM157	<100 ug/kg

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ALcontrol Geochem Analytical Services
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[#] ISO 17025 accredited
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Job Number: 07/08569/02/01 **Matrix:** SOLID
Client: Celtic Technologies **Location:** TEN ACRES LANE
Client Ref. No.: C1077 **Client Contact:** Simon Haunch

Sample Identity	TP22	TP22	TP24	TP27	TP30	TP34	TP34	TP35		Method Code	LoD/Units
Depth (m)	0.5-0.7	0.5-0.8	0-0.45	3.1	1.1-2.8	2.4	2.5	0.6-1.2			
Sample Type	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID			
Sampled Date	17.05.07	17.05.07	17.05.07	17.05.07	17.05.07	17.05.07	17.05.07	17.05.07			
Sample Received Date	19.05.07	19.05.07	19.05.07	19.05.07	19.05.07	19.05.07	19.05.07	19.05.07			
Batch	3	3	3	3	3	3	3	3			
Sample Number(s)	**89-90**	**91-92**	**93-95**	**96-99**	**100-104**	**105**	**106-108**	**109-112**			
Volatile Organic Compounds											
Dichlorodifluoromethane	<4	-	-	-	<4	-	<4	<4		TM116[#]	<4 ug/kg
Chloromethane	<7	-	-	-	<7	-	<7	<7		TM116[#]	<7 ug/kg
Vinyl Chloride	<10	-	-	-	<10	-	<10	<10		TM116[#M]	<10 ug/kg
Bromomethane	<13	-	-	-	<13	-	<13	<13		TM116[#]	<13 ug/kg
Chloroethane	<14	-	-	-	<14	-	<14	<14		TM116[#]	<14 ug/kg
Trichlorofluoromethane	<6	-	-	-	<6	-	<6	<6		TM116[#M]	<6 ug/kg
trans-1-2-Dichloroethene	<11	-	-	-	<11	-	<11	<11		TM116[#]	<11 ug/kg
Dichloromethane	<10	-	-	-	<10	-	<10	<10		TM116[#]	<10 ug/kg
Carbon Disulphide	<7	-	-	-	<7	-	<7	<7		TM116[#M]	<7 ug/kg
1.1-Dichloroethene	<10	-	-	-	<10	-	<10	<10		TM116[#M]	<10 ug/kg
1.1-Dichloroethane	<8	-	-	-	<8	-	<8	<8		TM116[#M]	<8 ug/kg
Methyl Tertiary Butyl Ether	<11	-	-	-	<11	-	<11	<11		TM116[#M]	<11 ug/kg
cis-1-2-Dichloroethene	<5	-	-	-	<5	-	<5	<5		TM116[#M]	<5 ug/kg
Bromochloromethane	<14	-	-	-	<14	-	<14	<14		TM116[#]	<14 ug/kg
Chloroform	<8	-	-	-	<8	-	<8	<8		TM116[#M]	<8 ug/kg
2.2-Dichloropropane	<12	-	-	-	<12	-	<12	<12		TM116[#]	<12 ug/kg
1.2-Dichloroethane	<5	-	-	-	<5	-	<5	<5		TM116[#]	<5 ug/kg
1.1.1-Trichloroethane	<7	-	-	-	<7	-	<7	<7		TM116[#M]	<7 ug/kg
1.1-Dichloropropene	<11	-	-	-	<11	-	<11	<11		TM116[#M]	<11 ug/kg
Benzene	<9	-	-	-	<9	-	<9	<9		TM116[#M]	<9 ug/kg
Carbontetrachloride	<14	-	-	-	<14	-	<14	<14		TM116[#M]	<14 ug/kg
Dibromomethane	<9	-	-	-	<9	-	<9	<9		TM116[#]	<9 ug/kg
1.2-Dichloropropane	<12	-	-	-	<12	-	<12	<12		TM116[#M]	<12 ug/kg
Bromodichloromethane	<7	-	-	-	<7	-	<7	<7		TM116[#M]	<7 ug/kg
Trichloroethene	<9	-	-	-	<9	-	<9	<9		TM116[#M]	<9 ug/kg
cis-1-3-Dichloropropene	<14	-	-	-	<14	-	<14	<14		TM116[#M]	<14 ug/kg
trans-1-3-Dichloropropene	<14	-	-	-	<14	-	<14	<14		TM116[#M]	<14 ug/kg
1.1.2-Trichloroethane	<10	-	-	-	<10	-	<10	<10		TM116[#]	<10 ug/kg
Toluene	<5	-	-	-	<5	-	<5	<5		TM116[#M]	<5 ug/kg
1.3-Dichloropropane	<7	-	-	-	<7	-	<7	<7		TM116[#]	<7 ug/kg

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ALcontrol Geochem Analytical Services
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[#] ISO 17025 accredited
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Job Number: 07/08569/02/01 **Matrix:** SOLID
Client: Celtic Technologies **Location:** TEN ACRES LANE
Client Ref. No.: C1077 **Client Contact:** Simon Haunch

Sample Identity	TP22	TP22	TP24	TP27	TP30	TP34	TP34	TP35		Method Code	LoD/Units
Depth (m)	0.5-0.7	0.5-0.8	0-0.45	3.1	1.1-2.8	2.4	2.5	0.6-1.2			
Sample Type	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID			
Sampled Date	17.05.07	17.05.07	17.05.07	17.05.07	17.05.07	17.05.07	17.05.07	17.05.07			
Sample Received Date	19.05.07	19.05.07	19.05.07	19.05.07	19.05.07	19.05.07	19.05.07	19.05.07			
Batch	3	3	3	3	3	3	3	3			
Sample Number(s)	**89-90**	**91-92**	**93-95**	**96-99**	**100-104**	**105**	**106-108**	**109-112**			
Volatile Organic Compounds (cont)											
Dibromochloromethane	<13	-	-	-	<13	-	<13	<13		TM116[#]	<13 ug/kg
1.2-Dibromoethane	<12	-	-	-	<12	-	<12	<12		TM116[#]	<12 ug/kg
Tetrachloroethene	<5	-	-	-	<5	-	<5	<5		TM116[#]	<5 ug/kg
1.1.1.2-Tetrachloroethane	<10	-	-	-	<10	-	<10	<10		TM116[#M]	<10 ug/kg
Chlorobenzene	<5	-	-	-	<5	-	<5	<5		TM116[#M]	<5 ug/kg
Ethylbenzene	<4	-	-	-	<4	-	<4	<4		TM116[#]	<4 ug/kg
p/m-Xylene	<14	-	-	-	<14	-	<14	<14		TM116[#]	<14 ug/kg
Bromoform	<10	-	-	-	<10	-	<10	<10		TM116[#]	<10 ug/kg
Styrene	<10	-	-	-	<10	-	<10	<10		TM116[#]	<10 ug/kg
1.1.2.2-Tetrachloroethane	<10	-	-	-	<10	-	<10	<10		TM116[#]	<10 ug/kg
o-Xylene	<10	-	-	-	<10	-	<10	<10		TM116[#]	<10 ug/kg
1.2.3-Trichloropropane	<17	-	-	-	<17	-	<17	<17		TM116[#]	<17 ug/kg
Isopropylbenzene	<5	-	-	-	<5	-	<5	<5		TM116[#]	<5 ug/kg
Bromobenzene	<10	-	-	-	<10	-	<10	<10		TM116[#M]	<10 ug/kg
2-Chlorotoluene	<9	-	-	-	<9	-	<9	<9		TM116[#]	<9 ug/kg
Propylbenzene	<11	-	-	-	<11	-	<11	<11		TM116[#]	<11 ug/kg
4-Chlorotoluene	<12	-	-	-	<12	-	<12	<12		TM116[#]	<12 ug/kg
1.2.4-Trimethylbenzene	<9	-	-	-	<9	-	<9	<9		TM116[#]	<9 ug/kg
4-Isopropyltoluene	<11	-	-	-	<11	-	<11	<11		TM116[#]	<11 ug/kg
1.3.5-Trimethylbenzene	<8	-	-	-	<8	-	<8	<8		TM116[#]	<8 ug/kg
1.2-Dichlorobenzene	<12	-	-	-	<12	-	<12	<12		TM116[#M]	<12 ug/kg
1.4-Dichlorobenzene	<5	-	-	-	<5	-	<5	<5		TM116[#M]	<5 ug/kg
sec-Butylbenzene	<10	-	-	-	<10	-	<10	<10		TM116[#]	<10 ug/kg
tert-Butylbenzene	<12	-	-	-	<12	-	<12	<12		TM116[#]	<12 ug/kg
1.3-Dichlorobenzene	<6	-	-	-	<6	-	<6	<6		TM116[#]	<6 ug/kg
n-Butylbenzene	<10	-	-	-	<10	-	<10	<10		TM116[#]	<10 ug/kg
1.2-Dibromo-3-chloropropane	<14	-	-	-	<14	-	<14	<14		TM116[#]	<14 ug/kg
1.2.4-Trichlorobenzene	<6	-	-	-	<6	-	<6	<6		TM116[#]	<6 ug/kg
Naphthalene	<13	-	-	-	<13	-	<13	<13		TM116[#]	<13 ug/kg
1.2.3-Trichlorobenzene	<11	-	-	-	<11	-	<11	<11		TM116[#]	<11 ug/kg

All results expressed on a dry weight basis.

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ALcontrol Geochem Analytical Services
Table Of Results

[#] ISO 17025 accredited
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Job Number: 07/08569/02/01 **Matrix:** SOLID
Client: Celtic Technologies **Location:** TEN ACRES LANE
Client Ref. No.: C1077 **Client Contact:** Simon Haunch

Sample Identity	TP22	TP22	TP24	TP27	TP30	TP34	TP34	TP35		Method Code	LoD/Units
Depth (m)	0.5-0.7	0.5-0.8	0-0.45	3.1	1.1-2.8	2.4	2.5	0.6-1.2			
Sample Type	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID			
Sampled Date	17.05.07	17.05.07	17.05.07	17.05.07	17.05.07	17.05.07	17.05.07	17.05.07			
Sample Received Date	19.05.07	19.05.07	19.05.07	19.05.07	19.05.07	19.05.07	19.05.07	19.05.07			
Batch	3	3	3	3	3	3	3	3			
Sample Number(s)	**89-90**	**91-92**	**93-95**	**96-99**	**100-104**	**105**	**106-108**	**109-112**			
Volatile Organic Compounds (cont)											
Hexachlorobutadiene	<12	-	-	-	<12	-	<12	<12		TM116[#]	<12 ug/kg

All results expressed on a dry weight basis.

Date 03.07.2007

ALcontrol Geochem Analytical Services
Table Of Results - Appendix

Job Number: 07/08569/02/01
Client: Celtic Technologies
Client Ref. No.: C1077

Report Key :

Results expressed as (e.g.) 1.03E-07 is equivalent to 1.03×10^{-7}

NDP	No Determination Possible	*	Subcontracted test
NFD	No Fibres Detected	»	Result previously reported (Incremental reports only)
#	ISO 17025 accredited	M	MCERTS Accredited
PFD	Possible Fibres Detected	EC	Equivalent Carbon (Aromatics C8-C35)

Note: Method detection limits are not always achievable due to various circumstances beyond our control.

Summary of Method Codes contained within report :

Method No.	Reference	Description	ISO 17025 Accredited	MCERTS Accredited	Wet/Dry Sample [1]	Surrogate Corrected
TM001	In - house Method	Screening of Soils for Fibres			WET	
TM062	MEWAM BOOK 124 1988.HMSO/ Method 17.7, Second Site property, March 2003	Determination of Phenolic compounds by HPLC with electro-chemical detection	✓	✓	WET	
TM074	Modified: US EPA Method 8100	Determination of Polynuclear Aromatic Hydrocarbons (PAH) by GC-MS. MCERTS Accreditation on Soils for Naphthalene except when Kerosene present.	✓		DRY	
TM074	Modified: US EPA Method 8100	Determination of Polynuclear Aromatic Hydrocarbons (PAH) by GC-MS. MCERTS Accreditation on Soils for Naphthalene except when Kerosene present.	✓	✓	DRY	
TM097	Modified: US EPA Method 325.1 & 325.2	Determination of Chloride using the Kone Analyser	✓	✓	DRY	
TM098	Method 4500E, AWWA/APHA, 20th Ed., 1999	Determination of Sulphate using the Kone Analyser	✓	✓	DRY	
TM101	Method 4500B & C, AWWA/APHA, 20th Ed., 1999	Determination of Sulphide in soil and water samples using the Kone Analyser			WET	
TM102	Method 4500H, AWWA/APHA, 20th Ed., 1999	Determination of Total Oxidised Nitrogen using the Kone Analyser	✓		DRY	
TM116	Modified: US EPA Method 8260, 8120, 8020, 624, 610 & 602	Determination of Volatile Organic Compounds by Headspace / GC-MS			WET	
TM116	Modified: US EPA Method 8260, 8120, 8020, 624, 610 & 602	Determination of Volatile Organic Compounds by Headspace / GC-MS	✓		WET	
TM116	Modified: US EPA Method 8260, 8120, 8020, 624, 610 & 602	Determination of Volatile Organic Compounds by Headspace / GC-MS	✓	✓	WET	
TM129	Method 3120B, AWWA/APHA, 20th Ed., 1999 / Modified: US EPA Method 3050B	Determination of Metal Cations by IRIS Emission Spectrometer			DRY	
TM129	Method 3120B, AWWA/APHA, 20th Ed., 1999 / Modified: US EPA Method 3050B	Determination of Metal Cations by IRIS Emission Spectrometer	✓		DRY	
TM129	Method 3120B, AWWA/APHA, 20th Ed., 1999 / Modified: US EPA Method 3050B	Determination of Metal Cations by IRIS Emission Spectrometer	✓	✓	DRY	

[1] Applies to Solid samples only. **DRY** indicates samples have been dried at 35°C. **NA** = not applicable.

ALcontrol Geochem Analytical Services
Table Of Results - Appendix

Job Number: 07/08569/02/01
Client: Celtic Technologies
Client Ref. No.: C1077

Report Key :

Results expressed as (e.g.) 1.03E-07 is equivalent to 1.03×10^{-7}

NDP	No Determination Possible	*	Subcontracted test
NFD	No Fibres Detected	»	Result previously reported (Incremental reports only)
#	ISO 17025 accredited	M	MCERTS Accredited
PFD	Possible Fibres Detected	EC	Equivalent Carbon (Aromatics C8-C35)

Note: Method detection limits are not always achievable due to various circumstances beyond our control.

Summary of Method Codes contained within report :

Method No.	Reference	Description	ISO 17025 Accredited	MCERTS Accredited	Wet/Dry Sample [1]	Surrogate Corrected
TM132	In - house Method	ELTRA CS800 Operators Guide	✓		DRY	
TM133	BS 1377: Part 3 1990	Determination of pH in Soil and Water using the GLpH pH Meter	✓	✓	WET	
TM136	Method 17.10, Second Site property, March 2003	Determination of Sulphur by HPLC	✓		DRY	
TM143	Modified: US EPA Method 8270C	Determination of Semivolatile Organic Compounds by GC-MS			WET	
TM153	Method 4500A,B,C, I, M AWWA/APHA, 20th Ed., 1999	Determination of Total Cyanide, Free (Easily Liberatable) Cyanide and Thiocyanate using the "Skalar SANS+ System" Segmented Flow Analyser	✓		WET	
TM154	In - house Method	Determination of Petroleum Hydrocarbons by EZ Flash GC-FID in the Carbon range C6- C40	✓		WET	
TM157		Determination of SVOC in Soils by GC-MS extracted by sonication in DCM/Acetone			WET	

[1] Applies to Solid samples only. **DRY** indicates samples have been dried at 35°C. **NA** = not applicable.

ALcontrol Geochem Analytical Services
Table Of Results - Appendix

Job Number: 07/08569/02/01
Client: Celtic Technologies
Client Ref. No.: C1077

Summary of Coolbox temperatures

Batch No.	Coolbox Temperature (°C)
3	12.0

ALcontrol Geochem Analytical Services
Sample Descriptions

Job Number: 07/08569/02/01
Client: Celtic Technologies
Client Ref : C1077

Grain sizes

<0.063mm	Very Fine
0.1mm - 0.063mm	Fine
0.1mm - 2mm	Medium
2mm - 10mm	Coarse
>10mm	Very Coarse

Sample Identity	Depth (m)	Colour	Grain Size	Description	Batch
TP1	0.2	Black	0.1mm - 2mm	Sand with some Glass & Stones	4
TP2	0.7	Dark Grey	<0.063mm	Clay	4
TP3	0.3	Dark Brown	0.1mm - 0.063mm	Sandy Clay with some Stones	4
TP25	1.0	Light Brown	<0.063mm	Clay	4
TP27	0-0.3	Brown	0.1mm - 2mm	Sandy Clay with some Stones	4
TP29	0.5	Dark Brown	0.1mm - 0.063mm	Sandy Clay with some Stones	4
WS20	1.2	Dark Grey	<0.063mm	Clay with some Stones	4
WS20	3.5	Black	0.1mm - 0.063mm	Silty Clay with some Coal Fragments	4
WS22	0.5	Brown	<0.063mm	Clay with some Stones	4

* These descriptions are only intended to act as a cross check if sample identities are questioned, and to provide a log of sample matrices with respect to MCERTS validation. They are not intended as full geological descriptions.

We are accredited to MCERTS for sand, clay and loam/topsoil, or any of these materials-whether these are derived from naturally occurring soil profiles, or from fill/made ground, as long as these materials constitute the major part of the sample.
Other coarse granular materials such as concrete, gravel and brick are not accredited if they comprise the major part of the sample.
[1] Sample Description supplied by client

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ALcontrol Geochem Analytical Services
Table Of Results

[#] ISO 17025 accredited
[M] MCERTS accredited
* Subcontracted test
» Shown on prev. report

Job Number: 07/08569/02/01 **Matrix:** SOLID
Client: Celtic Technologies **Location:** TEN ACRES LANE
Client Ref. No.: C1077 **Client Contact:** Simon Haunch

Sample Identity	TP1	TP2	TP3	TP25	TP27	TP29	WS20	WS20	WS22	Method Code	LoD/Units
Depth (m)	0.2	0.7	0.3	1.0	0-0.3	0.5	1.2	3.5	0.5		
Sample Type	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID		
Sampled Date	18.05.07	18.05.07	18.05.07	18.05.07	18.05.07	18.05.07	18.05.07	18.05.07	18.05.07		
Sample Received Date	21.05.07	21.05.07	21.05.07	21.05.07	21.05.07	21.05.07	21.05.07	21.05.07	21.05.07		
Batch	4	4	4	4	4	4	4	4	4		
Sample Number(s)	**113-115**	**116-118**	**119-121**	**122-124**	**125-127**	**128-130**	**131-133**	**134-136**	**140-142**		
Total Oxidised Nitrogen as N	-	-	-	-	1	-	<1	9	-	TM102[#]	<1 mg/kg
Total Organic Carbon	-	-	-	-	-	-	-	-	5.1	TM132[#M]	<0.2 %
Phenols Monohydric	<0.15	-	-	-	-	-	<0.15	-	<0.15	TM062[#M]	<0.15 mg/kg
Total Cyanide	-	-	-	-	<1	-	-	-	-	TM153[#]	<1 mg/kg
Asbestos Presence Screen	No Fibres Detected	-	-	-	No Fibres Detected	-	-	No Fibres Detected	-	TM001	NONE
Calorific Value	-	-	3800	-	-	-	-	-	-	TM132[#]	<100 KJ/Kg
Elemental Sulphur	310	-	620	-	-	-	-	-	-	TM136[#]	<70 mg/kg
pH Value	6.44	-	-	-	8.21	-	-	6.04	-	TM133[#M]	<1.00 pH Units

All results expressed on a dry weight basis.

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ALcontrol Geochem Analytical Services
Table Of Results

[#] ISO 17025 accredited
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* Subcontracted test
» Shown on prev. report

Job Number: 07/08569/02/01 **Matrix:** SOLID
Client: Celtic Technologies **Location:** TEN ACRES LANE
Client Ref. No.: C1077 **Client Contact:** Simon Haunch

Sample Identity	TP1	TP2	TP3	TP25	TP27	TP29	WS20	WS20	WS22	Method Code	LoD/Units
Depth (m)	0.2	0.7	0.3	1.0	0-0.3	0.5	1.2	3.5	0.5		
Sample Type	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID		
Sampled Date	18.05.07	18.05.07	18.05.07	18.05.07	18.05.07	18.05.07	18.05.07	18.05.07	18.05.07		
Sample Received Date	21.05.07	21.05.07	21.05.07	21.05.07	21.05.07	21.05.07	21.05.07	21.05.07	21.05.07		
Batch	4	4	4	4	4	4	4	4	4		
Sample Number(s)	**113-115**	**116-118**	**119-121**	**122-124**	**125-127**	**128-130**	**131-133**	**134-136**	**140-142**		
GRO (C4-C12)	-	14	-	-	-	-	-	-	<10	TM089	<10 ug/kg
MTBE	-	<10	-	-	-	-	-	-	<10	TM089[#]	<10 ug/kg
Benzene	-	14	-	-	-	-	-	-	<10	TM089[#M]	<10 ug/kg
Toluene	-	<10	-	-	-	-	-	-	<10	TM089[#M]	<10 ug/kg
Ethyl benzene	-	<10	-	-	-	-	-	-	<10	TM089[#M]	<10 ug/kg
m & p Xylene	-	<10	-	-	-	-	-	-	<10	TM089[#M]	<10 ug/kg
o Xylene	-	<10	-	-	-	-	-	-	<10	TM089[#M]	<10 ug/kg
Aliphatics C5-C6	-	<10	-	-	-	-	-	-	<10	TM089	<10 ug/kg
Aliphatics >C6-C8	-	<10	-	-	-	-	-	-	<10	TM089	<10 ug/kg
Aliphatics >C8-C10	-	<10	-	-	-	-	-	-	<10	TM089	<10 ug/kg
Aliphatics >C10-C12	-	<10	-	-	-	-	-	-	<10	TM089	<10 ug/kg
Aliphatics >C12-C16	-	13000	-	-	-	-	-	-	14000	TM173[#]	<100 ug/kg
Aliphatics >C16-C21	-	12000	-	-	-	-	-	-	48000	TM173[#]	<100 ug/kg
Aliphatics >C21-C35	-	22000	-	-	-	-	-	-	140000	TM173[#]	<100 ug/kg
Total Aliphatics C5-C35	-	47000	-	-	-	-	-	-	200000	TM61/89	<100 ug/kg
Aromatics C6-C7	-	14	-	-	-	-	-	-	<10	TM089	<10 ug/kg
Aromatics >C7-C8	-	<10	-	-	-	-	-	-	<10	TM089	<10 ug/kg
Aromatics >EC8-EC10	-	<10	-	-	-	-	-	-	<10	TM089	<10 ug/kg
Aromatics >EC10-EC12	-	<10	-	-	-	-	-	-	<10	TM089	<10 ug/kg
Aromatics >EC12-EC16	-	11000	-	-	-	-	-	-	11000	TM173[#]	<100 ug/kg
Aromatics >EC16-EC21	-	54000	-	-	-	-	-	-	53000	TM173[#]	<100 ug/kg
Aromatics >EC21-EC35	-	330000	-	-	-	-	-	-	330000	TM173[#]	<100 ug/kg
Total Aromatics C6-C35	-	400000	-	-	-	-	-	-	390000	TM61/89	<100 ug/kg
TPH (Aliphatics and Aromatics C5-C35)	-	440000	-	-	-	-	-	-	590000	TM61/89	<100 ug/kg

All results expressed on a dry weight basis.

Date 03.07.2007

Validated ☑
Preliminary ☐

ALcontrol Geochem Analytical Services
Table Of Results

[#] ISO 17025 accredited
[M] MCERTS accredited
* Subcontracted test
» Shown on prev. report

Job Number: 07/08569/02/01 **Matrix:** SOLID
Client: Celtic Technologies **Location:** TEN ACRES LANE
Client Ref. No.: C1077 **Client Contact:** Simon Haunch

Sample Identity	TP1	TP2	TP3	TP25	TP27	TP29	WS20	WS20	WS22	Method Code	LoD/Units
Depth (m)	0.2	0.7	0.3	1.0	0-0.3	0.5	1.2	3.5	0.5		
Sample Type	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID		
Sampled Date	18.05.07	18.05.07	18.05.07	18.05.07	18.05.07	18.05.07	18.05.07	18.05.07	18.05.07		
Sample Received Date	21.05.07	21.05.07	21.05.07	21.05.07	21.05.07	21.05.07	21.05.07	21.05.07	21.05.07		
Batch	4	4	4	4	4	4	4	4	4		
Sample Number(s)	**113-115**	**116-118**	**119-121**	**122-124**	**125-127**	**128-130**	**131-133**	**134-136**	**140-142**		
TPH C6-40	3300	220	900	<10	-	450	<10	170	4000	TM154[#]	<10 mg/kg

All results expressed on a dry weight basis.

Date 03.07.2007

Validated ☑
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ALcontrol Geochem Analytical Services
Table Of Results

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* Subcontracted test
» Shown on prev. report

Job Number: 07/08569/02/01 **Matrix:** SOLID
Client: Celtic Technologies **Location:** TEN ACRES LANE
Client Ref. No.: C1077 **Client Contact:** Simon Haunch

Sample Identity	TP1	TP2	TP3	TP25	TP27	TP29	WS20	WS20	WS22	Method Code	LoD/Units
Depth (m)	0.2	0.7	0.3	1.0	0-0.3	0.5	1.2	3.5	0.5		
Sample Type	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID		
Sampled Date	18.05.07	18.05.07	18.05.07	18.05.07	18.05.07	18.05.07	18.05.07	18.05.07	18.05.07		
Sample Received Date	21.05.07	21.05.07	21.05.07	21.05.07	21.05.07	21.05.07	21.05.07	21.05.07	21.05.07		
Batch	4	4	4	4	4	4	4	4	4		
Sample Number(s)	**113-115**	**116-118**	**119-121**	**122-124**	**125-127**	**128-130**	**131-133**	**134-136**	**140-142**		
PAH by GCMS											
Naphthalene	740	-	-	-	-	-	270	-	610	TM074[#M]	<10 ug/kg
Acenaphthylene	430	-	-	-	-	-	11	-	48	TM074[#M]	<5 ug/kg
Acenaphthene	1400	-	-	-	-	-	210	-	1300	TM074[#M]	<14 ug/kg
Fluorene	1100	-	-	-	-	-	140	-	1100	TM074[#M]	<12 ug/kg
Phenanthrene	11000	-	-	-	-	-	1100	-	11000	TM074[#M]	<21 ug/kg
Anthracene	2600	-	-	-	-	-	280	-	2600	TM074[#M]	<9 ug/kg
Fluoranthene	15000	-	-	-	-	-	1400	-	17000	TM074[#M]	<25 ug/kg
Pyrene	13000	-	-	-	-	-	1200	-	14000	TM074[#M]	<22 ug/kg
Benz(a)anthracene	7900	-	-	-	-	-	570	-	6200	TM074[#M]	<12 ug/kg
Chrysene	8200	-	-	-	-	-	590	-	6400	TM074[#M]	<10 ug/kg
Benzo(b)fluoranthene	11000	-	-	-	-	-	790	-	5700	TM074[#M]	<16 ug/kg
Benzo(k)fluoranthene	4400	-	-	-	-	-	310	-	3100	TM074[#M]	<25 ug/kg
Benzo(a)pyrene	9100	-	-	-	-	-	580	-	5300	TM074[#M]	<12 ug/kg
Indeno(123cd)pyrene	5800	-	-	-	-	-	360	-	2900	TM074[#M]	<11 ug/kg
Dibenzo(ah)anthracene	1100	-	-	-	-	-	89	-	480	TM074[#M]	<8 ug/kg
Benzo(ghi)perylene	6500	-	-	-	-	-	460	-	3300	TM074[#M]	<10 ug/kg
PAH 16 Total	99000	-	-	-	-	-	8300	-	80000	TM074[#M]	<25 ug/kg

All results expressed on a dry weight basis.

Date 03.07.2007

Validated ☑
Preliminary ☐

ALcontrol Geochem Analytical Services
Table Of Results

[#] ISO 17025 accredited
[M] MCERTS accredited
[*] Subcontracted test
» Shown on prev. report

Job Number: 07/08569/02/01 **Matrix:** SOLID
Client: Celtic Technologies **Location:** TEN ACRES LANE
Client Ref. No.: C1077 **Client Contact:** Simon Haunch

Sample Identity	TP1	TP2	TP3	TP25	TP27	TP29	WS20	WS20	WS22	Method Code	LoD/Units
Depth (m)	0.2	0.7	0.3	1.0	0-0.3	0.5	1.2	3.5	0.5		
Sample Type	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID		
Sampled Date	18.05.07	18.05.07	18.05.07	18.05.07	18.05.07	18.05.07	18.05.07	18.05.07	18.05.07		
Sample Received Date	21.05.07	21.05.07	21.05.07	21.05.07	21.05.07	21.05.07	21.05.07	21.05.07	21.05.07		
Batch	4	4	4	4	4	4	4	4	4		
Sample Number(s)	**113-115**	**116-118**	**119-121**	**122-124**	**125-127**	**128-130**	**131-133**	**134-136**	**140-142**		
SVOC by GCMS											
Phenols											
2-Chlorophenol	-	-	<100	<100	-	<100	-	<100	-	TM157	<100 ug/kg
2-Methylphenol	-	-	<100	<100	-	<100	-	<100	-	TM157	<100 ug/kg
2-Nitrophenol	-	-	<100	<100	-	<100	-	<100	-	TM157	<100 ug/kg
2,4-Dichlorophenol	-	-	<100	<100	-	<100	-	<100	-	TM157	<100 ug/kg
2,4-Dimethylphenol	-	-	<100	<100	-	<100	-	<100	-	TM157	<100 ug/kg
2,4,5-Trichlorophenol	-	-	<100	<100	-	<100	-	<100	-	TM157	<100 ug/kg
2,4,6-Trichlorophenol	-	-	<100	<100	-	<100	-	<100	-	TM157	<100 ug/kg
4-Chloro-3-methylphenol	-	-	<100	<100	-	<100	-	<100	-	TM157	<100 ug/kg
4-Methylphenol	-	-	<100	<100	-	<100	-	<100	-	TM157	<100 ug/kg
4-Nitrophenol	-	-	<100	<100	-	<100	-	<100	-	TM157	<100 ug/kg
Pentachlorophenol	-	-	<100	<100	-	<100	-	<100	-	TM157	<100 ug/kg
Phenol	-	-	<100	<100	-	<100	-	<100	-	TM157	<100 ug/kg

All results expressed on a dry weight basis.

Date 03.07.2007

Validated ☑
Preliminary ☐

ALcontrol Geochem Analytical Services
Table Of Results

[#] ISO 17025 accredited
[M] MCERTS accredited
[*] Subcontracted test
» Shown on prev. report

Job Number: 07/08569/02/01 **Matrix:** SOLID
Client: Celtic Technologies **Location:** TEN ACRES LANE
Client Ref. No.: C1077 **Client Contact:** Simon Haunch

Sample Identity	TP1	TP2	TP3	TP25	TP27	TP29	WS20	WS20	WS22	Method Code	LoD/Units
Depth (m)	0.2	0.7	0.3	1.0	0-0.3	0.5	1.2	3.5	0.5		
Sample Type	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID		
Sampled Date	18.05.07	18.05.07	18.05.07	18.05.07	18.05.07	18.05.07	18.05.07	18.05.07	18.05.07		
Sample Received Date	21.05.07	21.05.07	21.05.07	21.05.07	21.05.07	21.05.07	21.05.07	21.05.07	21.05.07		
Batch	4	4	4	4	4	4	4	4	4		
Sample Number(s)	**113-115**	**116-118**	**119-121**	**122-124**	**125-127**	**128-130**	**131-133**	**134-136**	**140-142**		
PAHs											
2-Chloronaphthalene	-	-	<100	<100	-	<100	-	<100	-	TM157	<100 ug/kg
2-Methylnaphthalene	-	-	470	<100	-	260	-	<100	-	TM157	<100 ug/kg
Phthalates											
Bis(2-ethylhexyl) phthalate	-	-	<100	<100	-	<100	-	<100	-	TM157	<100 ug/kg
Butylbenzyl phthalate	-	-	<100	<100	-	<100	-	<100	-	TM157	<100 ug/kg
Di-n-butyl phthalate	-	-	660	<100	-	<100	-	<100	-	TM157	<100 ug/kg
Di-n-Octyl phthalate	-	-	<100	<100	-	<100	-	<100	-	TM157	<100 ug/kg
Diethyl phthalate	-	-	<100	<100	-	<100	-	<100	-	TM157	<100 ug/kg
Dimethyl phthalate	-	-	<100	<100	-	<100	-	<100	-	TM157	<100 ug/kg
Other Semi-volatiles											
1,2-Dichlorobenzene	-	-	<100	<100	-	<100	-	<100	-	TM157	<100 ug/kg
1,2,4-Trichlorobenzene	-	-	<100	<100	-	<100	-	<100	-	TM157	<100 ug/kg
1,3-Dichlorobenzene	-	-	<100	<100	-	<100	-	<100	-	TM157	<100 ug/kg
1,4-Dichlorobenzene	-	-	<100	<100	-	<100	-	<100	-	TM157	<100 ug/kg
2-Nitroaniline	-	-	<100	<100	-	<100	-	<100	-	TM157	<100 ug/kg
2,4-Dinitrotoluene	-	-	<100	<100	-	<100	-	<100	-	TM157	<100 ug/kg
2,6-Dinitrotoluene	-	-	<100	<100	-	<100	-	<100	-	TM157	<100 ug/kg
3-Nitroaniline	-	-	<100	<100	-	<100	-	<100	-	TM157	<100 ug/kg
4-Bromophenylphenylether	-	-	<100	<100	-	<100	-	<100	-	TM157	<100 ug/kg
4-Chloroaniline	-	-	<100	<100	-	<100	-	<100	-	TM157	<100 ug/kg
4-Chlorophenylphenylether	-	-	<100	<100	-	<100	-	<100	-	TM157	<100 ug/kg
4-Nitroaniline	-	-	<100	<100	-	<100	-	<100	-	TM157	<100 ug/kg
Azobenzene	-	-	<100	<100	-	<100	-	<100	-	TM157	<100 ug/kg
Bis(2-chloroethoxy)methane	-	-	<100	<100	-	<100	-	<100	-	TM157	<100 ug/kg
Bis(2-chloroethyl)ether	-	-	<100	<100	-	<100	-	<100	-	TM157	<100 ug/kg
Carbazole	-	-	470	<100	-	<100	-	<100	-	TM157	<100 ug/kg
Dibenzofuran	-	-	530	<100	-	<100	-	<100	-	TM157	<100 ug/kg
Hexachlorobenzene	-	-	<100	<100	-	<100	-	<100	-	TM157	<100 ug/kg

All results expressed on a dry weight basis.

Date 03.07.2007

Validated ✓
Preliminary

ALcontrol Geochem Analytical Services
Table Of Results

ISO 17025 accredited
M MCERTS accredited
* Subcontracted test
» Shown on prev. report

Job Number: 07/08569/02/01 **Matrix:** SOLID
Client: Celtic Technologies **Location:** TEN ACRES LANE
Client Ref. No.: C1077 **Client Contact:** Simon Haunch

Sample Identity	TP1	TP2	TP3	TP25	TP27	TP29	WS20	WS20	WS22	Method Code	LoD/Units
Depth (m)	0.2	0.7	0.3	1.0	0-0.3	0.5	1.2	3.5	0.5		
Sample Type	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID		
Sampled Date	18.05.07	18.05.07	18.05.07	18.05.07	18.05.07	18.05.07	18.05.07	18.05.07	18.05.07		
Sample Received Date	21.05.07	21.05.07	21.05.07	21.05.07	21.05.07	21.05.07	21.05.07	21.05.07	21.05.07		
Batch	4	4	4	4	4	4	4	4	4		
Sample Number(s)	**113-115**	**116-118**	**119-121**	**122-124**	**125-127**	**128-130**	**131-133**	**134-136**	**140-142**		
Other Semi-volatiles (cont)											
Hexachlorobutadiene	-	-	<100	<100	-	<100	-	<100	-	TM157	<100 ug/kg
Hexachlorocyclopentadiene	-	-	<100	<100	-	<100	-	<100	-	TM157	<100 ug/kg
Hexachloroethane	-	-	<100	<100	-	<100	-	<100	-	TM157	<100 ug/kg
Isophorone	-	-	<100	<100	-	<100	-	<100	-	TM157	<100 ug/kg
N-nitrosodi-n-propylamine	-	-	<100	<100	-	<100	-	<100	-	TM157	<100 ug/kg
Nitrobenzene	-	-	<100	<100	-	<100	-	<100	-	TM157	<100 ug/kg

All results expressed on a dry weight basis.

Date 03.07.2007

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ALcontrol Geochem Analytical Services
Table Of Results

[#] ISO 17025 accredited
[M] MCERTS accredited
* Subcontracted test
» Shown on prev. report

Job Number: 07/08569/02/01 **Matrix:** SOLID
Client: Celtic Technologies **Location:** TEN ACRES LANE
Client Ref. No.: C1077 **Client Contact:** Simon Haunch

Sample Identity	TP1	TP2	TP3	TP25	TP27	TP29	WS20	WS20	WS22	Method Code	LoD/Units
Depth (m)	0.2	0.7	0.3	1.0	0-0.3	0.5	1.2	3.5	0.5		
Sample Type	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID		
Sampled Date	18.05.07	18.05.07	18.05.07	18.05.07	18.05.07	18.05.07	18.05.07	18.05.07	18.05.07		
Sample Received Date	21.05.07	21.05.07	21.05.07	21.05.07	21.05.07	21.05.07	21.05.07	21.05.07	21.05.07		
Batch	4	4	4	4	4	4	4	4	4		
Sample Number(s)	**113-115**	**116-118**	**119-121**	**122-124**	**125-127**	**128-130**	**131-133**	**134-136**	**140-142**		
Volatile Organic Compounds											
Dichlorodifluoromethane	-	-	<4	<4	-	<4	-	<4	-	TM116[#]	<4 ug/kg
Chloromethane	-	-	<7	<7	-	<7	-	<7	-	TM116[#]	<7 ug/kg
Vinyl Chloride	-	-	<10	<10	-	<10	-	<10	-	TM116[#M]	<10 ug/kg
Bromomethane	-	-	<13	<13	-	<13	-	<13	-	TM116[#]	<13 ug/kg
Chloroethane	-	-	<14	<14	-	<14	-	<14	-	TM116[#]	<14 ug/kg
Trichlorofluoromethane	-	-	<6	<6	-	<6	-	<6	-	TM116[#M]	<6 ug/kg
trans-1-2-Dichloroethene	-	-	<11	<11	-	<11	-	<11	-	TM116[#]	<11 ug/kg
Dichloromethane	-	-	<10	<10	-	<10	-	<10	-	TM116[#]	<10 ug/kg
Carbon Disulphide	-	-	<7	<7	-	<7	-	<7	-	TM116[#M]	<7 ug/kg
1.1-Dichloroethene	-	-	<10	<10	-	<10	-	<10	-	TM116[#M]	<10 ug/kg
1.1-Dichloroethane	-	-	<8	<8	-	<8	-	<8	-	TM116[#M]	<8 ug/kg
Methyl Tertiary Butyl Ether	-	-	<11	<11	-	<11	-	<11	-	TM116[#M]	<11 ug/kg
cis-1-2-Dichloroethene	-	-	<5	<5	-	<5	-	<5	-	TM116[#M]	<5 ug/kg
Bromochloromethane	-	-	<14	<14	-	<14	-	<14	-	TM116[#]	<14 ug/kg
Chloroform	-	-	<8	<8	-	<8	-	<8	-	TM116[#M]	<8 ug/kg
2.2-Dichloropropane	-	-	<12	<12	-	<12	-	<12	-	TM116[#]	<12 ug/kg
1.2-Dichloroethane	-	-	<5	<5	-	<5	-	<5	-	TM116[#]	<5 ug/kg
1.1.1-Trichloroethane	-	-	<7	<7	-	<7	-	<7	-	TM116[#M]	<7 ug/kg
1.1-Dichloropropene	-	-	<11	<11	-	<11	-	<11	-	TM116[#M]	<11 ug/kg
Benzene	-	-	<9	<9	-	<9	-	<9	-	TM116[#M]	<9 ug/kg
Carbontetrachloride	-	-	<14	<14	-	<14	-	<14	-	TM116[#M]	<14 ug/kg
Dibromomethane	-	-	<9	<9	-	<9	-	<9	-	TM116[#]	<9 ug/kg
1.2-Dichloropropane	-	-	<12	<12	-	<12	-	<12	-	TM116[#M]	<12 ug/kg
Bromodichloromethane	-	-	<7	<7	-	<7	-	<7	-	TM116[#M]	<7 ug/kg
Trichloroethene	-	-	<9	<9	-	<9	-	<9	-	TM116[#M]	<9 ug/kg
cis-1-3-Dichloropropene	-	-	<14	<14	-	<14	-	<14	-	TM116[#M]	<14 ug/kg
trans-1-3-Dichloropropene	-	-	<14	<14	-	<14	-	<14	-	TM116[#M]	<14 ug/kg
1.1.2-Trichloroethane	-	-	<10	<10	-	<10	-	<10	-	TM116[#]	<10 ug/kg
Toluene	-	-	<5	<5	-	<5	-	<5	-	TM116[#M]	<5 ug/kg
1.3-Dichloropropane	-	-	<7	<7	-	<7	-	<7	-	TM116[#]	<7 ug/kg

All results expressed on a dry weight basis.

Date 03.07.2007

Validated ✓
Preliminary

ALcontrol Geochem Analytical Services
Table Of Results

ISO 17025 accredited
M MCERTS accredited
* Subcontracted test
» Shown on prev. report

Job Number: 07/08569/02/01 **Matrix:** SOLID
Client: Celtic Technologies **Location:** TEN ACRES LANE
Client Ref. No.: C1077 **Client Contact:** Simon Haunch

Sample Identity	TP1	TP2	TP3	TP25	TP27	TP29	WS20	WS20	WS22	Method Code	LoD/Units
Depth (m)	0.2	0.7	0.3	1.0	0-0.3	0.5	1.2	3.5	0.5		
Sample Type	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID		
Sampled Date	18.05.07	18.05.07	18.05.07	18.05.07	18.05.07	18.05.07	18.05.07	18.05.07	18.05.07		
Sample Received Date	21.05.07	21.05.07	21.05.07	21.05.07	21.05.07	21.05.07	21.05.07	21.05.07	21.05.07		
Batch	4	4	4	4	4	4	4	4	4		
Sample Number(s)	**113-115**	**116-118**	**119-121**	**122-124**	**125-127**	**128-130**	**131-133**	**134-136**	**140-142**		
Volatile Organic Compounds (cont)											
Dibromochloromethane	-	-	<13	<13	-	<13	-	<13	-	TM116#	<13 ug/kg
1.2-Dibromoethane	-	-	<12	<12	-	<12	-	<12	-	TM116#	<12 ug/kg
Tetrachloroethene	-	-	<5	<5	-	<5	-	<5	-	TM116#	<5 ug/kg
1.1.1.2-Tetrachloroethane	-	-	<10	<10	-	<10	-	<10	-	TM116#M	<10 ug/kg
Chlorobenzene	-	-	<5	<5	-	<5	-	<5	-	TM116#M	<5 ug/kg
Ethylbenzene	-	-	<4	<4	-	<4	-	<4	-	TM116#	<4 ug/kg
p/m-Xylene	-	-	<14	<14	-	<14	-	<14	-	TM116#	<14 ug/kg
Bromoform	-	-	<10	<10	-	<10	-	<10	-	TM116#	<10 ug/kg
Styrene	-	-	<10	<10	-	<10	-	<10	-	TM116#	<10 ug/kg
1.1.2.2-Tetrachloroethane	-	-	<10	<10	-	<10	-	<10	-	TM116#	<10 ug/kg
o-Xylene	-	-	<10	<10	-	<10	-	<10	-	TM116#	<10 ug/kg
1.2.3-Trichloropropane	-	-	<17	<17	-	<17	-	<17	-	TM116#	<17 ug/kg
Isopropylbenzene	-	-	<5	<5	-	<5	-	<5	-	TM116#	<5 ug/kg
Bromobenzene	-	-	<10	<10	-	<10	-	<10	-	TM116#M	<10 ug/kg
2-Chlorotoluene	-	-	<9	<9	-	<9	-	<9	-	TM116#	<9 ug/kg
Propylbenzene	-	-	<11	<11	-	<11	-	<11	-	TM116#	<11 ug/kg
4-Chlorotoluene	-	-	<12	<12	-	<12	-	<12	-	TM116#	<12 ug/kg
1.2.4-Trimethylbenzene	-	-	<9	<9	-	<9	-	<9	-	TM116#	<9 ug/kg
4-Isopropyltoluene	-	-	<11	<11	-	<11	-	<11	-	TM116#	<11 ug/kg
1.3.5-Trimethylbenzene	-	-	<8	<8	-	<8	-	<8	-	TM116#	<8 ug/kg
1.2-Dichlorobenzene	-	-	<12	<12	-	<12	-	<12	-	TM116#M	<12 ug/kg
1.4-Dichlorobenzene	-	-	<5	<5	-	<5	-	<5	-	TM116#M	<5 ug/kg
sec-Butylbenzene	-	-	<10	<10	-	<10	-	<10	-	TM116#	<10 ug/kg
tert-Butylbenzene	-	-	<12	<12	-	<12	-	<12	-	TM116#	<12 ug/kg
1.3-Dichlorobenzene	-	-	<6	<6	-	<6	-	<6	-	TM116#	<6 ug/kg
n-Butylbenzene	-	-	<10	<10	-	<10	-	<10	-	TM116#	<10 ug/kg
1.2-Dibromo-3-chloropropane	-	-	<14	<14	-	<14	-	<14	-	TM116#	<14 ug/kg
1.2.4-Trichlorobenzene	-	-	<6	<6	-	<6	-	<6	-	TM116#	<6 ug/kg
Naphthalene	-	-	<13	<13	-	<13	-	<13	-	TM116#	<13 ug/kg
1.2.3-Trichlorobenzene	-	-	<11	<11	-	<11	-	<11	-	TM116#	<11 ug/kg

All results expressed on a dry weight basis.

Date 03.07.2007

Validated ☑
Preliminary ☐

ALcontrol Geochem Analytical Services
Table Of Results

[#] ISO 17025 accredited
[M] MCERTS accredited
* Subcontracted test
» Shown on prev. report

Job Number: 07/08569/02/01 **Matrix:** SOLID
Client: Celtic Technologies **Location:** TEN ACRES LANE
Client Ref. No.: C1077 **Client Contact:** Simon Haunch

Sample Identity	TP1	TP2	TP3	TP25	TP27	TP29	WS20	WS20	WS22	Method Code	LoD/Units
Depth (m)	0.2	0.7	0.3	1.0	0-0.3	0.5	1.2	3.5	0.5		
Sample Type	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID		
Sampled Date	18.05.07	18.05.07	18.05.07	18.05.07	18.05.07	18.05.07	18.05.07	18.05.07	18.05.07		
Sample Received Date	21.05.07	21.05.07	21.05.07	21.05.07	21.05.07	21.05.07	21.05.07	21.05.07	21.05.07		
Batch	4	4	4	4	4	4	4	4	4		
Sample Number(s)	**113-115**	**116-118**	**119-121**	**122-124**	**125-127**	**128-130**	**131-133**	**134-136**	**140-142**		
Volatile Organic Compounds (cont)											
Hexachlorobutadiene	-	-	<12	<12	-	<12	-	<12	-	TM116[#]	<12 ug/kg

All results expressed on a dry weight basis.

Date 03.07.2007

ALcontrol Geochem Analytical Services
Table Of Results - Appendix

Job Number: 07/08569/02/01
Client: Celtic Technologies
Client Ref. No.: C1077

Report Key :

Results expressed as (e.g.) 1.03E-07 is equivalent to 1.03×10^{-7}

NDP	No Determination Possible	*	Subcontracted test
NFD	No Fibres Detected	»	Result previously reported (Incremental reports only)
#	ISO 17025 accredited	M	MCERTS Accredited
PFD	Possible Fibres Detected	EC	Equivalent Carbon (Aromatics C8-C35)

Note: Method detection limits are not always achievable due to various circumstances beyond our control.

Summary of Method Codes contained within report :

Method No.	Reference	Description	ISO 17025 Accredited	MCERTS Accredited	Wet/Dry Sample [1]	Surrogate Corrected
TM001	In - house Method	Screening of Soils for Fibres			WET	
TM062	MEWAM BOOK 124 1988.HMSO/ Method 17.7, Second Site property, March 2003	Determination of Phenolic compounds by HPLC with electro-chemical detection	✓	✓	WET	
TM074	Modified: US EPA Method 8100	Determination of Polynuclear Aromatic Hydrocarbons (PAH) by GC-MS. MCERTS Accreditation on Soils for Naphthalene except when Kerosene present.	✓		DRY	
TM074	Modified: US EPA Method 8100	Determination of Polynuclear Aromatic Hydrocarbons (PAH) by GC-MS. MCERTS Accreditation on Soils for Naphthalene except when Kerosene present.	✓	✓	DRY	
TM089	Modified: US EPA Methods 8020 & 602	Determination of Gasoline Range Hydrocarbons (GRO) and BTEX (MTBE) compounds by Headspace GC-FID (C4-C12)			WET	
TM089	Modified: US EPA Methods 8020 & 602	Determination of Gasoline Range Hydrocarbons (GRO) and BTEX (MTBE) compounds by Headspace GC-FID (C4-C12)	✓		WET	
TM089	Modified: US EPA Methods 8020 & 602	Determination of Gasoline Range Hydrocarbons (GRO) and BTEX (MTBE) compounds by Headspace GC-FID (C4-C12)	✓	✓	WET	
TM102	Method 4500H, AWWA/APHA, 20th Ed., 1999	Determination of Total Oxidised Nitrogen using the Kone Analyser	✓		DRY	
TM116	Modified: US EPA Method 8260, 8120, 8020, 624, 610 & 602	Determination of Volatile Organic Compounds by Headspace / GC-MS			WET	
TM116	Modified: US EPA Method 8260, 8120, 8020, 624, 610 & 602	Determination of Volatile Organic Compounds by Headspace / GC-MS	✓		WET	
TM116	Modified: US EPA Method 8260, 8120, 8020, 624, 610 & 602	Determination of Volatile Organic Compounds by Headspace / GC-MS	✓	✓	WET	
TM132	In - house Method	ELTRA CS800 Operators Guide	✓		DRY	
TM132	In - house Method	ELTRA CS800 Operators Guide	✓	✓	DRY	
TM133	BS 1377: Part 3 1990	Determination of pH in Soil and Water using the GLpH pH Meter	✓	✓	WET	

[1] Applies to Solid samples only. **DRY** indicates samples have been dried at 35°C. **NA** = not applicable.

ALcontrol Geochem Analytical Services
Table Of Results - Appendix

Job Number: 07/08569/02/01
Client: Celtic Technologies
Client Ref. No.: C1077

Report Key :

Results expressed as (e.g.) 1.03E-07 is equivalent to 1.03×10^{-7}

NDP	No Determination Possible	*	Subcontracted test
NFD	No Fibres Detected	»	Result previously reported (Incremental reports only)
#	ISO 17025 accredited	M	MCERTS Accredited
PFD	Possible Fibres Detected	EC	Equivalent Carbon (Aromatics C8-C35)

Note: Method detection limits are not always achievable due to various circumstances beyond our control.

Summary of Method Codes contained within report :

Method No.	Reference	Description	ISO 17025 Accredited	MCERTS Accredited	Wet/Dry Sample [1]	Surrogate Corrected
TM136	Method 17.10, Second Site property, March 2003	Determination of Sulphur by HPLC	✓		DRY	
TM143	Modified: US EPA Method 8270C	Determination of Semivolatile Organic Compounds by GC-MS			WET	
TM153	Method 4500A,B,C, I, M AWWA/APHA, 20th Ed., 1999	Determination of Total Cyanide, Free (Easily Liberatable) Cyanide and Thiocyanate using the "Skalar SANS+ System" Segmented Flow Analyser	✓		WET	
TM154	In - house Method	Determination of Petroleum Hydrocarbons by EZ Flash GC-FID in the Carbon range C6- C40	✓		WET	
TM157		Determination of SVOC in Soils by GC-MS extracted by sonication in DCM/Acetone			WET	
TM173		Determination of Speciated Extractable Petroleum Hydrocarbons in Soils by GC-FID	✓		DRY	
TM61/89		see TM061 and TM089 for details			WET	

[1] Applies to Solid samples only. **DRY** indicates samples have been dried at 35°C. **NA** = not applicable.

ALcontrol Geochem Analytical Services
Table Of Results - Appendix

Job Number: 07/08569/02/01
Client: Celtic Technologies
Client Ref. No.: C1077

Summary of Coolbox temperatures

Batch No.	Coolbox Temperature (°C)
4	19.8

ALcontrol Geochem Analytical Services
Sample Descriptions

Job Number: 07/08569/02/01
Client: Celtic Technologies
Client Ref : C1077

Grain sizes

<0.063mm	Very Fine
0.1mm - 0.063mm	Fine
0.1mm - 2mm	Medium
2mm - 10mm	Coarse
>10mm	Very Coarse

Sample Identity	Depth (m)	Colour	Grain Size	Description	Batch
R3	0.4	Dark Brown	0.1mm - 2mm	Sandy Clay with some Stones	5
R3	3.5	Dark Brown	<0.063mm	Clay with some Stones	5
TP46	1.5	Dark Brown	<0.063mm	Clay with some Stones	5
TP47	4.8-5.0	Beige	<0.063mm	Clay with some Stones	5
TP48	4.0-4.3	Dark Brown	<0.063mm	Clay with some Stones	5
TP50	3.5	Dark Brown	0.1mm - 2mm	Sand with some Stones	5
TP50	4.3	Brown	<0.063mm	Clay with some Stones	5

* These descriptions are only intended to act as a cross check if sample identities are questioned, and to provide a log of sample matrices with respect to MCERTS validation. They are not intended as full geological descriptions.

We are accredited to MCERTS for sand, clay and loam/topsoil, or any of these materials-whether these are derived from naturally occurring soil profiles, or from fill/made ground, as long as these materials constitute the major part of the sample.
Other coarse granular materials such as concrete, gravel and brick are not accredited if they comprise the major part of the sample.
[1] Sample Description supplied by client

Validated ☑
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ALcontrol Geochem Analytical Services
Table Of Results

ISO 17025 accredited
M MCERTS accredited
* Subcontracted test
» Shown on prev. report

Job Number: 07/08569/02/01 **Matrix:** SOLID
Client: Celtic Technologies **Location:** TEN ACRES LANE
Client Ref. No.: C1077 **Client Contact:** Simon Haunch

Sample Identity	R3	R3	TP46	TP47	TP48	TP50	TP50			Method Code	LoD/Units
Depth (m)	0.4	3.5	1.5	4.8-5.0	4.0-4.3	3.5	4.3				
Sample Type	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID				
Sampled Date	24.05.07	24.05.07	24.05.07	24.05.07	24.05.07	24.05.07	24.05.07				
Sample Received Date	25.05.07	25.05.07	25.05.07	25.05.07	25.05.07	25.05.07	25.05.07				
Batch	5	5	5	5	5	5	5				
Sample Number(s)	**145-147**	**148-150**	**155-157**	**161-163**	**164-166**	**170-171**	**172-174**				
Total Sulphate	-	-	2300	-	-	-	-			TM129#M	<100 mg/kg
Boron Water Soluble	<3.5	-	<3.5	<3.5	<3.5	-	<3.5			TM129#M	<3.5 mg/kg
Arsenic	130	-	17	45	10	-	8			TM129#M	<3.0 mg/kg
Cadmium	1.6	-	0.3	0.6	0.4	-	<0.3			TM129	<0.3 mg/kg
Chromium	26	-	35	28	15	-	20			TM129#M	<4.5 mg/kg
Copper	150	-	84	21	32	-	31			TM129#	<6 mg/kg
Lead	240	-	220	540	31	-	37			TM129#M	<2 mg/kg
Mercury	<0.6	-	<0.6	2.1	<0.6	-	<0.6			TM129#M	<0.6 mg/kg
Nickel	35	-	29	6.6	20	-	23			TM129#M	<0.9 mg/kg
Selenium	<3	-	<3	6	<3	-	<3			TM129#M	<3 mg/kg
Zinc	160	-	120	95	110	-	82			TM129#M	<2.5 mg/kg
Total Oxidised Nitrogen as N	-	-	3	-	3	-	-			TM102#	<1 mg/kg
Water Soluble Sulphate as SO4 2:1 Extract	-	-	0.55	-	-	-	-			TM098#M	<0.003 g/l
Acid Soluble Sulphide	-	-	<50	-	-	-	-			TM101	<50 mg/kg
Chloride (soluble)	-	-	22	-	-	-	-			TM097#M	<2 mg/kg
Phenols Monohydric	-	-	-	<0.15	-	1.9	-			TM062#M	<0.15 mg/kg
Asbestos Presence Screen	No Fibres Detected	-	-	-	-	-	-			TM001	NONE
pH Value	7.90	-	6.86	7.71	8.21	7.24	7.28			TM133#M	<1.00 pH Units

All results expressed on a dry weight basis.

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ALcontrol Geochem Analytical Services
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[#] ISO 17025 accredited
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* Subcontracted test
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Job Number: 07/08569/02/01 **Matrix:** SOLID
Client: Celtic Technologies **Location:** TEN ACRES LANE
Client Ref. No.: C1077 **Client Contact:** Simon Haunch

Sample Identity	R3	R3	TP46	TP47	TP48	TP50	TP50			Method Code	LoD/Units
Depth (m)	0.4	3.5	1.5	4.8-5.0	4.0-4.3	3.5	4.3				
Sample Type	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID				
Sampled Date	24.05.07	24.05.07	24.05.07	24.05.07	24.05.07	24.05.07	24.05.07				
Sample Received Date	25.05.07	25.05.07	25.05.07	25.05.07	25.05.07	25.05.07	25.05.07				
Batch	5	5	5	5	5	5	5				
Sample Number(s)	**145-147**	**148-150**	**155-157**	**161-163**	**164-166**	**170-171**	**172-174**				
GRO (C4-C12)	-	-	<10	-	<10	-	-			TM089	<10 ug/kg
MTBE	-	-	<10	-	<10	-	-			TM089[#]	<10 ug/kg
Benzene	-	-	<10	-	<10	-	-			TM089[#M]	<10 ug/kg
Toluene	-	-	<10	-	<10	-	-			TM089[#M]	<10 ug/kg
Ethyl benzene	-	-	<10	-	<10	-	-			TM089[#M]	<10 ug/kg
m & p Xylene	-	-	<10	-	<10	-	-			TM089[#M]	<10 ug/kg
o Xylene	-	-	<10	-	<10	-	-			TM089[#M]	<10 ug/kg
Aliphatics C5-C6	-	-	<10	-	<10	-	-			TM089	<10 ug/kg
Aliphatics >C6-C8	-	-	<10	-	<10	-	-			TM089	<10 ug/kg
Aliphatics >C8-C10	-	-	<10	-	<10	-	-			TM089	<10 ug/kg
Aliphatics >C10-C12	-	-	<10	-	<10	-	-			TM089	<10 ug/kg
Aliphatics >C12-C16	-	-	34000	-	850	-	-			TM173[#]	<100 ug/kg
Aliphatics >C16-C21	-	-	59000	-	4300	-	-			TM173[#]	<100 ug/kg
Aliphatics >C21-C35	-	-	160000	-	10000	-	-			TM173[#]	<100 ug/kg
Total Aliphatics C5-C35	-	-	250000	-	15000	-	-			TM61/89	<100 ug/kg
Aromatics C6-C7	-	-	<10	-	<10	-	-			TM089	<10 ug/kg
Aromatics >C7-C8	-	-	<10	-	<10	-	-			TM089	<10 ug/kg
Aromatics >EC8-EC10	-	-	<10	-	<10	-	-			TM089	<10 ug/kg
Aromatics >EC10-EC12	-	-	<10	-	<10	-	-			TM089	<10 ug/kg
Aromatics >EC12-EC16	-	-	47000	-	400	-	-			TM173[#]	<100 ug/kg
Aromatics >EC16-EC21	-	-	260000	-	3200	-	-			TM173[#]	<100 ug/kg
Aromatics >EC21-EC35	-	-	1200000	-	31000	-	-			TM173[#]	<100 ug/kg
Total Aromatics C6-C35	-	-	1500000	-	34000	-	-			TM61/89	<100 ug/kg
TPH (Aliphatics and Aromatics C5-C35)	-	-	1700000	-	50000	-	-			TM61/89	<100 ug/kg

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[#] ISO 17025 accredited
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[*] Subcontracted test
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Job Number: 07/08569/02/01 **Matrix:** SOLID
Client: Celtic Technologies **Location:** TEN ACRES LANE
Client Ref. No.: C1077 **Client Contact:** Simon Haunch

Sample Identity	R3	R3	TP46	TP47	TP48	TP50	TP50			Method Code	LoD/Units
Depth (m)	0.4	3.5	1.5	4.8-5.0	4.0-4.3	3.5	4.3				
Sample Type	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID				
Sampled Date	24.05.07	24.05.07	24.05.07	24.05.07	24.05.07	24.05.07	24.05.07				
Sample Received Date	25.05.07	25.05.07	25.05.07	25.05.07	25.05.07	25.05.07	25.05.07				
Batch	5	5	5	5	5	5	5				
Sample Number(s)	**145-147**	**148-150**	**155-157**	**161-163**	**164-166**	**170-171**	**172-174**				
TPH C6-40	-	180	1400	<10	-	-	<10			TM154[#]	<10 mg/kg

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Job Number: 07/08569/02/01 **Matrix:** SOLID
Client: Celtic Technologies **Location:** TEN ACRES LANE
Client Ref. No.: C1077 **Client Contact:** Simon Haunch

Sample Identity	R3	R3	TP46	TP47	TP48	TP50	TP50			Method Code	LoD/Units
Depth (m)	0.4	3.5	1.5	4.8-5.0	4.0-4.3	3.5	4.3				
Sample Type	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID				
Sampled Date	24.05.07	24.05.07	24.05.07	24.05.07	24.05.07	24.05.07	24.05.07				
Sample Received Date	25.05.07	25.05.07	25.05.07	25.05.07	25.05.07	25.05.07	25.05.07				
Batch	5	5	5	5	5	5	5				
Sample Number(s)	**145-147**	**148-150**	**155-157**	**161-163**	**164-166**	**170-171**	**172-174**				
PAH by GCMS											
Naphthalene	-	-	-	660	-	880	-			TM074[#M]	<10 ug/kg
Acenaphthylene	-	-	-	100	-	31	-			TM074[#M]	<5 ug/kg
Acenaphthene	-	-	-	44	-	48	-			TM074[#M]	<14 ug/kg
Fluorene	-	-	-	100	-	74	-			TM074[#M]	<12 ug/kg
Phenanthrene	-	-	-	190	-	230	-			TM074[#M]	<21 ug/kg
Anthracene	-	-	-	36	-	38	-			TM074[#M]	<9 ug/kg
Fluoranthene	-	-	-	240	-	140	-			TM074[#M]	<25 ug/kg
Pyrene	-	-	-	210	-	140	-			TM074[#M]	<22 ug/kg
Benz(a)anthracene	-	-	-	140	-	95	-			TM074[#M]	<12 ug/kg
Chrysene	-	-	-	150	-	110	-			TM074[#M]	<10 ug/kg
Benzo(b)fluoranthene	-	-	-	140	-	1500	-			TM074[#M]	<16 ug/kg
Benzo(k)fluoranthene	-	-	-	90	-	1700	-			TM074[#M]	<25 ug/kg
Benzo(a)pyrene	-	-	-	130	-	460	-			TM074[#M]	<12 ug/kg
Indeno(123cd)pyrene	-	-	-	92	-	31	-			TM074[#M]	<11 ug/kg
Dibenzo(ah)anthracene	-	-	-	27	-	44	-			TM074[#M]	<8 ug/kg
Benzo(ghi)perylene	-	-	-	110	-	48	-			TM074[#M]	<10 ug/kg
PAH 16 Total	-	-	-	2500	-	5600	-			TM074[#M]	<25 ug/kg

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Job Number: 07/08569/02/01 **Matrix:** SOLID
Client: Celtic Technologies **Location:** TEN ACRES LANE
Client Ref. No.: C1077 **Client Contact:** Simon Haunch

Sample Identity	R3	R3	TP46	TP47	TP48	TP50	TP50			Method Code	LoD/Units
Depth (m)	0.4	3.5	1.5	4.8-5.0	4.0-4.3	3.5	4.3				
Sample Type	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID				
Sampled Date	24.05.07	24.05.07	24.05.07	24.05.07	24.05.07	24.05.07	24.05.07				
Sample Received Date	25.05.07	25.05.07	25.05.07	25.05.07	25.05.07	25.05.07	25.05.07				
Batch	5	5	5	5	5	5	5				
Sample Number(s)	**145-147**	**148-150**	**155-157**	**161-163**	**164-166**	**170-171**	**172-174**				
SVOC by GCMS											
Phenols											
2-Chlorophenol	-	-	-	<100	-	<100	-			TM157	<100 ug/kg
2-Methylphenol	-	-	-	<100	-	160	-			TM157	<100 ug/kg
2-Nitrophenol	-	-	-	<100	-	<100	-			TM157	<100 ug/kg
2,4-Dichlorophenol	-	-	-	<100	-	<100	-			TM157	<100 ug/kg
2,4-Dimethylphenol	-	-	-	<100	-	980	-			TM157	<100 ug/kg
2,4,5-Trichlorophenol	-	-	-	<100	-	<100	-			TM157	<100 ug/kg
2,4,6-Trichlorophenol	-	-	-	<100	-	<100	-			TM157	<100 ug/kg
4-Chloro-3-methylphenol	-	-	-	<100	-	<100	-			TM157	<100 ug/kg
4-Methylphenol	-	-	-	<100	-	490	-			TM157	<100 ug/kg
4-Nitrophenol	-	-	-	<100	-	<100	-			TM157	<100 ug/kg
Pentachlorophenol	-	-	-	<100	-	<100	-			TM157	<100 ug/kg
Phenol	-	-	-	<100	-	4100	-			TM157	<100 ug/kg

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Job Number: 07/08569/02/01 **Matrix:** SOLID
Client: Celtic Technologies **Location:** TEN ACRES LANE
Client Ref. No.: C1077 **Client Contact:** Simon Haunch

Sample Identity	R3	R3	TP46	TP47	TP48	TP50	TP50			Method Code	LoD/Units
Depth (m)	0.4	3.5	1.5	4.8-5.0	4.0-4.3	3.5	4.3				
Sample Type	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID				
Sampled Date	24.05.07	24.05.07	24.05.07	24.05.07	24.05.07	24.05.07	24.05.07				
Sample Received Date	25.05.07	25.05.07	25.05.07	25.05.07	25.05.07	25.05.07	25.05.07				
Batch	5	5	5	5	5	5	5				
Sample Number(s)	**145-147**	**148-150**	**155-157**	**161-163**	**164-166**	**170-171**	**172-174**				
PAHs											
2-Chloronaphthalene	-	-	-	<100	-	<100	-			TM157	<100 ug/kg
2-Methylnaphthalene	-	-	-	<100	-	460	-			TM157	<100 ug/kg
Phthalates											
Bis(2-ethylhexyl) phthalate	-	-	-	<100	-	380	-			TM157	<100 ug/kg
Butylbenzyl phthalate	-	-	-	<100	-	<100	-			TM157	<100 ug/kg
Di-n-butyl phthalate	-	-	-	<100	-	<100	-			TM157	<100 ug/kg
Di-n-Octyl phthalate	-	-	-	<100	-	610	-			TM157	<100 ug/kg
Diethyl phthalate	-	-	-	<100	-	<100	-			TM157	<100 ug/kg
Dimethyl phthalate	-	-	-	<100	-	<100	-			TM157	<100 ug/kg
Other Semi-volatiles											
1,2-Dichlorobenzene	-	-	-	<100	-	<100	-			TM157	<100 ug/kg
1,2,4-Trichlorobenzene	-	-	-	<100	-	<100	-			TM157	<100 ug/kg
1,3-Dichlorobenzene	-	-	-	<100	-	<100	-			TM157	<100 ug/kg
1,4-Dichlorobenzene	-	-	-	<100	-	<100	-			TM157	<100 ug/kg
2-Nitroaniline	-	-	-	<100	-	<100	-			TM157	<100 ug/kg
2,4-Dinitrotoluene	-	-	-	<100	-	<100	-			TM157	<100 ug/kg
2,6-Dinitrotoluene	-	-	-	<100	-	<100	-			TM157	<100 ug/kg
3-Nitroaniline	-	-	-	<100	-	<100	-			TM157	<100 ug/kg
4-Bromophenylphenylether	-	-	-	<100	-	<100	-			TM157	<100 ug/kg
4-Chloroaniline	-	-	-	<100	-	<100	-			TM157	<100 ug/kg
4-Chlorophenylphenylether	-	-	-	<100	-	<100	-			TM157	<100 ug/kg
4-Nitroaniline	-	-	-	<100	-	<100	-			TM157	<100 ug/kg
Azobenzene	-	-	-	<100	-	<100	-			TM157	<100 ug/kg
Bis(2-chloroethoxy)methane	-	-	-	<100	-	<100	-			TM157	<100 ug/kg
Bis(2-chloroethyl)ether	-	-	-	<100	-	<100	-			TM157	<100 ug/kg
Carbazole	-	-	-	<100	-	<100	-			TM157	<100 ug/kg
Dibenzofuran	-	-	-	<100	-	<100	-			TM157	<100 ug/kg
Hexachlorobenzene	-	-	-	<100	-	<100	-			TM157	<100 ug/kg

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ALcontrol Geochem Analytical Services
Table Of Results

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Job Number: 07/08569/02/01 **Matrix:** SOLID
Client: Celtic Technologies **Location:** TEN ACRES LANE
Client Ref. No.: C1077 **Client Contact:** Simon Haunch

Sample Identity	R3	R3	TP46	TP47	TP48	TP50	TP50			Method Code	LoD/Units
Depth (m)	0.4	3.5	1.5	4.8-5.0	4.0-4.3	3.5	4.3				
Sample Type	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID				
Sampled Date	24.05.07	24.05.07	24.05.07	24.05.07	24.05.07	24.05.07	24.05.07				
Sample Received Date	25.05.07	25.05.07	25.05.07	25.05.07	25.05.07	25.05.07	25.05.07				
Batch	5	5	5	5	5	5	5				
Sample Number(s)	**145-147**	**148-150**	**155-157**	**161-163**	**164-166**	**170-171**	**172-174**				
Other Semi-volatiles (cont)											
Hexachlorobutadiene	-	-	-	<100	-	<100	-			TM157	<100 ug/kg
Hexachlorocyclopentadiene	-	-	-	<100	-	<100	-			TM157	<100 ug/kg
Hexachloroethane	-	-	-	<100	-	<100	-			TM157	<100 ug/kg
Isophorone	-	-	-	<100	-	<100	-			TM157	<100 ug/kg
N-nitrosodi-n-propylamine	-	-	-	<100	-	<100	-			TM157	<100 ug/kg
Nitrobenzene	-	-	-	<100	-	<100	-			TM157	<100 ug/kg

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ALcontrol Geochem Analytical Services
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Job Number: 07/08569/02/01 **Matrix:** SOLID
Client: Celtic Technologies **Location:** TEN ACRES LANE
Client Ref. No.: C1077 **Client Contact:** Simon Haunch

Sample Identity	R3	R3	TP46	TP47	TP48	TP50	TP50			Method Code	LoD/Units
Depth (m)	0.4	3.5	1.5	4.8-5.0	4.0-4.3	3.5	4.3				
Sample Type	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID				
Sampled Date	24.05.07	24.05.07	24.05.07	24.05.07	24.05.07	24.05.07	24.05.07				
Sample Received Date	25.05.07	25.05.07	25.05.07	25.05.07	25.05.07	25.05.07	25.05.07				
Batch	5	5	5	5	5	5	5				
Sample Number(s)	**145-147**	**148-150**	**155-157**	**161-163**	**164-166**	**170-171**	**172-174**				
Volatile Organic Compounds											
Dichlorodifluoromethane	-	-	-	<4	-	<4	-			TM116[#]	<4 ug/kg
Chloromethane	-	-	-	<7	-	<7	-			TM116[#]	<7 ug/kg
Vinyl Chloride	-	-	-	<10	-	<10	-			TM116[#M]	<10 ug/kg
Bromomethane	-	-	-	<13	-	<13	-			TM116[#]	<13 ug/kg
Chloroethane	-	-	-	<14	-	<14	-			TM116[#]	<14 ug/kg
Trichlorofluoromethane	-	-	-	<6	-	<6	-			TM116[#M]	<6 ug/kg
trans-1-2-Dichloroethene	-	-	-	<11	-	<11	-			TM116[#]	<11 ug/kg
Dichloromethane	-	-	-	<10	-	<10	-			TM116[#]	<10 ug/kg
Carbon Disulphide	-	-	-	<7	-	<7	-			TM116[#M]	<7 ug/kg
1.1-Dichloroethene	-	-	-	<10	-	<10	-			TM116[#M]	<10 ug/kg
1.1-Dichloroethane	-	-	-	<8	-	<8	-			TM116[#M]	<8 ug/kg
Methyl Tertiary Butyl Ether	-	-	-	<11	-	<11	-			TM116[#M]	<11 ug/kg
cis-1-2-Dichloroethene	-	-	-	<5	-	<5	-			TM116[#M]	<5 ug/kg
Bromochloromethane	-	-	-	<14	-	<14	-			TM116[#]	<14 ug/kg
Chloroform	-	-	-	<8	-	<8	-			TM116[#M]	<8 ug/kg
2.2-Dichloropropane	-	-	-	<12	-	<12	-			TM116[#]	<12 ug/kg
1.2-Dichloroethane	-	-	-	<5	-	<5	-			TM116[#]	<5 ug/kg
1.1.1-Trichloroethane	-	-	-	<7	-	<7	-			TM116[#M]	<7 ug/kg
1.1-Dichloropropene	-	-	-	<11	-	<11	-			TM116[#M]	<11 ug/kg
Benzene	-	-	-	<9	-	<9	-			TM116[#M]	<9 ug/kg
Carbontetrachloride	-	-	-	<14	-	<14	-			TM116[#M]	<14 ug/kg
Dibromomethane	-	-	-	<9	-	<9	-			TM116[#]	<9 ug/kg
1.2-Dichloropropane	-	-	-	<12	-	<12	-			TM116[#M]	<12 ug/kg
Bromodichloromethane	-	-	-	<7	-	<7	-			TM116[#M]	<7 ug/kg
Trichloroethene	-	-	-	<9	-	<9	-			TM116[#M]	<9 ug/kg
cis-1-3-Dichloropropene	-	-	-	<14	-	<14	-			TM116[#M]	<14 ug/kg
trans-1-3-Dichloropropene	-	-	-	<14	-	<14	-			TM116[#M]	<14 ug/kg
1.1.2-Trichloroethane	-	-	-	<10	-	<10	-			TM116[#]	<10 ug/kg
Toluene	-	-	-	<5	-	<5	-			TM116[#M]	<5 ug/kg
1.3-Dichloropropane	-	-	-	<7	-	<7	-			TM116[#]	<7 ug/kg

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ALcontrol Geochem Analytical Services
Table Of Results

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Job Number: 07/08569/02/01 **Matrix:** SOLID
Client: Celtic Technologies **Location:** TEN ACRES LANE
Client Ref. No.: C1077 **Client Contact:** Simon Haunch

Sample Identity	R3	R3	TP46	TP47	TP48	TP50	TP50			Method Code	LoD/Units
Depth (m)	0.4	3.5	1.5	4.8-5.0	4.0-4.3	3.5	4.3				
Sample Type	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID				
Sampled Date	24.05.07	24.05.07	24.05.07	24.05.07	24.05.07	24.05.07	24.05.07				
Sample Received Date	25.05.07	25.05.07	25.05.07	25.05.07	25.05.07	25.05.07	25.05.07				
Batch	5	5	5	5	5	5	5				
Sample Number(s)	**145-147**	**148-150**	**155-157**	**161-163**	**164-166**	**170-171**	**172-174**				
Volatile Organic Compounds (cont)											
Dibromochloromethane	-	-	-	<13	-	<13	-			TM116#	<13 ug/kg
1.2-Dibromoethane	-	-	-	<12	-	<12	-			TM116#	<12 ug/kg
Tetrachloroethene	-	-	-	<5	-	<5	-			TM116#	<5 ug/kg
1.1.1.2-Tetrachloroethane	-	-	-	<10	-	<10	-			TM116#M	<10 ug/kg
Chlorobenzene	-	-	-	<5	-	<5	-			TM116#M	<5 ug/kg
Ethylbenzene	-	-	-	<4	-	<4	-			TM116#	<4 ug/kg
p/m-Xylene	-	-	-	<14	-	<14	-			TM116#	<14 ug/kg
Bromoform	-	-	-	<10	-	<10	-			TM116#	<10 ug/kg
Styrene	-	-	-	<10	-	<10	-			TM116#	<10 ug/kg
1.1.2.2-Tetrachloroethane	-	-	-	<10	-	<10	-			TM116#	<10 ug/kg
o-Xylene	-	-	-	<10	-	<10	-			TM116#	<10 ug/kg
1.2.3-Trichloropropane	-	-	-	<17	-	<17	-			TM116#	<17 ug/kg
Isopropylbenzene	-	-	-	<5	-	<5	-			TM116#	<5 ug/kg
Bromobenzene	-	-	-	<10	-	<10	-			TM116#M	<10 ug/kg
2-Chlorotoluene	-	-	-	<9	-	<9	-			TM116#	<9 ug/kg
Propylbenzene	-	-	-	<11	-	<11	-			TM116#	<11 ug/kg
4-Chlorotoluene	-	-	-	<12	-	<12	-			TM116#	<12 ug/kg
1.2.4-Trimethylbenzene	-	-	-	<9	-	<9	-			TM116#	<9 ug/kg
4-Isopropyltoluene	-	-	-	<11	-	<11	-			TM116#	<11 ug/kg
1.3.5-Trimethylbenzene	-	-	-	<8	-	<8	-			TM116#	<8 ug/kg
1.2-Dichlorobenzene	-	-	-	<12	-	<12	-			TM116#M	<12 ug/kg
1.4-Dichlorobenzene	-	-	-	<5	-	<5	-			TM116#M	<5 ug/kg
sec-Butylbenzene	-	-	-	<10	-	<10	-			TM116#	<10 ug/kg
tert-Butylbenzene	-	-	-	<12	-	<12	-			TM116#	<12 ug/kg
1.3-Dichlorobenzene	-	-	-	<6	-	<6	-			TM116#	<6 ug/kg
n-Butylbenzene	-	-	-	<10	-	<10	-			TM116#	<10 ug/kg
1.2-Dibromo-3-chloropropane	-	-	-	<14	-	<14	-			TM116#	<14 ug/kg
1.2.4-Trichlorobenzene	-	-	-	<6	-	<6	-			TM116#	<6 ug/kg
Naphthalene	-	-	-	<13	-	<13	-			TM116#	<13 ug/kg
1.2.3-Trichlorobenzene	-	-	-	<11	-	<11	-			TM116#	<11 ug/kg

All results expressed on a dry weight basis.

Date 29.06.2007

Validated ✓
Preliminary

ALcontrol Geochem Analytical Services
Table Of Results

[#] ISO 17025 accredited
[M] MCERTS accredited
[*] Subcontracted test
» Shown on prev. report

Job Number: 07/08569/02/01 **Matrix:** SOLID
Client: Celtic Technologies **Location:** TEN ACRES LANE
Client Ref. No.: C1077 **Client Contact:** Simon Haunch

Sample Identity	R3	R3	TP46	TP47	TP48	TP50	TP50			Method Code	LoD/Units
Depth (m)	0.4	3.5	1.5	4.8-5.0	4.0-4.3	3.5	4.3				
Sample Type	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID				
Sampled Date	24.05.07	24.05.07	24.05.07	24.05.07	24.05.07	24.05.07	24.05.07				
Sample Received Date	25.05.07	25.05.07	25.05.07	25.05.07	25.05.07	25.05.07	25.05.07				
Batch	5	5	5	5	5	5	5				
Sample Number(s)	**145-147**	**148-150**	**155-157**	**161-163**	**164-166**	**170-171**	**172-174**				
Volatile Organic Compounds (cont)											
Hexachlorobutadiene	-	-	-	<12	-	<12	-			TM116[#]	<12 ug/kg

All results expressed on a dry weight basis.

Date 29.06.2007

ALcontrol Geochem Analytical Services
Table Of Results - Appendix

Job Number: 07/08569/02/01
Client: Celtic Technologies
Client Ref. No.: C1077

Report Key :

Results expressed as (e.g.) 1.03E-07 is equivalent to 1.03×10^{-7}

NDP	No Determination Possible	*	Subcontracted test
NFD	No Fibres Detected	»	Result previously reported (Incremental reports only)
#	ISO 17025 accredited	M	MCERTS Accredited
PFD	Possible Fibres Detected	EC	Equivalent Carbon (Aromatics C8-C35)

Note: Method detection limits are not always achievable due to various circumstances beyond our control.

Summary of Method Codes contained within report :

Method No.	Reference	Description	ISO 17025 Accredited	MCERTS Accredited	Wet/Dry Sample [1]	Surrogate Corrected
TM001	In - house Method	Screening of Soils for Fibres			WET	
TM062	MEWAM BOOK 124 1988.HMSO/ Method 17.7, Second Site property, March 2003	Determination of Phenolic compounds by HPLC with electro-chemical detection	✓	✓	WET	
TM074	Modified: US EPA Method 8100	Determination of Polynuclear Aromatic Hydrocarbons (PAH) by GC-MS. MCERTS Accreditation on Soils for Naphthalene except when Kerosene present.	✓		DRY	
TM074	Modified: US EPA Method 8100	Determination of Polynuclear Aromatic Hydrocarbons (PAH) by GC-MS. MCERTS Accreditation on Soils for Naphthalene except when Kerosene present.	✓	✓	DRY	
TM089	Modified: US EPA Methods 8020 & 602	Determination of Gasoline Range Hydrocarbons (GRO) and BTEX (MTBE) compounds by Headspace GC-FID (C4-C12)			WET	
TM089	Modified: US EPA Methods 8020 & 602	Determination of Gasoline Range Hydrocarbons (GRO) and BTEX (MTBE) compounds by Headspace GC-FID (C4-C12)	✓		WET	
TM089	Modified: US EPA Methods 8020 & 602	Determination of Gasoline Range Hydrocarbons (GRO) and BTEX (MTBE) compounds by Headspace GC-FID (C4-C12)	✓	✓	WET	
TM097	Modified: US EPA Method 325.1 & 325.2	Determination of Chloride using the Kone Analyser	✓	✓	DRY	
TM098	Method 4500E, AWWA/APHA, 20th Ed., 1999	Determination of Sulphate using the Kone Analyser	✓	✓	DRY	
TM101	Method 4500B & C, AWWA/APHA, 20th Ed., 1999	Determination of Sulphide in soil and water samples using the Kone Analyser			WET	
TM102	Method 4500H, AWWA/APHA, 20th Ed., 1999	Determination of Total Oxidised Nitrogen using the Kone Analyser	✓		DRY	
TM116	Modified: US EPA Method 8260, 8120, 8020, 624, 610 & 602	Determination of Volatile Organic Compounds by Headspace / GC-MS			WET	
TM116	Modified: US EPA Method 8260, 8120, 8020, 624, 610 & 602	Determination of Volatile Organic Compounds by Headspace / GC-MS	✓		WET	
TM116	Modified: US EPA Method 8260, 8120, 8020, 624, 610 & 602	Determination of Volatile Organic Compounds by Headspace / GC-MS	✓	✓	WET	

[1] Applies to Solid samples only. **DRY** indicates samples have been dried at 35°C. **NA** = not applicable.

ALcontrol Geochem Analytical Services
Table Of Results - Appendix

Job Number: 07/08569/02/01
Client: Celtic Technologies
Client Ref. No.: C1077

Report Key :

Results expressed as (e.g.) 1.03E-07 is equivalent to 1.03×10^{-7}

NDP	No Determination Possible	*	Subcontracted test
NFD	No Fibres Detected	»	Result previously reported (Incremental reports only)
#	ISO 17025 accredited	M	MCERTS Accredited
PFD	Possible Fibres Detected	EC	Equivalent Carbon (Aromatics C8-C35)

Note: Method detection limits are not always achievable due to various circumstances beyond our control.

Summary of Method Codes contained within report :

Method No.	Reference	Description	ISO 17025 Accredited	MCERTS Accredited	Wet/Dry Sample [1]	Surrogate Corrected
TM129	Method 3120B, AWWA/APHA, 20th Ed., 1999 / Modified: US EPA Method 3050B	Determination of Metal Cations by IRIS Emission Spectrometer			DRY	
TM129	Method 3120B, AWWA/APHA, 20th Ed., 1999 / Modified: US EPA Method 3050B	Determination of Metal Cations by IRIS Emission Spectrometer	✓		DRY	
TM129	Method 3120B, AWWA/APHA, 20th Ed., 1999 / Modified: US EPA Method 3050B	Determination of Metal Cations by IRIS Emission Spectrometer	✓	✓	DRY	
TM133	BS 1377: Part 3 1990	Determination of pH in Soil and Water using the GLpH pH Meter	✓	✓	WET	
TM143	Modified: US EPA Method 8270C	Determination of Semivolatile Organic Compounds by GC-MS			WET	
TM154	In - house Method	Determination of Petroleum Hydrocarbons by EZ Flash GC-FID in the Carbon range C6- C40	✓		WET	
TM157		Determination of SVOC in Soils by GC-MS extracted by sonication in DCM/Acetone			WET	
TM173		Determination of Speciated Extractable Petroleum Hydrocarbons in Soils by GC-FID	✓		DRY	
TM61/89		see TM061 and TM089 for details			WET	

[1] Applies to Solid samples only. **DRY** indicates samples have been dried at 35°C. **NA** = not applicable.

ALcontrol Geochem Analytical Services
Table Of Results - Appendix

Job Number: 07/08569/02/01
Client: Celtic Technologies
Client Ref. No.: C1077

Summary of Coolbox temperatures

Batch No.	Coolbox Temperature (°C)
5	11

ALcontrol Geochem Analytical Services
Sample Descriptions

Job Number: 07/08569/02/01
Client: Celtic Technologies
Client Ref : C1077

Grain sizes

<0.063mm	Very Fine
0.1mm - 0.063mm	Fine
0.1mm - 2mm	Medium
2mm - 10mm	Coarse
>10mm	Very Coarse

Sample Identity	Depth (m)	Colour	Grain Size	Description	Batch
BH5	7.50	Light Brown	0.1mm - 0.063mm	Sand with some Stones	6
R5	5.00	Brown	<0.063mm	Clay	6
TP53	2.00	Light Brown	0.1mm - 0.063mm	Sand with some Stones	6

* These descriptions are only intended to act as a cross check if sample identities are questioned, and to provide a log of sample matrices with respect to MCERTS validation. They are not intended as full geological descriptions.

We are accredited to MCERTS for sand, clay and loam/topsoil, or any of these materials-whether these are derived from naturally occurring soil profiles, or from fill/made ground, as long as these materials constitute the major part of the sample.
Other coarse granular materials such as concrete, gravel and brick are not accredited if they comprise the major part of the sample.
[1] Sample Description supplied by client

Validated ☑
Preliminary ☐

ALcontrol Geochem Analytical Services
Table Of Results

[#] ISO 17025 accredited
[M] MCERTS accredited
* Subcontracted test
» Shown on prev. report

Job Number: 07/08569/02/01 **Matrix:** SOLID
Client: Celtic Technologies **Location:** TEN ACRES LANE
Client Ref. No.: C1077 **Client Contact:** Simon Haunch

Sample Identity	BH5	BH5	R5	TP53						Method Code	LoD/Units
Depth (m)	3.50	7.50	5.00	2.00							
Sample Type	SOLID	SOLID	SOLID	SOLID							
Sampled Date	29.05.07	29.05.07	25.05.07	25.05.07							
Sample Received Date	31.05.07	31.05.07	31.05.07	31.05.07							
Batch	6	6	6	6							
Sample Number(s)	**181-183**	**184-186**	**190-192**	**196-198**							
Total Sulphate	-	-	-	<100						TM129[#M]	<100 mg/kg
Boron Water Soluble	-	-	-	<3.5						TM129[#M]	<3.5 mg/kg
Arsenic	-	-	-	<3						TM129[#M]	<3.0 mg/kg
Cadmium	-	-	-	<0.3						TM129	<0.3 mg/kg
Chromium	-	-	-	6.3						TM129[#M]	<4.5 mg/kg
Copper	-	-	-	14						TM129[#]	<6 mg/kg
Lead	-	-	-	5						TM129[#M]	<2 mg/kg
Mercury	-	-	-	<0.6						TM129[#M]	<0.6 mg/kg
Nickel	-	-	-	6.0						TM129[#M]	<0.9 mg/kg
Selenium	-	-	-	<3						TM129[#M]	<3 mg/kg
Zinc	-	-	-	27						TM129[#M]	<2.5 mg/kg
Water Soluble Sulphate as SO4 2:1 Extract	-	-	-	0.006						TM098[#M]	<0.003 g/l
Acid Soluble Sulphide	-	-	-	<50						TM101	<50 mg/kg
Chloride (soluble)	-	-	-	2						TM097[#M]	<2 mg/kg
Phenols Monohydric	-	<0.15	-	-						TM062[#M]	<0.15 mg/kg
Asbestos Presence Screen	No Fibres Detected	-	-	-						TM001	NONE
pH Value	-	8.46	-	6.42						TM133[#M]	<1.00 pH Units
TPH C6-40	-	150	<10	<10						TM154[#]	<10 mg/kg

All results expressed on a dry weight basis.

Date 03.07.2007

Validated ✓
Preliminary

ALcontrol Geochem Analytical Services
Table Of Results

[#] ISO 17025 accredited
[M] MCERTS accredited
* Subcontracted test
» Shown on prev. report

Job Number: 07/08569/02/01 **Matrix:** SOLID
Client: Celtic Technologies **Location:** TEN ACRES LANE
Client Ref. No.: C1077 **Client Contact:** Simon Haunch

Sample Identity	BH5	BH5	R5	TP53						Method Code	LoD/Units
Depth (m)	3.50	7.50	5.00	2.00							
Sample Type	SOLID	SOLID	SOLID	SOLID							
Sampled Date	29.05.07	29.05.07	25.05.07	25.05.07							
Sample Received Date	31.05.07	31.05.07	31.05.07	31.05.07							
Batch	6	6	6	6							
Sample Number(s)	**181-183**	**184-186**	**190-192**	**196-198**							
PAH by GCMS											
Naphthalene	-	210	-	-						TM074[#M]	<10 ug/kg
Acenaphthylene	-	7	-	-						TM074[#M]	<5 ug/kg
Acenaphthene	-	<14	-	-						TM074[#M]	<14 ug/kg
Fluorene	-	16	-	-						TM074[#M]	<12 ug/kg
Phenanthrene	-	56	-	-						TM074[#M]	<21 ug/kg
Anthracene	-	9	-	-						TM074[#M]	<9 ug/kg
Fluoranthene	-	<25	-	-						TM074[#M]	<25 ug/kg
Pyrene	-	<22	-	-						TM074[#M]	<22 ug/kg
Benz(a)anthracene	-	28	-	-						TM074[#M]	<12 ug/kg
Chrysene	-	10	-	-						TM074[#M]	<10 ug/kg
Benzo(b)fluoranthene	-	<16	-	-						TM074[#M]	<16 ug/kg
Benzo(k)fluoranthene	-	<25	-	-						TM074[#M]	<25 ug/kg
Benzo(a)pyrene	-	<12	-	-						TM074[#M]	<12 ug/kg
Indeno(123cd)pyrene	-	<11	-	-						TM074[#M]	<11 ug/kg
Dibenzo(ah)anthracene	-	<8	-	-						TM074[#M]	<8 ug/kg
Benzo(ghi)perylene	-	<10	-	-						TM074[#M]	<10 ug/kg
PAH 16 Total	-	340	-	-						TM074[#M]	<25 ug/kg

All results expressed on a dry weight basis.

Date 03.07.2007

Validated ✓
Preliminary

ALcontrol Geochem Analytical Services
Table Of Results

[#] ISO 17025 accredited
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[*] Subcontracted test
» Shown on prev. report

Job Number: 07/08569/02/01 **Matrix:** SOLID
Client: Celtic Technologies **Location:** TEN ACRES LANE
Client Ref. No.: C1077 **Client Contact:** Simon Haunch

Sample Identity	BH5	BH5	R5	TP53						Method Code	LoD/Units
Depth (m)	3.50	7.50	5.00	2.00							
Sample Type	SOLID	SOLID	SOLID	SOLID							
Sampled Date	29.05.07	29.05.07	25.05.07	25.05.07							
Sample Received Date	31.05.07	31.05.07	31.05.07	31.05.07							
Batch	6	6	6	6							
Sample Number(s)	**181-183**	**184-186**	**190-192**	**196-198**							
SVOC by GCMS											
Phenols											
2-Chlorophenol	-	<100	<100	-						TM157	<100 ug/kg
2-Methylphenol	-	<100	<100	-						TM157	<100 ug/kg
2-Nitrophenol	-	<100	<100	-						TM157	<100 ug/kg
2,4-Dichlorophenol	-	<100	<100	-						TM157	<100 ug/kg
2,4-Dimethylphenol	-	<100	<100	-						TM157	<100 ug/kg
2,4,5-Trichlorophenol	-	<100	<100	-						TM157	<100 ug/kg
2,4,6-Trichlorophenol	-	<100	<100	-						TM157	<100 ug/kg
4-Chloro-3-methylphenol	-	<100	<100	-						TM157	<100 ug/kg
4-Methylphenol	-	<100	<100	-						TM157	<100 ug/kg
4-Nitrophenol	-	<100	<100	-						TM157	<100 ug/kg
Pentachlorophenol	-	<100	<100	-						TM157	<100 ug/kg
Phenol	-	<100	<100	-						TM157	<100 ug/kg

All results expressed on a dry weight basis.

Date 03.07.2007

Validated ✓
Preliminary

ALcontrol Geochem Analytical Services
Table Of Results

ISO 17025 accredited
M MCERTS accredited
* Subcontracted test
» Shown on prev. report

Job Number: 07/08569/02/01 **Matrix:** SOLID
Client: Celtic Technologies **Location:** TEN ACRES LANE
Client Ref. No.: C1077 **Client Contact:** Simon Haunch

Sample Identity	BH5	BH5	R5	TP53						Method Code	LoD/Units
Depth (m)	3.50	7.50	5.00	2.00							
Sample Type	SOLID	SOLID	SOLID	SOLID							
Sampled Date	29.05.07	29.05.07	25.05.07	25.05.07							
Sample Received Date	31.05.07	31.05.07	31.05.07	31.05.07							
Batch	6	6	6	6							
Sample Number(s)	**181-183**	**184-186**	**190-192**	**196-198**							
PAHs											
2-Chloronaphthalene	-	<100	<100	-						TM157	<100 ug/kg
2-Methylnaphthalene	-	<100	<100	-						TM157	<100 ug/kg
Phthalates											
Bis(2-ethylhexyl) phthalate	-	<100	<100	-						TM157	<100 ug/kg
Butylbenzyl phthalate	-	<100	<100	-						TM157	<100 ug/kg
Di-n-butyl phthalate	-	<100	<100	-						TM157	<100 ug/kg
Di-n-Octyl phthalate	-	<100	<100	-						TM157	<100 ug/kg
Diethyl phthalate	-	<100	<100	-						TM157	<100 ug/kg
Dimethyl phthalate	-	<100	<100	-						TM157	<100 ug/kg
Other Semi-volatiles											
1,2-Dichlorobenzene	-	<100	<100	-						TM157	<100 ug/kg
1,2,4-Trichlorobenzene	-	<100	<100	-						TM157	<100 ug/kg
1,3-Dichlorobenzene	-	<100	<100	-						TM157	<100 ug/kg
1,4-Dichlorobenzene	-	<100	<100	-						TM157	<100 ug/kg
2-Nitroaniline	-	<100	<100	-						TM157	<100 ug/kg
2,4-Dinitrotoluene	-	<100	<100	-						TM157	<100 ug/kg
2,6-Dinitrotoluene	-	<100	<100	-						TM157	<100 ug/kg
3-Nitroaniline	-	<100	<100	-						TM157	<100 ug/kg
4-Bromophenylphenylether	-	<100	<100	-						TM157	<100 ug/kg
4-Chloroaniline	-	<100	<100	-						TM157	<100 ug/kg
4-Chlorophenylphenylether	-	<100	<100	-						TM157	<100 ug/kg
4-Nitroaniline	-	<100	<100	-						TM157	<100 ug/kg
Azobenzene	-	<100	<100	-						TM157	<100 ug/kg
Bis(2-chloroethoxy)methane	-	<100	<100	-						TM157	<100 ug/kg
Bis(2-chloroethyl)ether	-	<100	<100	-						TM157	<100 ug/kg
Carbazole	-	<100	<100	-						TM157	<100 ug/kg
Dibenzofuran	-	<100	<100	-						TM157	<100 ug/kg
Hexachlorobenzene	-	<100	<100	-						TM157	<100 ug/kg

All results expressed on a dry weight basis.

Date 03.07.2007

Validated ✓
Preliminary

ALcontrol Geochem Analytical Services
Table Of Results

[#] ISO 17025 accredited
[M] MCERTS accredited
[*] Subcontracted test
[»] Shown on prev. report

Job Number: 07/08569/02/01 **Matrix:** SOLID
Client: Celtic Technologies **Location:** TEN ACRES LANE
Client Ref. No.: C1077 **Client Contact:** Simon Haunch

Sample Identity	BH5	BH5	R5	TP53						Method Code	LoD/Units
Depth (m)	3.50	7.50	5.00	2.00							
Sample Type	SOLID	SOLID	SOLID	SOLID							
Sampled Date	29.05.07	29.05.07	25.05.07	25.05.07							
Sample Received Date	31.05.07	31.05.07	31.05.07	31.05.07							
Batch	6	6	6	6							
Sample Number(s)	**181-183**	**184-186**	**190-192**	**196-198**							
Other Semi-volatiles (cont)											
Hexachlorobutadiene	-	<100	<100	-						TM157	<100 ug/kg
Hexachlorocyclopentadiene	-	<100	<100	-						TM157	<100 ug/kg
Hexachloroethane	-	<100	<100	-						TM157	<100 ug/kg
Isophorone	-	<100	<100	-						TM157	<100 ug/kg
N-nitrosodi-n-propylamine	-	<100	<100	-						TM157	<100 ug/kg
Nitrobenzene	-	<100	<100	-						TM157	<100 ug/kg

All results expressed on a dry weight basis.

Date 03.07.2007

Validated ☑
Preliminary ☐

ALcontrol Geochem Analytical Services
Table Of Results

[#] ISO 17025 accredited
[M] MCERTS accredited
[*] Subcontracted test
» Shown on prev. report

Job Number: 07/08569/02/01 **Matrix:** SOLID
Client: Celtic Technologies **Location:** TEN ACRES LANE
Client Ref. No.: C1077 **Client Contact:** Simon Haunch

Sample Identity	BH5	BH5	R5	TP53						Method Code	LoD/Units
Depth (m)	3.50	7.50	5.00	2.00							
Sample Type	SOLID	SOLID	SOLID	SOLID							
Sampled Date	29.05.07	29.05.07	25.05.07	25.05.07							
Sample Received Date	31.05.07	31.05.07	31.05.07	31.05.07							
Batch	6	6	6	6							
Sample Number(s)	**181-183**	**184-186**	**190-192**	**196-198**							
Volatile Organic Compounds											
Dichlorodifluoromethane	-	<4	<4	-						TM116[#]	<4 ug/kg
Chloromethane	-	<7	<7	-						TM116[#]	<7 ug/kg
Vinyl Chloride	-	<10	<10	-						TM116[#M]	<10 ug/kg
Bromomethane	-	<13	<13	-						TM116[#]	<13 ug/kg
Chloroethane	-	<14	<14	-						TM116[#]	<14 ug/kg
Trichlorofluoromethane	-	<6	<6	-						TM116[#M]	<6 ug/kg
trans-1-2-Dichloroethene	-	<11	<11	-						TM116[#]	<11 ug/kg
Dichloromethane	-	<10	<10	-						TM116[#]	<10 ug/kg
Carbon Disulphide	-	<7	<7	-						TM116[#M]	<7 ug/kg
1.1-Dichloroethene	-	<10	<10	-						TM116[#M]	<10 ug/kg
1.1-Dichloroethane	-	<8	<8	-						TM116[#M]	<8 ug/kg
Methyl Tertiary Butyl Ether	-	<11	<11	-						TM116[#M]	<11 ug/kg
cis-1-2-Dichloroethene	-	<5	<5	-						TM116[#M]	<5 ug/kg
Bromochloromethane	-	<14	<14	-						TM116[#]	<14 ug/kg
Chloroform	-	<8	<8	-						TM116[#M]	<8 ug/kg
2.2-Dichloropropane	-	<12	<12	-						TM116[#]	<12 ug/kg
1.2-Dichloroethane	-	<5	<5	-						TM116[#]	<5 ug/kg
1.1.1-Trichloroethane	-	<7	<7	-						TM116[#M]	<7 ug/kg
1.1-Dichloropropene	-	<11	<11	-						TM116[#M]	<11 ug/kg
Benzene	-	<9	20	-						TM116[#M]	<9 ug/kg
Carbontetrachloride	-	<14	<14	-						TM116[#M]	<14 ug/kg
Dibromomethane	-	<9	<9	-						TM116[#]	<9 ug/kg
1.2-Dichloropropane	-	<12	<12	-						TM116[#M]	<12 ug/kg
Bromodichloromethane	-	<7	<7	-						TM116[#M]	<7 ug/kg
Trichloroethene	-	<9	<9	-						TM116[#M]	<9 ug/kg
cis-1-3-Dichloropropene	-	<14	<14	-						TM116[#M]	<14 ug/kg
trans-1-3-Dichloropropene	-	<14	<14	-						TM116[#M]	<14 ug/kg
1.1.2-Trichloroethane	-	<10	<10	-						TM116[#]	<10 ug/kg
Toluene	-	7	37	-						TM116[#M]	<5 ug/kg
1.3-Dichloropropane	-	<7	<7	-						TM116[#]	<7 ug/kg

All results expressed on a dry weight basis.

Date 03.07.2007

Validated ✓
Preliminary

ALcontrol Geochem Analytical Services
Table Of Results

ISO 17025 accredited
M MCERTS accredited
* Subcontracted test
» Shown on prev. report

Job Number: 07/08569/02/01 **Matrix:** SOLID
Client: Celtic Technologies **Location:** TEN ACRES LANE
Client Ref. No.: C1077 **Client Contact:** Simon Haunch

Sample Identity	BH5	BH5	R5	TP53						Method Code	LoD/Units
Depth (m)	3.50	7.50	5.00	2.00							
Sample Type	SOLID	SOLID	SOLID	SOLID							
Sampled Date	29.05.07	29.05.07	25.05.07	25.05.07							
Sample Received Date	31.05.07	31.05.07	31.05.07	31.05.07							
Batch	6	6	6	6							
Sample Number(s)	181-183	184-186	190-192	196-198							
Volatile Organic Compounds (cont)											
Dibromochloromethane	-	<13	<13	-						TM116#	<13 ug/kg
1.2-Dibromoethane	-	<12	<12	-						TM116#	<12 ug/kg
Tetrachloroethene	-	<5	<5	-						TM116#	<5 ug/kg
1.1.1.2-Tetrachloroethane	-	<10	<10	-						TM116#M	<10 ug/kg
Chlorobenzene	-	<5	<5	-						TM116#M	<5 ug/kg
Ethylbenzene	-	<4	<4	-						TM116#	<4 ug/kg
p/m-Xylene	-	<14	43	-						TM116#	<14 ug/kg
Bromoform	-	<10	<10	-						TM116#	<10 ug/kg
Styrene	-	<10	<10	-						TM116#	<10 ug/kg
1.1.2.2-Tetrachloroethane	-	<10	<10	-						TM116#	<10 ug/kg
o-Xylene	-	<10	<10	-						TM116#	<10 ug/kg
1.2.3-Trichloropropane	-	<17	<17	-						TM116#	<17 ug/kg
Isopropylbenzene	-	<5	<5	-						TM116#	<5 ug/kg
Bromobenzene	-	<10	<10	-						TM116#M	<10 ug/kg
2-Chlorotoluene	-	<9	<9	-						TM116#	<9 ug/kg
Propylbenzene	-	<11	<11	-						TM116#	<11 ug/kg
4-Chlorotoluene	-	<12	<12	-						TM116#	<12 ug/kg
1.2.4-Trimethylbenzene	-	<9	<9	-						TM116#	<9 ug/kg
4-Isopropyltoluene	-	<11	<11	-						TM116#	<11 ug/kg
1.3.5-Trimethylbenzene	-	<8	<8	-						TM116#	<8 ug/kg
1.2-Dichlorobenzene	-	<12	<12	-						TM116#M	<12 ug/kg
1.4-Dichlorobenzene	-	<5	<5	-						TM116#M	<5 ug/kg
sec-Butylbenzene	-	<10	<10	-						TM116#	<10 ug/kg
tert-Butylbenzene	-	<12	<12	-						TM116#	<12 ug/kg
1.3-Dichlorobenzene	-	<6	<6	-						TM116#	<6 ug/kg
n-Butylbenzene	-	<10	<10	-						TM116#	<10 ug/kg
1.2-Dibromo-3-chloropropane	-	<14	<14	-						TM116#	<14 ug/kg
1.2.4-Trichlorobenzene	-	<6	<6	-						TM116#	<6 ug/kg
Naphthalene	-	<13	<13	-						TM116#	<13 ug/kg
1.2.3-Trichlorobenzene	-	<11	<11	-						TM116#	<11 ug/kg

All results expressed on a dry weight basis.

Date 03.07.2007

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ALcontrol Geochem Analytical Services
Table Of Results

[#] ISO 17025 accredited
[M] MCERTS accredited
[*] Subcontracted test
» Shown on prev. report

Job Number: 07/08569/02/01 **Matrix:** SOLID
Client: Celtic Technologies **Location:** TEN ACRES LANE
Client Ref. No.: C1077 **Client Contact:** Simon Haunch

Sample Identity	BH5	BH5	R5	TP53						Method Code	LoD/Units
Depth (m)	3.50	7.50	5.00	2.00							
Sample Type	SOLID	SOLID	SOLID	SOLID							
Sampled Date	29.05.07	29.05.07	25.05.07	25.05.07							
Sample Received Date	31.05.07	31.05.07	31.05.07	31.05.07							
Batch	6	6	6	6							
Sample Number(s)	**181-183**	**184-186**	**190-192**	**196-198**							
Volatile Organic Compounds (cont)											
Hexachlorobutadiene	-	<12	<12	-						TM116[#]	<12 ug/kg

All results expressed on a dry weight basis.

Date 03.07.2007

ALcontrol Geochem Analytical Services
Table Of Results - Appendix

Job Number: 07/08569/02/01
Client: Celtic Technologies
Client Ref. No.: C1077

Report Key :

Results expressed as (e.g.) 1.03E-07 is equivalent to 1.03×10^{-7}

NDP	No Determination Possible	*	Subcontracted test
NFD	No Fibres Detected	»	Result previously reported (Incremental reports only)
#	ISO 17025 accredited	M	MCERTS Accredited
PFD	Possible Fibres Detected	EC	Equivalent Carbon (Aromatics C8-C35)

Note: Method detection limits are not always achievable due to various circumstances beyond our control.

Summary of Method Codes contained within report :

Method No.	Reference	Description	ISO 17025 Accredited	MCERTS Accredited	Wet/Dry Sample [1]	Surrogate Corrected
TM001	In - house Method	Screening of Soils for Fibres			WET	
TM062	MEWAM BOOK 124 1988.HMSO/ Method 17.7, Second Site property, March 2003	Determination of Phenolic compounds by HPLC with electro-chemical detection	✓	✓	WET	
TM074	Modified: US EPA Method 8100	Determination of Polynuclear Aromatic Hydrocarbons (PAH) by GC-MS. MCERTS Accreditation on Soils for Naphthalene except when Kerosene present.	✓		DRY	
TM074	Modified: US EPA Method 8100	Determination of Polynuclear Aromatic Hydrocarbons (PAH) by GC-MS. MCERTS Accreditation on Soils for Naphthalene except when Kerosene present.	✓	✓	DRY	
TM097	Modified: US EPA Method 325.1 & 325.2	Determination of Chloride using the Kone Analyser	✓	✓	DRY	
TM098	Method 4500E, AWWA/APHA, 20th Ed., 1999	Determination of Sulphate using the Kone Analyser	✓	✓	DRY	
TM101	Method 4500B & C, AWWA/APHA, 20th Ed., 1999	Determination of Sulphide in soil and water samples using the Kone Analyser			WET	
TM116	Modified: US EPA Method 8260, 8120, 8020, 624, 610 & 602	Determination of Volatile Organic Compounds by Headspace / GC-MS			WET	
TM116	Modified: US EPA Method 8260, 8120, 8020, 624, 610 & 602	Determination of Volatile Organic Compounds by Headspace / GC-MS	✓		WET	
TM116	Modified: US EPA Method 8260, 8120, 8020, 624, 610 & 602	Determination of Volatile Organic Compounds by Headspace / GC-MS	✓	✓	WET	
TM129	Method 3120B, AWWA/APHA, 20th Ed., 1999 / Modified: US EPA Method 3050B	Determination of Metal Cations by IRIS Emission Spectrometer			DRY	
TM129	Method 3120B, AWWA/APHA, 20th Ed., 1999 / Modified: US EPA Method 3050B	Determination of Metal Cations by IRIS Emission Spectrometer	✓		DRY	
TM129	Method 3120B, AWWA/APHA, 20th Ed., 1999 / Modified: US EPA Method 3050B	Determination of Metal Cations by IRIS Emission Spectrometer	✓	✓	DRY	
TM133	BS 1377: Part 3 1990	Determination of pH in Soil and Water using the GLpH pH Meter	✓	✓	WET	

[1] Applies to Solid samples only. **DRY** indicates samples have been dried at 35°C. **NA** = not applicable.

ALcontrol Geochem Analytical Services
Table Of Results - Appendix

Job Number: 07/08569/02/01
Client: Celtic Technologies
Client Ref. No.: C1077

Report Key :

Results expressed as (e.g.) 1.03E-07 is equivalent to 1.03×10^{-7}

NDP	No Determination Possible	*	Subcontracted test
NFD	No Fibres Detected	»	Result previously reported (Incremental reports only)
#	ISO 17025 accredited	M	MCERTS Accredited
PFD	Possible Fibres Detected	EC	Equivalent Carbon (Aromatics C8-C35)

Note: Method detection limits are not always achievable due to various circumstances beyond our control.

Summary of Method Codes contained within report :

Method No.	Reference	Description	ISO 17025 Accredited	MCERTS Accredited	Wet/Dry Sample [1]	Surrogate Corrected
TM143	Modified: US EPA Method 8270C	Determination of Semivolatile Organic Compounds by GC-MS			WET	
TM154	In - house Method	Determination of Petroleum Hydrocarbons by EZ Flash GC-FID in the Carbon range C6- C40	✓		WET	
TM157		Determination of SVOC in Soils by GC-MS extracted by sonication in DCM/Acetone			WET	

[1] Applies to Solid samples only. **DRY** indicates samples have been dried at 35°C. **NA** = not applicable.

ALcontrol Geochem Analytical Services
Table Of Results - Appendix

Job Number: 07/08569/02/01
Client: Celtic Technologies
Client Ref. No.: C1077

Summary of Coolbox temperatures

Batch No.	Coolbox Temperature (°C)
6	10.8

ALcontrol Geochem Analytical Services
Sample Descriptions

Job Number: 07/08569/02/01
Client: Celtic Technologies
Client Ref : C1077

Grain sizes

<0.063mm	Very Fine
0.1mm - 0.063mm	Fine
0.1mm - 2mm	Medium
2mm - 10mm	Coarse
>10mm	Very Coarse

Sample Identity	Depth (m)	Colour	Grain Size	Description	Batch
TP62	2.4	Dark Brown	0.1mm - 2mm	Sandy Clay with some Stones	7
TP66	3.3	Brown	0.1mm - 2mm	Sandy Clay with some Stones	7
TP67	2.8	Brown	0.1mm - 0.063mm	Clay	7

* These descriptions are only intended to act as a cross check if sample identities are questioned, and to provide a log of sample matrices with respect to MCERTS validation. They are not intended as full geological descriptions.

We are accredited to MCERTS for sand, clay and loam/topsoil, or any of these materials-whether these are derived from naturally occurring soil profiles, or from fill/made ground, as long as these materials constitute the major part of the sample.
Other coarse granular materials such as concrete, gravel and brick are not accredited if they comprise the major part of the sample.
[1] Sample Description supplied by client

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Preliminary

ALcontrol Geochem Analytical Services
Table Of Results

[#] ISO 17025 accredited
[M] MCERTS accredited
[*] Subcontracted test
» Shown on prev. report

Job Number: 07/08569/02/01 **Matrix:** SOLID
Client: Celtic Technologies **Location:** TEN ACRES LANE
Client Ref. No.: C1077 **Client Contact:** Simon Haunch

Sample Identity	TP62	TP66	TP67							Method Code	LoD/Units
Depth (m)	2.4	3.3	2.8								
Sample Type	SOLID	SOLID	SOLID								
Sampled Date	31.05.07	31.05.07	04.06.07								
Sample Received Date	07.06.07	07.06.07	07.06.07								
Batch	7	7	7								
Sample Number(s)	**199-201**	**205-207**	**208-209**								
Total Sulphate	1300	-	340							TM129[#M]	<100 mg/kg
Boron Water Soluble	-	<3.5	-							TM129[#M]	<3.5 mg/kg
Arsenic	-	42	-							TM129[#M]	<3.0 mg/kg
Cadmium	-	4.1	-							TM129	<0.3 mg/kg
Chromium	-	55	-							TM129[#M]	<4.5 mg/kg
Copper	-	470	-							TM129[#]	<6 mg/kg
Lead	-	290	-							TM129[#M]	<2 mg/kg
Mercury	-	<0.6	-							TM129[#M]	<0.6 mg/kg
Nickel	-	63	-							TM129[#M]	<0.9 mg/kg
Selenium	-	<3	-							TM129[#M]	<3 mg/kg
Zinc	-	320	-							TM129[#M]	<2.5 mg/kg
Total Oxidised Nitrogen as N	-	3	-							TM102[#]	<1 mg/kg
Water Soluble Sulphate as SO4 2:1 Extract	0.085	-	0.050							TM098[#M]	<0.003 g/l
Acid Soluble Sulphide	<50	-	<50							TM101	<50 mg/kg
Chloride (soluble)	16	-	4							TM097[#M]	<2 mg/kg
Phenols Monohydric	-	<0.15	-							TM062[#M]	<0.15 mg/kg
Total Cyanide	<1	-	-							TM153[#]	<1 mg/kg
pH Value	6.95	8.00	-							TM133[#M]	<1.00 pH Units

All results expressed on a dry weight basis.

Date 03.07.2007

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ALcontrol Geochem Analytical Services
Table Of Results

[#] ISO 17025 accredited
[M] MCERTS accredited
* Subcontracted test
» Shown on prev. report

Job Number: 07/08569/02/01 **Matrix:** SOLID
Client: Celtic Technologies **Location:** TEN ACRES LANE
Client Ref. No.: C1077 **Client Contact:** Simon Haunch

Sample Identity	TP62	TP66	TP67							Method Code	LoD/Units
Depth (m)	2.4	3.3	2.8								
Sample Type	SOLID	SOLID	SOLID								
Sampled Date	31.05.07	31.05.07	04.06.07								
Sample Received Date	07.06.07	07.06.07	07.06.07								
Batch	7	7	7								
Sample Number(s)	**199-201**	**205-207**	**208-209**								
GRO (C4-C12)	<10	<10	-							TM089	<10 ug/kg
MTBE	<10	<10	-							TM089[#]	<10 ug/kg
Benzene	<10	<10	-							TM089[#M]	<10 ug/kg
Toluene	<10	<10	-							TM089[#M]	<10 ug/kg
Ethyl benzene	<10	<10	-							TM089[#M]	<10 ug/kg
m & p Xylene	<10	<10	-							TM089[#M]	<10 ug/kg
o Xylene	<10	<10	-							TM089[#M]	<10 ug/kg
Aliphatics C5-C6	<10	<10	-							TM089	<10 ug/kg
Aliphatics >C6-C8	<10	<10	-							TM089	<10 ug/kg
Aliphatics >C8-C10	<10	<10	-							TM089	<10 ug/kg
Aliphatics >C10-C12	<10	<10	-							TM089	<10 ug/kg
Aliphatics >C12-C16	15000	2900	-							TM173[#]	<100 ug/kg
Aliphatics >C16-C21	24000	25000	-							TM173[#]	<100 ug/kg
Aliphatics >C21-C35	28000	180000	-							TM173[#]	<100 ug/kg
Total Aliphatics C5-C35	66000	210000	-							TM61/89	<100 ug/kg
Aromatics C6-C7	<10	<10	-							TM089	<10 ug/kg
Aromatics >C7-C8	<10	<10	-							TM089	<10 ug/kg
Aromatics >EC8-EC10	<10	<10	-							TM089	<10 ug/kg
Aromatics >EC10-EC12	<10	<10	-							TM089	<10 ug/kg
Aromatics >EC12-EC16	14000	14000	-							TM173[#]	<100 ug/kg
Aromatics >EC16-EC21	47000	44000	-							TM173[#]	<100 ug/kg
Aromatics >EC21-EC35	210000	270000	-							TM173[#]	<100 ug/kg
Total Aromatics C6-C35	270000	330000	-							TM61/89	<100 ug/kg
TPH (Aliphatics and Aromatics C5-C35)	340000	530000	-							TM61/89	<100 ug/kg

All results expressed on a dry weight basis.

Date 03.07.2007

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ALcontrol Geochem Analytical Services
Table Of Results

[#] ISO 17025 accredited
[M] MCERTS accredited
[*] Subcontracted test
» Shown on prev. report

Job Number: 07/08569/02/01 **Matrix:** SOLID
Client: Celtic Technologies **Location:** TEN ACRES LANE
Client Ref. No.: C1077 **Client Contact:** Simon Haunch

Sample Identity	TP62	TP66	TP67							Method Code	LoD/Units
Depth (m)	2.4	3.3	2.8								
Sample Type	SOLID	SOLID	SOLID								
Sampled Date	31.05.07	31.05.07	04.06.07								
Sample Received Date	07.06.07	07.06.07	07.06.07								
Batch	7	7	7								
Sample Number(s)	**199-201**	**205-207**	**208-209**								
TPH C6-40	350	510	-							TM154[#]	<10 mg/kg

All results expressed on a dry weight basis.

Date 03.07.2007

Validated ✓
Preliminary

ALcontrol Geochem Analytical Services
Table Of Results

ISO 17025 accredited
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Job Number: 07/08569/02/01 **Matrix:** SOLID
Client: Celtic Technologies **Location:** TEN ACRES LANE
Client Ref. No.: C1077 **Client Contact:** Simon Haunch

Sample Identity	TP62	TP66	TP67							Method Code	LoD/Units
Depth (m)	2.4	3.3	2.8								
Sample Type	SOLID	SOLID	SOLID								
Sampled Date	31.05.07	31.05.07	04.06.07								
Sample Received Date	07.06.07	07.06.07	07.06.07								
Batch	7	7	7								
Sample Number(s)	**199-201**	**205-207**	**208-209**								
PAH by GCMS											
Naphthalene	-	1000	-							TM074#M	<10 ug/kg
Acenaphthylene	-	95	-							TM074#M	<5 ug/kg
Acenaphthene	-	290	-							TM074#M	<14 ug/kg
Fluorene	-	310	-							TM074#M	<12 ug/kg
Phenanthrene	-	3700	-							TM074#M	<21 ug/kg
Anthracene	-	2600	-							TM074#M	<9 ug/kg
Fluoranthene	-	7800	-							TM074#M	<25 ug/kg
Pyrene	-	7500	-							TM074#M	<22 ug/kg
Benz(a)anthracene	-	3600	-							TM074#M	<12 ug/kg
Chrysene	-	3900	-							TM074#M	<10 ug/kg
Benzo(b)fluoranthene	-	4400	-							TM074#M	<16 ug/kg
Benzo(k)fluoranthene	-	1300	-							TM074#M	<25 ug/kg
Benzo(a)pyrene	-	2500	-							TM074#M	<12 ug/kg
Indeno(123cd)pyrene	-	1300	-							TM074#M	<11 ug/kg
Dibenzo(ah)anthracene	-	340	-							TM074#M	<8 ug/kg
Benzo(ghi)perylene	-	1700	-							TM074#M	<10 ug/kg
PAH 16 Total	-	42000	-							TM074#M	<25 ug/kg

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ALcontrol Geochem Analytical Services
Table Of Results

ISO 17025 accredited
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» Shown on prev. report

Job Number: 07/08569/02/01 **Matrix:** SOLID
Client: Celtic Technologies **Location:** TEN ACRES LANE
Client Ref. No.: C1077 **Client Contact:** Simon Haunch

Sample Identity	TP62	TP66	TP67							Method Code	LoD/Units
Depth (m)	2.4	3.3	2.8								
Sample Type	SOLID	SOLID	SOLID								
Sampled Date	31.05.07	31.05.07	04.06.07								
Sample Received Date	07.06.07	07.06.07	07.06.07								
Batch	7	7	7								
Sample Number(s)	**199-201**	**205-207**	**208-209**								
SVOC by GCMS											
Phenols											
2-Chlorophenol	-	<100	-							TM157	<100 ug/kg
2-Methylphenol	-	<100	-							TM157	<100 ug/kg
2-Nitrophenol	-	<100	-							TM157	<100 ug/kg
2,4-Dichlorophenol	-	<100	-							TM157	<100 ug/kg
2,4-Dimethylphenol	-	<100	-							TM157	<100 ug/kg
2,4,5-Trichlorophenol	-	<100	-							TM157	<100 ug/kg
2,4,6-Trichlorophenol	-	<100	-							TM157	<100 ug/kg
4-Chloro-3-methylphenol	-	<100	-							TM157	<100 ug/kg
4-Methylphenol	-	<100	-							TM157	<100 ug/kg
4-Nitrophenol	-	<100	-							TM157	<100 ug/kg
Pentachlorophenol	-	<100	-							TM157	<100 ug/kg
Phenol	-	<100	-							TM157	<100 ug/kg

All results expressed on a dry weight basis.

Date 03.07.2007

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ALcontrol Geochem Analytical Services
Table Of Results

[#] ISO 17025 accredited
[M] MCERTS accredited
[*] Subcontracted test
» Shown on prev. report

Job Number: 07/08569/02/01 **Matrix:** SOLID
Client: Celtic Technologies **Location:** TEN ACRES LANE
Client Ref. No.: C1077 **Client Contact:** Simon Haunch

Sample Identity	TP62	TP66	TP67							Method Code	LoD/Units
Depth (m)	2.4	3.3	2.8								
Sample Type	SOLID	SOLID	SOLID								
Sampled Date	31.05.07	31.05.07	04.06.07								
Sample Received Date	07.06.07	07.06.07	07.06.07								
Batch	7	7	7								
Sample Number(s)	**199-201**	**205-207**	**208-209**								
PAHs											
2-Chloronaphthalene	-	<100	-							TM157	<100 ug/kg
2-Methylnaphthalene	-	150	-							TM157	<100 ug/kg
Phthalates											
Bis(2-ethylhexyl) phthalate	-	<100	-							TM157	<100 ug/kg
Butylbenzyl phthalate	-	<100	-							TM157	<100 ug/kg
Di-n-butyl phthalate	-	<100	-							TM157	<100 ug/kg
Di-n-Octyl phthalate	-	<100	-							TM157	<100 ug/kg
Diethyl phthalate	-	<100	-							TM157	<100 ug/kg
Dimethyl phthalate	-	<100	-							TM157	<100 ug/kg
Other Semi-volatiles											
1,2-Dichlorobenzene	-	<100	-							TM157	<100 ug/kg
1,2,4-Trichlorobenzene	-	<100	-							TM157	<100 ug/kg
1,3-Dichlorobenzene	-	<100	-							TM157	<100 ug/kg
1,4-Dichlorobenzene	-	<100	-							TM157	<100 ug/kg
2-Nitroaniline	-	<100	-							TM157	<100 ug/kg
2,4-Dinitrotoluene	-	<100	-							TM157	<100 ug/kg
2,6-Dinitrotoluene	-	<100	-							TM157	<100 ug/kg
3-Nitroaniline	-	<100	-							TM157	<100 ug/kg
4-Bromophenylphenylether	-	<100	-							TM157	<100 ug/kg
4-Chloroaniline	-	<100	-							TM157	<100 ug/kg
4-Chlorophenylphenylether	-	<100	-							TM157	<100 ug/kg
4-Nitroaniline	-	<100	-							TM157	<100 ug/kg
Azobenzene	-	<100	-							TM157	<100 ug/kg
Bis(2-chloroethoxy)methane	-	<100	-							TM157	<100 ug/kg
Bis(2-chloroethyl)ether	-	<100	-							TM157	<100 ug/kg
Carbazole	-	1100	-							TM157	<100 ug/kg
Dibenzofuran	-	450	-							TM157	<100 ug/kg
Hexachlorobenzene	-	<100	-							TM157	<100 ug/kg

All results expressed on a dry weight basis.

Date 03.07.2007

Validated ✓
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ALcontrol Geochem Analytical Services
Table Of Results

ISO 17025 accredited
M MCERTS accredited
* Subcontracted test
» Shown on prev. report

Job Number: 07/08569/02/01 **Matrix:** SOLID
Client: Celtic Technologies **Location:** TEN ACRES LANE
Client Ref. No.: C1077 **Client Contact:** Simon Haunch

Sample Identity	TP62	TP66	TP67							Method Code	LoD/Units
Depth (m)	2.4	3.3	2.8								
Sample Type	SOLID	SOLID	SOLID								
Sampled Date	31.05.07	31.05.07	04.06.07								
Sample Received Date	07.06.07	07.06.07	07.06.07								
Batch	7	7	7								
Sample Number(s)	**199-201**	**205-207**	**208-209**								
Other Semi-volatiles (cont)											
Hexachlorobutadiene	-	<100	-							TM157	<100 ug/kg
Hexachlorocyclopentadiene	-	<100	-							TM157	<100 ug/kg
Hexachloroethane	-	<100	-							TM157	<100 ug/kg
Isophorone	-	<100	-							TM157	<100 ug/kg
N-nitrosodi-n-propylamine	-	<100	-							TM157	<100 ug/kg
Nitrobenzene	-	<100	-							TM157	<100 ug/kg

All results expressed on a dry weight basis.

Date 03.07.2007

Validated ☑
Preliminary ☐

ALcontrol Geochem Analytical Services
Table Of Results

[#] ISO 17025 accredited
[M] MCERTS accredited
* Subcontracted test
» Shown on prev. report

Job Number: 07/08569/02/01 **Matrix:** SOLID
Client: Celtic Technologies **Location:** TEN ACRES LANE
Client Ref. No.: C1077 **Client Contact:** Simon Haunch

Sample Identity	TP62	TP66	TP67							Method Code	LoD/Units
Depth (m)	2.4	3.3	2.8								
Sample Type	SOLID	SOLID	SOLID								
Sampled Date	31.05.07	31.05.07	04.06.07								
Sample Received Date	07.06.07	07.06.07	07.06.07								
Batch	7	7	7								
Sample Number(s)	199-201	205-207	208-209								
Volatile Organic Compounds											
Dichlorodifluoromethane	-	<4	-							TM116[#]	<4 ug/kg
Chloromethane	-	<7	-							TM116[#]	<7 ug/kg
Vinyl Chloride	-	<10	-							TM116[#M]	<10 ug/kg
Bromomethane	-	<13	-							TM116[#]	<13 ug/kg
Chloroethane	-	<14	-							TM116[#]	<14 ug/kg
Trichlorofluoromethane	-	<6	-							TM116[#M]	<6 ug/kg
trans-1-2-Dichloroethene	-	<11	-							TM116[#]	<11 ug/kg
Dichloromethane	-	<10	-							TM116[#]	<10 ug/kg
Carbon Disulphide	-	<7	-							TM116[#M]	<7 ug/kg
1.1-Dichloroethene	-	<10	-							TM116[#M]	<10 ug/kg
1.1-Dichloroethane	-	<8	-							TM116[#M]	<8 ug/kg
Methyl Tertiary Butyl Ether	-	<11	-							TM116[#M]	<11 ug/kg
cis-1-2-Dichloroethene	-	<5	-							TM116[#M]	<5 ug/kg
Bromochloromethane	-	<14	-							TM116[#]	<14 ug/kg
Chloroform	-	<8	-							TM116[#M]	<8 ug/kg
2.2-Dichloropropane	-	<12	-							TM116[#]	<12 ug/kg
1.2-Dichloroethane	-	<5	-							TM116[#]	<5 ug/kg
1.1.1-Trichloroethane	-	<7	-							TM116[#M]	<7 ug/kg
1.1-Dichloropropene	-	<11	-							TM116[#M]	<11 ug/kg
Benzene	-	<9	-							TM116[#M]	<9 ug/kg
Carbontetrachloride	-	<14	-							TM116[#M]	<14 ug/kg
Dibromomethane	-	<9	-							TM116[#]	<9 ug/kg
1.2-Dichloropropane	-	<12	-							TM116[#M]	<12 ug/kg
Bromodichloromethane	-	<7	-							TM116[#M]	<7 ug/kg
Trichloroethene	-	<9	-							TM116[#M]	<9 ug/kg
cis-1-3-Dichloropropene	-	<14	-							TM116[#M]	<14 ug/kg
trans-1-3-Dichloropropene	-	<14	-							TM116[#M]	<14 ug/kg
1.1.2-Trichloroethane	-	<10	-							TM116[#]	<10 ug/kg
Toluene	-	<5	-							TM116[#M]	<5 ug/kg
1.3-Dichloropropane	-	<7	-							TM116[#]	<7 ug/kg

All results expressed on a dry weight basis.

Date 03.07.2007

Validated ✓
Preliminary

ALcontrol Geochem Analytical Services
Table Of Results

[#] ISO 17025 accredited
[M] MCERTS accredited
* Subcontracted test
» Shown on prev. report

Job Number: 07/08569/02/01 **Matrix:** SOLID
Client: Celtic Technologies **Location:** TEN ACRES LANE
Client Ref. No.: C1077 **Client Contact:** Simon Haunch

Sample Identity	TP62	TP66	TP67							Method Code	LoD/Units
Depth (m)	2.4	3.3	2.8								
Sample Type	SOLID	SOLID	SOLID								
Sampled Date	31.05.07	31.05.07	04.06.07								
Sample Received Date	07.06.07	07.06.07	07.06.07								
Batch	7	7	7								
Sample Number(s)	**199-201**	**205-207**	**208-209**								
Volatile Organic Compounds (cont)											
Dibromochloromethane	-	<13	-							TM116[#]	<13 ug/kg
1.2-Dibromoethane	-	<12	-							TM116[#]	<12 ug/kg
Tetrachloroethene	-	<5	-							TM116[#]	<5 ug/kg
1.1.1.2-Tetrachloroethane	-	<10	-							TM116[#M]	<10 ug/kg
Chlorobenzene	-	<5	-							TM116[#M]	<5 ug/kg
Ethylbenzene	-	<4	-							TM116[#]	<4 ug/kg
p/m-Xylene	-	<14	-							TM116[#]	<14 ug/kg
Bromoform	-	<10	-							TM116[#]	<10 ug/kg
Styrene	-	<10	-							TM116[#]	<10 ug/kg
1.1.2.2-Tetrachloroethane	-	<10	-							TM116[#]	<10 ug/kg
o-Xylene	-	<10	-							TM116[#]	<10 ug/kg
1.2.3-Trichloropropane	-	<17	-							TM116[#]	<17 ug/kg
Isopropylbenzene	-	<5	-							TM116[#]	<5 ug/kg
Bromobenzene	-	<10	-							TM116[#M]	<10 ug/kg
2-Chlorotoluene	-	<9	-							TM116[#]	<9 ug/kg
Propylbenzene	-	<11	-							TM116[#]	<11 ug/kg
4-Chlorotoluene	-	<12	-							TM116[#]	<12 ug/kg
1.2.4-Trimethylbenzene	-	<9	-							TM116[#]	<9 ug/kg
4-Isopropyltoluene	-	<11	-							TM116[#]	<11 ug/kg
1.3.5-Trimethylbenzene	-	<8	-							TM116[#]	<8 ug/kg
1.2-Dichlorobenzene	-	<12	-							TM116[#M]	<12 ug/kg
1.4-Dichlorobenzene	-	<5	-							TM116[#M]	<5 ug/kg
sec-Butylbenzene	-	<10	-							TM116[#]	<10 ug/kg
tert-Butylbenzene	-	<12	-							TM116[#]	<12 ug/kg
1.3-Dichlorobenzene	-	<6	-							TM116[#]	<6 ug/kg
n-Butylbenzene	-	<10	-							TM116[#]	<10 ug/kg
1.2-Dibromo-3-chloropropane	-	<14	-							TM116[#]	<14 ug/kg
1.2.4-Trichlorobenzene	-	<6	-							TM116[#]	<6 ug/kg
Naphthalene	-	<13	-							TM116[#]	<13 ug/kg
1.2.3-Trichlorobenzene	-	<11	-							TM116[#]	<11 ug/kg

All results expressed on a dry weight basis.

Date 03.07.2007

Validated ✓
Preliminary

ALcontrol Geochem Analytical Services
Table Of Results

[#] ISO 17025 accredited
[M] MCERTS accredited
* Subcontracted test
» Shown on prev. report

Job Number: 07/08569/02/01 **Matrix:** SOLID
Client: Celtic Technologies **Location:** TEN ACRES LANE
Client Ref. No.: C1077 **Client Contact:** Simon Haunch

Sample Identity	TP62	TP66	TP67							Method Code	LoD/Units
Depth (m)	2.4	3.3	2.8								
Sample Type	SOLID	SOLID	SOLID								
Sampled Date	31.05.07	31.05.07	04.06.07								
Sample Received Date	07.06.07	07.06.07	07.06.07								
Batch	7	7	7								
Sample Number(s)	**199-201**	**205-207**	**208-209**								
Volatile Organic Compounds (cont)											
Hexachlorobutadiene	-	<12	-							TM116[#]	<12 ug/kg

All results expressed on a dry weight basis.

Date 03.07.2007

ALcontrol Geochem Analytical Services
Table Of Results - Appendix

Job Number: 07/08569/02/01
Client: Celtic Technologies
Client Ref. No.: C1077

Report Key :

Results expressed as (e.g.) 1.03E-07 is equivalent to 1.03×10^{-7}

NDP	No Determination Possible	*	Subcontracted test
NFD	No Fibres Detected	»	Result previously reported (Incremental reports only)
#	ISO 17025 accredited	M	MCERTS Accredited
PFD	Possible Fibres Detected	EC	Equivalent Carbon (Aromatics C8-C35)

Note: Method detection limits are not always achievable due to various circumstances beyond our control.

Summary of Method Codes contained within report :

Method No.	Reference	Description	ISO 17025 Accredited	MCERTS Accredited	Wet/Dry Sample [1]	Surrogate Corrected
TM062	MEWAM BOOK 124 1988.HMSO/ Method 17.7, Second Site property, March 2003	Determination of Phenolic compounds by HPLC with electro-chemical detection	✓	✓	WET	
TM074	Modified: US EPA Method 8100	Determination of Polynuclear Aromatic Hydrocarbons (PAH) by GC-MS. MCERTS Accreditation on Soils for Naphthalene except when Kerosene present.	✓		DRY	
TM074	Modified: US EPA Method 8100	Determination of Polynuclear Aromatic Hydrocarbons (PAH) by GC-MS. MCERTS Accreditation on Soils for Naphthalene except when Kerosene present.	✓	✓	DRY	
TM089	Modified: US EPA Methods 8020 & 602	Determination of Gasoline Range Hydrocarbons (GRO) and BTEX (MTBE) compounds by Headspace GC-FID (C4-C12)			WET	
TM089	Modified: US EPA Methods 8020 & 602	Determination of Gasoline Range Hydrocarbons (GRO) and BTEX (MTBE) compounds by Headspace GC-FID (C4-C12)	✓		WET	
TM089	Modified: US EPA Methods 8020 & 602	Determination of Gasoline Range Hydrocarbons (GRO) and BTEX (MTBE) compounds by Headspace GC-FID (C4-C12)	✓	✓	WET	
TM097	Modified: US EPA Method 325.1 & 325.2	Determination of Chloride using the Kone Analyser	✓	✓	DRY	
TM098	Method 4500E, AWWA/APHA, 20th Ed., 1999	Determination of Sulphate using the Kone Analyser	✓	✓	DRY	
TM101	Method 4500B & C, AWWA/APHA, 20th Ed., 1999	Determination of Sulphide in soil and water samples using the Kone Analyser			WET	
TM102	Method 4500H, AWWA/APHA, 20th Ed., 1999	Determination of Total Oxidised Nitrogen using the Kone Analyser	✓		DRY	
TM116	Modified: US EPA Method 8260, 8120, 8020, 624, 610 & 602	Determination of Volatile Organic Compounds by Headspace / GC-MS			WET	
TM116	Modified: US EPA Method 8260, 8120, 8020, 624, 610 & 602	Determination of Volatile Organic Compounds by Headspace / GC-MS	✓		WET	
TM116	Modified: US EPA Method 8260, 8120, 8020, 624, 610 & 602	Determination of Volatile Organic Compounds by Headspace / GC-MS	✓	✓	WET	
TM129	Method 3120B, AWWA/APHA, 20th Ed., 1999 / Modified: US EPA Method 3050B	Determination of Metal Cations by IRIS Emission Spectrometer			DRY	

[1] Applies to Solid samples only. **DRY** indicates samples have been dried at 35°C. **NA** = not applicable.

ALcontrol Geochem Analytical Services
Table Of Results - Appendix

Job Number: 07/08569/02/01
Client: Celtic Technologies
Client Ref. No.: C1077

Report Key :

Results expressed as (e.g.) 1.03E-07 is equivalent to 1.03×10^{-7}

NDP	No Determination Possible	*	Subcontracted test
NFD	No Fibres Detected	»	Result previously reported (Incremental reports only)
#	ISO 17025 accredited	M	MCERTS Accredited
PFD	Possible Fibres Detected	EC	Equivalent Carbon (Aromatics C8-C35)

Note: Method detection limits are not always achievable due to various circumstances beyond our control.

Summary of Method Codes contained within report :

Method No.	Reference	Description	ISO 17025 Accredited	MCERTS Accredited	Wet/Dry Sample [1]	Surrogate Corrected
TM129	Method 3120B, AWWA/APHA, 20th Ed., 1999 / Modified: US EPA Method 3050B	Determination of Metal Cations by IRIS Emission Spectrometer	✓		DRY	
TM129	Method 3120B, AWWA/APHA, 20th Ed., 1999 / Modified: US EPA Method 3050B	Determination of Metal Cations by IRIS Emission Spectrometer	✓	✓	DRY	
TM133	BS 1377: Part 3 1990	Determination of pH in Soil and Water using the GLpH pH Meter	✓	✓	WET	
TM143	Modified: US EPA Method 8270C	Determination of Semivolatile Organic Compounds by GC-MS			WET	
TM153	Method 4500A,B,C, I, M AWWA/APHA, 20th Ed., 1999	Determination of Total Cyanide, Free (Easily Liberatable) Cyanide and Thiocyanate using the "Skalar SANS+ System" Segmented Flow Analyser	✓		WET	
TM154	In - house Method	Determination of Petroleum Hydrocarbons by EZ Flash GC-FID in the Carbon range C6- C40	✓		WET	
TM157		Determination of SVOC in Soils by GC-MS extracted by sonication in DCM/Acetone			WET	
TM173		Determination of Speciated Extractable Petroleum Hydrocarbons in Soils by GC-FID	✓		DRY	
TM61/89		see TM061 and TM089 for details			WET	

[1] Applies to Solid samples only. **DRY** indicates samples have been dried at 35°C. **NA** = not applicable.

ALcontrol Geochem Analytical Services
Table Of Results - Appendix

Job Number: 07/08569/02/01
Client: Celtic Technologies
Client Ref. No.: C1077

Summary of Coolbox temperatures

Batch No.	Coolbox Temperature (°C)
7	13.4

ALcontrol Geochem Analytical Services
Sample Descriptions

Job Number: 07/08569/02/01
Client: Celtic Technologies
Client Ref : C1077

Grain sizes

<0.063mm	Very Fine
0.1mm - 0.063mm	Fine
0.1mm - 2mm	Medium
2mm - 10mm	Coarse
>10mm	Very Coarse

Sample Identity	Depth (m)	Colour	Grain Size	Description	Batch
BH1	4.0-4.5	Brown	0.1mm - 2mm	Sand with some Stones	8
BH2	5.5-5.8	Dark Brown	0.1mm - 0.063mm	Silty Clay with some Stones	8
BH2	8.0-8.5	Brown	0.1mm - 2mm	Sand	8
BH3	5.3-6.0	Dark Grey	0.1mm - 2mm	Sand with some Stones	8
BH3	8.2-9.2	Brown	0.1mm - 2mm	Sand	8
BH4	1.2-2.1	Brown	0.1mm - 0.063mm	Sludge/Sediment with some Stones	8
BH5	0.0-0.6	Dark Brown	0.1mm - 2mm	Sandy Clay with some Stones	8
BH5	0.7-1.0	Dark Grey	0.1mm - 0.063mm	Clay with some Stones	8
BH5	6.9-7.4	Brown	0.1mm - 2mm	Sand with some Stones	8
BH6	1.2-1.7	Dark Brown	0.1mm - 0.063mm	Silty Clay with some Stones	8
BH6	9.5-10.0	Dark Brown	<0.063mm	Clay with some Stones	8
BH7	1.2-2.0	Dark Brown	0.1mm - 2mm	Sand with some Coal Fragments	8
BH7	4.8-5.3	Brown	<0.063mm	Clay with some Stones	8
BH9	1.2-2.6	Rust	2mm - 10mm	Gravel with some Stones	8
BH9	4.1-4.6	Brown	<0.063mm	Clay with some Stones	8
BH10	1.2-2.0	Brown	0.1mm - 2mm	Sandy Clay with some Stones	8
BH11	1.9-2.4	Brown	0.1mm - 2mm	Sand with some Crushed Brick	8
BH11	5.6-8.3	Brown	0.1mm - 0.063mm	Sludge/Sediment with some Stones	8
BH12	3.0-3.5	Brown	0.1mm - 2mm	Sandy Clay with some Coal Fragments	8
BH13	0.6-1.1	Dark Grey	0.1mm - 2mm	Sandy Clay with some Stones	8

* These descriptions are only intended to act as a cross check if sample identities are questioned, and to provide a log of sample matrices with respect to MCERTS validation. They are not intended as full geological descriptions.

We are accredited to MCERTS for sand, clay and loam/topsoil, or any of these materials-whether these are derived from naturally occurring soil profiles, or from fill/made ground, as long as these materials constitute the major part of the sample.
Other coarse granular materials such as concrete, gravel and brick are not accredited if they comprise the major part of the sample.
[1] Sample Description supplied by client

Validated ✓
Preliminary

ALcontrol Geochem Analytical Services
Table Of Results

ISO 17025 accredited
M MCERTS accredited
* Subcontracted test
» Shown on prev. report

Job Number: 07/08569/02/01 **Matrix:** SOLID
Client: Celtic Technologies **Location:** TEN ACRES LANE
Client Ref. No.: C1077 **Client Contact:** Simon Haunch

Sample Identity	BH1	BH2	BH2	BH3	BH3	BH4	BH5	BH5	BH5	Method Code	LoD/Units
Depth (m)	4.0-4.5	5.5-5.8	8.0-8.5	5.3-6.0	8.2-9.2	1.2-2.1	0.0-0.6	0.7-1.0	6.9-7.4		
Sample Type	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID		
Sampled Date	15.06.07	15.06.07	15.06.07	15.06.07	15.06.07	15.06.07	15.06.07	30.05.07	15.06.07		
Sample Received Date	19.06.07	19.06.07	19.06.07	19.06.07	19.06.07	19.06.07	19.06.07	19.06.07	19.06.07		
Batch	8	8	8	8	8	8	8	8	8		
Sample Number(s)	**210-215**	**221-225,325**	**226-231**	**232-236,326**	**237-242**	**243**	**244-249**	**250-252,254**	**257-262**		
Total Sulphate	110	-	-	3800	-	-	-	-	-	TM129#M	<100 mg/kg
Boron Water Soluble	<3.5	-	<3.5	<3.5	-	5.3	-	<3.5	-	TM129#M	<3.5 mg/kg
Arsenic	8	-	5	78	-	37	-	10	-	TM129#M	<3.0 mg/kg
Cadmium	<0.3	-	<0.3	0.4	-	0.9	-	<0.3	-	TM129	<0.3 mg/kg
Chromium	15	-	6.4	17	-	21	-	13	-	TM129#M	<4.5 mg/kg
Copper	10	-	9	100	-	120	-	50	-	TM129#	<6 mg/kg
Lead	7	-	5	4300	-	280	-	31	-	TM129#M	<2 mg/kg
Mercury	<0.6	-	<0.6	<0.6	-	<0.6	-	<0.6	-	TM129#M	<0.6 mg/kg
Nickel	18	-	8.0	34	-	25	-	16	-	TM129#M	<0.9 mg/kg
Selenium	<3	-	<3	<3	-	<3	-	<3	-	TM129#M	<3 mg/kg
Zinc	59	-	21	56	-	220	-	57	-	TM129#M	<2.5 mg/kg
Water Soluble Sulphate as SO4 2:1 Extract	-	-	-	0.14	-	-	-	-	-	TM098#M	<0.003 g/l
Acid Soluble Sulphide	-	-	-	110	-	-	-	-	-	TM101	<50 mg/kg
Chloride (soluble)	-	-	-	18	-	-	-	-	-	TM097#M	<2 mg/kg
Total Organic Carbon	-	-	0.8	-	-	5.5	-	-	-	TM132#M	<0.2 %
Phenols Monohydric	-	<0.15	<0.15	-	<0.15	<0.15	-	-	<0.15	TM062#M	<0.15 mg/kg
Total Cyanide	-	-	-	-	-	<1	-	-	-	TM153#	<1 mg/kg
Asbestos Presence Screen	-	No Fibres Detected	-	-	-	No Fibres Detected	-	No Fibres Detected	-	TM001	NONE
Elemental Sulphur	-	570	-	-	-	-	-	-	-	TM136#	<70 mg/kg
pH Value	8.28	7.89	8.18	8.04	8.49	7.59	7.93	7.85	7.86	TM133#M	<1.00 pH Units

All results expressed on a dry weight basis.

Date 05.07.2007

Validated ☑
Preliminary ☐

ALcontrol Geochem Analytical Services
Table Of Results

[#] ISO 17025 accredited
[M] MCERTS accredited
* Subcontracted test
» Shown on prev. report

Job Number: 07/08569/02/01 **Matrix:** SOLID
Client: Celtic Technologies **Location:** TEN ACRES LANE
Client Ref. No.: C1077 **Client Contact:** Simon Haunch

Sample Identity	BH1	BH2	BH2	BH3	BH3	BH4	BH5	BH5	BH5	Method Code	LoD/Units
Depth (m)	4.0-4.5	5.5-5.8	8.0-8.5	5.3-6.0	8.2-9.2	1.2-2.1	0.0-0.6	0.7-1.0	6.9-7.4		
Sample Type	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID		
Sampled Date	15.06.07	15.06.07	15.06.07	15.06.07	15.06.07	15.06.07	15.06.07	30.05.07	15.06.07		
Sample Received Date	19.06.07	19.06.07	19.06.07	19.06.07	19.06.07	19.06.07	19.06.07	19.06.07	19.06.07		
Batch	8	8	8	8	8	8	8	8	8		
Sample Number(s)	**210-215**	**221-225,325**	**226-231**	**232-236,326**	**237-242**	**243**	**244-249**	**250-252,254**	**257-262**		
GRO (C4-C12)	<10	-	<10	-	-	-	31	-	-	TM089	<10 ug/kg
MTBE	<10	-	<10	-	-	-	<10	-	-	TM089[#]	<10 ug/kg
Benzene	<10	-	<10	-	-	-	14	-	-	TM089[#M]	<10 ug/kg
Toluene	<10	-	<10	-	-	-	17	-	-	TM089[#M]	<10 ug/kg
Ethyl benzene	<10	-	<10	-	-	-	<10	-	-	TM089[#M]	<10 ug/kg
m & p Xylene	<10	-	<10	-	-	-	<10	-	-	TM089[#M]	<10 ug/kg
o Xylene	<10	-	<10	-	-	-	<10	-	-	TM089[#M]	<10 ug/kg
Aliphatics C5-C6	<10	-	<10	-	-	-	<10	-	-	TM089	<10 ug/kg
Aliphatics >C6-C8	<10	-	<10	-	-	-	<10	-	-	TM089	<10 ug/kg
Aliphatics >C8-C10	<10	-	<10	-	-	-	<10	-	-	TM089	<10 ug/kg
Aliphatics >C10-C12	<10	-	<10	-	-	-	<10	-	-	TM089	<10 ug/kg
Aliphatics >C12-C16	10000	-	<100	-	-	-	6900	-	-	TM173[#]	<100 ug/kg
Aliphatics >C16-C21	32000	-	5400	-	-	-	20000	-	-	TM173[#]	<100 ug/kg
Aliphatics >C21-C35	22000	-	56000	-	-	-	72000	-	-	TM173[#]	<100 ug/kg
Total Aliphatics C5-C35	65000	-	61000	-	-	-	98000	-	-	TM61/89	<100 ug/kg
Aromatics C6-C7	<10	-	<10	-	-	-	14	-	-	TM089	<10 ug/kg
Aromatics >C7-C8	<10	-	<10	-	-	-	17	-	-	TM089	<10 ug/kg
Aromatics >EC8-EC10	<10	-	<10	-	-	-	<10	-	-	TM089	<10 ug/kg
Aromatics >EC10-EC12	<10	-	<10	-	-	-	<10	-	-	TM089	<10 ug/kg
Aromatics >EC12-EC16	480	-	<100	-	-	-	1000	-	-	TM173[#]	<100 ug/kg
Aromatics >EC16-EC21	960	-	1200	-	-	-	11000	-	-	TM173[#]	<100 ug/kg
Aromatics >EC21-EC35	2500	-	7700	-	-	-	49000	-	-	TM173[#]	<100 ug/kg
Total Aromatics C6-C35	4000	-	8900	-	-	-	61000	-	-	TM61/89	<100 ug/kg
TPH (Aliphatics and Aromatics C5-C35)	69000	-	70000	-	-	-	160000	-	-	TM61/89	<100 ug/kg

All results expressed on a dry weight basis.

Date 05.07.2007

Validated ☑
Preliminary ☐

ALcontrol Geochem Analytical Services
Table Of Results

[#] ISO 17025 accredited
[M] MCERTS accredited
* Subcontracted test
» Shown on prev. report

Job Number: 07/08569/02/01 **Matrix:** SOLID
Client: Celtic Technologies **Location:** TEN ACRES LANE
Client Ref. No.: C1077 **Client Contact:** Simon Haunch

Sample Identity	BH1	BH2	BH2	BH3	BH3	BH4	BH5	BH5	BH5	Method Code	LoD/Units
Depth (m)	4.0-4.5	5.5-5.8	8.0-8.5	5.3-6.0	8.2-9.2	1.2-2.1	0.0-0.6	0.7-1.0	6.9-7.4		
Sample Type	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID		
Sampled Date	15.06.07	15.06.07	15.06.07	15.06.07	15.06.07	15.06.07	15.06.07	30.05.07	15.06.07		
Sample Received Date	19.06.07	19.06.07	19.06.07	19.06.07	19.06.07	19.06.07	19.06.07	19.06.07	19.06.07		
Batch	8	8	8	8	8	8	8	8	8		
Sample Number(s)	**210-215**	**221-225,325**	**226-231**	**232-236,326**	**237-242**	**243**	**244-249**	**250-252,254**	**257-262**		
TPH C6-40	-	150	-	290	<10	370	-	170	120	TM154[#]	<10 mg/kg

All results expressed on a dry weight basis.

Date 05.07.2007

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ALcontrol Geochem Analytical Services
Table Of Results

[#] ISO 17025 accredited
[M] MCERTS accredited
* Subcontracted test
» Shown on prev. report

Job Number: 07/08569/02/01 **Matrix:** SOLID
Client: Celtic Technologies **Location:** TEN ACRES LANE
Client Ref. No.: C1077 **Client Contact:** Simon Haunch

Sample Identity	BH1	BH2	BH2	BH3	BH3	BH4	BH5	BH5	BH5	Method Code	LoD/Units
Depth (m)	4.0-4.5	5.5-5.8	8.0-8.5	5.3-6.0	8.2-9.2	1.2-2.1	0.0-0.6	0.7-1.0	6.9-7.4		
Sample Type	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID		
Sampled Date	15.06.07	15.06.07	15.06.07	15.06.07	15.06.07	15.06.07	15.06.07	30.05.07	15.06.07		
Sample Received Date	19.06.07	19.06.07	19.06.07	19.06.07	19.06.07	19.06.07	19.06.07	19.06.07	19.06.07		
Batch	8	8	8	8	8	8	8	8	8		
Sample Number(s)	210-215	221-225,325	226-231	232-236,326	237-242	243	244-249	250-252,254	257-262		
PAH by GCMS											
Naphthalene	-	270	110	-	94	350	-	-	160	TM074[#M]	<10 ug/kg
Acenaphthylene	-	33	<5	-	<5	48	-	-	7	TM074[#M]	<5 ug/kg
Acenaphthene	-	280	36	-	39	170	-	-	<14	TM074[#M]	<14 ug/kg
Fluorene	-	270	30	-	30	120	-	-	12	TM074[#M]	<12 ug/kg
Phenanthrene	-	1700	99	-	49	910	-	-	140	TM074[#M]	<21 ug/kg
Anthracene	-	400	20	-	<9	210	-	-	<9	TM074[#M]	<9 ug/kg
Fluoranthene	-	2400	67	-	<25	1300	-	-	140	TM074[#M]	<25 ug/kg
Pyrene	-	2000	64	-	<22	1100	-	-	57	TM074[#M]	<22 ug/kg
Benz(a)anthracene	-	1100	51	-	25	550	-	-	39	TM074[#M]	<12 ug/kg
Chrysene	-	1000	38	-	14	620	-	-	100	TM074[#M]	<10 ug/kg
Benzo(b)fluoranthene	-	1100	39	-	<16	820	-	-	98	TM074[#M]	<16 ug/kg
Benzo(k)fluoranthene	-	430	<25	-	<25	320	-	-	35	TM074[#M]	<25 ug/kg
Benzo(a)pyrene	-	930	30	-	12	590	-	-	24	TM074[#M]	<12 ug/kg
Indeno(123cd)pyrene	-	530	14	-	<11	330	-	-	38	TM074[#M]	<11 ug/kg
Dibenzo(ah)anthracene	-	130	<8	-	<8	82	-	-	11	TM074[#M]	<8 ug/kg
Benzo(ghi)perylene	-	670	27	-	<10	390	-	-	61	TM074[#M]	<10 ug/kg
PAH 16 Total	-	13000	620	-	260	7800	-	-	920	TM074[#M]	<25 ug/kg

All results expressed on a dry weight basis.

Date 05.07.2007

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ALcontrol Geochem Analytical Services
Table Of Results

ISO 17025 accredited
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* Subcontracted test
» Shown on prev. report

Job Number: 07/08569/02/01 **Matrix:** SOLID
Client: Celtic Technologies **Location:** TEN ACRES LANE
Client Ref. No.: C1077 **Client Contact:** Simon Haunch

Sample Identity	BH1	BH2	BH2	BH3	BH3	BH4	BH5	BH5	BH5	Method Code	LoD/Units
Depth (m)	4.0-4.5	5.5-5.8	8.0-8.5	5.3-6.0	8.2-9.2	1.2-2.1	0.0-0.6	0.7-1.0	6.9-7.4		
Sample Type	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID		
Sampled Date	15.06.07	15.06.07	15.06.07	15.06.07	15.06.07	15.06.07	15.06.07	30.05.07	15.06.07		
Sample Received Date	19.06.07	19.06.07	19.06.07	19.06.07	19.06.07	19.06.07	19.06.07	19.06.07	19.06.07		
Batch	8	8	8	8	8	8	8	8	8		
Sample Number(s)	210-215	221-225,325	226-231	232-236,326	237-242	243	244-249	250-252,254	257-262		
SVOC by GCMS											
Phenols											
2-Chlorophenol	<100	<100	<100	-	<100	<100	-	-	<100	TM157	<100 ug/kg
2-Methylphenol	<100	<100	<100	-	<100	<100	-	-	<100	TM157	<100 ug/kg
2-Nitrophenol	<100	<100	<100	-	<100	<100	-	-	<100	TM157	<100 ug/kg
2,4-Dichlorophenol	<100	<100	<100	-	<100	<100	-	-	<100	TM157	<100 ug/kg
2,4-Dimethylphenol	<100	<100	<100	-	<100	<100	-	-	<100	TM157	<100 ug/kg
2,4,5-Trichlorophenol	<100	<100	<100	-	<100	<100	-	-	<100	TM157	<100 ug/kg
2,4,6-Trichlorophenol	<100	<100	<100	-	<100	<100	-	-	<100	TM157	<100 ug/kg
4-Chloro-3-methylphenol	<100	<100	<100	-	<100	<100	-	-	<100	TM157	<100 ug/kg
4-Methylphenol	<100	<100	<100	-	<100	<100	-	-	<100	TM157	<100 ug/kg
4-Nitrophenol	<100	<100	<100	-	<100	<100	-	-	<100	TM157	<100 ug/kg
Pentachlorophenol	<100	<100	<100	-	<100	<100	-	-	160	TM157	<100 ug/kg
Phenol	<100	<100	<100	-	<100	<100	-	-	<100	TM157	<100 ug/kg

All results expressed on a dry weight basis.

Date 05.07.2007

Validated ☑
Preliminary ☐

ALcontrol Geochem Analytical Services
Table Of Results

[#] ISO 17025 accredited
[M] MCERTS accredited
[*] Subcontracted test
» Shown on prev. report

Job Number: 07/08569/02/01 **Matrix:** SOLID
Client: Celtic Technologies **Location:** TEN ACRES LANE
Client Ref. No.: C1077 **Client Contact:** Simon Haunch

Sample Identity	BH1	BH2	BH2	BH3	BH3	BH4	BH5	BH5	BH5	Method Code	LoD/Units
Depth (m)	4.0-4.5	5.5-5.8	8.0-8.5	5.3-6.0	8.2-9.2	1.2-2.1	0.0-0.6	0.7-1.0	6.9-7.4		
Sample Type	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID		
Sampled Date	15.06.07	15.06.07	15.06.07	15.06.07	15.06.07	15.06.07	15.06.07	30.05.07	15.06.07		
Sample Received Date	19.06.07	19.06.07	19.06.07	19.06.07	19.06.07	19.06.07	19.06.07	19.06.07	19.06.07		
Batch	8	8	8	8	8	8	8	8	8		
Sample Number(s)	210-215	221-225,325	226-231	232-236,326	237-242	243	244-249	250-252,254	257-262		
PAHs											
2-Chloronaphthalene	<100	<100	<100	-	<100	<100	-	-	<100	TM157	<100 ug/kg
2-Methylnaphthalene	<100	<100	<100	-	<100	<100	-	-	<100	TM157	<100 ug/kg
Acenaphthene	<100	-	-	-	-	-	-	-	-	TM157	<100 ug/kg
Acenaphthylene	<100	-	-	-	-	-	-	-	-	TM157	<100 ug/kg
Anthracene	<100	-	-	-	-	-	-	-	-	TM157	<100 ug/kg
Benzo(a)anthracene	<100	-	-	-	-	-	-	-	-	TM157	<100 ug/kg
Benzo(a)pyrene	<100	-	-	-	-	-	-	-	-	TM157	<100 ug/kg
Benzo(b)fluoranthene	<100	-	-	-	-	-	-	-	-	TM157	<100 ug/kg
Benzo(ghi)perylene	<100	-	-	-	-	-	-	-	-	TM157	<100 ug/kg
Benzo(k)fluoranthene	<100	-	-	-	-	-	-	-	-	TM157	<100 ug/kg
Chrysene	<100	-	-	-	-	-	-	-	-	TM157	<100 ug/kg
Dibenzo(a,h)anthracene	<100	-	-	-	-	-	-	-	-	TM157	<100 ug/kg
Fluoranthene	<100	-	-	-	-	-	-	-	-	TM157	<100 ug/kg
Fluorene	<100	-	-	-	-	-	-	-	-	TM157	<100 ug/kg
Indeno(1,2,3-cd)pyrene	<100	-	-	-	-	-	-	-	-	TM157	<100 ug/kg
Naphthalene	<100	-	-	-	-	-	-	-	-	TM157	<100 ug/kg
Phenanthrene	<100	-	-	-	-	-	-	-	-	TM157	<100 ug/kg
Pyrene	<100	-	-	-	-	-	-	-	-	TM157	<100 ug/kg
Phthalates											
Bis(2-ethylhexyl) phthalate	250	<100	<100	-	<100	650	-	-	<100	TM157	<100 ug/kg
Butylbenzyl phthalate	<100	<100	<100	-	<100	<100	-	-	<100	TM157	<100 ug/kg
Di-n-butyl phthalate	<100	<100	<100	-	<100	<100	-	-	<100	TM157	<100 ug/kg
Di-n-Octyl phthalate	<100	<100	<100	-	<100	<100	-	-	<100	TM157	<100 ug/kg
Diethyl phthalate	<100	<100	<100	-	<100	<100	-	-	<100	TM157	<100 ug/kg
Dimethyl phthalate	<100	<100	<100	-	<100	<100	-	-	<100	TM157	<100 ug/kg
Other Semi-volatiles											
1,2-Dichlorobenzene	<100	<100	<100	-	<100	<100	-	-	<100	TM157	<100 ug/kg
1,2,4-Trichlorobenzene	<100	<100	<100	-	<100	<100	-	-	<100	TM157	<100 ug/kg

All results expressed on a dry weight basis.

Date 05.07.2007

Validated ✓
Preliminary

ALcontrol Geochem Analytical Services
Table Of Results

[#] ISO 17025 accredited
[M] MCERTS accredited
[*] Subcontracted test
» Shown on prev. report

Job Number: 07/08569/02/01 **Matrix:** SOLID
Client: Celtic Technologies **Location:** TEN ACRES LANE
Client Ref. No.: C1077 **Client Contact:** Simon Haunch

Sample Identity	BH1	BH2	BH2	BH3	BH3	BH4	BH5	BH5	BH5	Method Code	LoD/Units
Depth (m)	4.0-4.5	5.5-5.8	8.0-8.5	5.3-6.0	8.2-9.2	1.2-2.1	0.0-0.6	0.7-1.0	6.9-7.4		
Sample Type	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID		
Sampled Date	15.06.07	15.06.07	15.06.07	15.06.07	15.06.07	15.06.07	15.06.07	30.05.07	15.06.07		
Sample Received Date	19.06.07	19.06.07	19.06.07	19.06.07	19.06.07	19.06.07	19.06.07	19.06.07	19.06.07		
Batch	8	8	8	8	8	8	8	8	8		
Sample Number(s)	210-215	221-225,325	226-231	232-236,326	237-242	243	244-249	250-252,254	257-262		
Other Semi-volatiles (cont)											
1,3-Dichlorobenzene	<100	<100	<100	-	<100	<100	-	-	<100	TM157	<100 ug/kg
1,4-Dichlorobenzene	<100	<100	<100	-	<100	<100	-	-	<100	TM157	<100 ug/kg
2-Nitroaniline	<100	<100	<100	-	<100	<100	-	-	<100	TM157	<100 ug/kg
2,4-Dinitrotoluene	<100	<100	<100	-	<100	<100	-	-	<100	TM157	<100 ug/kg
2,6-Dinitrotoluene	<100	<100	<100	-	<100	<100	-	-	<100	TM157	<100 ug/kg
3-Nitroaniline	<100	<100	<100	-	<100	<100	-	-	<100	TM157	<100 ug/kg
4-Bromophenylphenylether	<100	<100	<100	-	<100	<100	-	-	<100	TM157	<100 ug/kg
4-Chloroaniline	<100	<100	<100	-	<100	<100	-	-	<100	TM157	<100 ug/kg
4-Chlorophenylphenylether	<100	<100	<100	-	<100	<100	-	-	<100	TM157	<100 ug/kg
4-Nitroaniline	<100	<100	<100	-	<100	<100	-	-	<100	TM157	<100 ug/kg
Azobenzene	<100	<100	<100	-	<100	<100	-	-	<100	TM157	<100 ug/kg
Bis(2-chloroethoxy)methane	<100	<100	<100	-	<100	<100	-	-	<100	TM157	<100 ug/kg
Bis(2-chloroethyl)ether	<100	<100	<100	-	<100	<100	-	-	<100	TM157	<100 ug/kg
Carbazole	<100	<100	<100	-	<100	<100	-	-	<100	TM157	<100 ug/kg
Dibenzofuran	<100	<100	<100	-	<100	<100	-	-	<100	TM157	<100 ug/kg
Hexachlorobenzene	<100	<100	<100	-	<100	<100	-	-	<100	TM157	<100 ug/kg
Hexachlorobutadiene	<100	<100	<100	-	<100	<100	-	-	<100	TM157	<100 ug/kg
Hexachlorocyclopentadiene	<100	<100	<100	-	<100	<100	-	-	<100	TM157	<100 ug/kg
Hexachloroethane	<100	<100	<100	-	<100	<100	-	-	<100	TM157	<100 ug/kg
Isophorone	<100	<100	<100	-	<100	<100	-	-	<100	TM157	<100 ug/kg
N-nitrosodi-n-propylamine	<100	<100	<100	-	<100	<100	-	-	<100	TM157	<100 ug/kg
Nitrobenzene	<100	<100	<100	-	<100	<100	-	-	<100	TM157	<100 ug/kg

All results expressed on a dry weight basis.

Date 05.07.2007

Validated ☑
Preliminary ☐

ALcontrol Geochem Analytical Services
Table Of Results

[#] ISO 17025 accredited
[M] MCERTS accredited
* Subcontracted test
» Shown on prev. report

Job Number: 07/08569/02/01 **Matrix:** SOLID
Client: Celtic Technologies **Location:** TEN ACRES LANE
Client Ref. No.: C1077 **Client Contact:** Simon Haunch

Sample Identity	BH1	BH2	BH2	BH3	BH3	BH4	BH5	BH5	BH5	Method Code	LoD/Units
Depth (m)	4.0-4.5	5.5-5.8	8.0-8.5	5.3-6.0	8.2-9.2	1.2-2.1	0.0-0.6	0.7-1.0	6.9-7.4		
Sample Type	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID		
Sampled Date	15.06.07	15.06.07	15.06.07	15.06.07	15.06.07	15.06.07	15.06.07	30.05.07	15.06.07		
Sample Received Date	19.06.07	19.06.07	19.06.07	19.06.07	19.06.07	19.06.07	19.06.07	19.06.07	19.06.07		
Batch	8	8	8	8	8	8	8	8	8		
Sample Number(s)	210-215	221-225,325	226-231	232-236,326	237-242	243	244-249	250-252,254	257-262		
Volatile Organic Compounds											
Dichlorodifluoromethane	-	<4	<4	-	<4	<4	-	-	<4	TM116[#]	<4 ug/kg
Chloromethane	-	<7	<7	-	<7	<7	-	-	<7	TM116[#]	<7 ug/kg
Vinyl Chloride	-	<10	<10	-	<10	<10	-	-	<10	TM116[#M]	<10 ug/kg
Bromomethane	-	<13	<13	-	<13	<13	-	-	<13	TM116[#]	<13 ug/kg
Chloroethane	-	<14	<14	-	<14	<14	-	-	<14	TM116[#]	<14 ug/kg
Trichlorofluoromethane	-	<6	<6	-	<6	<6	-	-	<6	TM116[#M]	<6 ug/kg
trans-1-2-Dichloroethene	-	<11	<11	-	<11	<11	-	-	<11	TM116[#]	<11 ug/kg
Dichloromethane	-	<10	<10	-	<10	<10	-	-	<10	TM116[#]	<10 ug/kg
Carbon Disulphide	-	<7	<7	-	<7	<7	-	-	<7	TM116[#M]	<7 ug/kg
1.1-Dichloroethene	-	<10	<10	-	<10	<10	-	-	<10	TM116[#M]	<10 ug/kg
1.1-Dichloroethane	-	<8	<8	-	<8	<8	-	-	<8	TM116[#M]	<8 ug/kg
Methyl Tertiary Butyl Ether	-	<11	<11	-	<11	<11	-	-	<11	TM116[#M]	<11 ug/kg
cis-1-2-Dichloroethene	-	<5	<5	-	<5	<5	-	-	<5	TM116[#M]	<5 ug/kg
Bromochloromethane	-	<14	<14	-	<14	<14	-	-	<14	TM116[#]	<14 ug/kg
Chloroform	-	<8	<8	-	<8	<8	-	-	<8	TM116[#M]	<8 ug/kg
2.2-Dichloropropane	-	<12	<12	-	<12	<12	-	-	<12	TM116[#]	<12 ug/kg
1.2-Dichloroethane	-	<5	<5	-	<5	<5	-	-	<5	TM116[#]	<5 ug/kg
1.1.1-Trichloroethane	-	<7	<7	-	<7	<7	-	-	<7	TM116[#M]	<7 ug/kg
1.1-Dichloropropene	-	<11	<11	-	<11	<11	-	-	<11	TM116[#M]	<11 ug/kg
Benzene	-	<9	<9	-	<9	<9	-	-	13	TM116[#M]	<9 ug/kg
Carbontetrachloride	-	<14	<14	-	<14	<14	-	-	<14	TM116[#M]	<14 ug/kg
Dibromomethane	-	<9	<9	-	<9	<9	-	-	<9	TM116[#]	<9 ug/kg
1.2-Dichloropropane	-	<12	<12	-	<12	<12	-	-	<12	TM116[#M]	<12 ug/kg
Bromodichloromethane	-	<7	<7	-	<7	<7	-	-	<7	TM116[#M]	<7 ug/kg
Trichloroethene	-	<9	<9	-	<9	<9	-	-	<9	TM116[#M]	<9 ug/kg
cis-1-3-Dichloropropene	-	<14	<14	-	<14	<14	-	-	<14	TM116[#M]	<14 ug/kg
trans-1-3-Dichloropropene	-	<14	<14	-	<14	<14	-	-	<14	TM116[#M]	<14 ug/kg
1.1.2-Trichloroethane	-	<10	<10	-	<10	<10	-	-	<10	TM116[#]	<10 ug/kg
Toluene	-	<5	<5	-	<5	160	-	-	22	TM116[#M]	<5 ug/kg
1.3-Dichloropropane	-	<7	<7	-	<7	<7	-	-	<7	TM116[#]	<7 ug/kg

All results expressed on a dry weight basis.

Date 05.07.2007

Validated ✓
Preliminary

ALcontrol Geochem Analytical Services
Table Of Results

ISO 17025 accredited
M MCERTS accredited
* Subcontracted test
» Shown on prev. report

Job Number: 07/08569/02/01 **Matrix:** SOLID
Client: Celtic Technologies **Location:** TEN ACRES LANE
Client Ref. No.: C1077 **Client Contact:** Simon Haunch

Sample Identity	BH1	BH2	BH2	BH3	BH3	BH4	BH5	BH5	BH5	Method Code	LoD/Units
Depth (m)	4.0-4.5	5.5-5.8	8.0-8.5	5.3-6.0	8.2-9.2	1.2-2.1	0.0-0.6	0.7-1.0	6.9-7.4		
Sample Type	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID		
Sampled Date	15.06.07	15.06.07	15.06.07	15.06.07	15.06.07	15.06.07	15.06.07	30.05.07	15.06.07		
Sample Received Date	19.06.07	19.06.07	19.06.07	19.06.07	19.06.07	19.06.07	19.06.07	19.06.07	19.06.07		
Batch	8	8	8	8	8	8	8	8	8		
Sample Number(s)	210-215	221-225,325	226-231	232-236,326	237-242	243	244-249	250-252,254	257-262		
Volatile Organic Compounds (cont)											
Dibromochloromethane	-	<13	<13	-	<13	<13	-	-	<13	TM116#	<13 ug/kg
1.2-Dibromoethane	-	<12	<12	-	<12	<12	-	-	<12	TM116#	<12 ug/kg
Tetrachloroethene	-	<5	<5	-	<5	<5	-	-	<5	TM116#	<5 ug/kg
1.1.1.2-Tetrachloroethane	-	<10	<10	-	<10	<10	-	-	<10	TM116#M	<10 ug/kg
Chlorobenzene	-	<5	<5	-	<5	<5	-	-	<5	TM116#M	<5 ug/kg
Ethylbenzene	-	<4	<4	-	<4	<4	-	-	<4	TM116#	<4 ug/kg
p/m-Xylene	-	<14	<14	-	<14	<14	-	-	<14	TM116#	<14 ug/kg
Bromoform	-	<10	<10	-	<10	<10	-	-	<10	TM116#	<10 ug/kg
Styrene	-	<10	<10	-	<10	<10	-	-	<10	TM116#	<10 ug/kg
1.1.2.2-Tetrachloroethane	-	<10	<10	-	<10	<10	-	-	<10	TM116#	<10 ug/kg
o-Xylene	-	<10	<10	-	<10	<10	-	-	<10	TM116#	<10 ug/kg
1.2.3-Trichloropropane	-	<17	<17	-	<17	<17	-	-	<17	TM116#	<17 ug/kg
Isopropylbenzene	-	<5	<5	-	<5	<5	-	-	<5	TM116#	<5 ug/kg
Bromobenzene	-	<10	<10	-	<10	<10	-	-	<10	TM116#M	<10 ug/kg
2-Chlorotoluene	-	<9	<9	-	<9	<9	-	-	<9	TM116#	<9 ug/kg
Propylbenzene	-	<11	<11	-	<11	<11	-	-	<11	TM116#	<11 ug/kg
4-Chlorotoluene	-	<12	<12	-	<12	<12	-	-	<12	TM116#	<12 ug/kg
1.2.4-Trimethylbenzene	-	<9	<9	-	<9	<9	-	-	<9	TM116#	<9 ug/kg
4-Isopropyltoluene	-	<11	<11	-	<11	1200	-	-	<11	TM116#	<11 ug/kg
1.3.5-Trimethylbenzene	-	<8	<8	-	<8	<8	-	-	<8	TM116#	<8 ug/kg
1.2-Dichlorobenzene	-	<12	<12	-	<12	<12	-	-	<12	TM116#M	<12 ug/kg
1.4-Dichlorobenzene	-	<5	<5	-	<5	<5	-	-	<5	TM116#M	<5 ug/kg
sec-Butylbenzene	-	<10	<10	-	<10	<10	-	-	<10	TM116#	<10 ug/kg
tert-Butylbenzene	-	<12	<12	-	<12	<12	-	-	<12	TM116#	<12 ug/kg
1.3-Dichlorobenzene	-	<6	<6	-	<6	<6	-	-	<6	TM116#	<6 ug/kg
n-Butylbenzene	-	<10	<10	-	<10	<10	-	-	<10	TM116#	<10 ug/kg
1.2-Dibromo-3-chloropropane	-	<14	<14	-	<14	<14	-	-	<14	TM116#	<14 ug/kg
1.2.4-Trichlorobenzene	-	<6	<6	-	<6	<6	-	-	<6	TM116#	<6 ug/kg
Naphthalene	-	<13	<13	-	<13	<13	-	-	<13	TM116#	<13 ug/kg
1.2.3-Trichlorobenzene	-	<11	<11	-	<11	<11	-	-	<11	TM116#	<11 ug/kg

All results expressed on a dry weight basis.

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ALcontrol Geochem Analytical Services
Table Of Results

[#] ISO 17025 accredited
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[*] Subcontracted test
» Shown on prev. report

Job Number: 07/08569/02/01 **Matrix:** SOLID
Client: Celtic Technologies **Location:** TEN ACRES LANE
Client Ref. No.: C1077 **Client Contact:** Simon Haunch

Sample Identity	BH1	BH2	BH2	BH3	BH3	BH4	BH5	BH5	BH5	Method Code	LoD/Units
Depth (m)	4.0-4.5	5.5-5.8	8.0-8.5	5.3-6.0	8.2-9.2	1.2-2.1	0.0-0.6	0.7-1.0	6.9-7.4		
Sample Type	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID		
Sampled Date	15.06.07	15.06.07	15.06.07	15.06.07	15.06.07	15.06.07	15.06.07	30.05.07	15.06.07		
Sample Received Date	19.06.07	19.06.07	19.06.07	19.06.07	19.06.07	19.06.07	19.06.07	19.06.07	19.06.07		
Batch	8	8	8	8	8	8	8	8	8		
Sample Number(s)	**210-215**	**221-225,325**	**226-231**	**232-236,326**	**237-242**	**243**	**244-249**	**250-252,254**	**257-262**		
Volatile Organic Compounds (cont)											
Hexachlorobutadiene	-	<12	<12	-	<12	<12	-	-	<12	TM116[#]	<12 ug/kg

All results expressed on a dry weight basis.

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[#] ISO 17025 accredited
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Job Number: 07/08569/02/01 **Matrix:** SOLID
Client: Celtic Technologies **Location:** TEN ACRES LANE
Client Ref. No.: C1077 **Client Contact:** Simon Haunch

Sample Identity	BH6	BH6	BH7	BH7	BH9	BH9	BH9	BH10	BH10	Method Code	LoD/Units
Depth (m)	1.2-1.7	9.5-10.0	1.2-2.0	4.8-5.3	1.2-2.6	4.1-4.6	4.1-4.6	1.2-2.0	1.2-2.0		
Sample Type	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID		
Sampled Date	15.06.07	15.06.07	15.06.07	15.06.07	15.06.07	13.05.07	13.06.07	30.05.07	31.05.07		
Sample Received Date	19.06.07	19.06.07	19.06.07	19.06.07	19.06.07	19.06.07	19.06.07	19.06.07	19.06.07		
Batch	8	8	8	8	8	8	8	8	8		
Sample Number(s)	**263-268**	**269-273,324**	**275-280**	**281-286**	**287-292**	**295-296**	**293-294,297-298**	**299**	**300-304**		
Total Sulphate	-	340	-	-	-	-	480	-	-	TM129[#M]	<100 mg/kg
Boron Water Soluble	-	<3.5	-	-	-	-	<3.5	-	-	TM129[#M]	<3.5 mg/kg
Arsenic	-	11	-	-	-	-	5	-	-	TM129[#M]	<3.0 mg/kg
Cadmium	-	<0.3	-	-	-	-	0.4	-	-	TM129	<0.3 mg/kg
Chromium	-	29	-	-	-	-	25	-	-	TM129[#M]	<4.5 mg/kg
Copper	-	23	-	-	-	-	29	-	-	TM129[#]	<6 mg/kg
Lead	-	9	-	-	-	-	16	-	-	TM129[#M]	<2 mg/kg
Mercury	-	<0.6	-	-	-	-	<0.6	-	-	TM129[#M]	<0.6 mg/kg
Nickel	-	36	-	-	-	-	32	-	-	TM129[#M]	<0.9 mg/kg
Selenium	-	<3	-	-	-	-	<3	-	-	TM129[#M]	<3 mg/kg
Zinc	-	92	-	-	-	-	70	-	-	TM129[#M]	<2.5 mg/kg
Water Soluble Sulphate as SO4 2:1 Extract	-	0.022	-	-	-	-	0.097	-	-	TM098[#M]	<0.003 g/l
Acid Soluble Sulphide	-	<50	-	-	-	-	<50	-	-	TM101	<50 mg/kg
Chloride (soluble)	-	12	-	-	-	-	26	-	-	TM097[#M]	<2 mg/kg
Total Organic Carbon	-	1.0	-	-	-	-	-	-	-	TM132[#M]	<0.2 %
Phenols Monohydric	<0.15	-	-	<0.15	-	<0.15	-	-	-	TM062[#M]	<0.15 mg/kg
Total Cyanide	-	-	-	-	-	-	-	-	-	TM153[#]	<1 mg/kg
Asbestos Presence Screen	No Fibres Detected	-	-	-	-	-	-	-	-	TM001	NONE
Elemental Sulphur	680	-	-	-	260	-	-	-	-	TM136[#]	<70 mg/kg
pH Value	7.84	8.30	7.44	8.32	7.74	8.26	-	-	7.84	TM133[#M]	<1.00 pH Units

All results expressed on a dry weight basis.

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ALcontrol Geochem Analytical Services
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[#] ISO 17025 accredited
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Job Number: 07/08569/02/01 **Matrix:** SOLID
Client: Celtic Technologies **Location:** TEN ACRES LANE
Client Ref. No.: C1077 **Client Contact:** Simon Haunch

Sample Identity	BH6	BH6	BH7	BH7	BH9	BH9	BH9	BH10	BH10	Method Code	LoD/Units
Depth (m)	1.2-1.7	9.5-10.0	1.2-2.0	4.8-5.3	1.2-2.6	4.1-4.6	4.1-4.6	1.2-2.0	1.2-2.0		
Sample Type	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID		
Sampled Date	15.06.07	15.06.07	15.06.07	15.06.07	15.06.07	13.05.07	13.06.07	30.05.07	31.05.07		
Sample Received Date	19.06.07	19.06.07	19.06.07	19.06.07	19.06.07	19.06.07	19.06.07	19.06.07	19.06.07		
Batch	8	8	8	8	8	8	8	8	8		
Sample Number(s)	**263-268**	**269-273,324**	**275-280**	**281-286**	**287-292**	**295-296**	**293-294,297-298**	**299**	**300-304**		
TPH C6-40	220	<10	600	<10	470	-	99	270	-	TM154[#]	<10 mg/kg

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Job Number: 07/08569/02/01 **Matrix:** SOLID
Client: Celtic Technologies **Location:** TEN ACRES LANE
Client Ref. No.: C1077 **Client Contact:** Simon Haunch

Sample Identity	BH6	BH6	BH7	BH7	BH9	BH9	BH9	BH10	BH10	Method Code	LoD/Units
Depth (m)	1.2-1.7	9.5-10.0	1.2-2.0	4.8-5.3	1.2-2.6	4.1-4.6	4.1-4.6	1.2-2.0	1.2-2.0		
Sample Type	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID		
Sampled Date	15.06.07	15.06.07	15.06.07	15.06.07	15.06.07	13.05.07	13.06.07	30.05.07	31.05.07		
Sample Received Date	19.06.07	19.06.07	19.06.07	19.06.07	19.06.07	19.06.07	19.06.07	19.06.07	19.06.07		
Batch	8	8	8	8	8	8	8	8	8		
Sample Number(s)	263-268	269-273,324	275-280	281-286	287-292	295-296	293-294,297-298	299	300-304		
PAH by GCMS											
Naphthalene	330	-	-	300	-	-	630	-	-	TM074[#M]	<10 ug/kg
Acenaphthylene	12	-	-	7	-	-	20	-	-	TM074[#M]	<5 ug/kg
Acenaphthene	170	-	-	89	-	-	240	-	-	TM074[#M]	<14 ug/kg
Fluorene	130	-	-	93	-	-	150	-	-	TM074[#M]	<12 ug/kg
Phenanthrene	410	-	-	250	-	-	240	-	-	TM074[#M]	<21 ug/kg
Anthracene	90	-	-	33	-	-	25	-	-	TM074[#M]	<9 ug/kg
Fluoranthene	540	-	-	78	-	-	76	-	-	TM074[#M]	<25 ug/kg
Pyrene	430	-	-	82	-	-	81	-	-	TM074[#M]	<22 ug/kg
Benz(a)anthracene	220	-	-	75	-	-	60	-	-	TM074[#M]	<12 ug/kg
Chrysene	240	-	-	90	-	-	57	-	-	TM074[#M]	<10 ug/kg
Benzo(b)fluoranthene	260	-	-	80	-	-	52	-	-	TM074[#M]	<16 ug/kg
Benzo(k)fluoranthene	110	-	-	26	-	-	<25	-	-	TM074[#M]	<25 ug/kg
Benzo(a)pyrene	200	-	-	46	-	-	37	-	-	TM074[#M]	<12 ug/kg
Indeno(123cd)pyrene	97	-	-	19	-	-	15	-	-	TM074[#M]	<11 ug/kg
Dibenzo(ah)anthracene	24	-	-	<8	-	-	<8	-	-	TM074[#M]	<8 ug/kg
Benzo(ghi)perylene	130	-	-	62	-	-	47	-	-	TM074[#M]	<10 ug/kg
PAH 16 Total	3400	-	-	1300	-	-	1700	-	-	TM074[#M]	<25 ug/kg

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Job Number: 07/08569/02/01 **Matrix:** SOLID
Client: Celtic Technologies **Location:** TEN ACRES LANE
Client Ref. No.: C1077 **Client Contact:** Simon Haunch

Sample Identity	BH6	BH6	BH7	BH7	BH9	BH9	BH9	BH10	BH10	Method Code	LoD/Units
Depth (m)	1.2-1.7	9.5-10.0	1.2-2.0	4.8-5.3	1.2-2.6	4.1-4.6	4.1-4.6	1.2-2.0	1.2-2.0		
Sample Type	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID		
Sampled Date	15.06.07	15.06.07	15.06.07	15.06.07	15.06.07	13.05.07	13.06.07	30.05.07	31.05.07		
Sample Received Date	19.06.07	19.06.07	19.06.07	19.06.07	19.06.07	19.06.07	19.06.07	19.06.07	19.06.07		
Batch	8	8	8	8	8	8	8	8	8		
Sample Number(s)	263-268	269-273,324	275-280	281-286	287-292	295-296	293-294,297-298	299	300-304		
SVOC by GCMS											
Phenols											
2-Chlorophenol	<100	-	-	<100	-	-	<100	-	-	TM157	<100 ug/kg
2-Methylphenol	<100	-	-	<100	-	-	<100	-	-	TM157	<100 ug/kg
2-Nitrophenol	<100	-	-	<100	-	-	<100	-	-	TM157	<100 ug/kg
2,4-Dichlorophenol	<100	-	-	<100	-	-	<100	-	-	TM157	<100 ug/kg
2,4-Dimethylphenol	<100	-	-	<100	-	-	<100	-	-	TM157	<100 ug/kg
2,4,5-Trichlorophenol	<100	-	-	<100	-	-	<100	-	-	TM157	<100 ug/kg
2,4,6-Trichlorophenol	<100	-	-	<100	-	-	<100	-	-	TM157	<100 ug/kg
4-Chloro-3-methylphenol	<100	-	-	<100	-	-	<100	-	-	TM157	<100 ug/kg
4-Methylphenol	<100	-	-	<100	-	-	<100	-	-	TM157	<100 ug/kg
4-Nitrophenol	<100	-	-	<100	-	-	<100	-	-	TM157	<100 ug/kg
Pentachlorophenol	<100	-	-	<100	-	-	<100	-	-	TM157	<100 ug/kg
Phenol	<100	-	-	<100	-	-	<100	-	-	TM157	<100 ug/kg

All results expressed on a dry weight basis.

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ALcontrol Geochem Analytical Services
Table Of Results

ISO 17025 accredited
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* Subcontracted test
» Shown on prev. report

Job Number: 07/08569/02/01 **Matrix:** SOLID
Client: Celtic Technologies **Location:** TEN ACRES LANE
Client Ref. No.: C1077 **Client Contact:** Simon Haunch

Sample Identity	BH6	BH6	BH7	BH7	BH9	BH9	BH9	BH10	BH10	Method Code	LoD/Units
Depth (m)	1.2-1.7	9.5-10.0	1.2-2.0	4.8-5.3	1.2-2.6	4.1-4.6	4.1-4.6	1.2-2.0	1.2-2.0		
Sample Type	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID		
Sampled Date	15.06.07	15.06.07	15.06.07	15.06.07	15.06.07	13.05.07	13.06.07	30.05.07	31.05.07		
Sample Received Date	19.06.07	19.06.07	19.06.07	19.06.07	19.06.07	19.06.07	19.06.07	19.06.07	19.06.07		
Batch	8	8	8	8	8	8	8	8	8		
Sample Number(s)	263-268	269-273,324	275-280	281-286	287-292	295-296	293-294,297-298	299	300-304		
PAHs											
2-Chloronaphthalene	<100	-	-	<100	-	-	<100	-	-	TM157	<100 ug/kg
2-Methylnaphthalene	<100	-	-	<100	-	-	<100	-	-	TM157	<100 ug/kg
Acenaphthene	-	-	-	-	-	-	-	-	-	TM157	<100 ug/kg
Acenaphthylene	-	-	-	-	-	-	-	-	-	TM157	<100 ug/kg
Anthracene	-	-	-	-	-	-	-	-	-	TM157	<100 ug/kg
Benzo(a)anthracene	-	-	-	-	-	-	-	-	-	TM157	<100 ug/kg
Benzo(a)pyrene	-	-	-	-	-	-	-	-	-	TM157	<100 ug/kg
Benzo(b)fluoranthene	-	-	-	-	-	-	-	-	-	TM157	<100 ug/kg
Benzo(ghi)perylene	-	-	-	-	-	-	-	-	-	TM157	<100 ug/kg
Benzo(k)fluoranthene	-	-	-	-	-	-	-	-	-	TM157	<100 ug/kg
Chrysene	-	-	-	-	-	-	-	-	-	TM157	<100 ug/kg
Dibenzo(a,h)anthracene	-	-	-	-	-	-	-	-	-	TM157	<100 ug/kg
Fluoranthene	-	-	-	-	-	-	-	-	-	TM157	<100 ug/kg
Fluorene	-	-	-	-	-	-	-	-	-	TM157	<100 ug/kg
Indeno(1,2,3-cd)pyrene	-	-	-	-	-	-	-	-	-	TM157	<100 ug/kg
Naphthalene	-	-	-	-	-	-	-	-	-	TM157	<100 ug/kg
Phenanthrene	-	-	-	-	-	-	-	-	-	TM157	<100 ug/kg
Pyrene	-	-	-	-	-	-	-	-	-	TM157	<100 ug/kg
Phthalates											
Bis(2-ethylhexyl) phthalate	<100	-	-	300	-	-	190	-	-	TM157	<100 ug/kg
Butylbenzyl phthalate	<100	-	-	<100	-	-	<100	-	-	TM157	<100 ug/kg
Di-n-butyl phthalate	<100	-	-	<100	-	-	<100	-	-	TM157	<100 ug/kg
Di-n-Octyl phthalate	<100	-	-	<100	-	-	<100	-	-	TM157	<100 ug/kg
Diethyl phthalate	<100	-	-	<100	-	-	<100	-	-	TM157	<100 ug/kg
Dimethyl phthalate	<100	-	-	<100	-	-	<100	-	-	TM157	<100 ug/kg
Other Semi-volatiles											
1,2-Dichlorobenzene	<100	-	-	<100	-	-	<100	-	-	TM157	<100 ug/kg
1,2,4-Trichlorobenzene	<100	-	-	<100	-	-	<100	-	-	TM157	<100 ug/kg

All results expressed on a dry weight basis.

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ALcontrol Geochem Analytical Services
Table Of Results

ISO 17025 accredited
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Job Number: 07/08569/02/01 **Matrix:** SOLID
Client: Celtic Technologies **Location:** TEN ACRES LANE
Client Ref. No.: C1077 **Client Contact:** Simon Haunch

Sample Identity	BH6	BH6	BH7	BH7	BH9	BH9	BH9	BH10	BH10	Method Code	LoD/Units
Depth (m)	1.2-1.7	9.5-10.0	1.2-2.0	4.8-5.3	1.2-2.6	4.1-4.6	4.1-4.6	1.2-2.0	1.2-2.0		
Sample Type	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID		
Sampled Date	15.06.07	15.06.07	15.06.07	15.06.07	15.06.07	13.05.07	13.06.07	30.05.07	31.05.07		
Sample Received Date	19.06.07	19.06.07	19.06.07	19.06.07	19.06.07	19.06.07	19.06.07	19.06.07	19.06.07		
Batch	8	8	8	8	8	8	8	8	8		
Sample Number(s)	263-268	269-273,324	275-280	281-286	287-292	295-296	293-294,297-298	299	300-304		
Other Semi-volatiles (cont)											
1,3-Dichlorobenzene	<100	-	-	<100	-	-	<100	-	-	TM157	<100 ug/kg
1,4-Dichlorobenzene	<100	-	-	<100	-	-	<100	-	-	TM157	<100 ug/kg
2-Nitroaniline	<100	-	-	<100	-	-	<100	-	-	TM157	<100 ug/kg
2,4-Dinitrotoluene	<100	-	-	<100	-	-	<100	-	-	TM157	<100 ug/kg
2,6-Dinitrotoluene	<100	-	-	<100	-	-	<100	-	-	TM157	<100 ug/kg
3-Nitroaniline	<100	-	-	<100	-	-	<100	-	-	TM157	<100 ug/kg
4-Bromophenylphenylether	<100	-	-	<100	-	-	<100	-	-	TM157	<100 ug/kg
4-Chloroaniline	<100	-	-	<100	-	-	<100	-	-	TM157	<100 ug/kg
4-Chlorophenylphenylether	<100	-	-	<100	-	-	<100	-	-	TM157	<100 ug/kg
4-Nitroaniline	<100	-	-	<100	-	-	<100	-	-	TM157	<100 ug/kg
Azobenzene	<100	-	-	<100	-	-	<100	-	-	TM157	<100 ug/kg
Bis(2-chloroethoxy)methane	<100	-	-	<100	-	-	<100	-	-	TM157	<100 ug/kg
Bis(2-chloroethyl)ether	<100	-	-	<100	-	-	<100	-	-	TM157	<100 ug/kg
Carbazole	<100	-	-	<100	-	-	<100	-	-	TM157	<100 ug/kg
Dibenzofuran	<100	-	-	<100	-	-	<100	-	-	TM157	<100 ug/kg
Hexachlorobenzene	<100	-	-	<100	-	-	<100	-	-	TM157	<100 ug/kg
Hexachlorobutadiene	<100	-	-	<100	-	-	<100	-	-	TM157	<100 ug/kg
Hexachlorocyclopentadiene	<100	-	-	<100	-	-	<100	-	-	TM157	<100 ug/kg
Hexachloroethane	<100	-	-	<100	-	-	<100	-	-	TM157	<100 ug/kg
Isophorone	<100	-	-	<100	-	-	<100	-	-	TM157	<100 ug/kg
N-nitrosodi-n-propylamine	<100	-	-	<100	-	-	<100	-	-	TM157	<100 ug/kg
Nitrobenzene	<100	-	-	<100	-	-	<100	-	-	TM157	<100 ug/kg

All results expressed on a dry weight basis.

Date 05.07.2007

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ALcontrol Geochem Analytical Services
Table Of Results

[#] ISO 17025 accredited
[M] MCERTS accredited
* Subcontracted test
» Shown on prev. report

Job Number: 07/08569/02/01 **Matrix:** SOLID
Client: Celtic Technologies **Location:** TEN ACRES LANE
Client Ref. No.: C1077 **Client Contact:** Simon Haunch

Sample Identity	BH6	BH6	BH7	BH7	BH9	BH9	BH9	BH10	BH10	Method Code	LoD/Units
Depth (m)	1.2-1.7	9.5-10.0	1.2-2.0	4.8-5.3	1.2-2.6	4.1-4.6	4.1-4.6	1.2-2.0	1.2-2.0		
Sample Type	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID		
Sampled Date	15.06.07	15.06.07	15.06.07	15.06.07	15.06.07	13.05.07	13.06.07	30.05.07	31.05.07		
Sample Received Date	19.06.07	19.06.07	19.06.07	19.06.07	19.06.07	19.06.07	19.06.07	19.06.07	19.06.07		
Batch	8	8	8	8	8	8	8	8	8		
Sample Number(s)	263-268	269-273,324	275-280	281-286	287-292	295-296	293-294,297-298	299	300-304		
Volatile Organic Compounds											
Dichlorodifluoromethane	<4	-	-	<4	-	-	<4	-	-	TM116[#]	<4 ug/kg
Chloromethane	<7	-	-	<7	-	-	<7	-	-	TM116[#]	<7 ug/kg
Vinyl Chloride	<10	-	-	<10	-	-	<10	-	-	TM116[#M]	<10 ug/kg
Bromomethane	<13	-	-	<13	-	-	<13	-	-	TM116[#]	<13 ug/kg
Chloroethane	<14	-	-	<14	-	-	<14	-	-	TM116[#]	<14 ug/kg
Trichlorofluoromethane	<6	-	-	<6	-	-	<6	-	-	TM116[#M]	<6 ug/kg
trans-1-2-Dichloroethene	<11	-	-	<11	-	-	<11	-	-	TM116[#]	<11 ug/kg
Dichloromethane	<10	-	-	<10	-	-	<10	-	-	TM116[#]	<10 ug/kg
Carbon Disulphide	<7	-	-	<7	-	-	<7	-	-	TM116[#M]	<7 ug/kg
1.1-Dichloroethene	<10	-	-	<10	-	-	<10	-	-	TM116[#M]	<10 ug/kg
1.1-Dichloroethane	<8	-	-	<8	-	-	<8	-	-	TM116[#M]	<8 ug/kg
Methyl Tertiary Butyl Ether	<11	-	-	<11	-	-	<11	-	-	TM116[#M]	<11 ug/kg
cis-1-2-Dichloroethene	<5	-	-	<5	-	-	<5	-	-	TM116[#M]	<5 ug/kg
Bromochloromethane	<14	-	-	<14	-	-	<14	-	-	TM116[#]	<14 ug/kg
Chloroform	<8	-	-	<8	-	-	<8	-	-	TM116[#M]	<8 ug/kg
2.2-Dichloropropane	<12	-	-	<12	-	-	<12	-	-	TM116[#]	<12 ug/kg
1.2-Dichloroethane	<5	-	-	<5	-	-	<5	-	-	TM116[#]	<5 ug/kg
1.1.1-Trichloroethane	<7	-	-	<7	-	-	<7	-	-	TM116[#M]	<7 ug/kg
1.1-Dichloropropene	<11	-	-	<11	-	-	<11	-	-	TM116[#M]	<11 ug/kg
Benzene	<9	-	-	<9	-	-	<9	-	-	TM116[#M]	<9 ug/kg
Carbontetrachloride	<14	-	-	<14	-	-	<14	-	-	TM116[#M]	<14 ug/kg
Dibromomethane	<9	-	-	<9	-	-	<9	-	-	TM116[#]	<9 ug/kg
1.2-Dichloropropane	<12	-	-	<12	-	-	<12	-	-	TM116[#M]	<12 ug/kg
Bromodichloromethane	<7	-	-	<7	-	-	<7	-	-	TM116[#M]	<7 ug/kg
Trichloroethene	<9	-	-	<9	-	-	<9	-	-	TM116[#M]	<9 ug/kg
cis-1-3-Dichloropropene	<14	-	-	<14	-	-	<14	-	-	TM116[#M]	<14 ug/kg
trans-1-3-Dichloropropene	<14	-	-	<14	-	-	<14	-	-	TM116[#M]	<14 ug/kg
1.1.2-Trichloroethane	<10	-	-	<10	-	-	<10	-	-	TM116[#]	<10 ug/kg
Toluene	7	-	-	14	-	-	<5	-	-	TM116[#M]	<5 ug/kg
1.3-Dichloropropane	<7	-	-	<7	-	-	<7	-	-	TM116[#]	<7 ug/kg

All results expressed on a dry weight basis.

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Job Number: 07/08569/02/01 **Matrix:** SOLID
Client: Celtic Technologies **Location:** TEN ACRES LANE
Client Ref. No.: C1077 **Client Contact:** Simon Haunch

Sample Identity	BH6	BH6	BH7	BH7	BH9	BH9	BH9	BH10	BH10	Method Code	LoD/Units
Depth (m)	1.2-1.7	9.5-10.0	1.2-2.0	4.8-5.3	1.2-2.6	4.1-4.6	4.1-4.6	1.2-2.0	1.2-2.0		
Sample Type	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID		
Sampled Date	15.06.07	15.06.07	15.06.07	15.06.07	15.06.07	13.05.07	13.06.07	30.05.07	31.05.07		
Sample Received Date	19.06.07	19.06.07	19.06.07	19.06.07	19.06.07	19.06.07	19.06.07	19.06.07	19.06.07		
Batch	8	8	8	8	8	8	8	8	8		
Sample Number(s)	263-268	269-273,324	275-280	281-286	287-292	295-296	293-294,297-298	299	300-304		
Volatile Organic Compounds (cont)											
Dibromochloromethane	<13	-	-	<13	-	-	<13	-	-	TM116#	<13 ug/kg
1.2-Dibromoethane	<12	-	-	<12	-	-	<12	-	-	TM116#	<12 ug/kg
Tetrachloroethene	<5	-	-	<5	-	-	<5	-	-	TM116#	<5 ug/kg
1.1.1.2-Tetrachloroethane	<10	-	-	<10	-	-	<10	-	-	TM116#M	<10 ug/kg
Chlorobenzene	<5	-	-	<5	-	-	<5	-	-	TM116#M	<5 ug/kg
Ethylbenzene	<4	-	-	<4	-	-	<4	-	-	TM116#	<4 ug/kg
p/m-Xylene	<14	-	-	<14	-	-	<14	-	-	TM116#	<14 ug/kg
Bromoform	<10	-	-	<10	-	-	<10	-	-	TM116#	<10 ug/kg
Styrene	<10	-	-	<10	-	-	<10	-	-	TM116#	<10 ug/kg
1.1.2.2-Tetrachloroethane	<10	-	-	<10	-	-	<10	-	-	TM116#	<10 ug/kg
o-Xylene	<10	-	-	<10	-	-	<10	-	-	TM116#	<10 ug/kg
1.2.3-Trichloropropane	<17	-	-	<17	-	-	<17	-	-	TM116#	<17 ug/kg
Isopropylbenzene	<5	-	-	<5	-	-	<5	-	-	TM116#	<5 ug/kg
Bromobenzene	<10	-	-	<10	-	-	<10	-	-	TM116#M	<10 ug/kg
2-Chlorotoluene	<9	-	-	<9	-	-	<9	-	-	TM116#	<9 ug/kg
Propylbenzene	<11	-	-	<11	-	-	<11	-	-	TM116#	<11 ug/kg
4-Chlorotoluene	<12	-	-	<12	-	-	<12	-	-	TM116#	<12 ug/kg
1.2.4-Trimethylbenzene	<9	-	-	<9	-	-	<9	-	-	TM116#	<9 ug/kg
4-Isopropyltoluene	<11	-	-	<11	-	-	<11	-	-	TM116#	<11 ug/kg
1.3.5-Trimethylbenzene	<8	-	-	<8	-	-	<8	-	-	TM116#	<8 ug/kg
1.2-Dichlorobenzene	<12	-	-	<12	-	-	<12	-	-	TM116#M	<12 ug/kg
1.4-Dichlorobenzene	<5	-	-	<5	-	-	<5	-	-	TM116#M	<5 ug/kg
sec-Butylbenzene	<10	-	-	<10	-	-	<10	-	-	TM116#	<10 ug/kg
tert-Butylbenzene	<12	-	-	<12	-	-	<12	-	-	TM116#	<12 ug/kg
1.3-Dichlorobenzene	<6	-	-	<6	-	-	<6	-	-	TM116#	<6 ug/kg
n-Butylbenzene	<10	-	-	<10	-	-	<10	-	-	TM116#	<10 ug/kg
1.2-Dibromo-3-chloropropane	<14	-	-	<14	-	-	<14	-	-	TM116#	<14 ug/kg
1.2.4-Trichlorobenzene	<6	-	-	<6	-	-	<6	-	-	TM116#	<6 ug/kg
Naphthalene	<13	-	-	<13	-	-	<13	-	-	TM116#	<13 ug/kg
1.2.3-Trichlorobenzene	<11	-	-	<11	-	-	<11	-	-	TM116#	<11 ug/kg

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ALcontrol Geochem Analytical Services
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[#] ISO 17025 accredited
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* Subcontracted test
» Shown on prev. report

Job Number: 07/08569/02/01 **Matrix:** SOLID
Client: Celtic Technologies **Location:** TEN ACRES LANE
Client Ref. No.: C1077 **Client Contact:** Simon Haunch

Sample Identity	BH6	BH6	BH7	BH7	BH9	BH9	BH9	BH10	BH10	Method Code	LoD/Units
Depth (m)	1.2-1.7	9.5-10.0	1.2-2.0	4.8-5.3	1.2-2.6	4.1-4.6	4.1-4.6	1.2-2.0	1.2-2.0		
Sample Type	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID		
Sampled Date	15.06.07	15.06.07	15.06.07	15.06.07	15.06.07	13.05.07	13.06.07	30.05.07	31.05.07		
Sample Received Date	19.06.07	19.06.07	19.06.07	19.06.07	19.06.07	19.06.07	19.06.07	19.06.07	19.06.07		
Batch	8	8	8	8	8	8	8	8	8		
Sample Number(s)	**263-268**	**269-273,324**	**275-280**	**281-286**	**287-292**	**295-296**	**293-294,297-298**	**299**	**300-304**		
Volatile Organic Compounds (cont)											
Hexachlorobutadiene	<12	-	-	<12	-	-	<12	-	-	TM116[#]	<12 ug/kg

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ISO 17025 accredited
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Job Number: 07/08569/02/01 **Matrix:** SOLID
Client: Celtic Technologies **Location:** TEN ACRES LANE
Client Ref. No.: C1077 **Client Contact:** Simon Haunch

Sample Identity	BH11	BH11	BH11	BH12	BH13					Method Code	LoD/Units
Depth (m)	1.9-2.4	5.6-8.3	5.6-8.3	3.0-3.5	0.6-1.1						
Sample Type	SOLID	SOLID	SOLID	SOLID	SOLID						
Sampled Date	15.06.07	01.06.07	15.06.07	15.06.07	15.06.07						
Sample Received Date	19.06.07	19.06.07	19.06.07	19.06.07	19.06.07						
Batch	8	8	8	8	8						
Sample Number(s)	**305-308**	**309-310**	**311**	**312-317**	**318-323**						
Total Sulphate	-	1500	-	-	-					TM129#M	<100 mg/kg
Boron Water Soluble	-	43	-	-	-					TM129#M	<3.5 mg/kg
Arsenic	-	21	-	-	-					TM129#M	<3.0 mg/kg
Cadmium	-	<0.3	-	-	-					TM129	<0.3 mg/kg
Chromium	-	40	-	-	-					TM129#M	<4.5 mg/kg
Copper	-	470	-	-	-					TM129#	<6 mg/kg
Lead	-	110	-	-	-					TM129#M	<2 mg/kg
Mercury	-	<0.6	-	-	-					TM129#M	<0.6 mg/kg
Nickel	-	41	-	-	-					TM129#M	<0.9 mg/kg
Selenium	-	<3	-	-	-					TM129#M	<3 mg/kg
Zinc	-	180	-	-	-					TM129#M	<2.5 mg/kg
Water Soluble Sulphate as SO4 2:1 Extract	-	0.32	-	-	-					TM098#M	<0.003 g/l
Acid Soluble Sulphide	-	1200	-	-	-					TM101	<50 mg/kg
Chloride (soluble)	-	74	-	-	-					TM097#M	<2 mg/kg
Total Organic Carbon	-	2.9	-	-	-					TM132#M	<0.2 %
Phenols Monohydric	-	-	-	-	<0.15					TM062#M	<0.15 mg/kg
Total Cyanide	-	-	-	-	-					TM153#	<1 mg/kg
Asbestos Presence Screen	-	-	-	-	No Fibres Detected					TM001	NONE
Elemental Sulphur	-	-	-	-	-					TM136#	<70 mg/kg
pH Value	7.88	8.01	-	7.60	8.09					TM133#M	<1.00 pH Units

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ALcontrol Geochem Analytical Services
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Job Number: 07/08569/02/01 **Matrix:** SOLID
Client: Celtic Technologies **Location:** TEN ACRES LANE
Client Ref. No.: C1077 **Client Contact:** Simon Haunch

Sample Identity	BH11	BH11	BH11	BH12	BH13					Method Code	LoD/Units
Depth (m)	1.9-2.4	5.6-8.3	5.6-8.3	3.0-3.5	0.6-1.1						
Sample Type	SOLID	SOLID	SOLID	SOLID	SOLID						
Sampled Date	15.06.07	01.06.07	15.06.07	15.06.07	15.06.07						
Sample Received Date	19.06.07	19.06.07	19.06.07	19.06.07	19.06.07						
Batch	8	8	8	8	8						
Sample Number(s)	**305-308**	**309-310**	**311**	**312-317**	**318-323**						
GRO (C4-C12)	-	-	-	<10	-					TM089	<10 ug/kg
MTBE	-	-	-	<10	-					TM089[#]	<10 ug/kg
Benzene	-	-	-	<10	-					TM089[#M]	<10 ug/kg
Toluene	-	-	-	<10	-					TM089[#M]	<10 ug/kg
Ethyl benzene	-	-	-	<10	-					TM089[#M]	<10 ug/kg
m & p Xylene	-	-	-	<10	-					TM089[#M]	<10 ug/kg
o Xylene	-	-	-	<10	-					TM089[#M]	<10 ug/kg
Aliphatics C5-C6	-	-	-	<10	-					TM089	<10 ug/kg
Aliphatics >C6-C8	-	-	-	<10	-					TM089	<10 ug/kg
Aliphatics >C8-C10	-	-	-	<10	-					TM089	<10 ug/kg
Aliphatics >C10-C12	-	-	-	<10	-					TM089	<10 ug/kg
Aliphatics >C12-C16	-	-	-	10000	-					TM173[#]	<100 ug/kg
Aliphatics >C16-C21	-	-	-	85000	-					TM173[#]	<100 ug/kg
Aliphatics >C21-C35	-	-	-	310000	-					TM173[#]	<100 ug/kg
Total Aliphatics C5-C35	-	-	-	400000	-					TM61/89	<100 ug/kg
Aromatics C6-C7	-	-	-	<10	-					TM089	<10 ug/kg
Aromatics >C7-C8	-	-	-	<10	-					TM089	<10 ug/kg
Aromatics >EC8-EC10	-	-	-	<10	-					TM089	<10 ug/kg
Aromatics >EC10-EC12	-	-	-	<10	-					TM089	<10 ug/kg
Aromatics >EC12-EC16	-	-	-	6200	-					TM173[#]	<100 ug/kg
Aromatics >EC16-EC21	-	-	-	34000	-					TM173[#]	<100 ug/kg
Aromatics >EC21-EC35	-	-	-	77000	-					TM173[#]	<100 ug/kg
Total Aromatics C6-C35	-	-	-	120000	-					TM61/89	<100 ug/kg
TPH (Aliphatics and Aromatics C5-C35)	-	-	-	520000	-					TM61/89	<100 ug/kg

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ALcontrol Geochem Analytical Services
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Job Number: 07/08569/02/01 **Matrix:** SOLID
Client: Celtic Technologies **Location:** TEN ACRES LANE
Client Ref. No.: C1077 **Client Contact:** Simon Haunch

Sample Identity	BH11	BH11	BH11	BH12	BH13					Method Code	LoD/Units
Depth (m)	1.9-2.4	5.6-8.3	5.6-8.3	3.0-3.5	0.6-1.1						
Sample Type	SOLID	SOLID	SOLID	SOLID	SOLID						
Sampled Date	15.06.07	01.06.07	15.06.07	15.06.07	15.06.07						
Sample Received Date	19.06.07	19.06.07	19.06.07	19.06.07	19.06.07						
Batch	8	8	8	8	8						
Sample Number(s)	**305-308**	**309-310**	**311**	**312-317**	**318-323**						
TPH C6-40	1200	570	-	-	320					TM154[#]	<10 mg/kg

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Job Number: 07/08569/02/01 **Matrix:** SOLID
Client: Celtic Technologies **Location:** TEN ACRES LANE
Client Ref. No.: C1077 **Client Contact:** Simon Haunch

Sample Identity	BH11	BH11	BH11	BH12	BH13					Method Code	LoD/Units
Depth (m)	1.9-2.4	5.6-8.3	5.6-8.3	3.0-3.5	0.6-1.1						
Sample Type	SOLID	SOLID	SOLID	SOLID	SOLID						
Sampled Date	15.06.07	01.06.07	15.06.07	15.06.07	15.06.07						
Sample Received Date	19.06.07	19.06.07	19.06.07	19.06.07	19.06.07						
Batch	8	8	8	8	8						
Sample Number(s)	**305-308**	**309-310**	**311**	**312-317**	**318-323**						
Phenols											
2-Chlorophenol	-	-	-	-	<100					TM157	<100 ug/kg
2-Methylphenol	-	-	-	-	130					TM157	<100 ug/kg
2-Nitrophenol	-	-	-	-	<100					TM157	<100 ug/kg
2,4-Dichlorophenol	-	-	-	-	<100					TM157	<100 ug/kg
2,4-Dimethylphenol	-	-	-	-	<100					TM157	<100 ug/kg
2,4,5-Trichlorophenol	-	-	-	-	<100					TM157	<100 ug/kg
2,4,6-Trichlorophenol	-	-	-	-	<100					TM157	<100 ug/kg
4-Chloro-3-methylphenol	-	-	-	-	<100					TM157	<100 ug/kg
4-Methylphenol	-	-	-	-	<100					TM157	<100 ug/kg
4-Nitrophenol	-	-	-	-	<100					TM157	<100 ug/kg
Pentachlorophenol	-	-	-	-	<100					TM157	<100 ug/kg
Phenol	-	-	-	-	<100					TM157	<100 ug/kg
PAHs											
2-Chloronaphthalene	-	-	-	-	<100					TM157	<100 ug/kg
2-Methylnaphthalene	-	-	-	-	4600					TM157	<100 ug/kg
Acenaphthene	-	-	-	-	190					TM157	<100 ug/kg
Acenaphthylene	-	-	-	-	<100					TM157	<100 ug/kg
Anthracene	-	-	-	-	220					TM157	<100 ug/kg
Benzo(a)anthracene	-	-	-	-	590					TM157	<100 ug/kg
Benzo(a)pyrene	-	-	-	-	370					TM157	<100 ug/kg
Benzo(b)fluoranthene	-	-	-	-	490					TM157	<100 ug/kg
Benzo(ghi)perylene	-	-	-	-	250					TM157	<100 ug/kg
Benzo(k)fluoranthene	-	-	-	-	180					TM157	<100 ug/kg
Chrysene	-	-	-	-	620					TM157	<100 ug/kg
Dibenzo(a,h)anthracene	-	-	-	-	<100					TM157	<100 ug/kg
Fluoranthene	-	-	-	-	1100					TM157	<100 ug/kg
Fluorene	-	-	-	-	140					TM157	<100 ug/kg
Indeno(1,2,3-cd)pyrene	-	-	-	-	180					TM157	<100 ug/kg
Naphthalene	-	-	-	-	3600					TM157	<100 ug/kg

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ALcontrol Geochem Analytical Services
Table Of Results

[#] ISO 17025 accredited
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[*] Subcontracted test
» Shown on prev. report

Job Number: 07/08569/02/01 **Matrix:** SOLID
Client: Celtic Technologies **Location:** TEN ACRES LANE
Client Ref. No.: C1077 **Client Contact:** Simon Haunch

Sample Identity	BH11	BH11	BH11	BH12	BH13					Method Code	LoD/Units
Depth (m)	1.9-2.4	5.6-8.3	5.6-8.3	3.0-3.5	0.6-1.1						
Sample Type	SOLID	SOLID	SOLID	SOLID	SOLID						
Sampled Date	15.06.07	01.06.07	15.06.07	15.06.07	15.06.07						
Sample Received Date	19.06.07	19.06.07	19.06.07	19.06.07	19.06.07						
Batch	8	8	8	8	8						
Sample Number(s)	**305-308**	**309-310**	**311**	**312-317**	**318-323**						
PAHs (cont)											
Phenanthrene	-	-	-	-	1800					TM157	<100 ug/kg
Pyrene	-	-	-	-	1200					TM157	<100 ug/kg
Phthalates											
Bis(2-ethylhexyl) phthalate	-	-	-	-	320					TM157	<100 ug/kg
Butylbenzyl phthalate	-	-	-	-	<100					TM157	<100 ug/kg
Di-n-butyl phthalate	-	-	-	-	<100					TM157	<100 ug/kg
Di-n-Octyl phthalate	-	-	-	-	<100					TM157	<100 ug/kg
Diethyl phthalate	-	-	-	-	<100					TM157	<100 ug/kg
Dimethyl phthalate	-	-	-	-	<100					TM157	<100 ug/kg
Other Semi-volatiles											
1,2-Dichlorobenzene	-	-	-	-	<100					TM157	<100 ug/kg
1,2,4-Trichlorobenzene	-	-	-	-	<100					TM157	<100 ug/kg
1,3-Dichlorobenzene	-	-	-	-	<100					TM157	<100 ug/kg
1,4-Dichlorobenzene	-	-	-	-	<100					TM157	<100 ug/kg
2-Nitroaniline	-	-	-	-	<100					TM157	<100 ug/kg
2,4-Dinitrotoluene	-	-	-	-	<100					TM157	<100 ug/kg
2,6-Dinitrotoluene	-	-	-	-	<100					TM157	<100 ug/kg
3-Nitroaniline	-	-	-	-	<100					TM157	<100 ug/kg
4-Bromophenylphenylether	-	-	-	-	<100					TM157	<100 ug/kg
4-Chloroaniline	-	-	-	-	<100					TM157	<100 ug/kg
4-Chlorophenylphenylether	-	-	-	-	<100					TM157	<100 ug/kg
4-Nitroaniline	-	-	-	-	<100					TM157	<100 ug/kg
Azobenzene	-	-	-	-	<100					TM157	<100 ug/kg
Bis(2-chloroethoxy)methane	-	-	-	-	<100					TM157	<100 ug/kg
Bis(2-chloroethyl)ether	-	-	-	-	<100					TM157	<100 ug/kg
Carbazole	-	-	-	-	<100					TM157	<100 ug/kg
Dibenzofuran	-	-	-	-	890					TM157	<100 ug/kg
Hexachlorobenzene	-	-	-	-	<100					TM157	<100 ug/kg

All results expressed on a dry weight basis.

Date 05.07.2007

Validated ✓
Preliminary

ALcontrol Geochem Analytical Services
Table Of Results

[#] ISO 17025 accredited
[M] MCERTS accredited
[*] Subcontracted test
[»] Shown on prev. report

Job Number: 07/08569/02/01 **Matrix:** SOLID
Client: Celtic Technologies **Location:** TEN ACRES LANE
Client Ref. No.: C1077 **Client Contact:** Simon Haunch

Sample Identity	BH11	BH11	BH11	BH12	BH13					Method Code	LoD/Units
Depth (m)	1.9-2.4	5.6-8.3	5.6-8.3	3.0-3.5	0.6-1.1						
Sample Type	SOLID	SOLID	SOLID	SOLID	SOLID						
Sampled Date	15.06.07	01.06.07	15.06.07	15.06.07	15.06.07						
Sample Received Date	19.06.07	19.06.07	19.06.07	19.06.07	19.06.07						
Batch	8	8	8	8	8						
Sample Number(s)	**305-308**	**309-310**	**311**	**312-317**	**318-323**						
Other Semi-volatiles (cont)											
Hexachlorobutadiene	-	-	-	-	<100					TM157	<100 ug/kg
Hexachlorocyclopentadiene	-	-	-	-	<100					TM157	<100 ug/kg
Hexachloroethane	-	-	-	-	<100					TM157	<100 ug/kg
Isophorone	-	-	-	-	<100					TM157	<100 ug/kg
N-nitrosodi-n-propylamine	-	-	-	-	<100					TM157	<100 ug/kg
Nitrobenzene	-	-	-	-	<100					TM157	<100 ug/kg

All results expressed on a dry weight basis.

Date 05.07.2007

Validated ✓
Preliminary

ALcontrol Geochem Analytical Services
Table Of Results

ISO 17025 accredited
M MCERTS accredited
* Subcontracted test
» Shown on prev. report

Job Number: 07/08569/02/01 **Matrix:** SOLID
Client: Celtic Technologies **Location:** TEN ACRES LANE
Client Ref. No.: C1077 **Client Contact:** Simon Haunch

Sample Identity	BH11	BH11	BH11	BH12	BH13					Method Code	LoD/Units
Depth (m)	1.9-2.4	5.6-8.3	5.6-8.3	3.0-3.5	0.6-1.1						
Sample Type	SOLID	SOLID	SOLID	SOLID	SOLID						
Sampled Date	15.06.07	01.06.07	15.06.07	15.06.07	15.06.07						
Sample Received Date	19.06.07	19.06.07	19.06.07	19.06.07	19.06.07						
Batch	8	8	8	8	8						
Sample Number(s)	**305-308**	**309-310**	**311**	**312-317**	**318-323**						
Volatile Organic Compounds											
Dichlorodifluoromethane	-	-	<4	<4	<4					TM116#	<4 ug/kg
Chloromethane	-	-	<7	<7	<7					TM116#	<7 ug/kg
Vinyl Chloride	-	-	<10	<10	<10					TM116#M	<10 ug/kg
Bromomethane	-	-	<13	<13	<13					TM116#	<13 ug/kg
Chloroethane	-	-	<14	<14	<14					TM116#	<14 ug/kg
Trichlorofluoromethane	-	-	<6	<6	<6					TM116#M	<6 ug/kg
trans-1-2-Dichloroethene	-	-	<11	<11	<11					TM116#	<11 ug/kg
Dichloromethane	-	-	<10	<10	<10					TM116#	<10 ug/kg
Carbon Disulphide	-	-	<7	<7	<7					TM116#M	<7 ug/kg
1.1-Dichloroethene	-	-	<10	<10	<10					TM116#M	<10 ug/kg
1.1-Dichloroethane	-	-	<8	<8	<8					TM116#M	<8 ug/kg
Methyl Tertiary Butyl Ether	-	-	<11	<11	<11					TM116#M	<11 ug/kg
cis-1-2-Dichloroethene	-	-	<5	<5	<5					TM116#M	<5 ug/kg
Bromochloromethane	-	-	<14	<14	<14					TM116#	<14 ug/kg
Chloroform	-	-	<8	<8	<8					TM116#M	<8 ug/kg
2.2-Dichloropropane	-	-	<12	<12	<12					TM116#	<12 ug/kg
1.2-Dichloroethane	-	-	<5	<5	<5					TM116#	<5 ug/kg
1.1.1-Trichloroethane	-	-	<7	<7	<7					TM116#M	<7 ug/kg
1.1-Dichloropropene	-	-	<11	<11	<11					TM116#M	<11 ug/kg
Benzene	-	-	<9	<9	47					TM116#M	<9 ug/kg
Carbontetrachloride	-	-	<14	<14	<14					TM116#M	<14 ug/kg
Dibromomethane	-	-	<9	<9	<9					TM116#	<9 ug/kg
1.2-Dichloropropane	-	-	<12	<12	<12					TM116#M	<12 ug/kg
Bromodichloromethane	-	-	<7	<7	<7					TM116#M	<7 ug/kg
Trichloroethene	-	-	<9	<9	60					TM116#M	<9 ug/kg
cis-1-3-Dichloropropene	-	-	<14	<14	<14					TM116#M	<14 ug/kg
trans-1-3-Dichloropropene	-	-	<14	<14	<14					TM116#M	<14 ug/kg
1.1.2-Trichloroethane	-	-	<10	<10	<10					TM116#	<10 ug/kg
Toluene	-	-	<5	<5	150					TM116#M	<5 ug/kg
1.3-Dichloropropane	-	-	<7	<7	<7					TM116#	<7 ug/kg

All results expressed on a dry weight basis.

Date 05.07.2007

Validated ✓
Preliminary

ALcontrol Geochem Analytical Services
Table Of Results

ISO 17025 accredited
M MCERTS accredited
* Subcontracted test
» Shown on prev. report

Job Number: 07/08569/02/01 **Matrix:** SOLID
Client: Celtic Technologies **Location:** TEN ACRES LANE
Client Ref. No.: C1077 **Client Contact:** Simon Haunch

Sample Identity	BH11	BH11	BH11	BH12	BH13					Method Code	LoD/Units
Depth (m)	1.9-2.4	5.6-8.3	5.6-8.3	3.0-3.5	0.6-1.1						
Sample Type	SOLID	SOLID	SOLID	SOLID	SOLID						
Sampled Date	15.06.07	01.06.07	15.06.07	15.06.07	15.06.07						
Sample Received Date	19.06.07	19.06.07	19.06.07	19.06.07	19.06.07						
Batch	8	8	8	8	8						
Sample Number(s)	**305-308**	**309-310**	**311**	**312-317**	**318-323**						
Volatile Organic Compounds (cont)											
Dibromochloromethane	-	-	<13	<13	<13					TM116#	<13 ug/kg
1.2-Dibromoethane	-	-	<12	<12	<12					TM116#	<12 ug/kg
Tetrachloroethene	-	-	<5	<5	<5					TM116#	<5 ug/kg
1.1.1.2-Tetrachloroethane	-	-	<10	<10	<10					TM116#M	<10 ug/kg
Chlorobenzene	-	-	<5	<5	<5					TM116#M	<5 ug/kg
Ethylbenzene	-	-	<4	<4	<4					TM116#	<4 ug/kg
p/m-Xylene	-	-	<14	<14	160					TM116#	<14 ug/kg
Bromoform	-	-	<10	<10	<10					TM116#	<10 ug/kg
Styrene	-	-	<10	<10	<10					TM116#	<10 ug/kg
1.1.2.2-Tetrachloroethane	-	-	<10	<10	<10					TM116#	<10 ug/kg
o-Xylene	-	-	<10	<10	60					TM116#	<10 ug/kg
1.2.3-Trichloropropane	-	-	<17	<17	<17					TM116#	<17 ug/kg
Isopropylbenzene	-	-	<5	<5	<5					TM116#	<5 ug/kg
Bromobenzene	-	-	<10	<10	<10					TM116#M	<10 ug/kg
2-Chlorotoluene	-	-	<9	<9	<9					TM116#	<9 ug/kg
Propylbenzene	-	-	<11	<11	<11					TM116#	<11 ug/kg
4-Chlorotoluene	-	-	<12	<12	<12					TM116#	<12 ug/kg
1.2.4-Trimethylbenzene	-	-	<9	<9	<9					TM116#	<9 ug/kg
4-Isopropyltoluene	-	-	48	<11	<11					TM116#	<11 ug/kg
1.3.5-Trimethylbenzene	-	-	<8	<8	<8					TM116#	<8 ug/kg
1.2-Dichlorobenzene	-	-	<12	<12	<12					TM116#M	<12 ug/kg
1.4-Dichlorobenzene	-	-	<5	<5	<5					TM116#M	<5 ug/kg
sec-Butylbenzene	-	-	<10	<10	<10					TM116#	<10 ug/kg
tert-Butylbenzene	-	-	<12	<12	<12					TM116#	<12 ug/kg
1.3-Dichlorobenzene	-	-	<6	<6	<6					TM116#	<6 ug/kg
n-Butylbenzene	-	-	<10	<10	<10					TM116#	<10 ug/kg
1.2-Dibromo-3-chloropropane	-	-	<14	<14	<14					TM116#	<14 ug/kg
1.2.4-Trichlorobenzene	-	-	<6	<6	<6					TM116#	<6 ug/kg
Naphthalene	-	-	<13	<13	<13					TM116#	<13 ug/kg
1.2.3-Trichlorobenzene	-	-	<11	<11	<11					TM116#	<11 ug/kg

All results expressed on a dry weight basis.

Date 05.07.2007

Validated ☑
Preliminary ☐

ALcontrol Geochem Analytical Services
Table Of Results

[#] ISO 17025 accredited
[M] MCERTS accredited
[*] Subcontracted test
» Shown on prev. report

Job Number: 07/08569/02/01 **Matrix:** SOLID
Client: Celtic Technologies **Location:** TEN ACRES LANE
Client Ref. No.: C1077 **Client Contact:** Simon Haunch

Sample Identity	BH11	BH11	BH11	BH12	BH13					Method Code	LoD/Units
Depth (m)	1.9-2.4	5.6-8.3	5.6-8.3	3.0-3.5	0.6-1.1						
Sample Type	SOLID	SOLID	SOLID	SOLID	SOLID						
Sampled Date	15.06.07	01.06.07	15.06.07	15.06.07	15.06.07						
Sample Received Date	19.06.07	19.06.07	19.06.07	19.06.07	19.06.07						
Batch	8	8	8	8	8						
Sample Number(s)	**305-308**	**309-310**	**311**	**312-317**	**318-323**						
Volatile Organic Compounds (cont)											
Hexachlorobutadiene	-	-	<12	<12	<12					TM116[#]	<12 ug/kg

All results expressed on a dry weight basis.

Date 05.07.2007

ALcontrol Geochem Analytical Services
Table Of Results - Appendix

Job Number: 07/08569/02/01
Client: Celtic Technologies
Client Ref. No.: C1077

Report Key :

Results expressed as (e.g.) 1.03E-07 is equivalent to 1.03×10^{-7}

NDP	No Determination Possible	*	Subcontracted test
NFD	No Fibres Detected	»	Result previously reported (Incremental reports only)
#	ISO 17025 accredited	M	MCERTS Accredited
PFD	Possible Fibres Detected	EC	Equivalent Carbon (Aromatics C8-C35)

Note: Method detection limits are not always achievable due to various circumstances beyond our control.

Summary of Method Codes contained within report :

Method No.	Reference	Description	ISO 17025 Accredited	MCERTS Accredited	Wet/Dry Sample [1]	Surrogate Corrected
TM001	In - house Method	Screening of Soils for Fibres			WET	
TM062	MEWAM BOOK 124 1988.HMSO/ Method 17.7, Second Site property, March 2003	Determination of Phenolic compounds by HPLC with electro-chemical detection	✓	✓	WET	
TM074	Modified: US EPA Method 8100	Determination of Polynuclear Aromatic Hydrocarbons (PAH) by GC-MS. MCERTS Accreditation on Soils for Naphthalene except when Kerosene present.	✓		DRY	
TM074	Modified: US EPA Method 8100	Determination of Polynuclear Aromatic Hydrocarbons (PAH) by GC-MS. MCERTS Accreditation on Soils for Naphthalene except when Kerosene present.	✓	✓	DRY	
TM089	Modified: US EPA Methods 8020 & 602	Determination of Gasoline Range Hydrocarbons (GRO) and BTEX (MTBE) compounds by Headspace GC-FID (C4-C12)			WET	
TM089	Modified: US EPA Methods 8020 & 602	Determination of Gasoline Range Hydrocarbons (GRO) and BTEX (MTBE) compounds by Headspace GC-FID (C4-C12)	✓		WET	
TM089	Modified: US EPA Methods 8020 & 602	Determination of Gasoline Range Hydrocarbons (GRO) and BTEX (MTBE) compounds by Headspace GC-FID (C4-C12)	✓	✓	WET	
TM097	Modified: US EPA Method 325.1 & 325.2	Determination of Chloride using the Kone Analyser	✓	✓	DRY	
TM098	Method 4500E, AWWA/APHA, 20th Ed., 1999	Determination of Sulphate using the Kone Analyser	✓	✓	DRY	
TM101	Method 4500B & C, AWWA/APHA, 20th Ed., 1999	Determination of Sulphide in soil and water samples using the Kone Analyser			WET	
TM116	Modified: US EPA Method 8260, 8120, 8020, 624, 610 & 602	Determination of Volatile Organic Compounds by Headspace / GC-MS			WET	
TM116	Modified: US EPA Method 8260, 8120, 8020, 624, 610 & 602	Determination of Volatile Organic Compounds by Headspace / GC-MS	✓		WET	
TM116	Modified: US EPA Method 8260, 8120, 8020, 624, 610 & 602	Determination of Volatile Organic Compounds by Headspace / GC-MS	✓	✓	WET	
TM129	Method 3120B, AWWA/APHA, 20th Ed., 1999 / Modified: US EPA Method 3050B	Determination of Metal Cations by IRIS Emission Spectrometer			DRY	

[1] Applies to Solid samples only. **DRY** indicates samples have been dried at 35°C. **NA** = not applicable.

ALcontrol Geochem Analytical Services
Table Of Results - Appendix

Job Number: 07/08569/02/01
Client: Celtic Technologies
Client Ref. No.: C1077

Report Key :

Results expressed as (e.g.) 1.03E-07 is equivalent to 1.03×10^{-7}

NDP	No Determination Possible	*	Subcontracted test
NFD	No Fibres Detected	»	Result previously reported (Incremental reports only)
#	ISO 17025 accredited	M	MCERTS Accredited
PFD	Possible Fibres Detected	EC	Equivalent Carbon (Aromatics C8-C35)

Note: Method detection limits are not always achievable due to various circumstances beyond our control.

Summary of Method Codes contained within report :

Method No.	Reference	Description	ISO 17025 Accredited	MCERTS Accredited	Wet/Dry Sample [1]	Surrogate Corrected
TM129	Method 3120B, AWWA/APHA, 20th Ed., 1999 / Modified: US EPA Method 3050B	Determination of Metal Cations by IRIS Emission Spectrometer	✓		DRY	
TM129	Method 3120B, AWWA/APHA, 20th Ed., 1999 / Modified: US EPA Method 3050B	Determination of Metal Cations by IRIS Emission Spectrometer	✓	✓	DRY	
TM132	In - house Method	ELTRA CS800 Operators Guide	✓	✓	DRY	
TM133	BS 1377: Part 3 1990	Determination of pH in Soil and Water using the GLpH pH Meter	✓	✓	WET	
TM136	Method 17.10, Second Site property, March 2003	Determination of Sulphur by HPLC	✓		DRY	
TM143	Modified: US EPA Method 8270C	Determination of Semivolatile Organic Compounds by GC-MS			WET	
TM153	Method 4500A,B,C, I, M AWWA/APHA, 20th Ed., 1999	Determination of Total Cyanide, Free (Easily Liberatable) Cyanide and Thiocyanate using the "Skalar SANS+ System" Segmented Flow Analyser	✓		WET	
TM154	In - house Method	Determination of Petroleum Hydrocarbons by EZ Flash GC-FID in the Carbon range C6- C40	✓		WET	
TM157		Determination of SVOC in Soils by GC-MS extracted by sonication in DCM/Acetone			WET	
TM173		Determination of Speciated Extractable Petroleum Hydrocarbons in Soils by GC-FID	✓		DRY	
TM61/89		see TM061 and TM089 for details			WET	

[1] Applies to Solid samples only. **DRY** indicates samples have been dried at 35°C. **NA** = not applicable.

ALcontrol Geochem Analytical Services
Table Of Results - Appendix

Job Number: 07/08569/02/01
Client: Celtic Technologies
Client Ref. No.: C1077

Summary of Coolbox temperatures

Batch No.	Coolbox Temperature (°C)
8	14.4

ALcontrol Geochem Analytical Services
Sample Descriptions

Job Number: 07/09052/02/01
Client: Celtic Technologies
Client Ref : C1077

Grain sizes

<0.063mm	Very Fine
0.1mm - 0.063mm	Fine
0.1mm - 2mm	Medium
2mm - 10mm	Coarse
>10mm	Very Coarse

Sample Identity	Depth (m)	Colour	Grain Size	Description	Batch
TP8	2.2-.2.4	Brown	0.1mm - 0.063mm	Sandy Clay with some Stones	1
TP8	2.2-2.4	Brown	0.1mm - 0.063mm	Sandy Clay with some Stones	1
TP11	0.7	Brown	0.1mm - 0.063mm	Sandy Clay with some Stones	1
TP11A	1.3-2.0	Brown	0.1mm - 0.063mm	Sandy Clay with some Stones	1
TP11A	2.9	Grey	<0.063mm	Clay with some Stones	1
TP19		Brown	<0.063mm	Clay with some Stones	1
TP21	1.2	Brown	0.1mm - 0.063mm	Sandy Clay with some Stones	1
TP24	0.0-0.45	Dark Brown	0.1mm - 0.063mm	Sandy Clay with some Stones	1
TP26	1.0	Brown	0.1mm - 0.063mm	Sandy Clay with some Stones	1
TP26	1.6	Brown	<0.063mm	Clay with some Stones	1
TP27	1.4-2.0	Brown	<0.063mm	Clay with some Stones	1
TP30	1.1-2.8	Dark Brown	0.1mm - 0.063mm	Sandy Clay with some Stones	1
TP31	3.0-3.3	Brown	0.1mm - 0.063mm	Sandy Clay with some Stones	1
TP32	1.0	Rust	0.1mm - 0.063mm	Sandy Clay	1
TP32	3.0	Brown	0.1mm - 0.063mm	Sandy Clay with some Stones	1
TP33	2.5-3.0	Brown	0.1mm - 0.063mm	Sandy Clay with some Stones	1
TP35	0.6-12	Dark Brown	<0.063mm	Clay with some Stones	1
TP38	1.2	Dark Brown	<0.063mm	Clay with some Stones	1
TP38	1.6	Brown	<0.063mm	Clay	1
TP39	0.2-0.7	Dark Brown	<0.063mm	Clay with some Stones	1
TP39	1.5	Brown	<0.063mm	Clay	1
TP40	1.45	Dark Brown	0.1mm - 2mm	Sandy Clay with some Stones	1
TP40	1.9	Dark Brown	<0.063mm	Clay with some Stones	1
TP40	2.0	Brown	<0.063mm	Clay	1
TP42	1.2	Dark Brown	0.1mm - 2mm	Sandy Clay with some Stones	1
TP43	2.9	Brown	<0.063mm	Silty Clay	1
TP43	3.0-3.15	Brown	<0.063mm	Clay	1
TT1	1.3	Dark Brown	2mm - 10mm	Gravel	1
TT1	2.1	Brown	<0.063mm	Clay	1
WS39	0.2-0.7	Dark Brown	<0.063mm	Clay with some Stones	1

* These descriptions are only intended to act as a cross check if sample identities are questioned, and to provide a log of sample matrices with respect to MCERTS validation. They are not intended as full geological descriptions.

We are accredited to MCERTS for sand, clay and loam/topsoil, or any of these materials-whether these are derived from naturally occurring soil profiles, or from fill/made ground, as long as these materials constitute the major part of the sample.
Other coarse granular materials such as concrete, gravel and brick are not accredited if they comprise the major part of the sample.
[1] Sample Description supplied by client

Validated ✓
Preliminary

ALcontrol Geochem Analytical Services
Table Of Results

[#] ISO 17025 accredited
[M] MCERTS accredited
* Subcontracted test
» Shown on prev. report

Job Number: 07/09052/02/01 **Matrix:** SOLID
Client: Celtic Technologies **Location:** Not Specified
Client Ref. No.: C1077 **Client Contact:** Simon Haunch

Sample Identity	TP8	TP8	TP11	TP11A	TP11A	TP19	TP21	TP24	TP26	Method Code	LoD/Units
Depth (m)	2.2-.2.4	2.2-2.4	0.7	1.3-2.0	2.9		1.2	0.0-0.45	1.0		
Sample Type	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID		
Sampled Date	21.05.07	21.05.07	21.05.07	21.05.07	21.05.07			17.05.07	21.05.07		
Sample Received Date	24.05.07	24.05.07	24.05.07	24.05.07	24.05.07	24.05.07	24.05.07	24.05.07	24.05.07		
Batch	1	1	1	1	1	1	1	1	1		
Sample Number(s)	**1**	**2-4**	**5-7**	**8-10**	**11**	**12**	**13**	**14**	**15-17**		
Total Sulphate	-	-	-	1100	-	-	3300	920	5000	TM129[#M]	<100 mg/kg
Boron Water Soluble	-	-	<3.5	<3.5	-	-	14	<3.5	-	TM129[#M]	<3.5 mg/kg
Arsenic	-	-	34	31	-	-	46	37	-	TM129[#M]	<3.0 mg/kg
Cadmium	-	-	<0.3	1.7	-	-	11	0.4	-	TM129	<0.3 mg/kg
Chromium	-	-	30	54	-	-	130	27	-	TM129[#M]	<4.5 mg/kg
Copper	-	-	84	430	-	-	610	110	-	TM129[#]	<6 mg/kg
Lead	-	-	380	830	-	-	2600	180	-	TM129[#M]	<2 mg/kg
Mercury	-	-	<0.6	1.1	-	-	3.0	<0.6	-	TM129[#M]	<0.6 mg/kg
Nickel	-	-	29	21	-	-	120	50	-	TM129[#M]	<0.9 mg/kg
Selenium	-	-	<3	<3	-	-	<3	<3	-	TM129[#M]	<3 mg/kg
Zinc	-	-	130	800	-	-	2500	190	-	TM129[#M]	<2.5 mg/kg
Total Oxidised Nitrogen as N	-	-	<1	-	-	-	6	-	-	TM102[#]	<1 mg/kg
Water Soluble Sulphate as SO4 2:1 Extract	-	-	-	0.066	-	-	0.60	0.10	0.77	TM098[#M]	<0.003 g/l
Acid Soluble Sulphide	-	-	-	<50	-	-	<50	<50	<50	TM101	<50 mg/kg
Chloride (soluble)	-	-	-	10	-	-	32	14	120	TM097[#M]	<2 mg/kg
Phenols Monohydric	<0.15	-	-	<0.15	-	-	-	-	<0.15	TM062[#M]	<0.15 mg/kg
Total Cyanide	-	-	<1	-	-	-	-	-	<1	TM153[#]	<1 mg/kg
Asbestos Presence Screen	No Fibres Detected	-	No Fibres Detected	-	-	-	No Fibres Detected	-	No Fibres Detected	TM001	NONE
Calorific Value	-	-	-	-	-	-	1900	-	-	TM132[#]	<100 KJ/Kg
Elemental Sulphur	-	-	2100	-	-	-	-	-	-	TM136[#]	<70 mg/kg
pH Value	7.89	-	7.73	8.19	8.23	7.74	7.51	7.05	6.29	TM133[#M]	<1.00 pH Units

All results expressed on a dry weight basis.

Date 06.07.2007

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ALcontrol Geochem Analytical Services
Table Of Results

[#] ISO 17025 accredited
[M] MCERTS accredited
[*] Subcontracted test
» Shown on prev. report

Job Number: 07/09052/02/01 **Matrix:** SOLID
Client: Celtic Technologies **Location:** Not Specified
Client Ref. No.: C1077 **Client Contact:** Simon Haunch

Sample Identity	TP8	TP8	TP11	TP11A	TP11A	TP19	TP21	TP24	TP26	Method Code	LoD/Units
Depth (m)	2.2-.2.4	2.2-2.4	0.7	1.3-2.0	2.9		1.2	0.0-0.45	1.0		
Sample Type	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID		
Sampled Date	21.05.07	21.05.07	21.05.07	21.05.07	21.05.07			17.05.07	21.05.07		
Sample Received Date	24.05.07	24.05.07	24.05.07	24.05.07	24.05.07	24.05.07	24.05.07	24.05.07	24.05.07		
Batch	1	1	1	1	1	1	1	1	1		
Sample Number(s)	**1**	**2-4**	**5-7**	**8-10**	**11**	**12**	**13**	**14**	**15-17**		
TPH C6-40	-	520	6800	-	-	-	-	-	620	TM154[#]	<10 mg/kg

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Job Number: 07/09052/02/01 **Matrix:** SOLID
Client: Celtic Technologies **Location:** Not Specified
Client Ref. No.: C1077 **Client Contact:** Simon Haunch

Sample Identity	TP8	TP8	TP11	TP11A	TP11A	TP19	TP21	TP24	TP26	Method Code	LoD/Units
Depth (m)	2.2-.2.4	2.2-2.4	0.7	1.3-2.0	2.9		1.2	0.0-0.45	1.0		
Sample Type	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID		
Sampled Date	21.05.07	21.05.07	21.05.07	21.05.07	21.05.07			17.05.07	21.05.07		
Sample Received Date	24.05.07	24.05.07	24.05.07	24.05.07	24.05.07	24.05.07	24.05.07	24.05.07	24.05.07		
Batch	1	1	1	1	1	1	1	1	1		
Sample Number(s)	**1**	**2-4**	**5-7**	**8-10**	**11**	**12**	**13**	**14**	**15-17**		
PAH by GCMS											
Naphthalene	-	18000	-	2400	-	-	-	-	-	TM074#M	<10 ug/kg
Acenaphthylene	-	63	-	700	-	-	-	-	-	TM074#M	<5 ug/kg
Acenaphthene	-	3600	-	6400	-	-	-	-	-	TM074#M	<14 ug/kg
Fluorene	-	3100	-	4900	-	-	-	-	-	TM074#M	<12 ug/kg
Phenanthrene	-	18000	-	35000	-	-	-	-	-	TM074#M	<21 ug/kg
Anthracene	-	3100	-	10000	-	-	-	-	-	TM074#M	<9 ug/kg
Fluoranthene	-	14000	-	47000	-	-	-	-	-	TM074#M	<25 ug/kg
Pyrene	-	14000	-	41000	-	-	-	-	-	TM074#M	<22 ug/kg
Benz(a)anthracene	-	6100	-	18000	-	-	-	-	-	TM074#M	<12 ug/kg
Chrysene	-	7300	-	19000	-	-	-	-	-	TM074#M	<10 ug/kg
Benzo(b)fluoranthene	-	3500	-	18000	-	-	-	-	-	TM074#M	<16 ug/kg
Benzo(k)fluoranthene	-	3100	-	8800	-	-	-	-	-	TM074#M	<25 ug/kg
Benzo(a)pyrene	-	5200	-	20000	-	-	-	-	-	TM074#M	<12 ug/kg
Indeno(123cd)pyrene	-	3000	-	11000	-	-	-	-	-	TM074#M	<11 ug/kg
Dibenzo(ah)anthracene	-	1000	-	3400	-	-	-	-	-	TM074#M	<8 ug/kg
Benzo(ghi)perylene	-	4000	-	13000	-	-	-	-	-	TM074#M	<10 ug/kg
PAH 16 Total	-	110000	-	260000	-	-	-	-	-	TM074#M	<25 ug/kg

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ALcontrol Geochem Analytical Services
Table Of Results

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Job Number: 07/09052/02/01 **Matrix:** SOLID
Client: Celtic Technologies **Location:** Not Specified
Client Ref. No.: C1077 **Client Contact:** Simon Haunch

Sample Identity	TP8	TP8	TP11	TP11A	TP11A	TP19	TP21	TP24	TP26	Method Code	LoD/Units
Depth (m)	2.2-.2.4	2.2-2.4	0.7	1.3-2.0	2.9		1.2	0.0-0.45	1.0		
Sample Type	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID		
Sampled Date	21.05.07	21.05.07	21.05.07	21.05.07	21.05.07			17.05.07	21.05.07		
Sample Received Date	24.05.07	24.05.07	24.05.07	24.05.07	24.05.07	24.05.07	24.05.07	24.05.07	24.05.07		
Batch	1	1	1	1	1	1	1	1	1		
Sample Number(s)	**1**	**2-4**	**5-7**	**8-10**	**11**	**12**	**13**	**14**	**15-17**		
SVOC by GCMS											
Phenols											
2-Chlorophenol	-	<1000	<100	<100	-	-	-	-	<100	TM157	<100 ug/kg
2-Methylphenol	-	22000	140	<100	-	-	-	-	<100	TM157	<100 ug/kg
2-Nitrophenol	-	<1000	<100	<100	-	-	-	-	<100	TM157	<100 ug/kg
2,4-Dichlorophenol	-	<1000	<100	<100	-	-	-	-	<100	TM157	<100 ug/kg
2,4-Dimethylphenol	-	27000	<100	<100	-	-	-	-	<100	TM157	<100 ug/kg
2,4,5-Trichlorophenol	-	<1000	<100	<100	-	-	-	-	<100	TM157	<100 ug/kg
2,4,6-Trichlorophenol	-	<1000	<100	<100	-	-	-	-	<100	TM157	<100 ug/kg
4-Chloro-3-methylphenol	-	<1000	<100	<100	-	-	-	-	<100	TM157	<100 ug/kg
4-Methylphenol	-	53000	410	<100	-	-	-	-	<100	TM157	<100 ug/kg
4-Nitrophenol	-	<1000	<100	<100	-	-	-	-	<100	TM157	<100 ug/kg
Pentachlorophenol	-	<1000	<100	<100	-	-	-	-	<100	TM157	<100 ug/kg
Phenol	-	19000	<100	<100	-	-	-	-	<100	TM157	<100 ug/kg

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ALcontrol Geochem Analytical Services
Table Of Results

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Job Number: 07/09052/02/01 **Matrix:** SOLID
Client: Celtic Technologies **Location:** Not Specified
Client Ref. No.: C1077 **Client Contact:** Simon Haunch

Sample Identity	TP8	TP8	TP11	TP11A	TP11A	TP19	TP21	TP24	TP26	Method Code	LoD/Units
Depth (m)	2.2-.2.4	2.2-2.4	0.7	1.3-2.0	2.9		1.2	0.0-0.45	1.0		
Sample Type	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID		
Sampled Date	21.05.07	21.05.07	21.05.07	21.05.07	21.05.07			17.05.07	21.05.07		
Sample Received Date	24.05.07	24.05.07	24.05.07	24.05.07	24.05.07	24.05.07	24.05.07	24.05.07	24.05.07		
Batch	1	1	1	1	1	1	1	1	1		
Sample Number(s)	**1**	**2-4**	**5-7**	**8-10**	**11**	**12**	**13**	**14**	**15-17**		
PAHs											
2-Chloronaphthalene	-	<1000	<100	<100	-	-	-	-	<100	TM157	<100 ug/kg
2-Methylnaphthalene	-	180000	3100	210	-	-	-	-	<100	TM157	<100 ug/kg
Phthalates											
Bis(2-ethylhexyl) phthalate	-	<1000	<100	<100	-	-	-	-	200	TM157	<100 ug/kg
Butylbenzyl phthalate	-	<1000	<100	<100	-	-	-	-	<100	TM157	<100 ug/kg
Di-n-butyl phthalate	-	<1000	<100	<100	-	-	-	-	<100	TM157	<100 ug/kg
Di-n-Octyl phthalate	-	<1000	<100	<100	-	-	-	-	<100	TM157	<100 ug/kg
Diethyl phthalate	-	<1000	<100	<100	-	-	-	-	<100	TM157	<100 ug/kg
Dimethyl phthalate	-	<1000	<100	<100	-	-	-	-	<100	TM157	<100 ug/kg
Other Semi-volatiles											
1,2-Dichlorobenzene	-	<1000	<100	<100	-	-	-	-	<100	TM157	<100 ug/kg
1,2,4-Trichlorobenzene	-	<1000	<100	<100	-	-	-	-	<100	TM157	<100 ug/kg
1,3-Dichlorobenzene	-	<1000	<100	<100	-	-	-	-	<100	TM157	<100 ug/kg
1,4-Dichlorobenzene	-	<1000	<100	<100	-	-	-	-	<100	TM157	<100 ug/kg
2-Nitroaniline	-	<1000	<100	<100	-	-	-	-	<100	TM157	<100 ug/kg
2,4-Dinitrotoluene	-	13000	<100	<100	-	-	-	-	<100	TM157	<100 ug/kg
2,6-Dinitrotoluene	-	<1000	<100	<100	-	-	-	-	<100	TM157	<100 ug/kg
3-Nitroaniline	-	<1000	<100	<100	-	-	-	-	<100	TM157	<100 ug/kg
4-Bromophenylphenylether	-	<1000	<100	<100	-	-	-	-	<100	TM157	<100 ug/kg
4-Chloroaniline	-	<1000	<100	<100	-	-	-	-	<100	TM157	<100 ug/kg
4-Chlorophenylphenylether	-	<1000	<100	<100	-	-	-	-	<100	TM157	<100 ug/kg
4-Nitroaniline	-	<1000	<100	<100	-	-	-	-	<100	TM157	<100 ug/kg
Azobenzene	-	<1000	<100	<100	-	-	-	-	<100	TM157	<100 ug/kg
Bis(2-chloroethoxy)methane	-	<1000	<100	<100	-	-	-	-	<100	TM157	<100 ug/kg
Bis(2-chloroethyl)ether	-	<1000	<100	<100	-	-	-	-	<100	TM157	<100 ug/kg
Carbazole	-	70000	1700	300	-	-	-	-	<100	TM157	<100 ug/kg
Dibenzofuran	-	80000	2900	380	-	-	-	-	<100	TM157	<100 ug/kg
Hexachlorobenzene	-	<1000	<100	<100	-	-	-	-	<100	TM157	<100 ug/kg

All results expressed on a dry weight basis.

Date 06.07.2007

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Preliminary

ALcontrol Geochem Analytical Services
Table Of Results

[#] ISO 17025 accredited
[M] MCERTS accredited
[*] Subcontracted test
[»] Shown on prev. report

Job Number: 07/09052/02/01 **Matrix:** SOLID
Client: Celtic Technologies **Location:** Not Specified
Client Ref. No.: C1077 **Client Contact:** Simon Haunch

Sample Identity	TP8	TP8	TP11	TP11A	TP11A	TP19	TP21	TP24	TP26	Method Code	LoD/Units
Depth (m)	2.2-.2.4	2.2-2.4	0.7	1.3-2.0	2.9		1.2	0.0-0.45	1.0		
Sample Type	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID		
Sampled Date	21.05.07	21.05.07	21.05.07	21.05.07	21.05.07			17.05.07	21.05.07		
Sample Received Date	24.05.07	24.05.07	24.05.07	24.05.07	24.05.07	24.05.07	24.05.07	24.05.07	24.05.07		
Batch	1	1	1	1	1	1	1	1	1		
Sample Number(s)	**1**	**2-4**	**5-7**	**8-10**	**11**	**12**	**13**	**14**	**15-17**		
Other Semi-volatiles (cont)											
Hexachlorobutadiene	-	<1000	<100	<100	-	-	-	-	<100	TM157	<100 ug/kg
Hexachlorocyclopentadiene	-	<1000	<100	<100	-	-	-	-	<100	TM157	<100 ug/kg
Hexachloroethane	-	<1000	<100	<100	-	-	-	-	<100	TM157	<100 ug/kg
Isophorone	-	<1000	<100	<100	-	-	-	-	<100	TM157	<100 ug/kg
N-nitrosodi-n-propylamine	-	<1000	<100	<100	-	-	-	-	<100	TM157	<100 ug/kg
Nitrobenzene	-	<1000	<100	<100	-	-	-	-	<100	TM157	<100 ug/kg

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ALcontrol Geochem Analytical Services
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Job Number: 07/09052/02/01 **Matrix:** SOLID
Client: Celtic Technologies **Location:** Not Specified
Client Ref. No.: C1077 **Client Contact:** Simon Haunch

Sample Identity	TP8	TP8	TP11	TP11A	TP11A	TP19	TP21	TP24	TP26	Method Code	LoD/Units
Depth (m)	2.2-.2.4	2.2-2.4	0.7	1.3-2.0	2.9		1.2	0.0-0.45	1.0		
Sample Type	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID		
Sampled Date	21.05.07	21.05.07	21.05.07	21.05.07	21.05.07			17.05.07	21.05.07		
Sample Received Date	24.05.07	24.05.07	24.05.07	24.05.07	24.05.07	24.05.07	24.05.07	24.05.07	24.05.07		
Batch	1	1	1	1	1	1	1	1	1		
Sample Number(s)	**1**	**2-4**	**5-7**	**8-10**	**11**	**12**	**13**	**14**	**15-17**		
Volatile Organic Compounds											
Dichlorodifluoromethane	-	<4	<4	<4	-	-	-	-	<4	TM116[#]	<4 ug/kg
Chloromethane	-	<7	<7	<7	-	-	-	-	<7	TM116[#]	<7 ug/kg
Vinyl Chloride	-	<10	<10	<10	-	-	-	-	<10	TM116[#M]	<10 ug/kg
Bromomethane	-	<13	<13	<13	-	-	-	-	<13	TM116[#]	<13 ug/kg
Chloroethane	-	<14	<14	<14	-	-	-	-	<14	TM116[#]	<14 ug/kg
Trichlorofluoromethane	-	<6	<6	<6	-	-	-	-	<6	TM116[#M]	<6 ug/kg
trans-1-2-Dichloroethene	-	<11	<11	<11	-	-	-	-	<11	TM116[#]	<11 ug/kg
Dichloromethane	-	<10	<10	<10	-	-	-	-	<10	TM116[#]	<10 ug/kg
Carbon Disulphide	-	<7	<7	<7	-	-	-	-	<7	TM116[#M]	<7 ug/kg
1.1-Dichloroethene	-	<10	<10	<10	-	-	-	-	<10	TM116[#M]	<10 ug/kg
1.1-Dichloroethane	-	<8	<8	<8	-	-	-	-	<8	TM116[#M]	<8 ug/kg
Methyl Tertiary Butyl Ether	-	<11	<11	<11	-	-	-	-	<11	TM116[#M]	<11 ug/kg
cis-1-2-Dichloroethene	-	<5	<5	<5	-	-	-	-	<5	TM116[#M]	<5 ug/kg
Bromochloromethane	-	<14	<14	<14	-	-	-	-	<14	TM116[#]	<14 ug/kg
Chloroform	-	<8	<8	<8	-	-	-	-	<8	TM116[#M]	<8 ug/kg
2.2-Dichloropropane	-	<12	<12	<12	-	-	-	-	<12	TM116[#]	<12 ug/kg
1.2-Dichloroethane	-	<5	<5	<5	-	-	-	-	<5	TM116[#]	<5 ug/kg
1.1.1-Trichloroethane	-	<7	<7	<7	-	-	-	-	<7	TM116[#M]	<7 ug/kg
1.1-Dichloropropene	-	<11	<11	<11	-	-	-	-	<11	TM116[#M]	<11 ug/kg
Benzene	-	<9	<9	<9	-	-	-	-	<9	TM116[#M]	<9 ug/kg
Carbontetrachloride	-	<14	<14	<14	-	-	-	-	<14	TM116[#M]	<14 ug/kg
Dibromomethane	-	<9	<9	<9	-	-	-	-	<9	TM116[#]	<9 ug/kg
1.2-Dichloropropane	-	<12	<12	<12	-	-	-	-	<12	TM116[#M]	<12 ug/kg
Bromodichloromethane	-	<7	<7	<7	-	-	-	-	<7	TM116[#M]	<7 ug/kg
Trichloroethene	-	<9	<9	<9	-	-	-	-	<9	TM116[#M]	<9 ug/kg
cis-1-3-Dichloropropene	-	<14	<14	<14	-	-	-	-	<14	TM116[#M]	<14 ug/kg
trans-1-3-Dichloropropene	-	<14	<14	<14	-	-	-	-	<14	TM116[#M]	<14 ug/kg
1.1.2-Trichloroethane	-	<10	<10	<10	-	-	-	-	<10	TM116[#]	<10 ug/kg
Toluene	-	<5	13	<5	-	-	-	-	<5	TM116[#M]	<5 ug/kg
1.3-Dichloropropane	-	<7	<7	<7	-	-	-	-	<7	TM116[#]	<7 ug/kg

All results expressed on a dry weight basis.

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ALcontrol Geochem Analytical Services
Table Of Results

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Job Number: 07/09052/02/01 **Matrix:** SOLID
Client: Celtic Technologies **Location:** Not Specified
Client Ref. No.: C1077 **Client Contact:** Simon Haunch

Sample Identity	TP8	TP8	TP11	TP11A	TP11A	TP19	TP21	TP24	TP26	Method Code	LoD/Units
Depth (m)	2.2-.2.4	2.2-2.4	0.7	1.3-2.0	2.9		1.2	0.0-0.45	1.0		
Sample Type	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID		
Sampled Date	21.05.07	21.05.07	21.05.07	21.05.07	21.05.07			17.05.07	21.05.07		
Sample Received Date	24.05.07	24.05.07	24.05.07	24.05.07	24.05.07	24.05.07	24.05.07	24.05.07	24.05.07		
Batch	1	1	1	1	1	1	1	1	1		
Sample Number(s)	**1**	**2-4**	**5-7**	**8-10**	**11**	**12**	**13**	**14**	**15-17**		
Volatile Organic Compounds (cont)											
Dibromochloromethane	-	<13	<13	<13	-	-	-	-	<13	TM116#	<13 ug/kg
1.2-Dibromoethane	-	<12	<12	<12	-	-	-	-	<12	TM116#	<12 ug/kg
Tetrachloroethene	-	<5	<5	<5	-	-	-	-	<5	TM116#	<5 ug/kg
1.1.1.2-Tetrachloroethane	-	<10	<10	<10	-	-	-	-	<10	TM116#M	<10 ug/kg
Chlorobenzene	-	<5	<5	<5	-	-	-	-	<5	TM116#M	<5 ug/kg
Ethylbenzene	-	<4	15	<4	-	-	-	-	<4	TM116#	<4 ug/kg
p/m-Xylene	-	<14	65	<14	-	-	-	-	<14	TM116#	<14 ug/kg
Bromoform	-	<10	<10	<10	-	-	-	-	<10	TM116#	<10 ug/kg
Styrene	-	<10	<10	<10	-	-	-	-	<10	TM116#	<10 ug/kg
1.1.2.2-Tetrachloroethane	-	<10	<10	<10	-	-	-	-	<10	TM116#	<10 ug/kg
o-Xylene	-	<10	43	<10	-	-	-	-	<10	TM116#	<10 ug/kg
1.2.3-Trichloropropane	-	<17	<17	<17	-	-	-	-	<17	TM116#	<17 ug/kg
Isopropylbenzene	-	<5	7	<5	-	-	-	-	<5	TM116#	<5 ug/kg
Bromobenzene	-	<10	<10	<10	-	-	-	-	<10	TM116#M	<10 ug/kg
2-Chlorotoluene	-	<9	<9	<9	-	-	-	-	<9	TM116#	<9 ug/kg
Propylbenzene	-	<11	<11	<11	-	-	-	-	<11	TM116#	<11 ug/kg
4-Chlorotoluene	-	<12	<12	<12	-	-	-	-	<12	TM116#	<12 ug/kg
1.2.4-Trimethylbenzene	-	<9	78	<9	-	-	-	-	<9	TM116#	<9 ug/kg
4-Isopropyltoluene	-	<11	<11	<11	-	-	-	-	<11	TM116#	<11 ug/kg
1.3.5-Trimethylbenzene	-	<8	60	<8	-	-	-	-	<8	TM116#	<8 ug/kg
1.2-Dichlorobenzene	-	<12	<12	<12	-	-	-	-	<12	TM116#M	<12 ug/kg
1.4-Dichlorobenzene	-	<5	<5	<5	-	-	-	-	<5	TM116#M	<5 ug/kg
sec-Butylbenzene	-	<10	<10	<10	-	-	-	-	<10	TM116#	<10 ug/kg
tert-Butylbenzene	-	<12	<12	<12	-	-	-	-	<12	TM116#	<12 ug/kg
1.3-Dichlorobenzene	-	<6	<6	<6	-	-	-	-	<6	TM116#	<6 ug/kg
n-Butylbenzene	-	<10	<10	<10	-	-	-	-	<10	TM116#	<10 ug/kg
1.2-Dibromo-3-chloropropane	-	<14	<14	<14	-	-	-	-	<14	TM116#	<14 ug/kg
1.2.4-Trichlorobenzene	-	<6	<6	<6	-	-	-	-	<6	TM116#	<6 ug/kg
Naphthalene	-	<13	3600	<13	-	-	-	-	<13	TM116#	<13 ug/kg
1.2.3-Trichlorobenzene	-	<11	<11	<11	-	-	-	-	<11	TM116#	<11 ug/kg

All results expressed on a dry weight basis.

Date 06.07.2007

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ALcontrol Geochem Analytical Services
Table Of Results

[#] ISO 17025 accredited
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Job Number: 07/09052/02/01 **Matrix:** SOLID
Client: Celtic Technologies **Location:** Not Specified
Client Ref. No.: C1077 **Client Contact:** Simon Haunch

Sample Identity	TP8	TP8	TP11	TP11A	TP11A	TP19	TP21	TP24	TP26	Method Code	LoD/Units
Depth (m)	2.2-.2.4	2.2-2.4	0.7	1.3-2.0	2.9		1.2	0.0-0.45	1.0		
Sample Type	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID		
Sampled Date	21.05.07	21.05.07	21.05.07	21.05.07	21.05.07			17.05.07	21.05.07		
Sample Received Date	24.05.07	24.05.07	24.05.07	24.05.07	24.05.07	24.05.07	24.05.07	24.05.07	24.05.07		
Batch	1	1	1	1	1	1	1	1	1		
Sample Number(s)	**1**	**2-4**	**5-7**	**8-10**	**11**	**12**	**13**	**14**	**15-17**		
Volatile Organic Compounds (cont)											
Hexachlorobutadiene	-	<12	<12	<12	-	-	-	-	<12	TM116[#]	<12 ug/kg

All results expressed on a dry weight basis.

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ALcontrol Geochem Analytical Services
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Job Number: 07/09052/02/01 **Matrix:** SOLID
Client: Celtic Technologies **Location:** Not Specified
Client Ref. No.: C1077 **Client Contact:** Simon Haunch

Sample Identity	TP26	TP27	TP30	TP31	TP32	TP32	TP33	TP33	TP35	Method Code	LoD/Units
Depth (m)	1.6	1.4-2.0	1.1-2.8	3.0-3.3	1.0	3.0	2.5-3.0	2.5-3.0	0.6-12		
Sample Type	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID		
Sampled Date	21.05.07	17.05.07	17.05.07	21.05.07	21.05.07	21.05.07		21.05.07	17.05.07		
Sample Received Date	24.05.07	24.05.07	24.05.07	24.05.07	24.05.07	24.05.07	24.05.07	24.05.07	24.05.07		
Batch	1	1	1	1	1	1	1	1	1		
Sample Number(s)	18-20	21	22	23-25	26-28	29-31	33-34	32	35		
Total Sulphate	1100	-	660	-	1300	-	-	3500	5200	TM129#M	<100 mg/kg
Boron Water Soluble	<3.5	<3.5	-	-	<3.5	-	-	-	<3.5	TM129#M	<3.5 mg/kg
Arsenic	27	49	-	-	4	-	-	-	40	TM129#M	<3.0 mg/kg
Cadmium	<0.3	0.5	-	-	<0.3	-	-	-	<0.3	TM129	<0.3 mg/kg
Chromium	25	61	-	-	11	-	-	-	8.9	TM129#M	<4.5 mg/kg
Copper	56	230	-	-	13	-	-	-	27	TM129#	<6 mg/kg
Lead	90	1500	-	-	17	-	-	-	24	TM129#M	<2 mg/kg
Mercury	<0.6	1.0	-	-	<0.6	-	-	-	<0.6	TM129#M	<0.6 mg/kg
Nickel	35	49	-	-	12	-	-	-	14	TM129#M	<0.9 mg/kg
Selenium	<3	<3	-	-	<3	-	-	-	<3	TM129#M	<3 mg/kg
Zinc	86	420	-	-	41	-	-	-	47	TM129#M	<2.5 mg/kg
Total Oxidised Nitrogen as N	-	5	-	-	3	-	-	-	1	TM102#	<1 mg/kg
Water Soluble Sulphate as SO4 2:1 Extract	0.17	-	0.13	-	0.55	-	-	0.17	0.11	TM098#M	<0.003 g/l
Acid Soluble Sulphide	150	-	<50	-	<50	-	<50	-	<50	TM101	<50 mg/kg
Chloride (soluble)	24	-	50	-	12	-	-	120	80	TM097#M	<2 mg/kg
Phenols Monohydric	<0.15	-	-	<0.15	<0.15	<0.15	-	-	-	TM062#M	<0.15 mg/kg
Total Cyanide	-	-	-	-	<1	-	-	-	-	TM153#	<1 mg/kg
Asbestos Presence Screen	-	-	No Fibres Detected	-	No Fibres Detected	-	-	-	-	TM001	NONE
Calorific Value	-	-	-	-	-	-	-	-	3200	TM132#	<100 KJ/Kg
Elemental Sulphur	-	-	-	-	-	-	-	-	-	TM136#	<70 mg/kg
pH Value	6.57	7.94	8.14	7.65	7.81	7.60	8.09	-	5.04	TM133#M	<1.00 pH Units

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Job Number: 07/09052/02/01 **Matrix:** SOLID
Client: Celtic Technologies **Location:** Not Specified
Client Ref. No.: C1077 **Client Contact:** Simon Haunch

Sample Identity	TP26	TP27	TP30	TP31	TP32	TP32	TP33	TP33	TP35	Method Code	LoD/Units
Depth (m)	1.6	1.4-2.0	1.1-2.8	3.0-3.3	1.0	3.0	2.5-3.0	2.5-3.0	0.6-12		
Sample Type	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID		
Sampled Date	21.05.07	17.05.07	17.05.07	21.05.07	21.05.07	21.05.07		21.05.07	17.05.07		
Sample Received Date	24.05.07	24.05.07	24.05.07	24.05.07	24.05.07	24.05.07	24.05.07	24.05.07	24.05.07		
Batch	1	1	1	1	1	1	1	1	1		
Sample Number(s)	**18-20**	**21**	**22**	**23-25**	**26-28**	**29-31**	**33-34**	**32**	**35**		
GRO (C4-C12)	<10	-	-	-	-	-	-	-	-	TM089	<10 ug/kg
MTBE	<10	-	-	-	-	-	-	-	-	TM089[#]	<10 ug/kg
Benzene	<10	-	-	-	-	-	-	-	-	TM089[#M]	<10 ug/kg
Toluene	<10	-	-	-	-	-	-	-	-	TM089[#M]	<10 ug/kg
Ethyl benzene	<10	-	-	-	-	-	-	-	-	TM089[#M]	<10 ug/kg
m & p Xylene	<10	-	-	-	-	-	-	-	-	TM089[#M]	<10 ug/kg
o Xylene	<10	-	-	-	-	-	-	-	-	TM089[#M]	<10 ug/kg
Aliphatics C5-C6	<10	-	-	-	-	-	-	-	-	TM089	<10 ug/kg
Aliphatics >C6-C8	<10	-	-	-	-	-	-	-	-	TM089	<10 ug/kg
Aliphatics >C8-C10	<10	-	-	-	-	-	-	-	-	TM089	<10 ug/kg
Aliphatics >C10-C12	<10	-	-	-	-	-	-	-	-	TM089	<10 ug/kg
Aliphatics >C12-C16	4400	-	-	-	-	-	-	-	-	TM173[#]	<100 ug/kg
Aliphatics >C16-C21	8500	-	-	-	-	-	-	-	-	TM173[#]	<100 ug/kg
Aliphatics >C21-C35	18000	-	-	-	-	-	-	-	-	TM173[#]	<100 ug/kg
Total Aliphatics C5-C35	30000	-	-	-	-	-	-	-	-	TM61/89	<100 ug/kg
Aromatics C6-C7	<10	-	-	-	-	-	-	-	-	TM089	<10 ug/kg
Aromatics >C7-C8	<10	-	-	-	-	-	-	-	-	TM089	<10 ug/kg
Aromatics >EC8-EC10	<10	-	-	-	-	-	-	-	-	TM089	<10 ug/kg
Aromatics >EC10-EC12	<10	-	-	-	-	-	-	-	-	TM089	<10 ug/kg
Aromatics >EC12-EC16	20000	-	-	-	-	-	-	-	-	TM173[#]	<100 ug/kg
Aromatics >EC16-EC21	50000	-	-	-	-	-	-	-	-	TM173[#]	<100 ug/kg
Aromatics >EC21-EC35	210000	-	-	-	-	-	-	-	-	TM173[#]	<100 ug/kg
Total Aromatics C6-C35	280000	-	-	-	-	-	-	-	-	TM61/89	<100 ug/kg
TPH (Aliphatics and Aromatics C5-C35)	310000	-	-	-	-	-	-	-	-	TM61/89	<100 ug/kg

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ALcontrol Geochem Analytical Services
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[#] ISO 17025 accredited
[M] MCERTS accredited
[*] Subcontracted test
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Job Number: 07/09052/02/01 **Matrix:** SOLID
Client: Celtic Technologies **Location:** Not Specified
Client Ref. No.: C1077 **Client Contact:** Simon Haunch

Sample Identity	TP26	TP27	TP30	TP31	TP32	TP32	TP33	TP33	TP35	Method Code	LoD/Units
Depth (m)	1.6	1.4-2.0	1.1-2.8	3.0-3.3	1.0	3.0	2.5-3.0	2.5-3.0	0.6-12		
Sample Type	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID		
Sampled Date	21.05.07	17.05.07	17.05.07	21.05.07	21.05.07	21.05.07		21.05.07	17.05.07		
Sample Received Date	24.05.07	24.05.07	24.05.07	24.05.07	24.05.07	24.05.07	24.05.07	24.05.07	24.05.07		
Batch	1	1	1	1	1	1	1	1	1		
Sample Number(s)	**18-20**	**21**	**22**	**23-25**	**26-28**	**29-31**	**33-34**	**32**	**35**		
TPH C6-40	380	-	-	880	89	350	-	480	-	TM154[#]	<10 mg/kg

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Job Number: 07/09052/02/01 **Matrix:** SOLID
Client: Celtic Technologies **Location:** Not Specified
Client Ref. No.: C1077 **Client Contact:** Simon Haunch

Sample Identity	TP26	TP27	TP30	TP31	TP32	TP32	TP33	TP33	TP35	Method Code	LoD/Units
Depth (m)	1.6	1.4-2.0	1.1-2.8	3.0-3.3	1.0	3.0	2.5-3.0	2.5-3.0	0.6-12		
Sample Type	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID		
Sampled Date	21.05.07	17.05.07	17.05.07	21.05.07	21.05.07	21.05.07		21.05.07	17.05.07		
Sample Received Date	24.05.07	24.05.07	24.05.07	24.05.07	24.05.07	24.05.07	24.05.07	24.05.07	24.05.07		
Batch	1	1	1	1	1	1	1	1	1		
Sample Number(s)	**18-20**	**21**	**22**	**23-25**	**26-28**	**29-31**	**33-34**	**32**	**35**		
PAH by GCMS											
Naphthalene	5300	-	-	650	290	1100	-	-	-	TM074[#M]	<10 ug/kg
Acenaphthylene	980	-	-	130	19	47	-	-	-	TM074[#M]	<5 ug/kg
Acenaphthene	1500	-	-	320	65	340	-	-	-	TM074[#M]	<14 ug/kg
Fluorene	3000	-	-	260	60	400	-	-	-	TM074[#M]	<12 ug/kg
Phenanthrene	13000	-	-	2800	420	2800	-	-	-	TM074[#M]	<21 ug/kg
Anthracene	3100	-	-	740	91	830	-	-	-	TM074[#M]	<9 ug/kg
Fluoranthene	11000	-	-	3900	490	2900	-	-	-	TM074[#M]	<25 ug/kg
Pyrene	9400	-	-	3500	430	2500	-	-	-	TM074[#M]	<22 ug/kg
Benz(a)anthracene	4900	-	-	2000	230	1500	-	-	-	TM074[#M]	<12 ug/kg
Chrysene	4700	-	-	1900	220	1200	-	-	-	TM074[#M]	<10 ug/kg
Benzo(b)fluoranthene	5200	-	-	2500	210	1300	-	-	-	TM074[#M]	<16 ug/kg
Benzo(k)fluoranthene	1900	-	-	1200	97	600	-	-	-	TM074[#M]	<25 ug/kg
Benzo(a)pyrene	4300	-	-	2000	220	1200	-	-	-	TM074[#M]	<12 ug/kg
Indeno(123cd)pyrene	2200	-	-	1300	110	590	-	-	-	TM074[#M]	<11 ug/kg
Dibenzo(ah)anthracene	750	-	-	440	36	210	-	-	-	TM074[#M]	<8 ug/kg
Benzo(ghi)perylene	2900	-	-	1800	150	750	-	-	-	TM074[#M]	<10 ug/kg
PAH 16 Total	74000	-	-	25000	3100	18000	-	-	-	TM074[#M]	<25 ug/kg

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ALcontrol Geochem Analytical Services
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Job Number: 07/09052/02/01 **Matrix:** SOLID
Client: Celtic Technologies **Location:** Not Specified
Client Ref. No.: C1077 **Client Contact:** Simon Haunch

Sample Identity	TP26	TP27	TP30	TP31	TP32	TP32	TP33	TP33	TP35	Method Code	LoD/Units
Depth (m)	1.6	1.4-2.0	1.1-2.8	3.0-3.3	1.0	3.0	2.5-3.0	2.5-3.0	0.6-12		
Sample Type	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID		
Sampled Date	21.05.07	17.05.07	17.05.07	21.05.07	21.05.07	21.05.07		21.05.07	17.05.07		
Sample Received Date	24.05.07	24.05.07	24.05.07	24.05.07	24.05.07	24.05.07	24.05.07	24.05.07	24.05.07		
Batch	1	1	1	1	1	1	1	1	1		
Sample Number(s)	**18-20**	**21**	**22**	**23-25**	**26-28**	**29-31**	**33-34**	**32**	**35**		
SVOC by GCMS											
Phenols											
2-Chlorophenol	<100	-	-	<100	<100	<100	-	-	-	TM157	<100 ug/kg
2-Methylphenol	<100	-	-	<100	<100	<100	-	-	-	TM157	<100 ug/kg
2-Nitrophenol	<100	-	-	<100	<100	<100	-	-	-	TM157	<100 ug/kg
2,4-Dichlorophenol	<100	-	-	<100	<100	<100	-	-	-	TM157	<100 ug/kg
2,4-Dimethylphenol	<100	-	-	<100	<100	<100	-	-	-	TM157	<100 ug/kg
2,4,5-Trichlorophenol	<100	-	-	<100	<100	<100	-	-	-	TM157	<100 ug/kg
2,4,6-Trichlorophenol	<100	-	-	<100	<100	<100	-	-	-	TM157	<100 ug/kg
4-Chloro-3-methylphenol	<100	-	-	<100	<100	<100	-	-	-	TM157	<100 ug/kg
4-Methylphenol	<100	-	-	<100	<100	<100	-	-	-	TM157	<100 ug/kg
4-Nitrophenol	<100	-	-	<100	<100	<100	-	-	-	TM157	<100 ug/kg
Pentachlorophenol	<100	-	-	<100	<100	<100	-	-	-	TM157	<100 ug/kg
Phenol	<100	-	-	<100	<100	3600	-	-	-	TM157	<100 ug/kg

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ALcontrol Geochem Analytical Services
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Job Number: 07/09052/02/01 **Matrix:** SOLID
Client: Celtic Technologies **Location:** Not Specified
Client Ref. No.: C1077 **Client Contact:** Simon Haunch

Sample Identity	TP26	TP27	TP30	TP31	TP32	TP32	TP33	TP33	TP35	Method Code	LoD/Units
Depth (m)	1.6	1.4-2.0	1.1-2.8	3.0-3.3	1.0	3.0	2.5-3.0	2.5-3.0	0.6-12		
Sample Type	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID		
Sampled Date	21.05.07	17.05.07	17.05.07	21.05.07	21.05.07	21.05.07		21.05.07	17.05.07		
Sample Received Date	24.05.07	24.05.07	24.05.07	24.05.07	24.05.07	24.05.07	24.05.07	24.05.07	24.05.07		
Batch	1	1	1	1	1	1	1	1	1		
Sample Number(s)	**18-20**	**21**	**22**	**23-25**	**26-28**	**29-31**	**33-34**	**32**	**35**		
PAHs											
2-Chloronaphthalene	<100	-	-	<100	<100	<100	-	-	-	TM157	<100 ug/kg
2-Methylnaphthalene	<100	-	-	<100	<100	420	-	-	-	TM157	<100 ug/kg
Phthalates											
Bis(2-ethylhexyl) phthalate	<100	-	-	<100	<100	<100	-	-	-	TM157	<100 ug/kg
Butylbenzyl phthalate	<100	-	-	<100	<100	<100	-	-	-	TM157	<100 ug/kg
Di-n-butyl phthalate	<100	-	-	<100	<100	<100	-	-	-	TM157	<100 ug/kg
Di-n-Octyl phthalate	<100	-	-	<100	<100	<100	-	-	-	TM157	<100 ug/kg
Diethyl phthalate	<100	-	-	<100	<100	<100	-	-	-	TM157	<100 ug/kg
Dimethyl phthalate	<100	-	-	<100	<100	<100	-	-	-	TM157	<100 ug/kg
Other Semi-volatiles											
1,2-Dichlorobenzene	<100	-	-	<100	<100	<100	-	-	-	TM157	<100 ug/kg
1,2,4-Trichlorobenzene	<100	-	-	<100	<100	<100	-	-	-	TM157	<100 ug/kg
1,3-Dichlorobenzene	<100	-	-	<100	<100	<100	-	-	-	TM157	<100 ug/kg
1,4-Dichlorobenzene	<100	-	-	<100	<100	<100	-	-	-	TM157	<100 ug/kg
2-Nitroaniline	<100	-	-	<100	<100	<100	-	-	-	TM157	<100 ug/kg
2,4-Dinitrotoluene	<100	-	-	<100	<100	<100	-	-	-	TM157	<100 ug/kg
2,6-Dinitrotoluene	<100	-	-	<100	<100	<100	-	-	-	TM157	<100 ug/kg
3-Nitroaniline	<100	-	-	<100	<100	<100	-	-	-	TM157	<100 ug/kg
4-Bromophenylphenylether	<100	-	-	<100	<100	<100	-	-	-	TM157	<100 ug/kg
4-Chloroaniline	<100	-	-	<100	<100	<100	-	-	-	TM157	<100 ug/kg
4-Chlorophenylphenylether	<100	-	-	<100	<100	<100	-	-	-	TM157	<100 ug/kg
4-Nitroaniline	<100	-	-	<100	<100	<100	-	-	-	TM157	<100 ug/kg
Azobenzene	<100	-	-	<100	<100	<100	-	-	-	TM157	<100 ug/kg
Bis(2-chloroethoxy)methane	<100	-	-	<100	<100	<100	-	-	-	TM157	<100 ug/kg
Bis(2-chloroethyl)ether	<100	-	-	<100	<100	<100	-	-	-	TM157	<100 ug/kg
Carbazole	<100	-	-	<100	<100	<100	-	-	-	TM157	<100 ug/kg
Dibenzofuran	<100	-	-	<100	<100	<100	-	-	-	TM157	<100 ug/kg
Hexachlorobenzene	<100	-	-	<100	<100	<100	-	-	-	TM157	<100 ug/kg

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* Subcontracted test
» Shown on prev. report

Job Number: 07/09052/02/01 **Matrix:** SOLID
Client: Celtic Technologies **Location:** Not Specified
Client Ref. No.: C1077 **Client Contact:** Simon Haunch

Sample Identity	TP26	TP27	TP30	TP31	TP32	TP32	TP33	TP33	TP35	Method Code	LoD/Units
Depth (m)	1.6	1.4-2.0	1.1-2.8	3.0-3.3	1.0	3.0	2.5-3.0	2.5-3.0	0.6-12		
Sample Type	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID		
Sampled Date	21.05.07	17.05.07	17.05.07	21.05.07	21.05.07	21.05.07		21.05.07	17.05.07		
Sample Received Date	24.05.07	24.05.07	24.05.07	24.05.07	24.05.07	24.05.07	24.05.07	24.05.07	24.05.07		
Batch	1	1	1	1	1	1	1	1	1		
Sample Number(s)	**18-20**	**21**	**22**	**23-25**	**26-28**	**29-31**	**33-34**	**32**	**35**		
Other Semi-volatiles (cont)											
Hexachlorobutadiene	<100	-	-	<100	<100	<100	-	-	-	TM157	<100 ug/kg
Hexachlorocyclopentadiene	<100	-	-	<100	<100	<100	-	-	-	TM157	<100 ug/kg
Hexachloroethane	<100	-	-	<100	<100	<100	-	-	-	TM157	<100 ug/kg
Isophorone	<100	-	-	<100	<100	<100	-	-	-	TM157	<100 ug/kg
N-nitrosodi-n-propylamine	<100	-	-	<100	<100	<100	-	-	-	TM157	<100 ug/kg
Nitrobenzene	<100	-	-	<100	<100	<100	-	-	-	TM157	<100 ug/kg

All results expressed on a dry weight basis.

Date 06.07.2007

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ALcontrol Geochem Analytical Services
Table Of Results

[#] ISO 17025 accredited
[M] MCERTS accredited
[*] Subcontracted test
» Shown on prev. report

Job Number: 07/09052/02/01 **Matrix:** SOLID
Client: Celtic Technologies **Location:** Not Specified
Client Ref. No.: C1077 **Client Contact:** Simon Haunch

Sample Identity	TP26	TP27	TP30	TP31	TP32	TP32	TP33	TP33	TP35	Method Code	LoD/Units
Depth (m)	1.6	1.4-2.0	1.1-2.8	3.0-3.3	1.0	3.0	2.5-3.0	2.5-3.0	0.6-12		
Sample Type	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID		
Sampled Date	21.05.07	17.05.07	17.05.07	21.05.07	21.05.07	21.05.07		21.05.07	17.05.07		
Sample Received Date	24.05.07	24.05.07	24.05.07	24.05.07	24.05.07	24.05.07	24.05.07	24.05.07	24.05.07		
Batch	1	1	1	1	1	1	1	1	1		
Sample Number(s)	**18-20**	**21**	**22**	**23-25**	**26-28**	**29-31**	**33-34**	**32**	**35**		
Volatile Organic Compounds											
Dichlorodifluoromethane	<4	-	-	<4	<4	<4	<4	-	-	TM116[#]	<4 ug/kg
Chloromethane	<7	-	-	<7	<7	<7	<7	-	-	TM116[#]	<7 ug/kg
Vinyl Chloride	<10	-	-	<10	<10	<10	<10	-	-	TM116[#M]	<10 ug/kg
Bromomethane	<13	-	-	<13	<13	<13	<13	-	-	TM116[#]	<13 ug/kg
Chloroethane	<14	-	-	<14	<14	<14	<14	-	-	TM116[#]	<14 ug/kg
Trichlorofluoromethane	<6	-	-	<6	<6	<6	<6	-	-	TM116[#M]	<6 ug/kg
trans-1-2-Dichloroethene	<11	-	-	<11	<11	<11	<11	-	-	TM116[#]	<11 ug/kg
Dichloromethane	<10	-	-	<10	<10	<10	<10	-	-	TM116[#]	<10 ug/kg
Carbon Disulphide	<7	-	-	<7	<7	<7	<7	-	-	TM116[#M]	<7 ug/kg
1.1-Dichloroethene	<10	-	-	<10	<10	<10	<10	-	-	TM116[#M]	<10 ug/kg
1.1-Dichloroethane	<8	-	-	<8	<8	<8	<8	-	-	TM116[#M]	<8 ug/kg
Methyl Tertiary Butyl Ether	<11	-	-	<11	<11	<11	<11	-	-	TM116[#M]	<11 ug/kg
cis-1-2-Dichloroethene	<5	-	-	<5	<5	<5	<5	-	-	TM116[#M]	<5 ug/kg
Bromochloromethane	<14	-	-	<14	<14	<14	<14	-	-	TM116[#]	<14 ug/kg
Chloroform	<8	-	-	<8	<8	<8	<8	-	-	TM116[#M]	<8 ug/kg
2.2-Dichloropropane	<12	-	-	<12	<12	<12	<12	-	-	TM116[#]	<12 ug/kg
1.2-Dichloroethane	<5	-	-	<5	<5	<5	<5	-	-	TM116[#]	<5 ug/kg
1.1.1-Trichloroethane	<7	-	-	<7	<7	<7	<7	-	-	TM116[#M]	<7 ug/kg
1.1-Dichloropropene	<11	-	-	<11	<11	<11	<11	-	-	TM116[#M]	<11 ug/kg
Benzene	<9	-	-	<9	<9	<9	<9	-	-	TM116[#M]	<9 ug/kg
Carbontetrachloride	<14	-	-	<14	<14	<14	<14	-	-	TM116[#M]	<14 ug/kg
Dibromomethane	<9	-	-	<9	<9	<9	<9	-	-	TM116[#]	<9 ug/kg
1.2-Dichloropropane	<12	-	-	<12	<12	<12	<12	-	-	TM116[#M]	<12 ug/kg
Bromodichloromethane	<7	-	-	<7	<7	<7	<7	-	-	TM116[#M]	<7 ug/kg
Trichloroethene	<9	-	-	<9	<9	<9	<9	-	-	TM116[#M]	<9 ug/kg
cis-1-3-Dichloropropene	<14	-	-	<14	<14	<14	<14	-	-	TM116[#M]	<14 ug/kg
trans-1-3-Dichloropropene	<14	-	-	<14	<14	<14	<14	-	-	TM116[#M]	<14 ug/kg
1.1.2-Trichloroethane	<10	-	-	<10	<10	<10	<10	-	-	TM116[#]	<10 ug/kg
Toluene	<5	-	-	<5	<5	<5	<5	-	-	TM116[#M]	<5 ug/kg
1.3-Dichloropropane	<7	-	-	<7	<7	<7	<7	-	-	TM116[#]	<7 ug/kg

All results expressed on a dry weight basis.

Date 06.07.2007

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ALcontrol Geochem Analytical Services
Table Of Results

[#] ISO 17025 accredited
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* Subcontracted test
» Shown on prev. report

Job Number: 07/09052/02/01 **Matrix:** SOLID
Client: Celtic Technologies **Location:** Not Specified
Client Ref. No.: C1077 **Client Contact:** Simon Haunch

Sample Identity	TP26	TP27	TP30	TP31	TP32	TP32	TP33	TP33	TP35	Method Code	LoD/Units
Depth (m)	1.6	1.4-2.0	1.1-2.8	3.0-3.3	1.0	3.0	2.5-3.0	2.5-3.0	0.6-12		
Sample Type	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID		
Sampled Date	21.05.07	17.05.07	17.05.07	21.05.07	21.05.07	21.05.07		21.05.07	17.05.07		
Sample Received Date	24.05.07	24.05.07	24.05.07	24.05.07	24.05.07	24.05.07	24.05.07	24.05.07	24.05.07		
Batch	1	1	1	1	1	1	1	1	1		
Sample Number(s)	**18-20**	**21**	**22**	**23-25**	**26-28**	**29-31**	**33-34**	**32**	**35**		
Volatile Organic Compounds (cont)											
Dibromochloromethane	<13	-	-	<13	<13	<13	<13	-	-	TM116[#]	<13 ug/kg
1.2-Dibromoethane	<12	-	-	<12	<12	<12	<12	-	-	TM116[#]	<12 ug/kg
Tetrachloroethene	<5	-	-	<5	<5	8	<5	-	-	TM116[#]	<5 ug/kg
1.1.1.2-Tetrachloroethane	<10	-	-	<10	<10	<10	<10	-	-	TM116[#M]	<10 ug/kg
Chlorobenzene	<5	-	-	<5	<5	<5	<5	-	-	TM116[#M]	<5 ug/kg
Ethylbenzene	<4	-	-	<4	<4	<4	<4	-	-	TM116[#]	<4 ug/kg
p/m-Xylene	<14	-	-	<14	<14	<14	<14	-	-	TM116[#]	<14 ug/kg
Bromoform	<10	-	-	<10	<10	<10	<10	-	-	TM116[#]	<10 ug/kg
Styrene	<10	-	-	<10	<10	<10	<10	-	-	TM116[#]	<10 ug/kg
1.1.2.2-Tetrachloroethane	<10	-	-	<10	<10	<10	<10	-	-	TM116[#]	<10 ug/kg
o-Xylene	<10	-	-	<10	<10	<10	<10	-	-	TM116[#]	<10 ug/kg
1.2.3-Trichloropropane	<17	-	-	<17	<17	<17	<17	-	-	TM116[#]	<17 ug/kg
Isopropylbenzene	<5	-	-	<5	<5	<5	<5	-	-	TM116[#]	<5 ug/kg
Bromobenzene	<10	-	-	<10	<10	<10	<10	-	-	TM116[#M]	<10 ug/kg
2-Chlorotoluene	<9	-	-	<9	<9	<9	<9	-	-	TM116[#]	<9 ug/kg
Propylbenzene	<11	-	-	<11	<11	<11	<11	-	-	TM116[#]	<11 ug/kg
4-Chlorotoluene	<12	-	-	<12	<12	<12	<12	-	-	TM116[#]	<12 ug/kg
1.2.4-Trimethylbenzene	<9	-	-	<9	<9	30	<9	-	-	TM116[#]	<9 ug/kg
4-Isopropyltoluene	<11	-	-	<11	<11	<11	<11	-	-	TM116[#]	<11 ug/kg
1.3.5-Trimethylbenzene	<8	-	-	<8	<8	23	<8	-	-	TM116[#]	<8 ug/kg
1.2-Dichlorobenzene	<12	-	-	<12	<12	<12	<12	-	-	TM116[#M]	<12 ug/kg
1.4-Dichlorobenzene	<5	-	-	<5	<5	<5	<5	-	-	TM116[#M]	<5 ug/kg
sec-Butylbenzene	<10	-	-	<10	<10	<10	<10	-	-	TM116[#]	<10 ug/kg
tert-Butylbenzene	<12	-	-	<12	<12	<12	<12	-	-	TM116[#]	<12 ug/kg
1.3-Dichlorobenzene	<6	-	-	<6	<6	<6	<6	-	-	TM116[#]	<6 ug/kg
n-Butylbenzene	<10	-	-	<10	<10	<10	<10	-	-	TM116[#]	<10 ug/kg
1.2-Dibromo-3-chloropropane	<14	-	-	<14	<14	<14	<14	-	-	TM116[#]	<14 ug/kg
1.2.4-Trichlorobenzene	<6	-	-	<6	<6	<6	<6	-	-	TM116[#]	<6 ug/kg
Naphthalene	<13	-	-	<13	<13	<13	<13	-	-	TM116[#]	<13 ug/kg
1.2.3-Trichlorobenzene	<11	-	-	<11	<11	<11	<11	-	-	TM116[#]	<11 ug/kg

All results expressed on a dry weight basis.

Date 06.07.2007

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ALcontrol Geochem Analytical Services
Table Of Results

[#] ISO 17025 accredited
[M] MCERTS accredited
[*] Subcontracted test
» Shown on prev. report

Job Number: 07/09052/02/01 **Matrix:** SOLID
Client: Celtic Technologies **Location:** Not Specified
Client Ref. No.: C1077 **Client Contact:** Simon Haunch

Sample Identity	TP26	TP27	TP30	TP31	TP32	TP32	TP33	TP33	TP35	Method Code	LoD/Units
Depth (m)	1.6	1.4-2.0	1.1-2.8	3.0-3.3	1.0	3.0	2.5-3.0	2.5-3.0	0.6-12		
Sample Type	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID		
Sampled Date	21.05.07	17.05.07	17.05.07	21.05.07	21.05.07	21.05.07		21.05.07	17.05.07		
Sample Received Date	24.05.07	24.05.07	24.05.07	24.05.07	24.05.07	24.05.07	24.05.07	24.05.07	24.05.07		
Batch	1	1	1	1	1	1	1	1	1		
Sample Number(s)	**18-20**	**21**	**22**	**23-25**	**26-28**	**29-31**	**33-34**	**32**	**35**		
Volatile Organic Compounds (cont)											
Hexachlorobutadiene	<12	-	-	<12	<12	<12	<12	-	-	TM116[#]	<12 ug/kg

All results expressed on a dry weight basis.

Date 06.07.2007

Validated ✓
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ALcontrol Geochem Analytical Services
Table Of Results

ISO 17025 accredited
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* Subcontracted test
» Shown on prev. report

Job Number: 07/09052/02/01 **Matrix:** SOLID
Client: Celtic Technologies **Location:** Not Specified
Client Ref. No.: C1077 **Client Contact:** Simon Haunch

Sample Identity	TP38	TP38	TP39	TP39	TP39	TP40	TP40	TP40	TP42	Method Code	LoD/Units
Depth (m)	1.2	1.6	0.2-0.7	0.2-0.7	1.5	1.45	1.9	2.0	1.2		
Sample Type	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID		
Sampled Date	22.05.07	22.05.07		22.05.07	22.05.07	22.05.07	22.05.07	22.05.07			
Sample Received Date	24.05.07	24.05.07	24.05.07	24.05.07	24.05.07	24.05.07	24.05.07	24.05.07	24.05.07		
Batch	1	1	1	1	1	1	1	1	1		
Sample Number(s)	**36-38**	**39-41**	**43**	**42**	**44-46**	**47-49**	**50-52**	**53-55**	**56-57**		
Total Sulphate	1300	490	-	1700	-	-	-	260	-	TM129$^{\#}_{M}$	<100 mg/kg
Boron Water Soluble	<3.5	<3.5	-	4.2	-	-	4.9	-	-	TM129$^{\#}_{M}$	<3.5 mg/kg
Arsenic	32	17	-	75	-	-	47	-	-	TM129$^{\#}_{M}$	<3.0 mg/kg
Cadmium	<0.3	<0.3	-	<0.3	-	-	<0.3	-	-	TM129	<0.3 mg/kg
Chromium	32	28	-	77	-	-	42	-	-	TM129$^{\#}_{M}$	<4.5 mg/kg
Copper	450	88	-	630	-	-	110	-	-	TM129$^{\#}$	<6 mg/kg
Lead	110	32	-	150	-	-	150	-	-	TM129$^{\#}_{M}$	<2 mg/kg
Mercury	<0.6	<0.6	-	<0.6	-	-	<0.6	-	-	TM129$^{\#}_{M}$	<0.6 mg/kg
Nickel	34	32	-	46	-	-	35	-	-	TM129$^{\#}_{M}$	<0.9 mg/kg
Selenium	<3	<3	-	<3	-	-	<3	-	-	TM129$^{\#}_{M}$	<3 mg/kg
Zinc	88	76	-	140	-	-	180	-	-	TM129$^{\#}_{M}$	<2.5 mg/kg
Total Oxidised Nitrogen as N	<1	-	-	-	-	<1	-	-	-	TM102$^{\#}$	<1 mg/kg
Water Soluble Sulphate as SO4 2:1 Extract	0.15	0.052	-	0.20	-	-	-	0.029	-	TM098$^{\#}_{M}$	<0.003 g/l
Acid Soluble Sulphide	<50	450	-	<50	-	-	-	<50	-	TM101	<50 mg/kg
Chloride (soluble)	64	16	-	10	-	-	-	40	-	TM097$^{\#}_{M}$	<2 mg/kg
Phenols Monohydric	4.9	-	-	-	<0.15	-	-	<0.15	-	TM062$^{\#}_{M}$	<0.15 mg/kg
Total Cyanide	-	-	-	-	-	-	-	-	-	TM153$^{\#}$	<1 mg/kg
Asbestos Presence Screen	-	-	-	-	-	No Fibres Detected	-	-	No Fibres Detected	TM001	NONE
Calorific Value	-	-	-	-	-	-	-	-	-	TM132$^{\#}$	<100 KJ/Kg
Elemental Sulphur	-	-	-	-	-	-	-	-	-	TM136$^{\#}$	<70 mg/kg
pH Value	7.61	7.66	-	7.87	7.11	7.24	5.86	7.69	7.96	TM133$^{\#}_{M}$	<1.00 pH Units

All results expressed on a dry weight basis.

Date 06.07.2007

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ALcontrol Geochem Analytical Services
Table Of Results

[#] ISO 17025 accredited
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* Subcontracted test
» Shown on prev. report

Job Number: 07/09052/02/01 **Matrix:** SOLID
Client: Celtic Technologies **Location:** Not Specified
Client Ref. No.: C1077 **Client Contact:** Simon Haunch

Sample Identity	TP38	TP38	TP39	TP39	TP39	TP40	TP40	TP40	TP42	Method Code	LoD/Units
Depth (m)	1.2	1.6	0.2-0.7	0.2-0.7	1.5	1.45	1.9	2.0	1.2		
Sample Type	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID		
Sampled Date	22.05.07	22.05.07		22.05.07	22.05.07	22.05.07	22.05.07	22.05.07			
Sample Received Date	24.05.07	24.05.07	24.05.07	24.05.07	24.05.07	24.05.07	24.05.07	24.05.07	24.05.07		
Batch	1	1	1	1	1	1	1	1	1		
Sample Number(s)	**36-38**	**39-41**	**43**	**42**	**44-46**	**47-49**	**50-52**	**53-55**	**56-57**		
GRO (C4-C12)	-	-	-	-	-	<10	-	-	-	TM089	<10 ug/kg
MTBE	-	-	-	-	-	<10	-	-	-	TM089[#]	<10 ug/kg
Benzene	-	-	-	-	-	<10	-	-	-	TM089[#M]	<10 ug/kg
Toluene	-	-	-	-	-	<10	-	-	-	TM089[#M]	<10 ug/kg
Ethyl benzene	-	-	-	-	-	<10	-	-	-	TM089[#M]	<10 ug/kg
m & p Xylene	-	-	-	-	-	<10	-	-	-	TM089[#M]	<10 ug/kg
o Xylene	-	-	-	-	-	<10	-	-	-	TM089[#M]	<10 ug/kg
Aliphatics C5-C6	-	-	-	-	-	<10	-	-	-	TM089	<10 ug/kg
Aliphatics >C6-C8	-	-	-	-	-	<10	-	-	-	TM089	<10 ug/kg
Aliphatics >C8-C10	-	-	-	-	-	<10	-	-	-	TM089	<10 ug/kg
Aliphatics >C10-C12	-	-	-	-	-	<10	-	-	-	TM089	<10 ug/kg
Aliphatics >C12-C16	-	-	-	-	-	1600	-	-	-	TM173[#]	<100 ug/kg
Aliphatics >C16-C21	-	-	-	-	-	4300	-	-	-	TM173[#]	<100 ug/kg
Aliphatics >C21-C35	-	-	-	-	-	69000	-	-	-	TM173[#]	<100 ug/kg
Total Aliphatics C5-C35	-	-	-	-	-	74000	-	-	-	TM61/89	<100 ug/kg
Aromatics C6-C7	-	-	-	-	-	<10	-	-	-	TM089	<10 ug/kg
Aromatics >C7-C8	-	-	-	-	-	<10	-	-	-	TM089	<10 ug/kg
Aromatics >EC8-EC10	-	-	-	-	-	<10	-	-	-	TM089	<10 ug/kg
Aromatics >EC10-EC12	-	-	-	-	-	<10	-	-	-	TM089	<10 ug/kg
Aromatics >EC12-EC16	-	-	-	-	-	2600	-	-	-	TM173[#]	<100 ug/kg
Aromatics >EC16-EC21	-	-	-	-	-	2100	-	-	-	TM173[#]	<100 ug/kg
Aromatics >EC21-EC35	-	-	-	-	-	16000	-	-	-	TM173[#]	<100 ug/kg
Total Aromatics C6-C35	-	-	-	-	-	21000	-	-	-	TM61/89	<100 ug/kg
TPH (Aliphatics and Aromatics C5-C35)	-	-	-	-	-	95000	-	-	-	TM61/89	<100 ug/kg

All results expressed on a dry weight basis.

Date 06.07.2007

Validated ☑
Preliminary ☐

ALcontrol Geochem Analytical Services
Table Of Results

[#] ISO 17025 accredited
[M] MCERTS accredited
* Subcontracted test
» Shown on prev. report

Job Number: 07/09052/02/01 **Matrix:** SOLID
Client: Celtic Technologies **Location:** Not Specified
Client Ref. No.: C1077 **Client Contact:** Simon Haunch

Sample Identity	TP38	TP38	TP39	TP39	TP39	TP40	TP40	TP40	TP42	Method Code	LoD/Units
Depth (m)	1.2	1.6	0.2-0.7	0.2-0.7	1.5	1.45	1.9	2.0	1.2		
Sample Type	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID		
Sampled Date	22.05.07	22.05.07		22.05.07	22.05.07	22.05.07	22.05.07	22.05.07			
Sample Received Date	24.05.07	24.05.07	24.05.07	24.05.07	24.05.07	24.05.07	24.05.07	24.05.07	24.05.07		
Batch	1	1	1	1	1	1	1	1	1		
Sample Number(s)	**36-38**	**39-41**	**43**	**42**	**44-46**	**47-49**	**50-52**	**53-55**	**56-57**		
TPH C6-40	35000	190	-	-	<10	-	750	-	690	TM154[#]	<10 mg/kg

All results expressed on a dry weight basis.

Date 06.07.2007

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ALcontrol Geochem Analytical Services
Table Of Results

[#] ISO 17025 accredited
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* Subcontracted test
» Shown on prev. report

Job Number: 07/09052/02/01 **Matrix:** SOLID
Client: Celtic Technologies **Location:** Not Specified
Client Ref. No.: C1077 **Client Contact:** Simon Haunch

Sample Identity	TP38	TP38	TP39	TP39	TP39	TP40	TP40	TP40	TP42	Method Code	LoD/Units
Depth (m)	1.2	1.6	0.2-0.7	0.2-0.7	1.5	1.45	1.9	2.0	1.2		
Sample Type	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID		
Sampled Date	22.05.07	22.05.07		22.05.07	22.05.07	22.05.07	22.05.07	22.05.07			
Sample Received Date	24.05.07	24.05.07	24.05.07	24.05.07	24.05.07	24.05.07	24.05.07	24.05.07	24.05.07		
Batch	1	1	1	1	1	1	1	1	1		
Sample Number(s)	**36-38**	**39-41**	**43**	**42**	**44-46**	**47-49**	**50-52**	**53-55**	**56-57**		
PAH by GCMS											
Naphthalene	13000	-	-	-	16	-	-	14	-	TM074[#M]	<10 ug/kg
Acenaphthylene	910	-	-	-	<5	-	-	<5	-	TM074[#M]	<5 ug/kg
Acenaphthene	230000	-	-	-	<14	-	-	<14	-	TM074[#M]	<14 ug/kg
Fluorene	200000	-	-	-	26	-	-	15	-	TM074[#M]	<12 ug/kg
Phenanthrene	590000	-	-	-	120	-	-	53	-	TM074[#M]	<21 ug/kg
Anthracene	100000	-	-	-	15	-	-	<9	-	TM074[#M]	<9 ug/kg
Fluoranthene	180000	-	-	-	86	-	-	<25	-	TM074[#M]	<25 ug/kg
Pyrene	120000	-	-	-	76	-	-	<22	-	TM074[#M]	<22 ug/kg
Benz(a)anthracene	14000	-	-	-	46	-	-	17	-	TM074[#M]	<12 ug/kg
Chrysene	12000	-	-	-	46	-	-	10	-	TM074[#M]	<10 ug/kg
Benzo(b)fluoranthene	2100	-	-	-	31	-	-	<16	-	TM074[#M]	<16 ug/kg
Benzo(k)fluoranthene	900	-	-	-	<25	-	-	<25	-	TM074[#M]	<25 ug/kg
Benzo(a)pyrene	1100	-	-	-	28	-	-	<12	-	TM074[#M]	<12 ug/kg
Indeno(123cd)pyrene	250	-	-	-	13	-	-	<11	-	TM074[#M]	<11 ug/kg
Dibenzo(ah)anthracene	230	-	-	-	<8	-	-	<8	-	TM074[#M]	<8 ug/kg
Benzo(ghi)perylene	300	-	-	-	22	-	-	<10	-	TM074[#M]	<10 ug/kg
PAH 16 Total	1500000	-	-	-	530	-	-	110	-	TM074[#M]	<25 ug/kg

All results expressed on a dry weight basis.

Date 06.07.2007

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ALcontrol Geochem Analytical Services
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[#] ISO 17025 accredited
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[*] Subcontracted test
» Shown on prev. report

Job Number: 07/09052/02/01 **Matrix:** SOLID
Client: Celtic Technologies **Location:** Not Specified
Client Ref. No.: C1077 **Client Contact:** Simon Haunch

Sample Identity	TP38	TP38	TP39	TP39	TP39	TP40	TP40	TP40	TP42	Method Code	LoD/Units
Depth (m)	1.2	1.6	0.2-0.7	0.2-0.7	1.5	1.45	1.9	2.0	1.2		
Sample Type	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID		
Sampled Date	22.05.07	22.05.07		22.05.07	22.05.07	22.05.07	22.05.07	22.05.07			
Sample Received Date	24.05.07	24.05.07	24.05.07	24.05.07	24.05.07	24.05.07	24.05.07	24.05.07	24.05.07		
Batch	1	1	1	1	1	1	1	1	1		
Sample Number(s)	**36-38**	**39-41**	**43**	**42**	**44-46**	**47-49**	**50-52**	**53-55**	**56-57**		
SVOC by GCMS											
Phenols											
2-Chlorophenol	<500	<100	-	-	<100	-	-	<100	-	TM157	<100 ug/kg
2-Methylphenol	<500	<100	-	-	<100	-	-	<100	-	TM157	<100 ug/kg
2-Nitrophenol	<500	<100	-	-	<100	-	-	<100	-	TM157	<100 ug/kg
2,4-Dichlorophenol	<500	<100	-	-	<100	-	-	<100	-	TM157	<100 ug/kg
2,4-Dimethylphenol	<500	<100	-	-	<100	-	-	<100	-	TM157	<100 ug/kg
2,4,5-Trichlorophenol	<500	<100	-	-	<100	-	-	<100	-	TM157	<100 ug/kg
2,4,6-Trichlorophenol	<500	<100	-	-	<100	-	-	<100	-	TM157	<100 ug/kg
4-Chloro-3-methylphenol	<500	<100	-	-	<100	-	-	<100	-	TM157	<100 ug/kg
4-Methylphenol	<500	<100	-	-	<100	-	-	<100	-	TM157	<100 ug/kg
4-Nitrophenol	<500	<100	-	-	<100	-	-	<100	-	TM157	<100 ug/kg
Pentachlorophenol	<500	<100	-	-	<100	-	-	<100	-	TM157	<100 ug/kg
Phenol	<500	<100	-	-	<100	-	-	<100	-	TM157	<100 ug/kg

All results expressed on a dry weight basis.

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ALcontrol Geochem Analytical Services
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* Subcontracted test
» Shown on prev. report

Job Number: 07/09052/02/01 **Matrix:** SOLID
Client: Celtic Technologies **Location:** Not Specified
Client Ref. No.: C1077 **Client Contact:** Simon Haunch

Sample Identity	TP38	TP38	TP39	TP39	TP39	TP40	TP40	TP40	TP42	Method Code	LoD/Units
Depth (m)	1.2	1.6	0.2-0.7	0.2-0.7	1.5	1.45	1.9	2.0	1.2		
Sample Type	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID		
Sampled Date	22.05.07	22.05.07		22.05.07	22.05.07	22.05.07	22.05.07	22.05.07			
Sample Received Date	24.05.07	24.05.07	24.05.07	24.05.07	24.05.07	24.05.07	24.05.07	24.05.07	24.05.07		
Batch	1	1	1	1	1	1	1	1	1		
Sample Number(s)	**36-38**	**39-41**	**43**	**42**	**44-46**	**47-49**	**50-52**	**53-55**	**56-57**		
PAHs											
2-Chloronaphthalene	<500	<100	-	-	<100	-	-	<100	-	TM157	<100 ug/kg
2-Methylnaphthalene	19000	<100	-	-	<100	-	-	<100	-	TM157	<100 ug/kg
Phthalates											
Bis(2-ethylhexyl) phthalate	<500	<100	-	-	<100	-	-	<100	-	TM157	<100 ug/kg
Butylbenzyl phthalate	<500	<100	-	-	<100	-	-	<100	-	TM157	<100 ug/kg
Di-n-butyl phthalate	<500	<100	-	-	<100	-	-	<100	-	TM157	<100 ug/kg
Di-n-Octyl phthalate	<500	<100	-	-	<100	-	-	<100	-	TM157	<100 ug/kg
Diethyl phthalate	<500	<100	-	-	<100	-	-	<100	-	TM157	<100 ug/kg
Dimethyl phthalate	<500	<100	-	-	<100	-	-	<100	-	TM157	<100 ug/kg
Other Semi-volatiles											
1,2-Dichlorobenzene	<500	<100	-	-	<100	-	-	<100	-	TM157	<100 ug/kg
1,2,4-Trichlorobenzene	<500	<100	-	-	<100	-	-	<100	-	TM157	<100 ug/kg
1,3-Dichlorobenzene	<500	<100	-	-	<100	-	-	<100	-	TM157	<100 ug/kg
1,4-Dichlorobenzene	<500	<100	-	-	<100	-	-	<100	-	TM157	<100 ug/kg
2-Nitroaniline	<500	<100	-	-	<100	-	-	<100	-	TM157	<100 ug/kg
2,4-Dinitrotoluene	<500	<100	-	-	<100	-	-	<100	-	TM157	<100 ug/kg
2,6-Dinitrotoluene	<500	<100	-	-	<100	-	-	<100	-	TM157	<100 ug/kg
3-Nitroaniline	<500	<100	-	-	<100	-	-	<100	-	TM157	<100 ug/kg
4-Bromophenylphenylether	<500	<100	-	-	<100	-	-	<100	-	TM157	<100 ug/kg
4-Chloroaniline	<500	<100	-	-	<100	-	-	<100	-	TM157	<100 ug/kg
4-Chlorophenylphenylether	<500	<100	-	-	<100	-	-	<100	-	TM157	<100 ug/kg
4-Nitroaniline	<500	<100	-	-	<100	-	-	<100	-	TM157	<100 ug/kg
Azobenzene	1600	<100	-	-	<100	-	-	<100	-	TM157	<100 ug/kg
Bis(2-chloroethoxy)methane	<500	<100	-	-	<100	-	-	<100	-	TM157	<100 ug/kg
Bis(2-chloroethyl)ether	<500	<100	-	-	<100	-	-	<100	-	TM157	<100 ug/kg
Carbazole	7100	<100	-	-	<100	-	-	<100	-	TM157	<100 ug/kg
Dibenzofuran	81000	320	-	-	<100	-	-	<100	-	TM157	<100 ug/kg
Hexachlorobenzene	<500	<100	-	-	<100	-	-	<100	-	TM157	<100 ug/kg

All results expressed on a dry weight basis.

Date 06.07.2007

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ALcontrol Geochem Analytical Services
Table Of Results

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Job Number: 07/09052/02/01 **Matrix:** SOLID
Client: Celtic Technologies **Location:** Not Specified
Client Ref. No.: C1077 **Client Contact:** Simon Haunch

Sample Identity	TP38	TP38	TP39	TP39	TP39	TP40	TP40	TP40	TP42	Method Code	LoD/Units
Depth (m)	1.2	1.6	0.2-0.7	0.2-0.7	1.5	1.45	1.9	2.0	1.2		
Sample Type	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID		
Sampled Date	22.05.07	22.05.07		22.05.07	22.05.07	22.05.07	22.05.07	22.05.07			
Sample Received Date	24.05.07	24.05.07	24.05.07	24.05.07	24.05.07	24.05.07	24.05.07	24.05.07	24.05.07		
Batch	1	1	1	1	1	1	1	1	1		
Sample Number(s)	**36-38**	**39-41**	**43**	**42**	**44-46**	**47-49**	**50-52**	**53-55**	**56-57**		
Other Semi-volatiles (cont)											
Hexachlorobutadiene	<500	<100	-	-	<100	-	-	<100	-	TM157	<100 ug/kg
Hexachlorocyclopentadiene	<500	<100	-	-	<100	-	-	<100	-	TM157	<100 ug/kg
Hexachloroethane	<500	<100	-	-	<100	-	-	<100	-	TM157	<100 ug/kg
Isophorone	<500	<100	-	-	<100	-	-	<100	-	TM157	<100 ug/kg
N-nitrosodi-n-propylamine	<500	<100	-	-	<100	-	-	<100	-	TM157	<100 ug/kg
Nitrobenzene	<500	<100	-	-	<100	-	-	<100	-	TM157	<100 ug/kg

All results expressed on a dry weight basis.

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ALcontrol Geochem Analytical Services
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[#] ISO 17025 accredited
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* Subcontracted test
» Shown on prev. report

Job Number: 07/09052/02/01 **Matrix:** SOLID
Client: Celtic Technologies **Location:** Not Specified
Client Ref. No.: C1077 **Client Contact:** Simon Haunch

Sample Identity	TP38	TP38	TP39	TP39	TP39	TP40	TP40	TP40	TP42	Method Code	LoD/Units
Depth (m)	1.2	1.6	0.2-0.7	0.2-0.7	1.5	1.45	1.9	2.0	1.2		
Sample Type	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID		
Sampled Date	22.05.07	22.05.07		22.05.07	22.05.07	22.05.07	22.05.07	22.05.07			
Sample Received Date	24.05.07	24.05.07	24.05.07	24.05.07	24.05.07	24.05.07	24.05.07	24.05.07	24.05.07		
Batch	1	1	1	1	1	1	1	1	1		
Sample Number(s)	**36-38**	**39-41**	**43**	**42**	**44-46**	**47-49**	**50-52**	**53-55**	**56-57**		
Volatile Organic Compounds											
Dichlorodifluoromethane	<4	<4	<4	-	-	-	-	<4	-	TM116[#]	<4 ug/kg
Chloromethane	<7	<7	<7	-	-	-	-	<7	-	TM116[#]	<7 ug/kg
Vinyl Chloride	<10	<10	<10	-	-	-	-	<10	-	TM116[#M]	<10 ug/kg
Bromomethane	<13	<13	<13	-	-	-	-	<13	-	TM116[#]	<13 ug/kg
Chloroethane	<14	<14	<14	-	-	-	-	<14	-	TM116[#]	<14 ug/kg
Trichlorofluoromethane	<6	<6	<6	-	-	-	-	<6	-	TM116[#M]	<6 ug/kg
trans-1-2-Dichloroethene	<11	<11	<11	-	-	-	-	<11	-	TM116[#]	<11 ug/kg
Dichloromethane	<10	<10	<10	-	-	-	-	<10	-	TM116[#]	<10 ug/kg
Carbon Disulphide	<7	<7	<7	-	-	-	-	<7	-	TM116[#M]	<7 ug/kg
1.1-Dichloroethene	<10	<10	<10	-	-	-	-	<10	-	TM116[#M]	<10 ug/kg
1.1-Dichloroethane	<8	<8	<8	-	-	-	-	<8	-	TM116[#M]	<8 ug/kg
Methyl Tertiary Butyl Ether	<11	<11	<11	-	-	-	-	<11	-	TM116[#M]	<11 ug/kg
cis-1-2-Dichloroethene	<5	<5	<5	-	-	-	-	<5	-	TM116[#M]	<5 ug/kg
Bromochloromethane	<14	<14	<14	-	-	-	-	<14	-	TM116[#]	<14 ug/kg
Chloroform	<8	<8	<8	-	-	-	-	<8	-	TM116[#M]	<8 ug/kg
2.2-Dichloropropane	<12	<12	<12	-	-	-	-	<12	-	TM116[#]	<12 ug/kg
1.2-Dichloroethane	<5	<5	<5	-	-	-	-	<5	-	TM116[#]	<5 ug/kg
1.1.1-Trichloroethane	<7	<7	<7	-	-	-	-	<7	-	TM116[#M]	<7 ug/kg
1.1-Dichloropropene	<11	<11	<11	-	-	-	-	<11	-	TM116[#M]	<11 ug/kg
Benzene	<9	<9	<9	-	-	-	-	<9	-	TM116[#M]	<9 ug/kg
Carbontetrachloride	<14	<14	<14	-	-	-	-	<14	-	TM116[#M]	<14 ug/kg
Dibromomethane	<9	<9	<9	-	-	-	-	<9	-	TM116[#]	<9 ug/kg
1.2-Dichloropropane	<12	<12	<12	-	-	-	-	<12	-	TM116[#M]	<12 ug/kg
Bromodichloromethane	<7	<7	<7	-	-	-	-	<7	-	TM116[#M]	<7 ug/kg
Trichloroethene	<9	<9	<9	-	-	-	-	<9	-	TM116[#M]	<9 ug/kg
cis-1-3-Dichloropropene	<14	<14	<14	-	-	-	-	<14	-	TM116[#M]	<14 ug/kg
trans-1-3-Dichloropropene	<14	<14	<14	-	-	-	-	<14	-	TM116[#M]	<14 ug/kg
1.1.2-Trichloroethane	<10	<10	<10	-	-	-	-	<10	-	TM116[#]	<10 ug/kg
Toluene	9	<5	<5	-	-	-	-	<5	-	TM116[#M]	<5 ug/kg
1.3-Dichloropropane	<7	<7	<7	-	-	-	-	<7	-	TM116[#]	<7 ug/kg

All results expressed on a dry weight basis.

Date 06.07.2007

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ALcontrol Geochem Analytical Services
Table Of Results

[#] ISO 17025 accredited
[M] MCERTS accredited
[*] Subcontracted test
» Shown on prev. report

Job Number: 07/09052/02/01 **Matrix:** SOLID
Client: Celtic Technologies **Location:** Not Specified
Client Ref. No.: C1077 **Client Contact:** Simon Haunch

Sample Identity	TP38	TP38	TP39	TP39	TP39	TP40	TP40	TP40	TP42	Method Code	LoD/Units
Depth (m)	1.2	1.6	0.2-0.7	0.2-0.7	1.5	1.45	1.9	2.0	1.2		
Sample Type	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID		
Sampled Date	22.05.07	22.05.07		22.05.07	22.05.07	22.05.07	22.05.07	22.05.07			
Sample Received Date	24.05.07	24.05.07	24.05.07	24.05.07	24.05.07	24.05.07	24.05.07	24.05.07	24.05.07		
Batch	1	1	1	1	1	1	1	1	1		
Sample Number(s)	**36-38**	**39-41**	**43**	**42**	**44-46**	**47-49**	**50-52**	**53-55**	**56-57**		
Volatile Organic Compounds (cont)											
Dibromochloromethane	<13	<13	<13	-	-	-	-	<13	-	TM116[#]	<13 ug/kg
1.2-Dibromoethane	<12	<12	<12	-	-	-	-	<12	-	TM116[#]	<12 ug/kg
Tetrachloroethene	<5	<5	<5	-	-	-	-	<5	-	TM116[#]	<5 ug/kg
1.1.1.2-Tetrachloroethane	<10	<10	<10	-	-	-	-	<10	-	TM116[#M]	<10 ug/kg
Chlorobenzene	<5	<5	<5	-	-	-	-	<5	-	TM116[#M]	<5 ug/kg
Ethylbenzene	140	<4	<4	-	-	-	-	<4	-	TM116[#]	<4 ug/kg
p/m-Xylene	140	<14	<14	-	-	-	-	<14	-	TM116[#]	<14 ug/kg
Bromoform	<10	<10	<10	-	-	-	-	<10	-	TM116[#]	<10 ug/kg
Styrene	<10	<10	<10	-	-	-	-	<10	-	TM116[#]	<10 ug/kg
1.1.2.2-Tetrachloroethane	<10	<10	<10	-	-	-	-	<10	-	TM116[#]	<10 ug/kg
o-Xylene	110	<10	<10	-	-	-	-	<10	-	TM116[#]	<10 ug/kg
1.2.3-Trichloropropane	<17	<17	<17	-	-	-	-	<17	-	TM116[#]	<17 ug/kg
Isopropylbenzene	59	<5	<5	-	-	-	-	<5	-	TM116[#]	<5 ug/kg
Bromobenzene	<10	<10	<10	-	-	-	-	<10	-	TM116[#M]	<10 ug/kg
2-Chlorotoluene	<9	<9	<9	-	-	-	-	<9	-	TM116[#]	<9 ug/kg
Propylbenzene	<11	<11	<11	-	-	-	-	<11	-	TM116[#]	<11 ug/kg
4-Chlorotoluene	<12	<12	<12	-	-	-	-	<12	-	TM116[#]	<12 ug/kg
1.2.4-Trimethylbenzene	160	<9	<9	-	-	-	-	<9	-	TM116[#]	<9 ug/kg
4-Isopropyltoluene	27	<11	<11	-	-	-	-	<11	-	TM116[#]	<11 ug/kg
1.3.5-Trimethylbenzene	95	<8	<8	-	-	-	-	<8	-	TM116[#]	<8 ug/kg
1.2-Dichlorobenzene	<12	<12	<12	-	-	-	-	<12	-	TM116[#M]	<12 ug/kg
1.4-Dichlorobenzene	<5	<5	<5	-	-	-	-	<5	-	TM116[#M]	<5 ug/kg
sec-Butylbenzene	<10	<10	<10	-	-	-	-	<10	-	TM116[#]	<10 ug/kg
tert-Butylbenzene	<12	<12	<12	-	-	-	-	<12	-	TM116[#]	<12 ug/kg
1.3-Dichlorobenzene	<6	<6	<6	-	-	-	-	<6	-	TM116[#]	<6 ug/kg
n-Butylbenzene	<10	<10	<10	-	-	-	-	<10	-	TM116[#]	<10 ug/kg
1.2-Dibromo-3-chloropropane	<14	<14	<14	-	-	-	-	<14	-	TM116[#]	<14 ug/kg
1.2.4-Trichlorobenzene	<6	<6	<6	-	-	-	-	<6	-	TM116[#]	<6 ug/kg
Naphthalene	30000	<13	<13	-	-	-	-	<13	-	TM116[#]	<13 ug/kg
1.2.3-Trichlorobenzene	<11	<11	<11	-	-	-	-	<11	-	TM116[#]	<11 ug/kg

All results expressed on a dry weight basis.

Date 06.07.2007

Validated ☑
Preliminary ☐

ALcontrol Geochem Analytical Services
Table Of Results

[#] ISO 17025 accredited
[M] MCERTS accredited
* Subcontracted test
» Shown on prev. report

Job Number: 07/09052/02/01 **Matrix:** SOLID
Client: Celtic Technologies **Location:** Not Specified
Client Ref. No.: C1077 **Client Contact:** Simon Haunch

Sample Identity	TP38	TP38	TP39	TP39	TP39	TP40	TP40	TP40	TP42	Method Code	LoD/Units
Depth (m)	1.2	1.6	0.2-0.7	0.2-0.7	1.5	1.45	1.9	2.0	1.2		
Sample Type	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID		
Sampled Date	22.05.07	22.05.07		22.05.07	22.05.07	22.05.07	22.05.07	22.05.07			
Sample Received Date	24.05.07	24.05.07	24.05.07	24.05.07	24.05.07	24.05.07	24.05.07	24.05.07	24.05.07		
Batch	1	1	1	1	1	1	1	1	1		
Sample Number(s)	**36-38**	**39-41**	**43**	**42**	**44-46**	**47-49**	**50-52**	**53-55**	**56-57**		
Volatile Organic Compounds (cont)											
Hexachlorobutadiene	<12	<12	<12	-	-	-	-	<12	-	TM116[#]	<12 ug/kg

All results expressed on a dry weight basis.

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ALcontrol Geochem Analytical Services
Table Of Results

[#] ISO 17025 accredited
[M] MCERTS accredited
* Subcontracted test
» Shown on prev. report

Job Number: 07/09052/02/01 **Matrix:** SOLID
Client: Celtic Technologies **Location:** Not Specified
Client Ref. No.: C1077 **Client Contact:** Simon Haunch

Sample Identity	TP43	TP43	TT1	TT1	WS39					Method Code	LoD/Units
Depth (m)	2.9	3.0-3.15	1.3	2.1	0.2-0.7						
Sample Type	SOLID	SOLID	SOLID	SOLID	SOLID						
Sampled Date	23.05.07	23.05.07	23.05.07	23.05.07	22.05.07						
Sample Received Date	24.05.07	24.05.07	24.05.07	24.05.07	24.05.07						
Batch	1	1	1	1	1						
Sample Number(s)	**58-60**	**61-63**	**64-66**	**67-69**	**70**						
Total Sulphate	1900	-	3200	-	-					TM129[#M]	<100 mg/kg
Boron Water Soluble	<3.5	-	-	<3.5	-					TM129[#M]	<3.5 mg/kg
Arsenic	38	-	-	11	-					TM129[#M]	<3.0 mg/kg
Cadmium	0.4	-	-	<0.3	-					TM129	<0.3 mg/kg
Chromium	27	-	-	31	-					TM129[#M]	<4.5 mg/kg
Copper	62	-	-	22	-					TM129[#]	<6 mg/kg
Lead	73	-	-	10	-					TM129[#M]	<2 mg/kg
Mercury	<0.6	-	-	<0.6	-					TM129[#M]	<0.6 mg/kg
Nickel	34	-	-	41	-					TM129[#M]	<0.9 mg/kg
Selenium	<3	-	-	<3	-					TM129[#M]	<3 mg/kg
Zinc	200	-	-	60	-					TM129[#M]	<2.5 mg/kg
Total Oxidised Nitrogen as N	-	-	<1	-	-					TM102[#]	<1 mg/kg
Water Soluble Sulphate as SO4 2:1 Extract	0.062	-	0.50	-	-					TM098[#M]	<0.003 g/l
Acid Soluble Sulphide	780	-	120	-	-					TM101	<50 mg/kg
Chloride (soluble)	330	-	24	-	-					TM097[#M]	<2 mg/kg
Phenols Monohydric	-	<0.15	-	-	-					TM062[#M]	<0.15 mg/kg
Total Cyanide	-	-	-	-	-					TM153[#]	<1 mg/kg
Asbestos Presence Screen	-	-	No Fibres Detected	-	-					TM001	NONE
Calorific Value	-	-	-	-	-					TM132[#]	<100 KJ/Kg
Elemental Sulphur	-	-	-	-	-					TM136[#]	<70 mg/kg
pH Value	7.89	8.22	-	-	-					TM133[#M]	<1.00 pH Units

All results expressed on a dry weight basis.

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ALcontrol Geochem Analytical Services
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Job Number: 07/09052/02/01 **Matrix:** SOLID
Client: Celtic Technologies **Location:** Not Specified
Client Ref. No.: C1077 **Client Contact:** Simon Haunch

Sample Identity	TP43	TP43	TT1	TT1	WS39					Method Code	LoD/Units
Depth (m)	2.9	3.0-3.15	1.3	2.1	0.2-0.7						
Sample Type	SOLID	SOLID	SOLID	SOLID	SOLID						
Sampled Date	23.05.07	23.05.07	23.05.07	23.05.07	22.05.07						
Sample Received Date	24.05.07	24.05.07	24.05.07	24.05.07	24.05.07						
Batch	1	1	1	1	1						
Sample Number(s)	**58-60**	**61-63**	**64-66**	**67-69**	**70**						
GRO (C4-C12)	19	-	<10	-	-					TM089	<10 ug/kg
MTBE	<10	-	<10	-	-					TM089[#]	<10 ug/kg
Benzene	19	-	<10	-	-					TM089[#M]	<10 ug/kg
Toluene	<10	-	<10	-	-					TM089[#M]	<10 ug/kg
Ethyl benzene	<10	-	<10	-	-					TM089[#M]	<10 ug/kg
m & p Xylene	<10	-	<10	-	-					TM089[#M]	<10 ug/kg
o Xylene	<10	-	<10	-	-					TM089[#M]	<10 ug/kg
Aliphatics C5-C6	<10	-	<10	-	-					TM089	<10 ug/kg
Aliphatics >C6-C8	<10	-	<10	-	-					TM089	<10 ug/kg
Aliphatics >C8-C10	<10	-	<10	-	-					TM089	<10 ug/kg
Aliphatics >C10-C12	<10	-	<10	-	-					TM089	<10 ug/kg
Aliphatics >C12-C16	700000	-	47000	-	-					TM173[#]	<100 ug/kg
Aliphatics >C16-C21	3200000	-	160000	-	-					TM173[#]	<100 ug/kg
Aliphatics >C21-C35	17000000	-	850000	-	-					TM173[#]	<100 ug/kg
Total Aliphatics C5-C35	21000000	-	1000000	-	-					TM61/89	<100 ug/kg
Aromatics C6-C7	19	-	<10	-	-					TM089	<10 ug/kg
Aromatics >C7-C8	<10	-	<10	-	-					TM089	<10 ug/kg
Aromatics >EC8-EC10	<10	-	<10	-	-					TM089	<10 ug/kg
Aromatics >EC10-EC12	<10	-	<10	-	-					TM089	<10 ug/kg
Aromatics >EC12-EC16	130000	-	16000	-	-					TM173[#]	<100 ug/kg
Aromatics >EC16-EC21	890000	-	61000	-	-					TM173[#]	<100 ug/kg
Aromatics >EC21-EC35	8300000	-	490000	-	-					TM173[#]	<100 ug/kg
Total Aromatics C6-C35	9300000	-	570000	-	-					TM61/89	<100 ug/kg
TPH (Aliphatics and Aromatics C5-C35)	30000000	-	1600000	-	-					TM61/89	<100 ug/kg

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Job Number: 07/09052/02/01 **Matrix:** SOLID
Client: Celtic Technologies **Location:** Not Specified
Client Ref. No.: C1077 **Client Contact:** Simon Haunch

Sample Identity	TP43	TP43	TT1	TT1	WS39					Method Code	LoD/Units
Depth (m)	2.9	3.0-3.15	1.3	2.1	0.2-0.7						
Sample Type	SOLID	SOLID	SOLID	SOLID	SOLID						
Sampled Date	23.05.07	23.05.07	23.05.07	23.05.07	22.05.07						
Sample Received Date	24.05.07	24.05.07	24.05.07	24.05.07	24.05.07						
Batch	1	1	1	1	1						
Sample Number(s)	**58-60**	**61-63**	**64-66**	**67-69**	**70**						
TPH C6-40	39000	170	-	-	450					TM154[#]	<10 mg/kg

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Job Number: 07/09052/02/01 **Matrix:** SOLID
Client: Celtic Technologies **Location:** Not Specified
Client Ref. No.: C1077 **Client Contact:** Simon Haunch

Sample Identity	TP43	TP43	TT1	TT1	WS39					Method Code	LoD/Units
Depth (m)	2.9	3.0-3.15	1.3	2.1	0.2-0.7						
Sample Type	SOLID	SOLID	SOLID	SOLID	SOLID						
Sampled Date	23.05.07	23.05.07	23.05.07	23.05.07	22.05.07						
Sample Received Date	24.05.07	24.05.07	24.05.07	24.05.07	24.05.07						
Batch	1	1	1	1	1						
Sample Number(s)	**58-60**	**61-63**	**64-66**	**67-69**	**70**						
PAH by GCMS											
Naphthalene	-	99	-	-	-					TM074[#M]	<10 ug/kg
Acenaphthylene	-	8	-	-	-					TM074[#M]	<5 ug/kg
Acenaphthene	-	67	-	-	-					TM074[#M]	<14 ug/kg
Fluorene	-	62	-	-	-					TM074[#M]	<12 ug/kg
Phenanthrene	-	280	-	-	-					TM074[#M]	<21 ug/kg
Anthracene	-	43	-	-	-					TM074[#M]	<9 ug/kg
Fluoranthene	-	310	-	-	-					TM074[#M]	<25 ug/kg
Pyrene	-	290	-	-	-					TM074[#M]	<22 ug/kg
Benz(a)anthracene	-	140	-	-	-					TM074[#M]	<12 ug/kg
Chrysene	-	200	-	-	-					TM074[#M]	<10 ug/kg
Benzo(b)fluoranthene	-	180	-	-	-					TM074[#M]	<16 ug/kg
Benzo(k)fluoranthene	-	86	-	-	-					TM074[#M]	<25 ug/kg
Benzo(a)pyrene	-	110	-	-	-					TM074[#M]	<12 ug/kg
Indeno(123cd)pyrene	-	57	-	-	-					TM074[#M]	<11 ug/kg
Dibenzo(ah)anthracene	-	12	-	-	-					TM074[#M]	<8 ug/kg
Benzo(ghi)perylene	-	97	-	-	-					TM074[#M]	<10 ug/kg
PAH 16 Total	-	2000	-	-	-					TM074[#M]	<25 ug/kg

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Job Number: 07/09052/02/01 **Matrix:** SOLID
Client: Celtic Technologies **Location:** Not Specified
Client Ref. No.: C1077 **Client Contact:** Simon Haunch

Sample Identity	TP43	TP43	TT1	TT1	WS39					Method Code	LoD/Units
Depth (m)	2.9	3.0-3.15	1.3	2.1	0.2-0.7						
Sample Type	SOLID	SOLID	SOLID	SOLID	SOLID						
Sampled Date	23.05.07	23.05.07	23.05.07	23.05.07	22.05.07						
Sample Received Date	24.05.07	24.05.07	24.05.07	24.05.07	24.05.07						
Batch	1	1	1	1	1						
Sample Number(s)	**58-60**	**61-63**	**64-66**	**67-69**	**70**						
SVOC by GCMS											
Phenols											
2-Chlorophenol	<100	-	-	-	-					TM157	<100 ug/kg
2-Methylphenol	<100	-	-	-	-					TM157	<100 ug/kg
2-Nitrophenol	<100	-	-	-	-					TM157	<100 ug/kg
2,4-Dichlorophenol	<100	-	-	-	-					TM157	<100 ug/kg
2,4-Dimethylphenol	<100	-	-	-	-					TM157	<100 ug/kg
2,4,5-Trichlorophenol	<100	-	-	-	-					TM157	<100 ug/kg
2,4,6-Trichlorophenol	<100	-	-	-	-					TM157	<100 ug/kg
4-Chloro-3-methylphenol	<100	-	-	-	-					TM157	<100 ug/kg
4-Methylphenol	<100	-	-	-	-					TM157	<100 ug/kg
4-Nitrophenol	<100	-	-	-	-					TM157	<100 ug/kg
Pentachlorophenol	<100	-	-	-	-					TM157	<100 ug/kg
Phenol	<100	-	-	-	-					TM157	<100 ug/kg

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Depth (m)	2.9	3.0-3.15	1.3	2.1	0.2-0.7						
Sample Type	SOLID	SOLID	SOLID	SOLID	SOLID						
Sampled Date	23.05.07	23.05.07	23.05.07	23.05.07	22.05.07						
Sample Received Date	24.05.07	24.05.07	24.05.07	24.05.07	24.05.07						
Batch	1	1	1	1	1						
Sample Number(s)	**58-60**	**61-63**	**64-66**	**67-69**	**70**						
PAHs											
2-Chloronaphthalene	<100	-	-	-	-					TM157	<100 ug/kg
2-Methylnaphthalene	520	-	-	-	-					TM157	<100 ug/kg
Phthalates											
Bis(2-ethylhexyl) phthalate	<100	-	-	-	-					TM157	<100 ug/kg
Butylbenzyl phthalate	<100	-	-	-	-					TM157	<100 ug/kg
Di-n-butyl phthalate	<100	-	-	-	-					TM157	<100 ug/kg
Di-n-Octyl phthalate	<100	-	-	-	-					TM157	<100 ug/kg
Diethyl phthalate	<100	-	-	-	-					TM157	<100 ug/kg
Dimethyl phthalate	<100	-	-	-	-					TM157	<100 ug/kg
Other Semi-volatiles											
1,2-Dichlorobenzene	<100	-	-	-	-					TM157	<100 ug/kg
1,2,4-Trichlorobenzene	<100	-	-	-	-					TM157	<100 ug/kg
1,3-Dichlorobenzene	<100	-	-	-	-					TM157	<100 ug/kg
1,4-Dichlorobenzene	<100	-	-	-	-					TM157	<100 ug/kg
2-Nitroaniline	<100	-	-	-	-					TM157	<100 ug/kg
2,4-Dinitrotoluene	<100	-	-	-	-					TM157	<100 ug/kg
2,6-Dinitrotoluene	<100	-	-	-	-					TM157	<100 ug/kg
3-Nitroaniline	<100	-	-	-	-					TM157	<100 ug/kg
4-Bromophenylphenylether	<100	-	-	-	-					TM157	<100 ug/kg
4-Chloroaniline	<100	-	-	-	-					TM157	<100 ug/kg
4-Chlorophenylphenylether	<100	-	-	-	-					TM157	<100 ug/kg
4-Nitroaniline	<100	-	-	-	-					TM157	<100 ug/kg
Azobenzene	<100	-	-	-	-					TM157	<100 ug/kg
Bis(2-chloroethoxy)methane	<100	-	-	-	-					TM157	<100 ug/kg
Bis(2-chloroethyl)ether	<100	-	-	-	-					TM157	<100 ug/kg
Carbazole	270	-	-	-	-					TM157	<100 ug/kg
Dibenzofuran	1200	-	-	-	-					TM157	<100 ug/kg
Hexachlorobenzene	<100	-	-	-	-					TM157	<100 ug/kg

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Depth (m)	2.9	3.0-3.15	1.3	2.1	0.2-0.7						
Sample Type	SOLID	SOLID	SOLID	SOLID	SOLID						
Sampled Date	23.05.07	23.05.07	23.05.07	23.05.07	22.05.07						
Sample Received Date	24.05.07	24.05.07	24.05.07	24.05.07	24.05.07						
Batch	1	1	1	1	1						
Sample Number(s)	**58-60**	**61-63**	**64-66**	**67-69**	**70**						
Other Semi-volatiles (cont)											
Hexachlorobutadiene	<100	-	-	-	-					TM157	<100 ug/kg
Hexachlorocyclopentadiene	<100	-	-	-	-					TM157	<100 ug/kg
Hexachloroethane	<100	-	-	-	-					TM157	<100 ug/kg
Isophorone	<100	-	-	-	-					TM157	<100 ug/kg
N-nitrosodi-n-propylamine	<100	-	-	-	-					TM157	<100 ug/kg
Nitrobenzene	<100	-	-	-	-					TM157	<100 ug/kg

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Depth (m)	2.9	3.0-3.15	1.3	2.1	0.2-0.7						
Sample Type	SOLID	SOLID	SOLID	SOLID	SOLID						
Sampled Date	23.05.07	23.05.07	23.05.07	23.05.07	22.05.07						
Sample Received Date	24.05.07	24.05.07	24.05.07	24.05.07	24.05.07						
Batch	1	1	1	1	1						
Sample Number(s)	**58-60**	**61-63**	**64-66**	**67-69**	**70**						
Volatile Organic Compounds											
Dichlorodifluoromethane	<4	-	-	-	-					TM116[#]	<4 ug/kg
Chloromethane	<7	-	-	-	-					TM116[#]	<7 ug/kg
Vinyl Chloride	<10	-	-	-	-					TM116[#M]	<10 ug/kg
Bromomethane	<13	-	-	-	-					TM116[#]	<13 ug/kg
Chloroethane	<14	-	-	-	-					TM116[#]	<14 ug/kg
Trichlorofluoromethane	<6	-	-	-	-					TM116[#M]	<6 ug/kg
trans-1-2-Dichloroethene	<11	-	-	-	-					TM116[#]	<11 ug/kg
Dichloromethane	<10	-	-	-	-					TM116[#]	<10 ug/kg
Carbon Disulphide	<7	-	-	-	-					TM116[#M]	<7 ug/kg
1.1-Dichloroethene	<10	-	-	-	-					TM116[#M]	<10 ug/kg
1.1-Dichloroethane	<8	-	-	-	-					TM116[#M]	<8 ug/kg
Methyl Tertiary Butyl Ether	<11	-	-	-	-					TM116[#M]	<11 ug/kg
cis-1-2-Dichloroethene	<5	-	-	-	-					TM116[#M]	<5 ug/kg
Bromochloromethane	<14	-	-	-	-					TM116[#]	<14 ug/kg
Chloroform	<8	-	-	-	-					TM116[#M]	<8 ug/kg
2.2-Dichloropropane	<12	-	-	-	-					TM116[#]	<12 ug/kg
1.2-Dichloroethane	<5	-	-	-	-					TM116[#]	<5 ug/kg
1.1.1-Trichloroethane	<7	-	-	-	-					TM116[#M]	<7 ug/kg
1.1-Dichloropropene	<11	-	-	-	-					TM116[#M]	<11 ug/kg
Benzene	34	-	-	-	-					TM116[#M]	<9 ug/kg
Carbontetrachloride	<14	-	-	-	-					TM116[#M]	<14 ug/kg
Dibromomethane	<9	-	-	-	-					TM116[#]	<9 ug/kg
1.2-Dichloropropane	<12	-	-	-	-					TM116[#M]	<12 ug/kg
Bromodichloromethane	<7	-	-	-	-					TM116[#M]	<7 ug/kg
Trichloroethene	<9	-	-	-	-					TM116[#M]	<9 ug/kg
cis-1-3-Dichloropropene	<14	-	-	-	-					TM116[#M]	<14 ug/kg
trans-1-3-Dichloropropene	<14	-	-	-	-					TM116[#M]	<14 ug/kg
1.1.2-Trichloroethane	<10	-	-	-	-					TM116[#]	<10 ug/kg
Toluene	<5	-	-	-	-					TM116[#M]	<5 ug/kg
1.3-Dichloropropane	<7	-	-	-	-					TM116[#]	<7 ug/kg

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Sampled Date	23.05.07	23.05.07	23.05.07	23.05.07	22.05.07						
Sample Received Date	24.05.07	24.05.07	24.05.07	24.05.07	24.05.07						
Batch	1	1	1	1	1						
Sample Number(s)	**58-60**	**61-63**	**64-66**	**67-69**	**70**						
Volatile Organic Compounds (cont)											
Dibromochloromethane	<13	-	-	-	-					TM116[#]	<13 ug/kg
1.2-Dibromoethane	<12	-	-	-	-					TM116[#]	<12 ug/kg
Tetrachloroethene	<5	-	-	-	-					TM116[#]	<5 ug/kg
1.1.1.2-Tetrachloroethane	<10	-	-	-	-					TM116[#M]	<10 ug/kg
Chlorobenzene	<5	-	-	-	-					TM116[#M]	<5 ug/kg
Ethylbenzene	<4	-	-	-	-					TM116[#]	<4 ug/kg
p/m-Xylene	<14	-	-	-	-					TM116[#]	<14 ug/kg
Bromoform	<10	-	-	-	-					TM116[#]	<10 ug/kg
Styrene	<10	-	-	-	-					TM116[#]	<10 ug/kg
1.1.2.2-Tetrachloroethane	<10	-	-	-	-					TM116[#]	<10 ug/kg
o-Xylene	<10	-	-	-	-					TM116[#]	<10 ug/kg
1.2.3-Trichloropropane	<17	-	-	-	-					TM116[#]	<17 ug/kg
Isopropylbenzene	<5	-	-	-	-					TM116[#]	<5 ug/kg
Bromobenzene	<10	-	-	-	-					TM116[#M]	<10 ug/kg
2-Chlorotoluene	<9	-	-	-	-					TM116[#]	<9 ug/kg
Propylbenzene	<11	-	-	-	-					TM116[#]	<11 ug/kg
4-Chlorotoluene	<12	-	-	-	-					TM116[#]	<12 ug/kg
1.2.4-Trimethylbenzene	<9	-	-	-	-					TM116[#]	<9 ug/kg
4-Isopropyltoluene	<11	-	-	-	-					TM116[#]	<11 ug/kg
1.3.5-Trimethylbenzene	<8	-	-	-	-					TM116[#]	<8 ug/kg
1.2-Dichlorobenzene	<12	-	-	-	-					TM116[#M]	<12 ug/kg
1.4-Dichlorobenzene	<5	-	-	-	-					TM116[#M]	<5 ug/kg
sec-Butylbenzene	<10	-	-	-	-					TM116[#]	<10 ug/kg
tert-Butylbenzene	<12	-	-	-	-					TM116[#]	<12 ug/kg
1.3-Dichlorobenzene	<6	-	-	-	-					TM116[#]	<6 ug/kg
n-Butylbenzene	<10	-	-	-	-					TM116[#]	<10 ug/kg
1.2-Dibromo-3-chloropropane	<14	-	-	-	-					TM116[#]	<14 ug/kg
1.2.4-Trichlorobenzene	<6	-	-	-	-					TM116[#]	<6 ug/kg
Naphthalene	<13	-	-	-	-					TM116[#]	<13 ug/kg
1.2.3-Trichlorobenzene	<11	-	-	-	-					TM116[#]	<11 ug/kg

All results expressed on a dry weight basis.

Date 06.07.2007

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ALcontrol Geochem Analytical Services
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[#] ISO 17025 accredited
[M] MCERTS accredited
[*] Subcontracted test
» Shown on prev. report

Job Number: 07/09052/02/01 **Matrix:** SOLID
Client: Celtic Technologies **Location:** Not Specified
Client Ref. No.: C1077 **Client Contact:** Simon Haunch

Sample Identity	TP43	TP43	TT1	TT1	WS39					Method Code	LoD/Units
Depth (m)	2.9	3.0-3.15	1.3	2.1	0.2-0.7						
Sample Type	SOLID	SOLID	SOLID	SOLID	SOLID						
Sampled Date	23.05.07	23.05.07	23.05.07	23.05.07	22.05.07						
Sample Received Date	24.05.07	24.05.07	24.05.07	24.05.07	24.05.07						
Batch	1	1	1	1	1						
Sample Number(s)	**58-60**	**61-63**	**64-66**	**67-69**	**70**						
Volatile Organic Compounds (cont)											
Hexachlorobutadiene	<12	-	-	-	-					TM116[#]	<12 ug/kg

All results expressed on a dry weight basis.

Date 06.07.2007

ALcontrol Geochem Analytical Services
Table Of Results - Appendix

Job Number: 07/09052/02/01
Client: Celtic Technologies
Client Ref. No.: C1077

Report Key :

Results expressed as (e.g.) 1.03E-07 is equivalent to 1.03×10^{-7}

NDP	No Determination Possible	*	Subcontracted test
NFD	No Fibres Detected	»	Result previously reported (Incremental reports only)
#	ISO 17025 accredited	M	MCERTS Accredited
PFD	Possible Fibres Detected	EC	Equivalent Carbon (Aromatics C8-C35)

Note: Method detection limits are not always achievable due to various circumstances beyond our control.

Summary of Method Codes contained within report :

Method No.	Reference	Description	ISO 17025 Accredited	MCERTS Accredited	Wet/Dry Sample [1]	Surrogate Corrected
TM001	In - house Method	Screening of Soils for Fibres			WET	
TM062	MEWAM BOOK 124 1988.HMSO/ Method 17.7, Second Site property, March 2003	Determination of Phenolic compounds by HPLC with electro-chemical detection	✓	✓	WET	
TM074	Modified: US EPA Method 8100	Determination of Polynuclear Aromatic Hydrocarbons (PAH) by GC-MS. MCERTS Accreditation on Soils for Naphthalene except when Kerosene present.	✓		DRY	
TM074	Modified: US EPA Method 8100	Determination of Polynuclear Aromatic Hydrocarbons (PAH) by GC-MS. MCERTS Accreditation on Soils for Naphthalene except when Kerosene present.	✓	✓	DRY	
TM089	Modified: US EPA Methods 8020 & 602	Determination of Gasoline Range Hydrocarbons (GRO) and BTEX (MTBE) compounds by Headspace GC-FID (C4-C12)			WET	
TM089	Modified: US EPA Methods 8020 & 602	Determination of Gasoline Range Hydrocarbons (GRO) and BTEX (MTBE) compounds by Headspace GC-FID (C4-C12)	✓		WET	
TM089	Modified: US EPA Methods 8020 & 602	Determination of Gasoline Range Hydrocarbons (GRO) and BTEX (MTBE) compounds by Headspace GC-FID (C4-C12)	✓	✓	WET	
TM097	Modified: US EPA Method 325.1 & 325.2	Determination of Chloride using the Kone Analyser	✓	✓	DRY	
TM098	Method 4500E, AWWA/APHA, 20th Ed., 1999	Determination of Sulphate using the Kone Analyser	✓	✓	DRY	
TM101	Method 4500B & C, AWWA/APHA, 20th Ed., 1999	Determination of Sulphide in soil and water samples using the Kone Analyser			WET	
TM102	Method 4500H, AWWA/APHA, 20th Ed., 1999	Determination of Total Oxidised Nitrogen using the Kone Analyser	✓		DRY	
TM116	Modified: US EPA Method 8260, 8120, 8020, 624, 610 & 602	Determination of Volatile Organic Compounds by Headspace / GC-MS			WET	
TM116	Modified: US EPA Method 8260, 8120, 8020, 624, 610 & 602	Determination of Volatile Organic Compounds by Headspace / GC-MS	✓		WET	
TM116	Modified: US EPA Method 8260, 8120, 8020, 624, 610 & 602	Determination of Volatile Organic Compounds by Headspace / GC-MS	✓	✓	WET	

[1] Applies to Solid samples only. **DRY** indicates samples have been dried at 35°C. **NA** = not applicable.

ALcontrol Geochem Analytical Services
Table Of Results - Appendix

Job Number: 07/09052/02/01
Client: Celtic Technologies
Client Ref. No.: C1077

Report Key :

Results expressed as (e.g.) 1.03E-07 is equivalent to 1.03×10^{-7}

NDP	No Determination Possible	*	Subcontracted test
NFD	No Fibres Detected	»	Result previously reported (Incremental reports only)
#	ISO 17025 accredited	M	MCERTS Accredited
PFD	Possible Fibres Detected	EC	Equivalent Carbon (Aromatics C8-C35)

Note: Method detection limits are not always achievable due to various circumstances beyond our control.

Summary of Method Codes contained within report :

Method No.	Reference	Description	ISO 17025 Accredited	MCERTS Accredited	Wet/Dry Sample [1]	Surrogate Corrected
TM129	Method 3120B, AWWA/APHA, 20th Ed., 1999 / Modified: US EPA Method 3050B	Determination of Metal Cations by IRIS Emission Spectrometer			DRY	
TM129	Method 3120B, AWWA/APHA, 20th Ed., 1999 / Modified: US EPA Method 3050B	Determination of Metal Cations by IRIS Emission Spectrometer	✓		DRY	
TM129	Method 3120B, AWWA/APHA, 20th Ed., 1999 / Modified: US EPA Method 3050B	Determination of Metal Cations by IRIS Emission Spectrometer	✓	✓	DRY	
TM132	In - house Method	ELTRA CS800 Operators Guide	✓		DRY	
TM133	BS 1377: Part 3 1990	Determination of pH in Soil and Water using the GLpH pH Meter	✓	✓	WET	
TM136	Method 17.10, Second Site property, March 2003	Determination of Sulphur by HPLC	✓		DRY	
TM143	Modified: US EPA Method 8270C	Determination of Semivolatile Organic Compounds by GC-MS			WET	
TM153	Method 4500A,B,C, I, M AWWA/APHA, 20th Ed., 1999	Determination of Total Cyanide, Free (Easily Liberatable) Cyanide and Thiocyanate using the "Skalar SANS+ System" Segmented Flow Analyser	✓		WET	
TM154	In - house Method	Determination of Petroleum Hydrocarbons by EZ Flash GC-FID in the Carbon range C6- C40	✓		WET	
TM157		Determination of SVOC in Soils by GC-MS extracted by sonication in DCM/Acetone			WET	
TM173		Determination of Speciated Extractable Petroleum Hydrocarbons in Soils by GC-FID	✓		DRY	
TM61/89		see TM061 and TM089 for details			WET	

[1] Applies to Solid samples only. **DRY** indicates samples have been dried at 35°C. **NA** = not applicable.

ALcontrol Geochem Analytical Services
Table Of Results - Appendix

Job Number: 07/09052/02/01
Client: Celtic Technologies
Client Ref. No.: C1077

Summary of Coolbox temperatures

Batch No.	Coolbox Temperature (°C)
1	5

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ALcontrol Geochem Analytical Services
Table Of Results

[#] ISO 17025 accredited
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* Subcontracted test
» Shown on prev. report

Job Number: 07/08569/02/01 **Matrix:** LIQUID
Client: Celtic Technologies **Location:** TEN ACRES LANE
Client Ref. No.: C1077 **Client Contact:** Simon Haunch

Sample Identity	BH1	BH2	BH3	BH6	BH8	BH9	BH10	BH11	R1	Method Code	LoD/Units
Depth (m)											
Sample Type	LIQUID	LIQUID	LIQUID	LIQUID	LIQUID	LIQUID	LIQUID	LIQUID	LIQUID		
Sampled Date	27.06.07	27.06.07	27.06.07	27.06.07	27.06.07	27.06.07	27.06.07	27.06.07	27.06.07		
Sample Received Date	28.06.07	28.06.07	28.06.07	28.06.07	28.06.07	28.06.07	28.06.07	28.06.07	28.06.07		
Batch	9	9	9	9	9	9	9	9	9		
Sample Number(s)	**327-329**	**330-332**	**333-335**	**336-338**	**339-341**	**342-344**	**345-347**	**348-350**	**351-353**		
Arsenic Dissolved (ICP-MS)	2	2	11	1	<1	2	4	4	<1	TM152[#]	<1 ug/l
Boron Dissolved (ICP-MS)	1600	1100	440	180	160	580	2100	6100	1200	TM152[#]	<10 ug/l
Cadmium Dissolved (ICP-MS)	<0.4	<0.4	<0.4	<0.4	0.5	<0.4	<0.4	<0.4	<0.4	TM152[#]	<0.4 ug/l
Chromium Dissolved (ICP-MS)	6	13	8	5	5	10	13	10	9	TM152[#]	<1 ug/l
Copper Dissolved (ICP-MS)	<1	2	<1	<1	22	2	5	<1	<1	TM152[#]	<1 ug/l
Lead Dissolved (ICP-MS)	<1	1	<1	<1	<1	<1	1	1	<1	TM152[#]	<1 ug/l
Manganese Dissolved (ICP-MS)	3100	1700	2100	3100	640	110	400	700	660	TM152[#]	<1 ug/l
Nickel Dissolved (ICP-MS)	8	11	6	10	10	10	4	6	4	TM152[#]	<1 ug/l
Selenium Dissolved (ICP-MS)	4	8	<1	2	<1	3	4	1	1	TM152[#]	<1 ug/l
Zinc Dissolved (ICP-MS)	<3	14	5	18	52	<3	<3	<3	<3	TM152[#]	<3 ug/l
Mercury Dissolved (CVAA)	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	TM127[#]	<0.05 ug/l
Iron Dissolved	0.57	0.28	0.25	0.10	0.18	1.2	0.21	0.14	0.17	TM129	<0.05 mg/l
BOD	6	<1	<1	2	<1	<1	13	9	3	TM045[#]	<1 mg/l
COD	520	100	87	190	370	320	140	170	43	TM107[#]	<10 mg/l
Sulphate (soluble)	140	520	110	47	300	320	51	26	170	TM098[#]	<3 mg/l
Chloride	43	73	11	11	9	73	53	28	19	TM097[#]	<1 mg/l
Sulphide	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	TM101	<0.5 mg/l
Total Ammonia as NH3	1.3	0.4	0.9	0.6	<0.2	<0.2	8.7	5.8	0.5	TM099[#]	<0.2 mg/l
Total Ammonium as NH4	1.4	0.4	0.9	0.6	<0.2	<0.2	9.4	6.2	0.5	TM099[#]	<0.3 mg/l
Ferrous Iron	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	TM125	<0.1 mg/l
Phenols Monohydric	0.01	<0.01	0.02	0.02	0.01	0.02	<0.01	<0.01	0.05	TM062[#]	<0.01 mg/l
Total Cyanide	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	TM153[#]	<0.05 mg/l
Ferric Iron	0.6	0.3	0.3	0.1	0.2	1.2	0.2	0.1	0.2	TM125	<0.1 mg/l
pH Value	7.92	7.51	7.45	7.57	7.80	7.88	7.92	8.08	7.89	TM133[#]	<1.00 pH Units

Date 17.07.2007

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Job Number: 07/08569/02/01 **Matrix:** LIQUID
Client: Celtic Technologies **Location:** TEN ACRES LANE
Client Ref. No.: C1077 **Client Contact:** Simon Haunch

Sample Identity	BH1	BH2	BH3	BH6	BH8	BH9	BH10	BH11	R1	Method Code	LoD/Units
Depth (m)											
Sample Type	LIQUID	LIQUID	LIQUID	LIQUID	LIQUID	LIQUID	LIQUID	LIQUID	LIQUID		
Sampled Date	27.06.07	27.06.07	27.06.07	27.06.07	27.06.07	27.06.07	27.06.07	27.06.07	27.06.07		
Sample Received Date	28.06.07	28.06.07	28.06.07	28.06.07	28.06.07	28.06.07	28.06.07	28.06.07	28.06.07		
Batch	9	9	9	9	9	9	9	9	9		
Sample Number(s)	**327-329**	**330-332**	**333-335**	**336-338**	**339-341**	**342-344**	**345-347**	**348-350**	**351-353**		
GRO (C4-C12)	<10	<10	<10	<10	<10	<10	<10	34	<10	TM089#	<10 ug/l
MTBE	<10	<10	<10	<10	<10	<10	<10	<10	<10	TM089#	<10 ug/l
Benzene	<10	<10	<10	<10	<10	<10	<10	<10	<10	TM089#	<10 ug/l
Toluene	<10	<10	<10	<10	<10	<10	<10	<10	<10	TM089#	<10 ug/l
Ethyl benzene	<10	<10	<10	<10	<10	<10	<10	<10	<10	TM089#	<10 ug/l
m & p Xylene	<10	<10	<10	<10	<10	<10	<10	<10	<10	TM089#	<10 ug/l
o Xylene	<10	<10	<10	<10	<10	<10	<10	<10	<10	TM089#	<10 ug/l
Aliphatics C5-C6	<10	<10	<10	<10	<10	<10	<10	<10	<10	TM089	<10 ug/l
Aliphatics >C6-C8	<10	<10	<10	<10	<10	<10	<10	<10	<10	TM089	<10 ug/l
Aliphatics >C8-C10	<10	<10	<10	<10	<10	<10	<10	<10	<10	TM089	<10 ug/l
Aliphatics >C10-C12	<10	<10	<10	<10	<10	<10	<10	14	<10	TM089	<10 ug/l
Aliphatics >C12-C16	<10	<10	<10	<10	<10	<10	<10	<10	<10	TM174	<10 ug/l
Aliphatics >C16-C21	<10	<10	<10	<10	<10	<10	<10	<10	<10	TM174	<10 ug/l
Aliphatics >C21-C35	<10	<10	<10	<10	<10	<10	<10	<10	<10	TM174	<10 ug/l
Total Aliphatics C5-C35	<10	<10	<10	<10	<10	<10	<10	14	<10	TM61/89	<10 ug/l
Aromatics C6-C7	<10	<10	<10	<10	<10	<10	<10	<10	<10	TM089#	<10 ug/l
Aromatics >C7-C8	<10	<10	<10	<10	<10	<10	<10	<10	<10	TM089#	<10 ug/l
Aromatics >EC8-EC10	<10	<10	<10	<10	<10	<10	<10	<10	<10	TM089	<10 ug/l
Aromatics >EC10-EC12	<10	<10	<10	<10	<10	<10	<10	20	<10	TM089	<10 ug/l
Aromatics >EC12-EC16	<10	<10	<10	<10	<10	<10	<10	63	<10	TM174	<10 ug/l
Aromatics >EC16-EC21	<10	<10	<10	<10	<10	<10	<10	<10	<10	TM174	<10 ug/l
Aromatics >EC21-EC35	<10	<10	<10	<10	<10	<10	<10	<10	<10	TM174	<10 ug/l
Total Aromatics C6-C35	<10	<10	<10	<10	<10	<10	<10	83	<10	TM61/89	<10 ug/l
TPH (Aliphatics and Aromatics C5-C35)	<10	<10	<10	<10	<10	<10	<10	97	<10	TM61/89	<10 ug/l

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ALcontrol Geochem Analytical Services
Table Of Results

ISO 17025 accredited
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* Subcontracted test
» Shown on prev. report

Job Number: 07/08569/02/01 **Matrix:** LIQUID
Client: Celtic Technologies **Location:** TEN ACRES LANE
Client Ref. No.: C1077 **Client Contact:** Simon Haunch

Sample Identity	BH1	BH2	BH3	BH6	BH8	BH9	BH10	BH11	R1	Method Code	LoD/Units
Depth (m)											
Sample Type	LIQUID	LIQUID	LIQUID	LIQUID	LIQUID	LIQUID	LIQUID	LIQUID	LIQUID		
Sampled Date	27.06.07	27.06.07	27.06.07	27.06.07	27.06.07	27.06.07	27.06.07	27.06.07	27.06.07		
Sample Received Date	28.06.07	28.06.07	28.06.07	28.06.07	28.06.07	28.06.07	28.06.07	28.06.07	28.06.07		
Batch	9	9	9	9	9	9	9	9	9		
Sample Number(s)	327-329	330-332	333-335	336-338	339-341	342-344	345-347	348-350	351-353		
SVOC by GCMS											
Phenols											
2-Chlorophenol	<1	<1	<1	<1	<1	<1	<1	<1	<1	TM176	<1 ug/l
2-Methylphenol	<1	<1	<1	<1	<1	<1	<1	<1	<1	TM176	<1 ug/l
2-Nitrophenol	<1	<1	<1	<1	<1	<1	<1	<1	<1	TM176	<1 ug/l
2,4-Dichlorophenol	<1	<1	<1	<1	<1	<1	<1	<1	<1	TM176	<1 ug/l
2,4-Dimethylphenol	<1	<1	<1	<1	<1	<1	<1	<1	<1	TM176	<1 ug/l
2,4,5-Trichlorophenol	<1	<1	<1	<1	<1	<1	<1	<1	<1	TM176	<1 ug/l
2,4,6-Trichlorophenol	<1	<1	<1	<1	<1	<1	<1	<1	<1	TM176	<1 ug/l
4-Chloro-3-methylphenol	<1	<1	<1	<1	<1	<1	<1	<1	<1	TM176	<1 ug/l
4-Methylphenol	<1	<1	<1	<1	<1	<1	<1	<1	<1	TM176	<1 ug/l
4-Nitrophenol	<1	<1	<1	<1	<1	<1	<1	<1	<1	TM176	<1 ug/l
Pentachlorophenol	<1	<1	<1	<1	<1	<1	<1	<1	<1	TM176	<1 ug/l
Phenol	<1	<1	<1	<1	<1	<1	<1	<1	<1	TM176	<1 ug/l

Date 17.07.2007

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ALcontrol Geochem Analytical Services
Table Of Results

ISO 17025 accredited
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* Subcontracted test
» Shown on prev. report

Job Number: 07/08569/02/01 **Matrix:** LIQUID
Client: Celtic Technologies **Location:** TEN ACRES LANE
Client Ref. No.: C1077 **Client Contact:** Simon Haunch

Sample Identity	BH1	BH2	BH3	BH6	BH8	BH9	BH10	BH11	R1	Method Code	LoD/Units
Depth (m)											
Sample Type	LIQUID	LIQUID	LIQUID	LIQUID	LIQUID	LIQUID	LIQUID	LIQUID	LIQUID		
Sampled Date	27.06.07	27.06.07	27.06.07	27.06.07	27.06.07	27.06.07	27.06.07	27.06.07	27.06.07		
Sample Received Date	28.06.07	28.06.07	28.06.07	28.06.07	28.06.07	28.06.07	28.06.07	28.06.07	28.06.07		
Batch	9	9	9	9	9	9	9	9	9		
Sample Number(s)	327-329	330-332	333-335	336-338	339-341	342-344	345-347	348-350	351-353		
PAHs											
2-Chloronaphthalene	<1	<1	<1	<1	<1	<1	<1	<1	<1	TM176	<1 ug/l
2-Methylnaphthalene	<1	<1	<1	<1	<1	<1	<1	<1	<1	TM176	<1 ug/l
Acenaphthene	<1	<1	<1	<1	<1	<1	<1	4	<1	TM176	<1 ug/l
Acenaphthylene	<1	<1	<1	<1	<1	<1	<1	<1	<1	TM176	<1 ug/l
Anthracene	<1	<1	<1	<1	<1	<1	<1	<1	<1	TM176	<1 ug/l
Benzo(a)anthracene	<1	<1	<1	<1	<1	<1	<1	<1	<1	TM176	<1 ug/l
Benzo(a)pyrene	<1	<1	<1	<1	<1	<1	<1	<1	<1	TM176	<1 ug/l
Benzo(b)fluoranthene	<1	<1	<1	<1	<1	<1	<1	<1	<1	TM176	<1 ug/l
Benzo(ghi)perylene	<1	<1	<1	<1	<1	<1	<1	<1	<1	TM176	<1 ug/l
Benzo(k)fluoranthene	<1	<1	<1	<1	<1	<1	<1	<1	<1	TM176	<1 ug/l
Chrysene	<1	<1	<1	<1	<1	<1	<1	<1	<1	TM176	<1 ug/l
Dibenzo(a,h)anthracene	<1	<1	<1	<1	<1	<1	<1	<1	<1	TM176	<1 ug/l
Fluoranthene	<1	<1	<1	<1	<1	<1	<1	<1	<1	TM176	<1 ug/l
Fluorene	<1	<1	<1	<1	<1	<1	<1	<1	<1	TM176	<1 ug/l
Indeno(1,2,3-cd)pyrene	<1	<1	<1	<1	<1	<1	<1	<1	<1	TM176	<1 ug/l
Naphthalene	<1	<1	<1	<1	<1	<1	<1	<1	<1	TM176	<1 ug/l
Phenanthrene	<1	<1	<1	<1	<1	<1	<1	<1	<1	TM176	<1 ug/l
Pyrene	<1	<1	<1	<1	<1	<1	<1	<1	<1	TM176	<1 ug/l
Phthalates											
Bis(2-ethylhexyl) phthalate	-	-	<1	-	<1	<1	<1	<1	-	TM176	<1 ug/l
Bis(2-ethylhexyl) phthalate	<2	<2	-	<2	-	-	-	-	<2	TM176	<2 ug/l
Butylbenzyl phthalate	<1	<1	<1	<1	<1	<1	<1	<1	<1	TM176	<1 ug/l
Di-n-butyl phthalate	<1	<1	<1	<1	<1	<1	<1	<1	<1	TM176	<1 ug/l
Di-n-Octyl phthalate	-	-	<1	-	<1	<1	<1	<1	-	TM176	<1 ug/l
Di-n-Octyl phthalate	<5	<5	-	<5	-	-	-	-	<5	TM176	<5 ug/l
Diethyl phthalate	<1	<1	<1	<1	<1	<1	<1	<1	<1	TM176	<1 ug/l
Dimethyl phthalate	<1	<1	<1	<1	<1	<1	<1	<1	<1	TM176	<1 ug/l

Date 17.07.2007

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Table Of Results

[#] ISO 17025 accredited
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Job Number: 07/08569/02/01 **Matrix:** LIQUID
Client: Celtic Technologies **Location:** TEN ACRES LANE
Client Ref. No.: C1077 **Client Contact:** Simon Haunch

Sample Identity	BH1	BH2	BH3	BH6	BH8	BH9	BH10	BH11	R1	Method Code	LoD/Units
Depth (m)											
Sample Type	LIQUID	LIQUID	LIQUID	LIQUID	LIQUID	LIQUID	LIQUID	LIQUID	LIQUID		
Sampled Date	27.06.07	27.06.07	27.06.07	27.06.07	27.06.07	27.06.07	27.06.07	27.06.07	27.06.07		
Sample Received Date	28.06.07	28.06.07	28.06.07	28.06.07	28.06.07	28.06.07	28.06.07	28.06.07	28.06.07		
Batch	9	9	9	9	9	9	9	9	9		
Sample Number(s)	327-329	330-332	333-335	336-338	339-341	342-344	345-347	348-350	351-353		
Other Semi-volatiles											
1,2-Dichlorobenzene	<1	<1	<1	<1	<1	<1	<1	<1	<1	TM176	<1 ug/l
1,2,4-Trichlorobenzene	<1	<1	<1	<1	<1	<1	<1	<1	<1	TM176	<1 ug/l
1,3-Dichlorobenzene	<1	<1	<1	<1	<1	<1	<1	<1	<1	TM176	<1 ug/l
1,4-Dichlorobenzene	<1	<1	<1	<1	<1	<1	<1	<1	<1	TM176	<1 ug/l
2-Nitroaniline	<1	<1	<1	<1	<1	<1	<1	<1	<1	TM176	<1 ug/l
2,4-Dinitrotoluene	<1	<1	<1	<1	<1	<1	<1	<1	<1	TM176	<1 ug/l
2,6-Dinitrotoluene	<1	<1	<1	<1	<1	<1	<1	<1	<1	TM176	<1 ug/l
3-Nitroaniline	<1	<1	<1	<1	<1	<1	<1	<1	<1	TM176	<1 ug/l
4-Bromophenylphenylether	<1	<1	<1	<1	<1	<1	<1	<1	<1	TM176	<1 ug/l
4-Chloroaniline	<1	<1	<1	<1	<1	<1	<1	<1	<1	TM176	<1 ug/l
4-Chlorophenylphenylether	<1	<1	<1	<1	<1	<1	<1	<1	<1	TM176	<1 ug/l
4-Nitroaniline	<1	<1	<1	<1	<1	<1	<1	<1	<1	TM176	<1 ug/l
Azobenzene	<1	<1	<1	<1	<1	<1	<1	<1	<1	TM176	<1 ug/l
Bis(2-chloroethoxy)methane	<1	<1	<1	<1	<1	<1	<1	<1	<1	TM176	<1 ug/l
Bis(2-chloroethyl)ether	<1	<1	<1	<1	<1	<1	<1	<1	<1	TM176	<1 ug/l
Carbazole	<1	<1	<1	<1	<1	<1	<1	<1	<1	TM176	<1 ug/l
Dibenzofuran	<1	<1	<1	<1	<1	<1	<1	<1	<1	TM176	<1 ug/l
Hexachlorobenzene	<1	<1	<1	<1	<1	<1	<1	<1	<1	TM176	<1 ug/l
Hexachlorobutadiene	<1	<1	<1	<1	<1	<1	<1	<1	<1	TM176	<1 ug/l
Hexachlorocyclopentadiene	<1	<1	<1	<1	<1	<1	<1	<1	<1	TM176	<1 ug/l
Hexachloroethane	<1	<1	<1	<1	<1	<1	<1	<1	<1	TM176	<1 ug/l
Isophorone	<1	<1	<1	<1	<1	<1	<1	<1	<1	TM176	<1 ug/l
N-nitrosodi-n-propylamine	<1	<1	<1	<1	<1	<1	<1	<1	<1	TM176	<1 ug/l
Nitrobenzene	<1	<1	<1	<1	<1	<1	<1	<1	<1	TM176	<1 ug/l

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Job Number: 07/08569/02/01 **Matrix:** LIQUID
Client: Celtic Technologies **Location:** TEN ACRES LANE
Client Ref. No.: C1077 **Client Contact:** Simon Haunch

Sample Identity	BH1	BH2	BH3	BH6	BH8	BH9	BH10	BH11	R1	Method Code	LoD/Units
Depth (m)											
Sample Type	LIQUID	LIQUID	LIQUID	LIQUID	LIQUID	LIQUID	LIQUID	LIQUID	LIQUID		
Sampled Date	27.06.07	27.06.07	27.06.07	27.06.07	27.06.07	27.06.07	27.06.07	27.06.07	27.06.07		
Sample Received Date	28.06.07	28.06.07	28.06.07	28.06.07	28.06.07	28.06.07	28.06.07	28.06.07	28.06.07		
Batch	9	9	9	9	9	9	9	9	9		
Sample Number(s)	**327-329**	**330-332**	**333-335**	**336-338**	**339-341**	**342-344**	**345-347**	**348-350**	**351-353**		
Volatile Organic Compounds											
Dichlorodifluoromethane	<1	<1	<1	<1	<1	<1	<1	<1	<1	TM116[#]	<1 ug/l
Chloromethane	<1	<1	<1	<1	<1	<1	<1	<1	<1	TM116[#]	<1 ug/l
Vinyl Chloride	<1	<1	<1	<1	<1	<1	<1	<1	<1	TM116[#]	<1 ug/l
Bromomethane	<1	<1	<1	<1	<1	<1	<1	<1	<1	TM116[#]	<1 ug/l
Chloroethane	<1	<1	<1	<1	<1	<1	<1	<1	<1	TM116[#]	<1 ug/l
Trichlorofluoromethane	<1	<1	<1	<1	<1	<1	<1	<1	<1	TM116[#]	<1 ug/l
trans-1-2-Dichloroethene	<1	<1	<1	<1	<1	<1	<1	<1	<1	TM116[#]	<1 ug/l
Dichloromethane	<1	<1	<1	<1	<1	<1	<1	<1	<1	TM116[#]	<1 ug/l
Carbon Disulphide	<1	<1	<1	<1	<1	<1	<1	<1	<1	TM116[#]	<1 ug/l
1.1-Dichloroethene	<1	<1	<1	<1	<1	<1	<1	<1	<1	TM116[#]	<1 ug/l
1.1-Dichloroethane	<1	<1	<1	<1	<1	<1	<1	<1	<1	TM116[#]	<1 ug/l
Methyl Tertiary Butyl Ether	<1	<1	<1	<1	<1	<1	<1	<1	<1	TM116[#]	<1 ug/l
cis-1-2-Dichloroethene	<1	<1	<1	<1	<1	<1	<1	<1	<1	TM116[#]	<1 ug/l
Bromochloromethane	<1	<1	<1	<1	<1	<1	<1	<1	<1	TM116[#]	<1 ug/l
Chloroform	<1	<1	<1	<1	<1	<1	<1	<1	<1	TM116[#]	<1 ug/l
2.2-Dichloropropane	<1	<1	<1	<1	<1	<1	<1	<1	<1	TM116[#]	<1 ug/l
1.2-Dichloroethane	<1	<1	<1	<1	<1	<1	<1	<1	<1	TM116[#]	<1 ug/l
1.1.1-Trichloroethane	<1	<1	<1	<1	<1	<1	<1	<1	<1	TM116[#]	<1 ug/l
1.1-Dichloropropene	<1	<1	<1	<1	<1	<1	<1	<1	<1	TM116[#]	<1 ug/l
Benzene	<1	<1	<1	<1	<1	<1	<1	<1	<1	TM116[#]	<1 ug/l
Carbontetrachloride	<1	<1	<1	<1	<1	<1	<1	<1	<1	TM116[#]	<1 ug/l
Dibromomethane	<1	<1	<1	<1	<1	<1	<1	<1	<1	TM116[#]	<1 ug/l
1.2-Dichloropropane	<1	<1	<1	<1	<1	<1	<1	<1	<1	TM116[#]	<1 ug/l
Bromodichloromethane	<1	<1	<1	<1	<1	<1	<1	<1	<1	TM116[#]	<1 ug/l
Trichloroethene	<1	<1	<1	<1	<1	<1	<1	<1	<1	TM116[#]	<1 ug/l
cis-1-3-Dichloropropene	<1	<1	<1	<1	<1	<1	<1	<1	<1	TM116[#]	<1 ug/l
trans-1-3-Dichloropropene	<1	<1	<1	<1	<1	<1	<1	<1	<1	TM116[#]	<1 ug/l
1.1.2-Trichloroethane	<1	<1	<1	<1	<1	<1	<1	<1	<1	TM116[#]	<1 ug/l
Toluene	<1	<1	<1	<1	<1	<1	<1	<1	<1	TM116[#]	<1 ug/l
1.3-Dichloropropane	<1	<1	<1	<1	<1	<1	<1	<1	<1	TM116[#]	<1 ug/l

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Job Number: 07/08569/02/01 **Matrix:** LIQUID
Client: Celtic Technologies **Location:** TEN ACRES LANE
Client Ref. No.: C1077 **Client Contact:** Simon Haunch

Sample Identity	BH1	BH2	BH3	BH6	BH8	BH9	BH10	BH11	R1	Method Code	LoD/Units
Depth (m)											
Sample Type	LIQUID	LIQUID	LIQUID	LIQUID	LIQUID	LIQUID	LIQUID	LIQUID	LIQUID		
Sampled Date	27.06.07	27.06.07	27.06.07	27.06.07	27.06.07	27.06.07	27.06.07	27.06.07	27.06.07		
Sample Received Date	28.06.07	28.06.07	28.06.07	28.06.07	28.06.07	28.06.07	28.06.07	28.06.07	28.06.07		
Batch	9	9	9	9	9	9	9	9	9		
Sample Number(s)	327-329	330-332	333-335	336-338	339-341	342-344	345-347	348-350	351-353		
Volatile Organic Compounds (cont)											
Dibromochloromethane	<1	<1	<1	<1	<1	<1	<1	<1	<1	TM116[#]	<1 ug/l
1.2-Dibromoethane	<1	<1	<1	<1	<1	<1	<1	<1	<1	TM116[#]	<1 ug/l
Tetrachloroethene	<1	<1	<1	<1	<1	<1	<1	<1	<1	TM116[#]	<1 ug/l
1.1.1.2-Tetrachloroethane	<1	<1	<1	<1	<1	<1	<1	<1	<1	TM116[#]	<1 ug/l
Chlorobenzene	<1	<1	<1	<1	<1	<1	<1	<1	<1	TM116[#]	<1 ug/l
Ethylbenzene	<1	<1	<1	<1	<1	<1	<1	<1	<1	TM116[#]	<1 ug/l
p/m-Xylene	<1	<1	<1	<1	<1	<1	<1	<1	<1	TM116[#]	<1 ug/l
Bromoform	<1	<1	<1	<1	<1	<1	<1	<1	<1	TM116[#]	<1 ug/l
Styrene	<1	<1	<1	<1	<1	<1	<1	<1	<1	TM116[#]	<1 ug/l
1.1.2.2-Tetrachloroethane	<1	<1	<1	<1	<1	<1	<1	<1	<1	TM116[#]	<1 ug/l
o-Xylene	<1	<1	<1	<1	<1	<1	<1	<1	<1	TM116[#]	<1 ug/l
1.2.3-Trichloropropane	<1	<1	<1	<1	<1	<1	<1	<1	<1	TM116[#]	<1 ug/l
Isopropylbenzene	<1	<1	<1	<1	<1	<1	<1	<1	<1	TM116[#]	<1 ug/l
Bromobenzene	<1	<1	<1	<1	<1	<1	<1	<1	<1	TM116[#]	<1 ug/l
2-Chlorotoluene	<1	<1	<1	<1	<1	<1	<1	<1	<1	TM116[#]	<1 ug/l
Propylbenzene	<1	<1	<1	<1	<1	<1	<1	<1	<1	TM116[#]	<1 ug/l
4-Chlorotoluene	<1	<1	<1	<1	<1	<1	<1	<1	<1	TM116[#]	<1 ug/l
1.2.4-Trimethylbenzene	<1	<1	<1	<1	<1	<1	<1	<1	<1	TM116[#]	<1 ug/l
4-Isopropyltoluene	<1	<1	<1	<1	<1	<1	<1	<1	<1	TM116[#]	<1 ug/l
1.3.5-Trimethylbenzene	<1	<1	<1	<1	<1	<1	<1	<1	<1	TM116[#]	<1 ug/l
1.2-Dichlorobenzene	<1	<1	<1	<1	<1	<1	<1	<1	<1	TM116[#]	<1 ug/l
1.4-Dichlorobenzene	<1	<1	<1	<1	<1	<1	<1	<1	<1	TM116[#]	<1 ug/l
sec-Butylbenzene	<1	<1	<1	<1	<1	<1	<1	<1	<1	TM116[#]	<1 ug/l
tert-Butylbenzene	<1	<1	<1	<1	<1	<1	<1	<1	<1	TM116[#]	<1 ug/l
1.3-Dichlorobenzene	<1	<1	<1	<1	<1	<1	<1	<1	<1	TM116[#]	<1 ug/l
n-Butylbenzene	<1	<1	<1	<1	<1	<1	<1	<1	<1	TM116[#]	<1 ug/l
1.2-Dibromo-3-chloropropane	<1	<1	<1	<1	<1	<1	<1	<1	<1	TM116[#]	<1 ug/l
1.2.4-Trichlorobenzene	<1	<1	<1	<1	<1	<1	<1	<1	<1	TM116[#]	<1 ug/l
Naphthalene	<1	<1	<1	<1	<1	<1	<1	<1	<1	TM116[#]	<1 ug/l
1.2.3-Trichlorobenzene	<1	<1	<1	<1	<1	<1	<1	<1	<1	TM116[#]	<1 ug/l

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Job Number: 07/08569/02/01 **Matrix:** LIQUID
Client: Celtic Technologies **Location:** TEN ACRES LANE
Client Ref. No.: C1077 **Client Contact:** Simon Haunch

Sample Identity	BH1	BH2	BH3	BH6	BH8	BH9	BH10	BH11	R1	Method Code	LoD/Units
Depth (m)											
Sample Type	LIQUID	LIQUID	LIQUID	LIQUID	LIQUID	LIQUID	LIQUID	LIQUID	LIQUID		
Sampled Date	27.06.07	27.06.07	27.06.07	27.06.07	27.06.07	27.06.07	27.06.07	27.06.07	27.06.07		
Sample Received Date	28.06.07	28.06.07	28.06.07	28.06.07	28.06.07	28.06.07	28.06.07	28.06.07	28.06.07		
Batch	9	9	9	9	9	9	9	9	9		
Sample Number(s)	**327-329**	**330-332**	**333-335**	**336-338**	**339-341**	**342-344**	**345-347**	**348-350**	**351-353**		
Volatile Organic Compounds (cont)											
Hexachlorobutadiene	<1	<1	<1	<1	<1	<1	<1	<1	<1	TM116[#]	<1 ug/l

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Job Number: 07/08569/02/01 **Matrix:** LIQUID
Client: Celtic Technologies **Location:** TEN ACRES LANE
Client Ref. No.: C1077 **Client Contact:** Simon Haunch

Sample Identity	R2	R3	R5							Method Code	LoD/Units
Depth (m)											
Sample Type	LIQUID	LIQUID	LIQUID								
Sampled Date	28.06.07	26.06.07	27.06.07								
Sample Received Date	28.06.07	28.06.07	28.06.07								
Batch	9	9	9								
Sample Number(s)	354-356	357-359	360-362								
Arsenic Dissolved (ICP-MS)	2	2	3							TM152[#]	<1 ug/l
Boron Dissolved (ICP-MS)	1700	280	86							TM152[#]	<10 ug/l
Cadmium Dissolved (ICP-MS)	<0.4	<0.4	<0.4							TM152[#]	<0.4 ug/l
Chromium Dissolved (ICP-MS)	7	6	33							TM152[#]	<1 ug/l
Copper Dissolved (ICP-MS)	2	<1	64							TM152[#]	<1 ug/l
Lead Dissolved (ICP-MS)	<1	<1	<1							TM152[#]	<1 ug/l
Manganese Dissolved (ICP-MS)	230	530	<1							TM152[#]	<1 ug/l
Nickel Dissolved (ICP-MS)	9	4	17							TM152[#]	<1 ug/l
Selenium Dissolved (ICP-MS)	4	<1	29							TM152[#]	<1 ug/l
Zinc Dissolved (ICP-MS)	34	<3	<3							TM152[#]	<3 ug/l
Mercury Dissolved (CVAA)	<0.05	<0.05	<0.05							TM127[#]	<0.05 ug/l
Iron Dissolved	0.14	0.18	<0.05							TM129	<0.05 mg/l
BOD	48	<1	32							TM045[#]	<1 mg/l
COD	2900	120	120							TM107[#]	<10 mg/l
Sulphate (soluble)	150	230	460							TM098[#]	<3 mg/l
Chloride	33	23	30							TM097[#]	<1 mg/l
Sulphide	<0.5	<0.5	<0.5							TM101	<0.5 mg/l
Total Ammonia as NH3	0.4	0.6	<0.2							TM099[#]	<0.2 mg/l
Total Ammonium as NH4	0.4	0.6	<0.2							TM099[#]	<0.3 mg/l
Ferrous Iron	<0.1	<0.1	<0.1							TM125	<0.1 mg/l
Phenols Monohydric	<0.01	<0.01	<0.01							TM062[#]	<0.01 mg/l
Total Cyanide	<0.05	<0.05	<0.05							TM153[#]	<0.05 mg/l
Ferric Iron	0.1	0.2	<0.1							TM125	<0.1 mg/l
pH Value	7.81	7.77	10.64							TM133[#]	<1.00 pH Units

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Job Number: 07/08569/02/01 **Matrix:** LIQUID
Client: Celtic Technologies **Location:** TEN ACRES LANE
Client Ref. No.: C1077 **Client Contact:** Simon Haunch

Sample Identity	R2	R3	R5							Method Code	LoD/Units
Depth (m)											
Sample Type	LIQUID	LIQUID	LIQUID								
Sampled Date	28.06.07	26.06.07	27.06.07								
Sample Received Date	28.06.07	28.06.07	28.06.07								
Batch	9	9	9								
Sample Number(s)	**354-356**	**357-359**	**360-362**								
GRO (C4-C12)	<10	<10	<10							TM089[#]	<10 ug/l
MTBE	<10	<10	<10							TM089[#]	<10 ug/l
Benzene	<10	<10	<10							TM089[#]	<10 ug/l
Toluene	<10	<10	<10							TM089[#]	<10 ug/l
Ethyl benzene	<10	<10	<10							TM089[#]	<10 ug/l
m & p Xylene	<10	<10	<10							TM089[#]	<10 ug/l
o Xylene	<10	<10	<10							TM089[#]	<10 ug/l
Aliphatics C5-C6	<10	<10	<10							TM089	<10 ug/l
Aliphatics >C6-C8	<10	<10	<10							TM089	<10 ug/l
Aliphatics >C8-C10	<10	<10	<10							TM089	<10 ug/l
Aliphatics >C10-C12	<10	<10	<10							TM089	<10 ug/l
Aliphatics >C12-C16	<10	<10	<10							TM174	<10 ug/l
Aliphatics >C16-C21	<10	<10	<10							TM174	<10 ug/l
Aliphatics >C21-C35	<10	<10	<10							TM174	<10 ug/l
Total Aliphatics C5-C35	<10	<10	<10							TM61/89	<10 ug/l
Aromatics C6-C7	<10	<10	<10							TM089[#]	<10 ug/l
Aromatics >C7-C8	<10	<10	<10							TM089[#]	<10 ug/l
Aromatics >EC8-EC10	<10	<10	<10							TM089	<10 ug/l
Aromatics >EC10-EC12	<10	<10	<10							TM089	<10 ug/l
Aromatics >EC12-EC16	<10	<10	<10							TM174	<10 ug/l
Aromatics >EC16-EC21	<10	<10	<10							TM174	<10 ug/l
Aromatics >EC21-EC35	<10	<10	<10							TM174	<10 ug/l
Total Aromatics C6-C35	<10	<10	<10							TM61/89	<10 ug/l
TPH (Aliphatics and Aromatics C5-C35)	<10	<10	<10							TM61/89	<10 ug/l

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Job Number: 07/08569/02/01 **Matrix:** LIQUID
Client: Celtic Technologies **Location:** TEN ACRES LANE
Client Ref. No.: C1077 **Client Contact:** Simon Haunch

Sample Identity	R2	R3	R5							Method Code	LoD/Units
Depth (m)											
Sample Type	LIQUID	LIQUID	LIQUID								
Sampled Date	28.06.07	26.06.07	27.06.07								
Sample Received Date	28.06.07	28.06.07	28.06.07								
Batch	9	9	9								
Sample Number(s)	**354-356**	**357-359**	**360-362**								
SVOC by GCMS											
Phenols											
2-Chlorophenol	NDP	<1	<1							TM176	<1 ug/l
2-Methylphenol	NDP	<1	<1							TM176	<1 ug/l
2-Nitrophenol	NDP	<1	<1							TM176	<1 ug/l
2,4-Dichlorophenol	NDP	<1	<1							TM176	<1 ug/l
2,4-Dimethylphenol	NDP	<1	<1							TM176	<1 ug/l
2,4,5-Trichlorophenol	NDP	<1	<1							TM176	<1 ug/l
2,4,6-Trichlorophenol	NDP	<1	<1							TM176	<1 ug/l
4-Chloro-3-methylphenol	NDP	<1	<1							TM176	<1 ug/l
4-Methylphenol	NDP	<1	3							TM176	<1 ug/l
4-Nitrophenol	NDP	<1	<1							TM176	<1 ug/l
Pentachlorophenol	NDP	<1	<1							TM176	<1 ug/l
Phenol	NDP	<1	3							TM176	<1 ug/l

Date 17.07.2007

Validated ✓
Preliminary

ALcontrol Geochem Analytical Services
Table Of Results

ISO 17025 accredited
M MCERTS accredited
* Subcontracted test
» Shown on prev. report

Job Number: 07/08569/02/01 **Matrix:** LIQUID
Client: Celtic Technologies **Location:** TEN ACRES LANE
Client Ref. No.: C1077 **Client Contact:** Simon Haunch

Sample Identity	R2	R3	R5							Method Code	LoD/Units
Depth (m)											
Sample Type	LIQUID	LIQUID	LIQUID								
Sampled Date	28.06.07	26.06.07	27.06.07								
Sample Received Date	28.06.07	28.06.07	28.06.07								
Batch	9	9	9								
Sample Number(s)	**354-356**	**357-359**	**360-362**								
PAHs											
2-Chloronaphthalene	NDP	<1	<1							TM176	<1 ug/l
2-Methylnaphthalene	NDP	<1	<1							TM176	<1 ug/l
Acenaphthene	NDP	<1	<1							TM176	<1 ug/l
Acenaphthylene	NDP	<1	<1							TM176	<1 ug/l
Anthracene	NDP	<1	<1							TM176	<1 ug/l
Benzo(a)anthracene	NDP	<1	<1							TM176	<1 ug/l
Benzo(a)pyrene	NDP	<1	<1							TM176	<1 ug/l
Benzo(b)fluoranthene	NDP	<1	<1							TM176	<1 ug/l
Benzo(ghi)perylene	NDP	<1	<1							TM176	<1 ug/l
Benzo(k)fluoranthene	NDP	<1	<1							TM176	<1 ug/l
Chrysene	NDP	<1	<1							TM176	<1 ug/l
Dibenzo(a,h)anthracene	NDP	<1	<1							TM176	<1 ug/l
Fluoranthene	NDP	<1	<1							TM176	<1 ug/l
Fluorene	NDP	<1	<1							TM176	<1 ug/l
Indeno(1,2,3-cd)pyrene	NDP	<1	<1							TM176	<1 ug/l
Naphthalene	NDP	<1	<1							TM176	<1 ug/l
Phenanthrene	NDP	<1	<1							TM176	<1 ug/l
Pyrene	NDP	<1	<1							TM176	<1 ug/l
Phthalates											
Bis(2-ethylhexyl) phthalate	NDP	-	-							TM176	<1 ug/l
Bis(2-ethylhexyl) phthalate	-	<2	<2							TM176	<2 ug/l
Butylbenzyl phthalate	NDP	<1	<1							TM176	<1 ug/l
Di-n-butyl phthalate	NDP	<1	<1							TM176	<1 ug/l
Di-n-Octyl phthalate	NDP	-	-							TM176	<1 ug/l
Di-n-Octyl phthalate	-	<5	<5							TM176	<5 ug/l
Diethyl phthalate	NDP	<1	<1							TM176	<1 ug/l
Dimethyl phthalate	NDP	<1	<1							TM176	<1 ug/l

Date 17.07.2007

Validated ✓
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ALcontrol Geochem Analytical Services
Table Of Results

ISO 17025 accredited
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* Subcontracted test
» Shown on prev. report

Job Number: 07/08569/02/01 **Matrix:** LIQUID
Client: Celtic Technologies **Location:** TEN ACRES LANE
Client Ref. No.: C1077 **Client Contact:** Simon Haunch

Sample Identity	R2	R3	R5							Method Code	LoD/Units
Depth (m)											
Sample Type	LIQUID	LIQUID	LIQUID								
Sampled Date	28.06.07	26.06.07	27.06.07								
Sample Received Date	28.06.07	28.06.07	28.06.07								
Batch	9	9	9								
Sample Number(s)	**354-356**	**357-359**	**360-362**								
Other Semi-volatiles											
1,2-Dichlorobenzene	NDP	<1	<1							TM176	<1 ug/l
1,2,4-Trichlorobenzene	NDP	<1	<1							TM176	<1 ug/l
1,3-Dichlorobenzene	NDP	<1	<1							TM176	<1 ug/l
1,4-Dichlorobenzene	NDP	<1	<1							TM176	<1 ug/l
2-Nitroaniline	NDP	<1	<1							TM176	<1 ug/l
2,4-Dinitrotoluene	NDP	<1	<1							TM176	<1 ug/l
2,6-Dinitrotoluene	NDP	<1	<1							TM176	<1 ug/l
3-Nitroaniline	NDP	<1	<1							TM176	<1 ug/l
4-Bromophenylphenylether	NDP	<1	<1							TM176	<1 ug/l
4-Chloroaniline	NDP	<1	<1							TM176	<1 ug/l
4-Chlorophenylphenylether	NDP	<1	<1							TM176	<1 ug/l
4-Nitroaniline	NDP	<1	<1							TM176	<1 ug/l
Azobenzene	NDP	<1	<1							TM176	<1 ug/l
Bis(2-chloroethoxy)methane	NDP	<1	<1							TM176	<1 ug/l
Bis(2-chloroethyl)ether	NDP	<1	<1							TM176	<1 ug/l
Carbazole	NDP	<1	<1							TM176	<1 ug/l
Dibenzofuran	NDP	<1	<1							TM176	<1 ug/l
Hexachlorobenzene	NDP	<1	<1							TM176	<1 ug/l
Hexachlorobutadiene	NDP	<1	<1							TM176	<1 ug/l
Hexachlorocyclopentadiene	NDP	<1	<1							TM176	<1 ug/l
Hexachloroethane	NDP	<1	<1							TM176	<1 ug/l
Isophorone	NDP	<1	<1							TM176	<1 ug/l
N-nitrosodi-n-propylamine	NDP	<1	<1							TM176	<1 ug/l
Nitrobenzene	NDP	<1	<1							TM176	<1 ug/l

Date 17.07.2007

Validated ✓
Preliminary

ALcontrol Geochem Analytical Services
Table Of Results

[#] ISO 17025 accredited
[M] MCERTS accredited
[*] Subcontracted test
» Shown on prev. report

Job Number: 07/08569/02/01 **Matrix:** LIQUID
Client: Celtic Technologies **Location:** TEN ACRES LANE
Client Ref. No.: C1077 **Client Contact:** Simon Haunch

Sample Identity	R2	R3	R5							Method Code	LoD/Units
Depth (m)											
Sample Type	LIQUID	LIQUID	LIQUID								
Sampled Date	28.06.07	26.06.07	27.06.07								
Sample Received Date	28.06.07	28.06.07	28.06.07								
Batch	9	9	9								
Sample Number(s)	354-356	357-359	360-362								
Volatile Organic Compounds											
Dichlorodifluoromethane	<1	<1	<1							TM116[#]	<1 ug/l
Chloromethane	<1	<1	<1							TM116[#]	<1 ug/l
Vinyl Chloride	<1	<1	<1							TM116[#]	<1 ug/l
Bromomethane	<1	<1	<1							TM116[#]	<1 ug/l
Chloroethane	<1	<1	<1							TM116[#]	<1 ug/l
Trichlorofluoromethane	<1	<1	<1							TM116[#]	<1 ug/l
trans-1-2-Dichloroethene	<1	<1	<1							TM116[#]	<1 ug/l
Dichloromethane	<1	<1	<1							TM116[#]	<1 ug/l
Carbon Disulphide	<1	<1	<1							TM116[#]	<1 ug/l
1.1-Dichloroethene	<1	<1	<1							TM116[#]	<1 ug/l
1.1-Dichloroethane	<1	<1	<1							TM116[#]	<1 ug/l
Methyl Tertiary Butyl Ether	<1	<1	<1							TM116[#]	<1 ug/l
cis-1-2-Dichloroethene	<1	<1	<1							TM116[#]	<1 ug/l
Bromochloromethane	<1	<1	<1							TM116[#]	<1 ug/l
Chloroform	<1	<1	<1							TM116[#]	<1 ug/l
2.2-Dichloropropane	<1	<1	<1							TM116[#]	<1 ug/l
1.2-Dichloroethane	<1	<1	<1							TM116[#]	<1 ug/l
1.1.1-Trichloroethane	<1	<1	<1							TM116[#]	<1 ug/l
1.1-Dichloropropene	<1	<1	<1							TM116[#]	<1 ug/l
Benzene	<1	<1	<1							TM116[#]	<1 ug/l
Carbontetrachloride	<1	<1	<1							TM116[#]	<1 ug/l
Dibromomethane	<1	<1	<1							TM116[#]	<1 ug/l
1.2-Dichloropropane	<1	<1	<1							TM116[#]	<1 ug/l
Bromodichloromethane	<1	<1	<1							TM116[#]	<1 ug/l
Trichloroethene	<1	<1	<1							TM116[#]	<1 ug/l
cis-1-3-Dichloropropene	<1	<1	<1							TM116[#]	<1 ug/l
trans-1-3-Dichloropropene	<1	<1	<1							TM116[#]	<1 ug/l
1.1.2-Trichloroethane	<1	<1	<1							TM116[#]	<1 ug/l
Toluene	<1	<1	<1							TM116[#]	<1 ug/l
1.3-Dichloropropane	<1	<1	<1							TM116[#]	<1 ug/l

Date 17.07.2007

Validated ✓
Preliminary

ALcontrol Geochem Analytical Services
Table Of Results

[#] ISO 17025 accredited
[M] MCERTS accredited
[*] Subcontracted test
» Shown on prev. report

Job Number: 07/08569/02/01 **Matrix:** LIQUID
Client: Celtic Technologies **Location:** TEN ACRES LANE
Client Ref. No.: C1077 **Client Contact:** Simon Haunch

Sample Identity	R2	R3	R5							Method Code	LoD/Units
Depth (m)											
Sample Type	LIQUID	LIQUID	LIQUID								
Sampled Date	28.06.07	26.06.07	27.06.07								
Sample Received Date	28.06.07	28.06.07	28.06.07								
Batch	9	9	9								
Sample Number(s)	**354-356**	**357-359**	**360-362**								
Volatile Organic Compounds (cont)											
Dibromochloromethane	<1	<1	<1							TM116[#]	<1 ug/l
1.2-Dibromoethane	<1	<1	<1							TM116[#]	<1 ug/l
Tetrachloroethene	<1	<1	<1							TM116[#]	<1 ug/l
1.1.1.2-Tetrachloroethane	<1	<1	<1							TM116[#]	<1 ug/l
Chlorobenzene	<1	<1	<1							TM116[#]	<1 ug/l
Ethylbenzene	<1	<1	<1							TM116[#]	<1 ug/l
p/m-Xylene	<1	<1	<1							TM116[#]	<1 ug/l
Bromoform	<1	<1	<1							TM116[#]	<1 ug/l
Styrene	<1	<1	<1							TM116[#]	<1 ug/l
1.1.2.2-Tetrachloroethane	<1	<1	<1							TM116[#]	<1 ug/l
o-Xylene	<1	<1	<1							TM116[#]	<1 ug/l
1.2.3-Trichloropropane	<1	<1	<1							TM116[#]	<1 ug/l
Isopropylbenzene	<1	<1	<1							TM116[#]	<1 ug/l
Bromobenzene	<1	<1	<1							TM116[#]	<1 ug/l
2-Chlorotoluene	<1	<1	<1							TM116[#]	<1 ug/l
Propylbenzene	<1	<1	<1							TM116[#]	<1 ug/l
4-Chlorotoluene	<1	<1	<1							TM116[#]	<1 ug/l
1.2.4-Trimethylbenzene	<1	<1	<1							TM116[#]	<1 ug/l
4-Isopropyltoluene	<1	<1	<1							TM116[#]	<1 ug/l
1.3.5-Trimethylbenzene	<1	<1	<1							TM116[#]	<1 ug/l
1.2-Dichlorobenzene	<1	<1	<1							TM116[#]	<1 ug/l
1.4-Dichlorobenzene	<1	<1	<1							TM116[#]	<1 ug/l
sec-Butylbenzene	<1	<1	<1							TM116[#]	<1 ug/l
tert-Butylbenzene	<1	<1	<1							TM116[#]	<1 ug/l
1.3-Dichlorobenzene	<1	<1	<1							TM116[#]	<1 ug/l
n-Butylbenzene	<1	<1	<1							TM116[#]	<1 ug/l
1.2-Dibromo-3-chloropropane	<1	<1	<1							TM116[#]	<1 ug/l
1.2.4-Trichlorobenzene	<1	<1	<1							TM116[#]	<1 ug/l
Naphthalene	<1	<1	<1							TM116[#]	<1 ug/l
1.2.3-Trichlorobenzene	<1	<1	<1							TM116[#]	<1 ug/l

Date 17.07.2007

Validated ✓
Preliminary

ALcontrol Geochem Analytical Services
Table Of Results

[#] ISO 17025 accredited
[M] MCERTS accredited
* Subcontracted test
» Shown on prev. report

Job Number: 07/08569/02/01 **Matrix:** LIQUID
Client: Celtic Technologies **Location:** TEN ACRES LANE
Client Ref. No.: C1077 **Client Contact:** Simon Haunch

Sample Identity	R2	R3	R5							Method Code	LoD/Units
Depth (m)											
Sample Type	LIQUID	LIQUID	LIQUID								
Sampled Date	28.06.07	26.06.07	27.06.07								
Sample Received Date	28.06.07	28.06.07	28.06.07								
Batch	9	9	9								
Sample Number(s)	**354-356**	**357-359**	**360-362**								
Volatile Organic Compounds (cont)											
Hexachlorobutadiene	<1	<1	<1							TM116[#]	<1 ug/l

Date 17.07.2007

ALcontrol Geochem Analytical Services
Table Of Results - Appendix

Job Number: 07/08569/02/01
Client: Celtic Technologies
Client Ref. No.: C1077

Report Key :

Results expressed as (e.g.) 1.03E-07 is equivalent to 1.03×10^{-7}

NDP	No Determination Possible	*	Subcontracted test
NFD	No Fibres Detected	»	Result previously reported (Incremental reports only)
#	ISO 17025 accredited	M	MCERTS Accredited
PFD	Possible Fibres Detected	EC	Equivalent Carbon (Aromatics C8-C35)

Note: Method detection limits are not always achievable due to various circumstances beyond our control.

Summary of Method Codes contained within report :

Method No.	Reference	Description	ISO 17025 Accredited	MCERTS Accredited	Wet/Dry Sample [1]	Surrogate Corrected
TM045	MEWAM BOD5 2nd Ed.HMSO 1988 / Method 5210B, AWWA/APHA, 20th Ed., 1999	Determination of BOD5 (ATU) by Oxygen Meter	✓		NA	
TM062	MEWAM BOOK 124 1988.HMSO/ Method 17.7, Second Site property, March 2003	Determination of Phenolic compounds by HPLC with electro-chemical detection	✓		NA	
TM089	Modified: US EPA Methods 8020 & 602	Determination of Gasoline Range Hydrocarbons (GRO) and BTEX (MTBE) compounds by Headspace GC-FID (C4-C12)			NA	
TM089	Modified: US EPA Methods 8020 & 602	Determination of Gasoline Range Hydrocarbons (GRO) and BTEX (MTBE) compounds by Headspace GC-FID (C4-C12)	✓		NA	
TM097	Modified: US EPA Method 325.1 & 325.2	Determination of Chloride using the Kone Analyser	✓		NA	
TM098	Method 4500E, AWWA/APHA, 20th Ed., 1999	Determination of Sulphate using the Kone Analyser	✓		NA	
TM099	BS 2690: Part 7:1968 / BS 6068: Part2.11:1984	Determination of Ammonium in Water Samples using the Kone Analyser	✓		NA	
TM101	Method 4500B & C, AWWA/APHA, 20th Ed., 1999	Determination of Sulphide in soil and water samples using the Kone Analyser			NA	
TM107	ISO 6060-1989	Determination of Chemical Oxygen Demand using COD Dr Lange Kit	✓		NA	
TM116	Modified: US EPA Method 8260, 8120, 8020, 624, 610 & 602	Determination of Volatile Organic Compounds by Headspace / GC-MS	✓		NA	
TM125	DIN 38405 D17	Determination of Ferrous Iron			NA	
TM127	Method 3112B, AWWA/APHA, 20th Ed., 1999	The Determination of Trace Level Mercury in Aqueous Media and Soil Extracts by Atomic Absorption Spectroscopy	✓		NA	
TM129	Method 3120B, AWWA/APHA, 20th Ed., 1999 / Modified: US EPA Method 3050B	Determination of Metal Cations by IRIS Emission Spectrometer			NA	
TM133	BS 1377: Part 3 1990	Determination of pH in Soil and Water using the GLpH pH Meter	✓		NA	

[1] Applies to Solid samples only. **DRY** indicates samples have been dried at 35°C. **NA** = not applicable.

ALcontrol Geochem Analytical Services
Table Of Results - Appendix

Job Number: 07/08569/02/01
Client: Celtic Technologies
Client Ref. No.: C1077

Report Key :

Results expressed as (e.g.) 1.03E-07 is equivalent to 1.03×10^{-7}

NDP	No Determination Possible	*	Subcontracted test
NFD	No Fibres Detected	»	Result previously reported (Incremental reports only)
#	ISO 17025 accredited	M	MCERTS Accredited
PFD	Possible Fibres Detected	EC	Equivalent Carbon (Aromatics C8-C35)

Note: Method detection limits are not always achievable due to various circumstances beyond our control.

Summary of Method Codes contained within report :

Method No.	Reference	Description	ISO 17025 Accredited	MCERTS Accredited	Wet/Dry Sample [1]	Surrogate Corrected
TM152	Method 3125B, AWWA/APHA, 20th Ed., 1999	Analysis of Aqueous Samples by ICP-MS	✓		NA	
TM153	Method 4500A,B,C, I, M AWWA/APHA, 20th Ed., 1999	Determination of Total Cyanide, Free (Easily Liberatable) Cyanide and Thiocyanate using the "Skalar SANS+ System" Segmented Flow Analyser	✓		NA	
TM174		Determination of Speciated Extractable Petroleum Hydrocarbons in Waters by GC-FID			NA	
TM176		Determination of SVOCs in Water by GCMS			NA	
TM61/89		see TM061 and TM089 for details			NA	

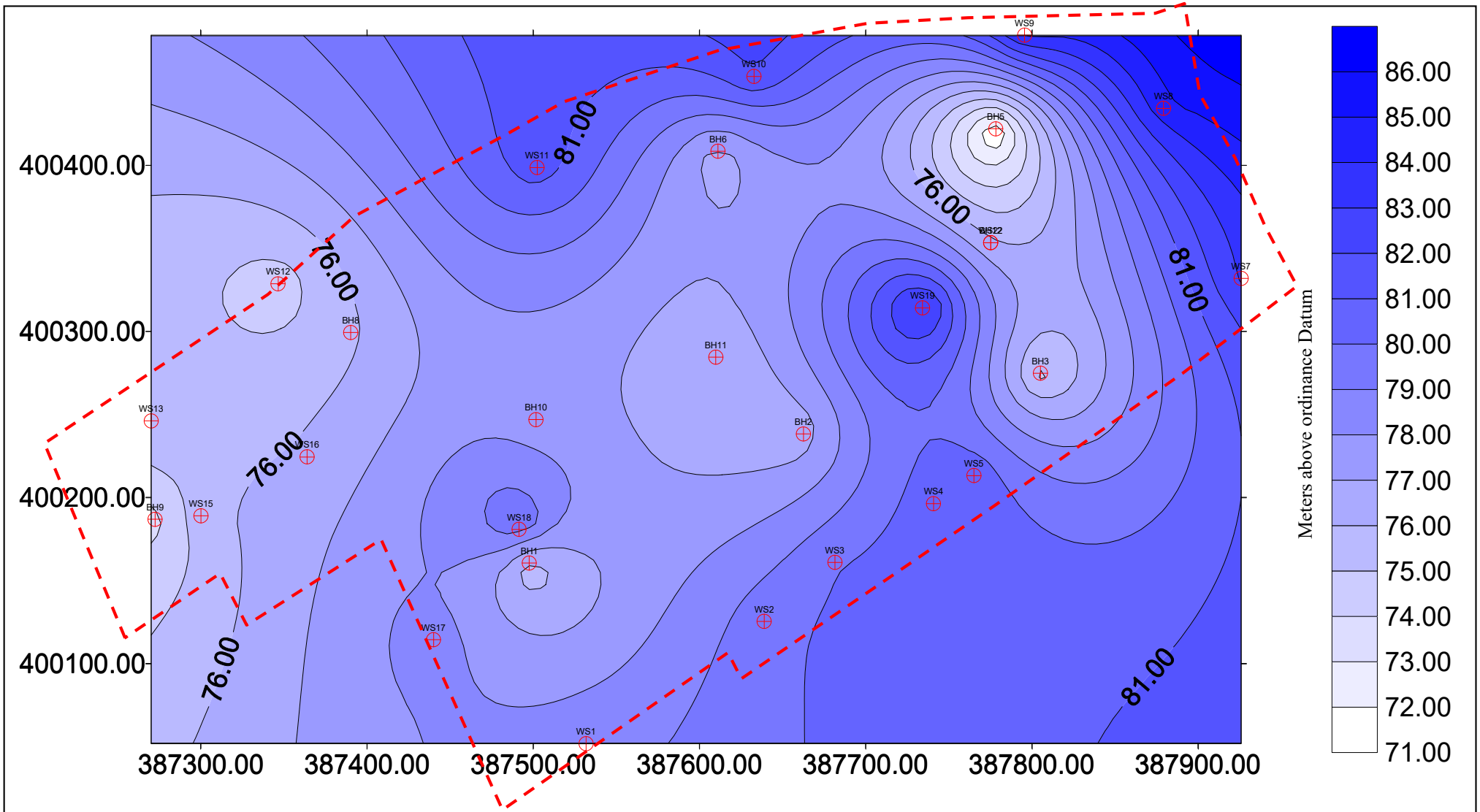
[1] Applies to Solid samples only. **DRY** indicates samples have been dried at 35°C. **NA** = not applicable.

ALcontrol Geochem Analytical Services
Table Of Results - Appendix

Job Number: 07/08569/02/01
Client: Celtic Technologies
Client Ref. No.: C1077

Summary of Coolbox temperatures

Batch No.	Coolbox Temperature (°C)
9	15



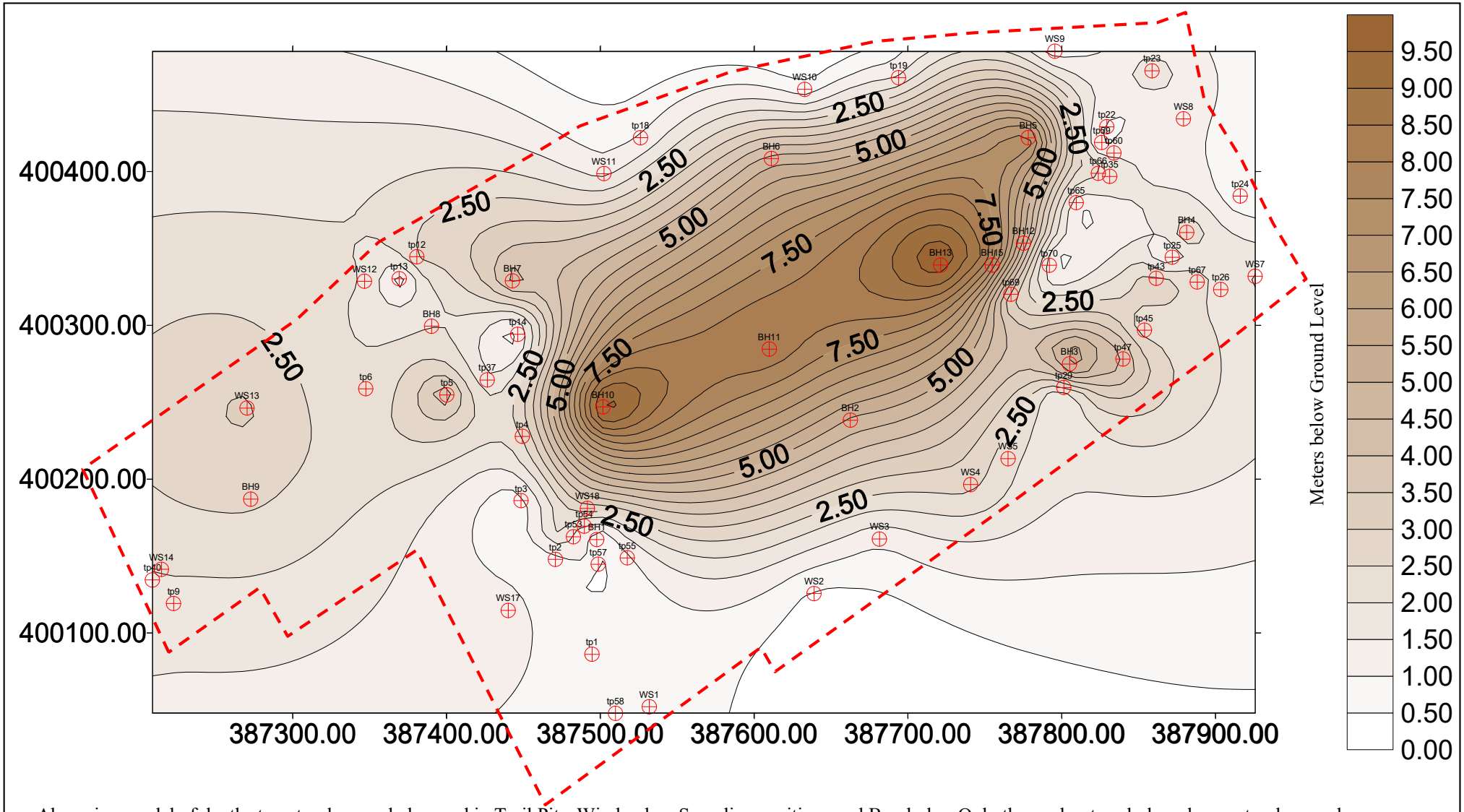
Groundwater model- above is a model of the observed depths to water in Borehole and Windowless sampling installations. The undulations in the groundwater are thought to be the influence of the variable depth profile of the natural deposits with which the water body interacts.

CELTIC Design and Construct Remediation	Title: Groundwater model on the11/7/2007	Date: August 2007
	Project: C1077	Plate No: D1077/08/3327-A13
	Client: KPMG	

C1077-Appedix G

Depths to Natural Ground

	Easting	Northing	AoD	Mbgl
BH1	387497.593	400160.759	78.46	0.5
BH2	387662.44	400238.382	80.06	4.9
BH3	387804.925	400274.928	78.87	6
BH4	387881.12	400360.5	84.71	2.4
BH5	387778.119	400422.038	78.22	7.5
BH6	387611.055	400408.501	80.37	4.8
BH7	387442.749	400328.976	80.99	4.1
BH8	387390.204	400299.463	77.62	2
BH9	387272.626	400187.077	75.32	2.6
BH10	387501.654	400247.014	80	10.1
BH11	387609.772	400284.613	80.31	8.45
BH12	387775.054	400353.471	81.2	5.2
BH13	387721.135	400339.247	85.83	10
BH15	387754.726	400339.247	85.83	7.9
tp1	387494.492	400086.163	79.87	0.8
tp2	387470.652	400147.867	80.57	0.6
tp3	387448.351	400186.077	80.62	0.6
tp4	387449.168	400227.885	80.73	2.4
tp5	387400.157	400254.854	79.62	3.8
tp6	387347.45	400258.805	78.7	2
tp9	387222.445	400119.172	74.95	1.7
tp12	387380.592	400344.636	79.64	2.6
tp13	387369.09	400330.38	79.51	0.8
tp14	387446.172	400294.255	81.27	0.5
tp18	387526.013	400422.048	82.49	1
tp19	387693.82	400461.073	84.88	1.5
tp22	387829.217	400429.167	85.1	0.8
tp23	387858.582	400465.605	85.51	1.8
tp24	387915.944	400384.139	84.82	0.5
tp25	387871.734	400344.345	84.46	0.7
tp26	387903.287	400323.314	83.51	1.5
tp29	387801.253	400259.648	82.53	1.5
tp35	387831.034	400396.927	85.79	2
tp37	387426.409	400264.518	80.31	1.5
tp40	387208.706	400134.504	74.95	1.9
tp43	387861.29	400330.696	84.31	3
tp45	387853.69	400296.923	82.89	2.1
tp47	387839.659	400278.16	82.88	4.2
tp53	387482.411	400162.55	81.16	3
tp54	387489.503	400169.454	81.29	0.5
tp55	387517.391	400148.839	81.77	0.9
tp57	387498.593	400144.721	81.36	0.45
tp58	387509.782	400047.726	78.74	0.8
tp59	387825.842	400418.924	85.03	0.8
tp60	387833.85	400412.116	85.23	1.5
tp65	387809.331	400379.876	85.66	0.9
tp66	387823.669	400398.911	85.34	2.2
tp67	387887.973	400328.206	83.5	2.5
tp69	387766.85	400320.251	85.64	2.9
tp70	387791.818	400339.126	85.91	0.7
WS1	387531.761	400051.997	79.06	1
WS2	387638.875	400125.627	80.09	0.4
WS3	387681.398	400161.131	80.82	1.1
WS4	387740.676	400196.457	81.1	2.7
WS5	387764.973	400213.31	81.14	2.2
WS7	387925.631	400331.989	84.3	2.1
WS8	387879.023	400434.307	85.6	1.2
WS9	387795.441	400478.381	85.05	0.7
WS10	387632.749	400453.504	84.07	0.6
WS11	387502.298	400398.69	83.08	1.3
WS12	387346.59	400328.727	79.12	2
WS13	387270.257	400246.256	77.35	3.1
WS14	387214.585	400141.37	75.05	2.1
WS17	387440.077	400114.612	79.17	1.3
WS18	387491.47	400181.004	81.5	3



Above is a model of depths to natural ground observed in Trail Pits, Windowless Sampling positions and Boreholes. Only the exploratory holes where natural ground was observed have been used.

CELTIC Design and Construct Remediation	Title: Model of Depth to Natural Ground	Date: Feb 2008
	Project: C1077	Plate No: D1077/08/3327- A14
	Client: KPMG	



Date: 08/07	Plate No.: 1	Potentially contaminated arisings from TT1



Date:08/07	Plate No.: 2	Red horizons within TT2	Scale: NTS

CELTIC
Design and Construct Remediation

Client: KPMG	
Project: Ten Acres, Newton Heath	Project No.: C1077



Date: 03/07	Plate No.: 3	Ashy arisings from TP34



Date: 03/07	Plate No.: 4	Plastic sheeting large concrete slab and brick sand fill from TP30	Scale: NTS

CELTIC
Design and Construct Remediation

Client: KPMG	
Project: Ten Acres, Newton Heath	Project No.: C1077



Date 03/07	Plate No.: 5	Arisings from WS14 showing angular made ground and potentially Contaminated made ground followed by deeper natural clays



Date:03/07	Plate No.: 6	Contaminated clayey rubble fill from TP7	Scale: NTS

CELTIC
Design and Construct Remediation

Client: KPMG

Project: Ten Acres, Newton Heath | Project No.: C1077

Date: 03/07	Plate No.: 7	Small Bunded Fuel storage tank

Date:03/07	Plate No.:8	Large fuel storage tank in delivery yard	Scale: NTS

CELTIC
Design and Construct Remediation

Client: CBRE	
Project: Spa Street	Project No.:

Date	Plate No.:	

Date:	Plate No.:		Scale: NTS

CELTIC
Design and Construct Remediation

Client:	
Project:	Project No.:

REPORT ON SITE INVESTIGATION AT TEN ACRES LANE NEWTON HEATH MANCHESTER

1.0 LABORATORY TESTING

1.1 Engineering Laboratory Testing

1.1.1 Engineering laboratory testing was carried out in general accordance with BS1377 (1990) "Method of Test for Soils for Civil Engineering Purposes" at a UKAS accredited laboratory. The following tests were scheduled:

- Natural Moisture Content
- Atterberg Limits (Plasticity Indices)
- Shear Strength Determined in Unconsolidated Undrained (Quick) Triaxial Compression
- Shear Strength Determined by Hand Vane Apparatus
- Re-compacted California Bearing Ratios
- Particle Size Distribution (Grading)
- Classification of Soil against concrete attack to include pH Value Total (acid) Soluble Sulphate, Soluble Sulphate (2:1 aqueous extract) and Total Sulphur Analysis

1.1.2 The engineering laboratory test results are produced in Appendix A.

2.0 ENGINEERING CONSIDERATIONS

2.1 General

2.1.1 There are currently no detailed proposals for the redevelopment of the site however it is understood the proposals are likely to comprise the construction of a variety of residential properties with associated gardens, communal areas and access roads. Given the variability of the existing site levels it is anticipated that some releveling of the site will be undertaken as part of the site strip and removal/remediation of any areas of Japanese Knot Weed.

2.1.2 Based on the historical information provided by CELTIC Technologies Limited the site was developed as a brickworks by 1893 and comprised two brick manufacturing plants, one in the most eastern and the other in the most western area of the site. During their existence two large clay extraction pits extended into the site, with the larger eastern pit extending into in the central area of the site. From 1951 the two brickworks were both decommissioned and the two pits were infilled with variable

materials comprising construction and demolition waste, foundry sand, industrial non hazardous waste, slag and boiler/flue cleanings.

2.1.3 Around the periphery of the site (outside of the infilled clay pits boundaries) and including areas previously occupied by structures associated with the brickworks (in the most western and eastern areas of the site), the general downward succession of materials comprised Made Ground materials to depths between of 0.4m and 2.7m bgl underlain by firm to stiff Boulder Clay deposits which were proved to the base of each exploratory hole.

2.1.4 Within the western clay pit Made Ground materials were encountered to a depth of between 2.0m and 5.0m bgl. The base of the Made Ground materials were only proven in Trial Trench TT2, underlain Boulder Clay deposits at a depth of 5.0m bgl.

2.1.5 Areas of shallow Made Ground (between 0.5m and 2.6m bgl) are located between the two pits, perhaps indicative of the original pit boundaries, underlain by firm to stiff Boulder Clay deposits.

2.1.6 Within the larger eastern clay pit Made Ground materials were proven to typical depths of between 2.8m and 5.2m bgl, overlying stiff Boulder Clay deposits. Deeper Made Ground materials were encountered in borehole BH10 and BH11 at a depth of 10.1m and 8.45m bgl respectively, located in the central area of the site. The base of the deeper Made Ground materials within this central area was not proven in some of the boreholes sunk during this investigation.

2.1.7 SPT "N" values have been plotted against depth and are presented on Plot 1 'SPT N Value versus Depth Profile' in Appendix B(i) and the results of shear strength analysis have been plotted, along with correlated SPT N values (in cohesive strata), are presented on Plot 2 'Shear Strength versus Depth Profile' in Appendix B(ii).

2.1.8 The results of five Atterberg Limit tests on samples of Made Ground materials and natural Boulder Clay deposits taken from depths of between 0.9m and 5.5m bgl are presented in Plot 3 'Liquid limit versus modified plasticity index profile', in Appendix B(iii). The results indicate the materials to be of intermediate plasticity and low to medium shrinkage potential.

2.2 Foundation Assessment

2.2.1 The Made Ground on the site in its current state is not considered to be a suitable founding strata due to its variability in composition and state of compaction (both granular and cohesive layers) and therefore unacceptable total and differential settlements are likely under loaded conditions.

2.2.2 Based on the nature of the Made Ground encountered on the site, it is considered that ground improvement using dynamic compaction methods could be considered to treat the Made Ground materials across the majority of the site and render it suitable for use of shallow reinforced strip or pad foundations. Once suitably treated it is considered that foundations placed within the improved Made Ground materials at an approximate depth of 1.5m could be designed to a net allowable bearing pressure of between 100kN/m^2 to 150kN/m^2 to limit total settlements to less than

25mm and maintain differential settlements to acceptable limits. It is considered that an exclusion zone of between 20m to 40m from any structures, including the canal located on the northern boundary of the site, should be in place to reduce the potential risk to neighbouring structure as a result of vibration resulting from the dynamic compaction. It is recommended that the advice of a specialist contractor is sought regarding the design and installation of any ground improvement solution together with the requirements of any exclusion zone.

2.2.3 Within the exclusion zone around the periphery of the site and within the western and eastern most areas of the site it is considered that were Made Ground materials have been encountered to a depth of less than 2.5m bgl, deep trench foundations could be placed within the underlying Boulder Clay. The foundations could be designed to a net allowable bearing pressure of 125kN/m^2 to limit total settlements to less than 25mm and maintain differential settlements to acceptable limits.

2.2.4 Should higher loads be required within the exclusion zone along the periphery of the site and within the western and eastern most area of the site or within the backfilled pit areas then it is considered that a bored pile foundation solution is likely to be appropriate, transferring the load into the competent Boulder Clay at depth. It is recommended that the advice of a specialist piling contractor is sought regarding the design and installation of any piling solution.

2.2.5 During preparation of layout plans for the site further consideration will need to be given to the location of structures where buildings straddle over areas of improved and unimproved ground to avoid any differential settlements. In these areas it is considered that foundations should be either stepped/deepened to the same depth bgl or a piled foundation solution be adopted or extend the areas over which ground improvement is undertaken to include all areas where buildings are proposed.

2.3 Floor Slabs

2.3.1 Due to the presence of variable Made Ground, it is anticipated that the proposed floor loading would generally not favour a ground bearing slab due to its potential for unacceptable total and differential settlements. It is considered that the use of a suspended floor slab should be adopted across all areas of the site.

2.4 General Construction Advice

Exploratory Hole Positions

2.4.1 Trial pits, trenches or boreholes carried out as part of this or previous investigations may represent soft spots and conduits/sumps for groundwater or surface water. In excavations, such materials may also be loose and unstable. Unless specifically stated exploratory hole locations should be regarded as approximate. Consideration should be given to accurate location of such features where it considered they may impact on the proposed development.

Excavation Plant

2.4.2 Conventional mechanical backhoe excavators should prove suitable for excavation through the materials encountered at the site. However, should occasional large obstructions remain beneath the site, larger capacity excavators and pneumatic/hydraulic breakout equipment may be necessary.

Excavation Stability/Hazardous Gases

2.4.3 The Made Ground is in a loose state of compaction and will be subject to spalling and partial collapse within excavations. Deeper excavations are likely to be prone to rapid, unpredictable, large scale collapse, particularly in the presence of groundwater inflows. Consequently, temporary support should be considered for all excavations where collapse is to be avoided. Heavier duty closed shoring should be provided for any excavation where man entry is necessary, in compliance with statutory requirements to ensure safe working conditions.

2.4.4 Due to a potential for ground gases within the Made Ground materials, care should be taken when personnel enter excavations (or confined spaces), to ensure full ventilation is available and appropriate safety precautions taken.

Dewatering

2.4.5 Groundwater issues are likely to occur at variable depths with the Made Ground. During the investigation perched groundwater has been recorded within the Made Ground materials in the majority of exploratory boreholes at typical depths between 1.0m to 8.2m (recorded as slight/moderate seepages).

2.4.6 It is considered that where groundwater inflows affect foundations or other excavations during construction, groundwater control, such as sump pumping will need to be implemented.

Classification of Buried Concrete

2.4.7 The results of chemical analyses undertaken on samples recovered from the Made Ground and naturally occurring deposits encountered at the site indicate the Design Sulphate Class for the site to be “DS 3” based on the results of analytical testing and reference to BRE Special Digest 1 “Concrete in aggressive ground”, Part I, in association with alkaline pH values. The BRE Digest suggests that buried concrete should be designed to an Aggressive Chemical Environment for Concrete (ACEC) site classification of “AC-3” based on mobile groundwater conditions.

2.5 Road Pavement Assessment

2.5.1 Where the formation level lies within the Made Ground materials, the road pavement design should be based on an equilibrium value of 2%, based on the material properties. It may be possible to adopt a higher CBR value following the ground improvement exercise or providing proof rolling of the formation is carried and any soft, loose, compressible or otherwise unsuitable deposits removed and replaced with a suitable fill compacted in appropriate layers.

2.5.2 It is considered that the Made Ground materials at formation level are likely to be frost susceptible and appropriate precautions and should be taken with regard to road pavement design such as allowing at least 450mm of non frost susceptible material between formation and finished road level.

2.5.3 It is recommended that a protective cover layer is left above the formation until the road construction is carried out to prevent deterioration of the sub-grade.

2.6 Ground Gas Assessment

2.6.1 It is recommended that a ground gas assessment be carried out across the site to establish the relevant gas protection measures required for the development, in accordance with CIRIA document C659 'Assessing risks posed by hazardous ground gases to buildings.

APPENDICES

A ENGINEERING LABORATORY TEST RESULTS

B EXPLORATORY HOLE LOGS

(i) SPT 'N' Value versus Depth Profile
(ii) Shear Strength versus Depth Profile
(iii) Liquid Limit versus Plasticity Index profile

Report Author	**A N Thompson BSc (Hons) FGS** **Project Engineering Geologist**	9/8/07	
Checked	**P Wilton BEng MSc CGeol MIMMM FGS ACSM** **Chief Geotechnical Engineer**	9/8/07	
Authorised	**P Wilton BEng MSc CGeol MIMMM FGS ACSM** **Chief Geotechnical Engineer**	9/8/07	

APPENDIX A

TEST REPORT
SOIL SAMPLE ANALYSIS

1252

TES Report No. EFS/073099 (Ver. 1)

Geotechnical Developments
The Wharf
Marston Doles
Warwickshire
CV47 7SS

Site: Ten Acre Home

The 15 samples described in this report were logged for analysis by TES Bretby on 10-Jul-2007.
The analysis was completed by: 23-Jul-2007

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 TES Bretby Laboratories.

The following tables are contained in this report:

Table 1 Main Analysis Results (Page 2)
Table of Report Notes (Page 3)

On behalf of
TES Bretby :
J Hannah

J. Hannah
Project Co-ordinator

Date of Issue: 23-Jul-2007

Tests marked '^' have been subcontracted to another laboratory.

TES Bretby accepts no responsibility for any sampling not carried out by our personnel.

Units :		mg/kg	mg/l	pH Units	%												
Method Codes :		ICPACIDS	ICPWSS	WSLM3	TSBRE1												
Method Reporting Limits :		10	0.4		0.005												
UKAS Accredited :		yes	yes	yes	no												
TES ID Number CL/	**Client Sample Description**	**SO4-- (acid sol)**	**SO4-- (H2O sol) mg/l**	**pH units**	**Total Sulphur.**												
0718263	BH6 1.7	2180	621	8.8	0.265												
0718264	BH6 2.6	299	73.7	8.3	0.048												
0718265	BH6 4.8	675	58.5	8.4	0.084												
0718268	BH11 0.3	1240	188	8.0	0.209												
0718269	BH11 2.4	2220	259	9.4	0.107												
0718266	BH12 1.1	627	108	8.1	0.073												
0718267	BH12 2.7	1140	46.4	8.1	0.116												
0718275	BHR3 0.7	864	259	7.8	0.096												
0718276	BHR3 2.9	344	87.7	8.2	0.046												
0718277	BHR3 4.5	361	160	7.9	0.132												
0718272	BHR4 2.7	190	35.1	8.1	0.028												
0718273	BHR5 1.55	395	71.5	8.3	0.020												
0718274	BHR5 3.6	656	48.4	8.5	0.085												
0718270	BHR6 0.6	1460	288	6.9	0.103												
0718271	BHR6 3.6	284	40.3	8.3	0.040												

TES Bretby

PO Box 100, Bretby Business Park,

Burton-on-Trent, Staffordshire, DE15 0XD

Tel +44 (0) 1283 554400

Fax +44 (0) 1283 554422

Client Name **Geotechnical Developments**

Contact Mr A Thompson

Ten Acre Home

Soils Sample Analysis

Date Printed	23-Jul-07
Report Number	**EFS/073099**
Table Number	**1**

TES Bretby

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

Summary of Laboratory Sample Descriptions

Hole Number	Sample Number	Type	Depth m	Description of Sample*
BH2		B	1.00&1.20	MADE GROUND - brown very sandy (fine to coarse) silty fine to coarse gravel.
BH2			4.10	Brown silty CLAY.
BH3			1.00	Dark grey GRAVEL.
BH3			3.00	Brown gravelly sandy silty CLAY.
BH3			3.10	Dark grey gravelly sandy SILT.
BH3			5.10	Brown gravelly sandy silty CLAY.
BH6			0.90	Brown gravelly sandy silty CLAY.
BH6			2.00	Brown gravelly sandy silty CLAY.
BH6			2.60	Grey sandy silty CLAY.
BH6			4.80	Grey sandy silty CLAY.
BH6			6.40	Brown silty CLAY.
BH7		B	0.10-1.20	Brown very gravelly (fine to coarse) silty clayey fine to coarse SAND.
BH9		B	0.10&1.20	Brown very gravelly (fine to coarse) silty clayey fine to coarse SAND.
BH9			2.70	Brown gravelly sandy silty CLAY.
BH9			3.00	Brown gravelly sandy silty CLAY.
BH9			3.60	Brown gravelly sandy silty CLAY.
BH9			5.00	Brown gravelly sandy silty CLAY.
BH9			5.50	Brown sandy silty CLAY.
BH10			3.10	MADE GROUND - grey gravelly sandy silty clay.
BH10		B	3.30	MADE GROUND - brown very sandy (fine to coarse) very silty fine to coarse gravel.
BH10			5.00	Grey sandy silty clayey GRAVEL.
BH12			2.10	Brown sandy silty CLAY.
R2			4.90	Brown gravelly sandy silty CLAY.
R3		B	combined	Brown gravelly (fine to coarse) silty clayey fine to coarse SAND.
R4		B	1.20	Brown very gravelly (fine to coarse) silty fine to coarse SAND.
R4			2.10	Brown silty CLAY.
R4			4.60	Brown gravelly sandy silty CLAY.
R5			3.10	Brown silty CLAY.
R6			3.00	Brown silty CLAY.

: not included in laboratory scope of accreditation

Note: Results on this table are in summary format and may not meet the requirements of the relevant standards, additional information is held by the laboratory

Checked by 19/7/07 Date

Approved by 19/07/07. Date

LABORATORY TESTING SERVICES LIMITED

Ten Acre Lane Newton Heath Manchester

Contract No.:
GEO/4393/07
Client ref:
P4472NW

Summary of Soil Classification Tests

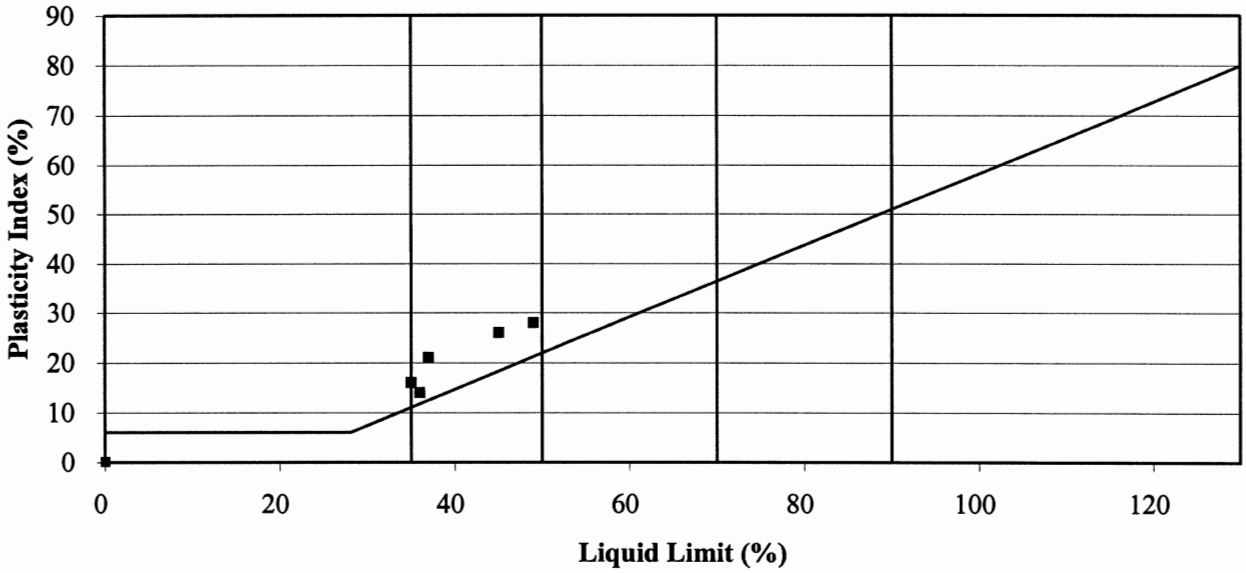
BS 1377:Part 2:1990

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
BH3		1.00	37		NP		5	
BH3		3.00	27					
BH3		5.10	32					
BH6		0.90	38	49	21	28	60	CI Intermediate Plasticity
BH6		2.60	26					
BH6		4.80	25	37	16	21	99	CI Intermediate Plasticity
BH9		2.70	21					
BH9		3.60	15	36	22	14	70	CI Intermediate Plasticity
BH9		5.50	19	35	19	16	99	CL/I Low/Inter. Plasticity
BH10		3.10	17	45	19	26	60	CI Intermediate Plasticity
BH10		5.00	21					

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

PLASTICITY CHART FOR CASAGRANDE CLASSIFICATION.

BS 5930:1999



Checked by 19/7/07 Date

Approved by 19/07/07 Date

LABORATORY TESTING SERVICES LIMITED

Ten Acre Lane Newton Heath Manchester

Contract No.: GEO/4393/07

Client Ref No: P4472NW

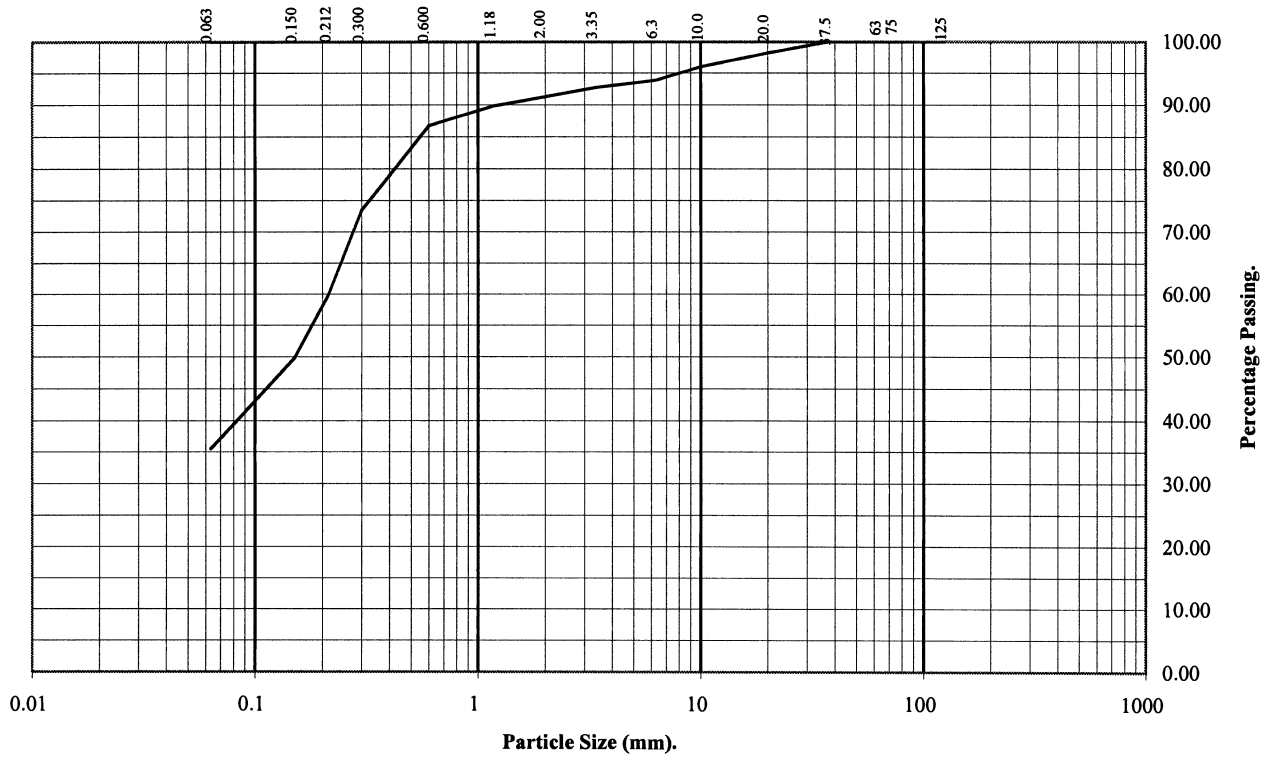
UKAS TESTING 2788

PARTICLE SIZE DISTRUBUTION TEST

BS 1377:Part 2:1990.

Wet sieve Clause 9.2

Hole Number: R3 **Depth (m):** 0.40,0.70&1.20



BS Test Sieve	Percentage Passing
125	100
75	100
63	100
37.5	100
20	98
10	96
6.3	94
3.35	93
2	91
1.18	90
0.6	87
0.3	73
0.212	60
0.15	50
0.063	35

Soil Fraction	Total Percentage
Cobbles	0
Gravel	9
Sand	56
Silt and Clay	35

Remarks:

Checked by Date 19/7/07

Approved by Date 19/09/07

LABORATORY TESTING SERVICES LIMITED

Ten Acre Lane Newton Heath Mancheter

Contract No.: GEO/4393/07

Client Ref No: P4472NW

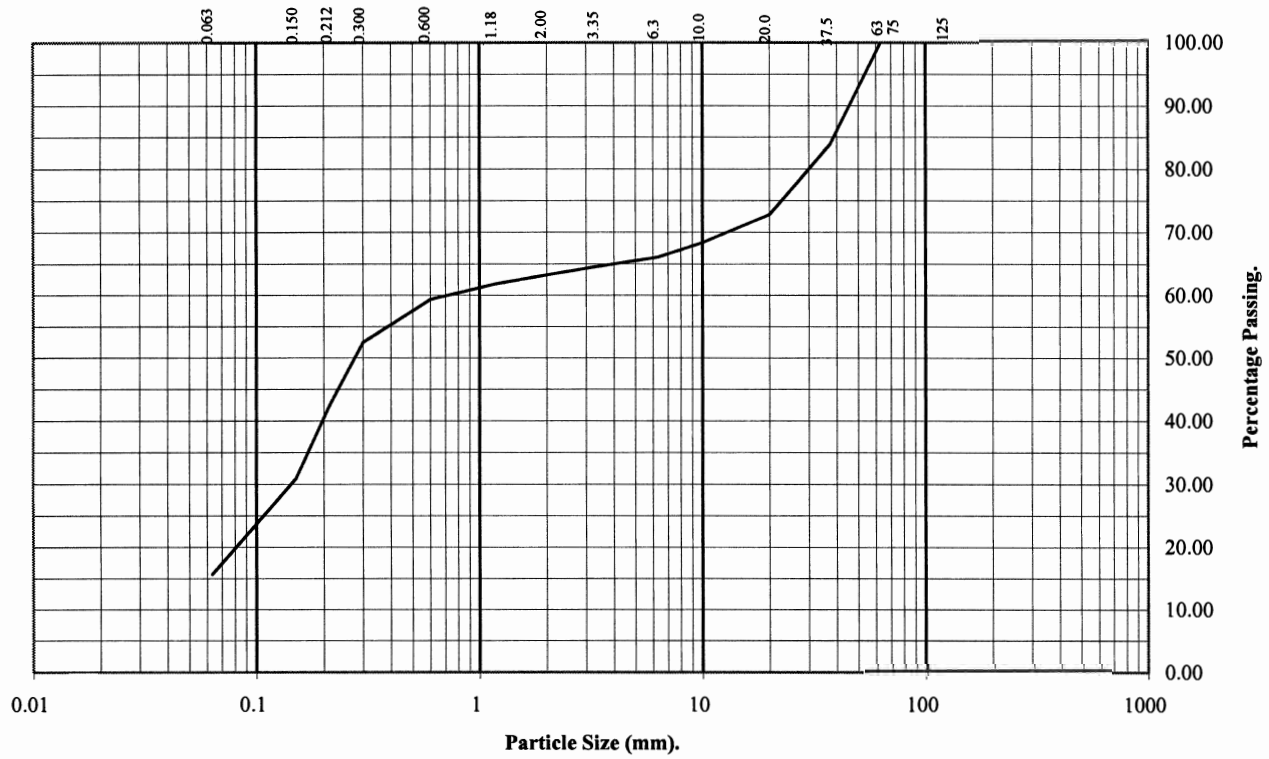
UKAS TESTING 2788

PARTICLE SIZE DISTRUBUTION TEST

BS 1377:Part 2:1990.

Wet sieve Clause 9.2

Hole Number: R4 **Depth (m):** 1.20



BS Test Sieve	Percentage Passing
125	100
75	100
63	100
37.5	84
20	73
10	68
6.3	66
3.35	65
2	63
1.18	62
0.6	59
0.3	53
0.212	42
0.15	31
0.063	16

Soil Fraction	Total Percentage
Cobbles	0
Gravel	37
Sand	47
Silt and Clay	16

Remarks:

19/7/07
Checked by **Date**

19/07/07
Approved by **Date**

LABORATORY TESTING SERVICES LIMITED

Ten Acre Lane Newton Heath Mancheter

Contract No.: GEO/4393/07

Client Ref No: P4472NW

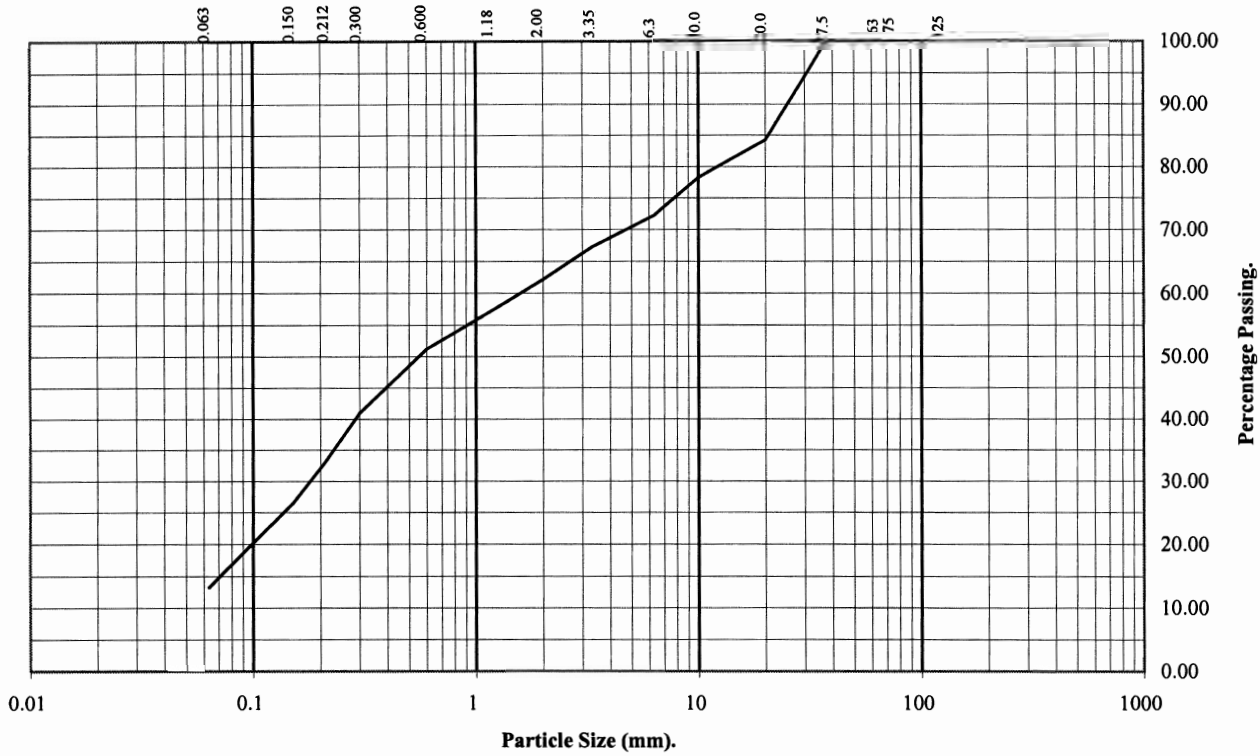
2788

PARTICLE SIZE DISTRUBUTION TEST

BS 1377:Part 2:1990.

Wet sieve Clause 9.2

Hole Number: BH7 **Depth (m):** 0.10&1.20



BS Test Sieve	Percentage Passing
125	100
75	100
63	100
37.5	100
20	84
10	78
6.3	72
3.35	67
2	62
1.18	57
0.6	51
0.3	41
0.212	33
0.15	26
0.063	13

Soil Fraction	Total Percentage
Cobbles	0
Gravel	38
Sand	49
Silt and Clay	13

Remarks:

Checked by 19/7/07 Date

Approved by 19/07/07 Date

LABORATORY TESTING SERVICES LIMITED

Ten Acre Lane Newton Heath Mancheter

Contract No.: GEO/4393/07

Client Ref No: P4472NW

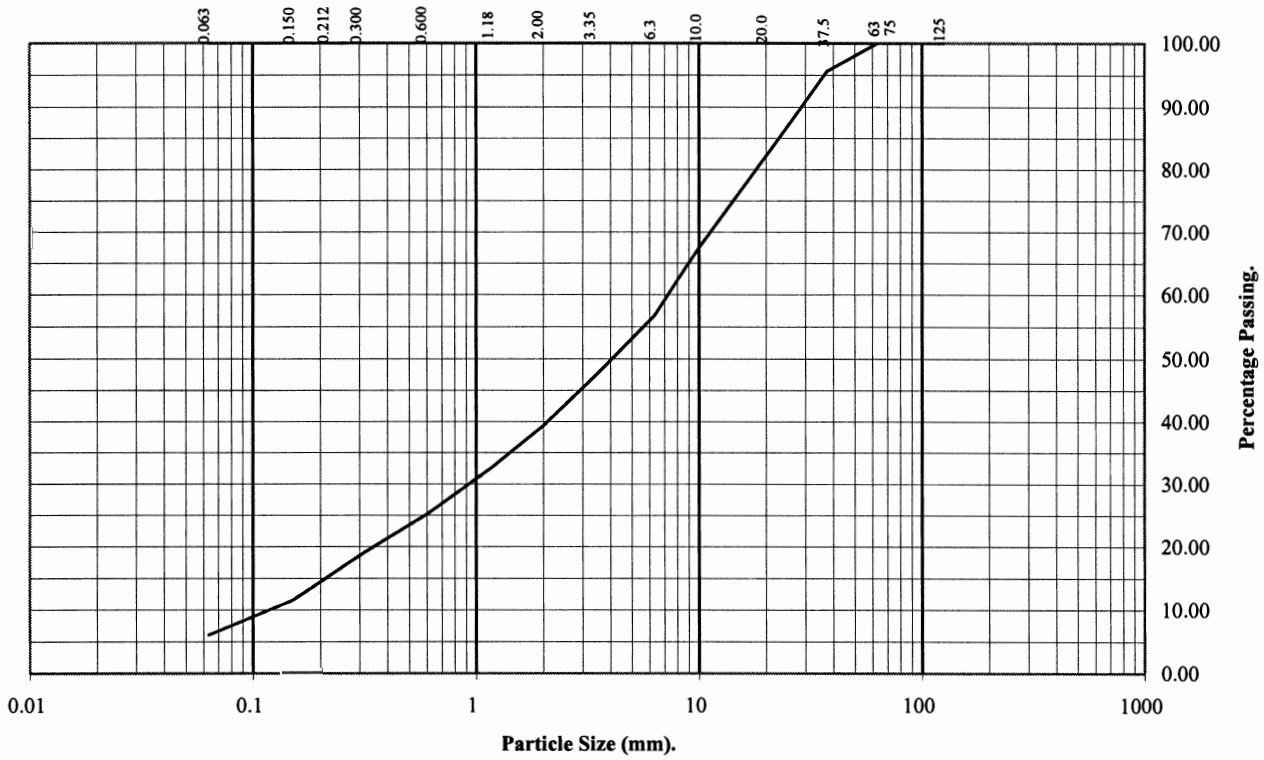
UKAS TESTING 2788

PARTICLE SIZE DISTRUBUTION TEST

BS 1377:Part 2:1990.

Wet sieve Clause 9.2

Hole Number: **BH2** **Depth (m):** **1.00&1.20**



BS Test Sieve	Percentage Passing
125	100
75	100
63	100
37.5	96
20	82
10	68
6.3	57
3.35	47
2	39
1.18	33
0.6	25
0.3	19
0.212	15
0.15	12
0.063	6

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

Remarks:

Checked by Date 19/1/07

Approved by Date 19/01/07

LABORATORY TESTING SERVICES LIMITED

Ten Acre Lane Newton Heath Mancheter

Contract No.: **GEO/4393/07**

Client Ref No: **P4472NW**

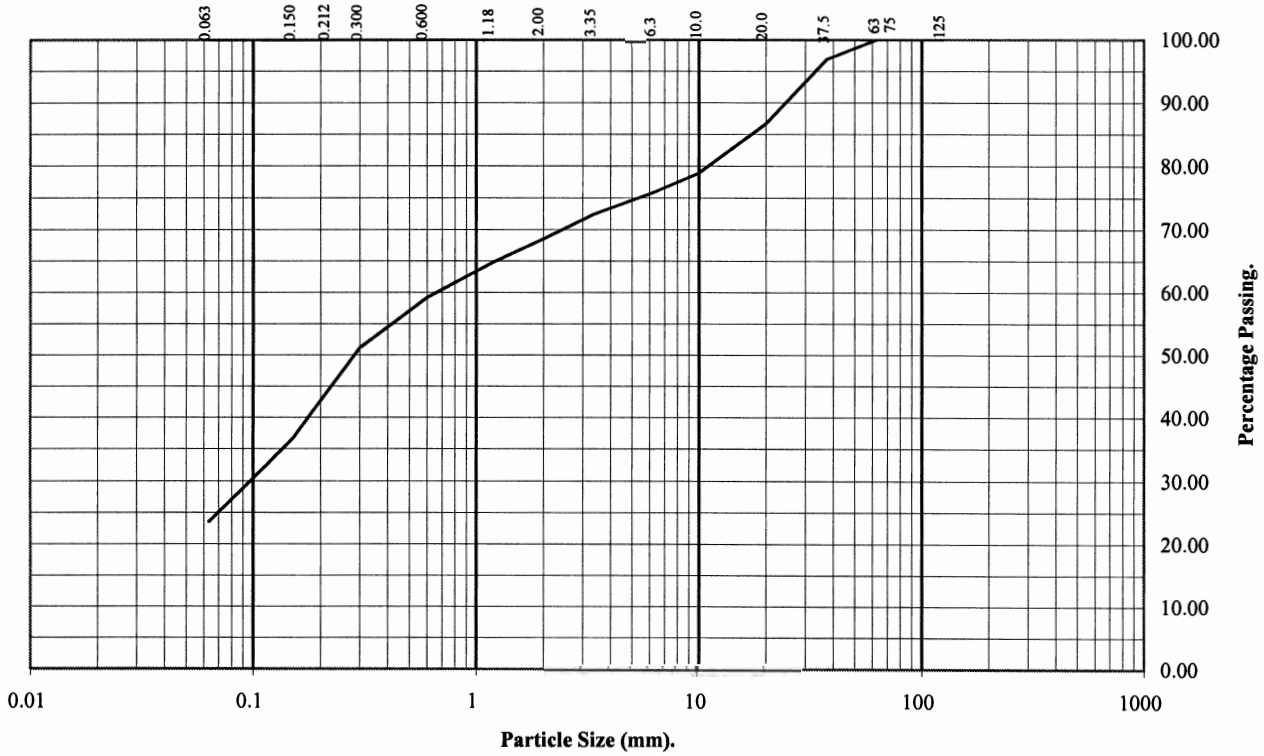
2788

PARTICLE SIZE DISTRUBUTION TEST

BS 1377:Part 2:1990.

Wet sieve Clause 9.2

Hole Number: BH9 **Depth (m):** 0.10&1.20



BS Test Sieve	Percentage Passing
125	100
75	100
63	100
37.5	97
20	87
10	79
6.3	76
3.35	72
2	68
1.18	65
0.6	59
0.3	51
0.212	44
0.15	37
0.063	24

Soil Fraction	Total Percentage
Cobbles	0
Gravel	32
Sand	44
Silt and Clay	24

Remarks:

19/07/07

Checked by **Date**

19/07/07

Approved by **Date**

LABORATORY TESTING SERVICES LIMITED

Ten Acre Lane Newton Heath Mancheter

Contract No.: GEO/4393/07

Client Ref No: P4472NW

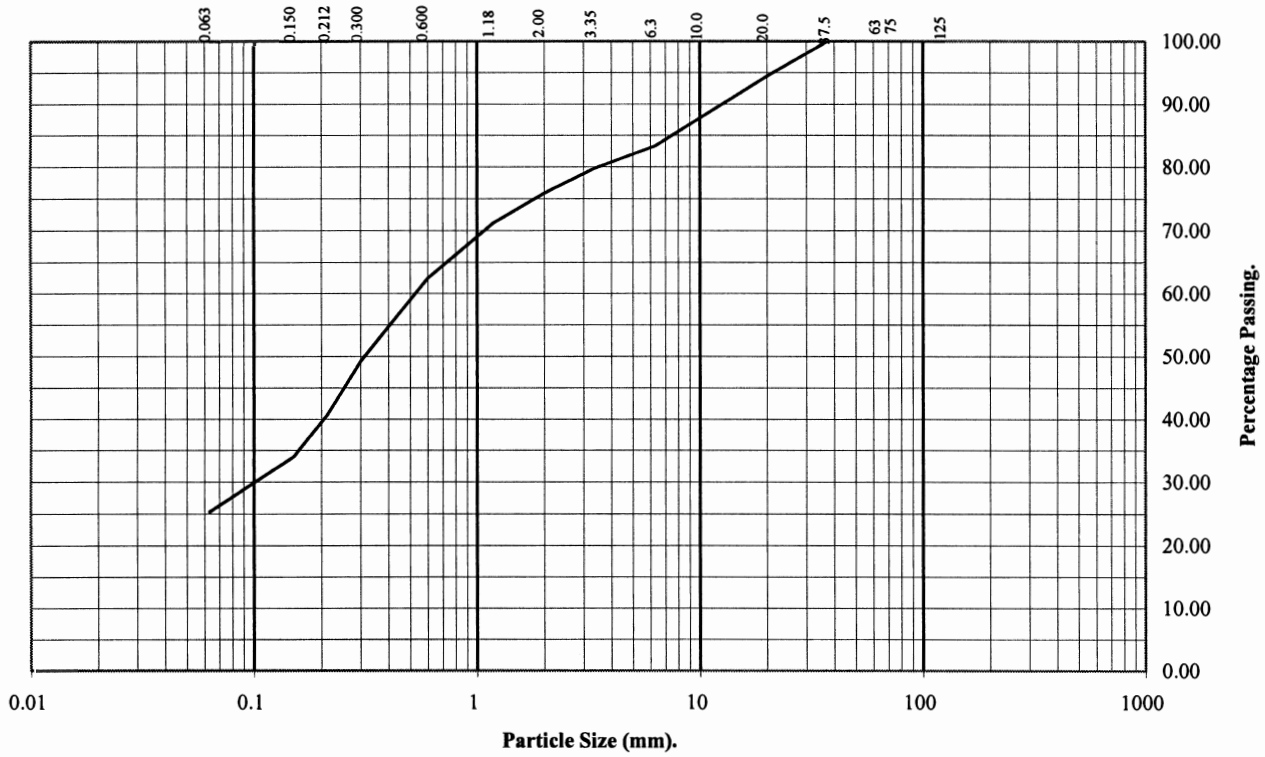
UKAS 2788

PARTICLE SIZE DISTRUBUTION TEST

BS 1377:Part 2:1990.

Wet sieve Clause 9.2

Hole Number: **BH10** **Depth (m):** **3.30**



BS Test Sieve	Percentage Passing
125	100
75	100
63	100
37.5	100
20	94
10	88
6.3	83
3.35	80
2	76
1.18	71
0.6	62
0.3	49
0.212	41
0.15	34
0.063	25

Soil Fraction	Total Percentage
Cobbles	0
Gravel	24
Sand	51
Silt and Clay	25

Remarks:

Checked by 19/7/07 Date

Approved by 19/07/07 Date

LABORATORY TESTING SERVICES LIMITED

Ten Acre Lane Newton Heath Mancheter

Contract No.: **GEO/4393/07**

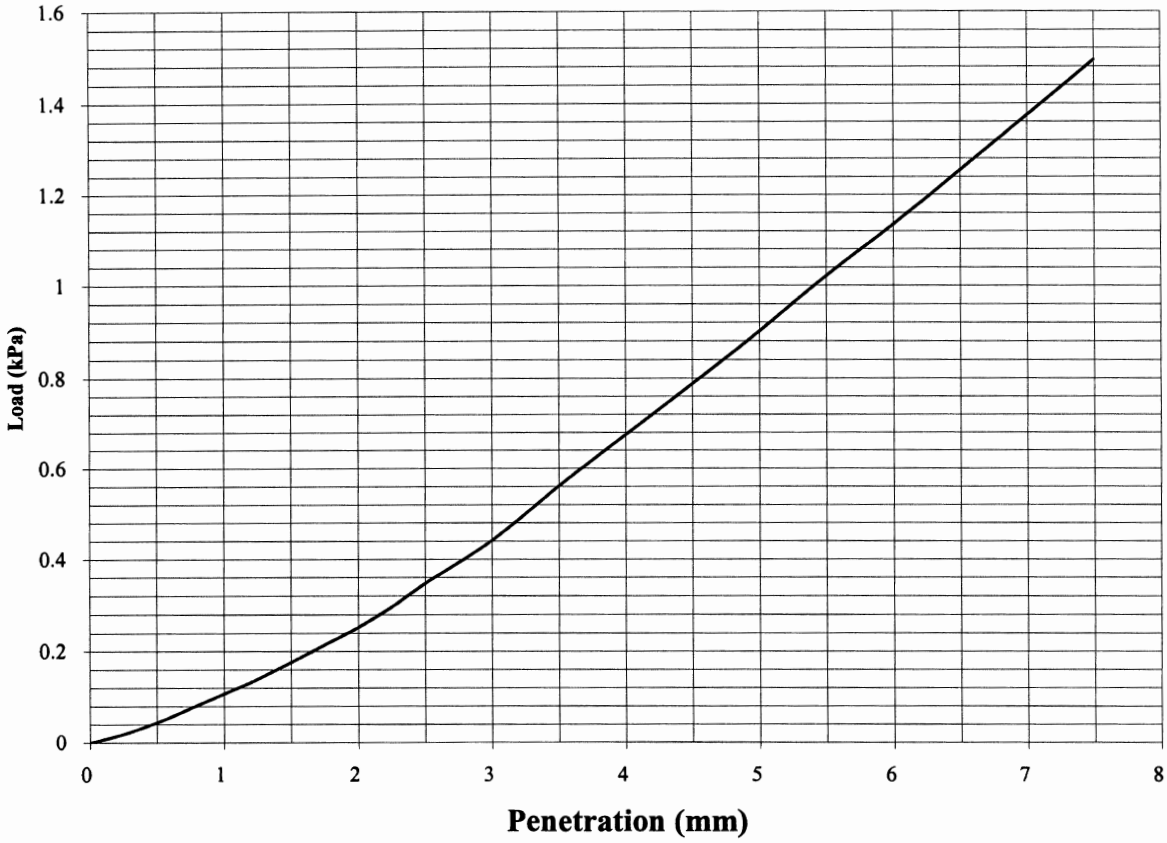
Client Ref No: **P4472NW**

UKAS TESTING 2788

California Bearing Ratio Test.

BS 1377:Part 4:1990

Hole Number: R3 **Depth (m)** 0.40,0.70&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:	2.14	Soaking Time hrs	n/a	Sample Top	13
Dry Density Mg/m3:	1.90	Swelling mm:	n/a	Sample Bottom	N/A
C.B.R. Value %	Sample Top	4.5		Sample Bottom	N/A
Percentage retained on 20mm BS test sieve:		2	Remarks:		

19/1/07
Checked by **Date**

19/01/07
Approved by **Date**

LABORATORY TESTING SERVICES LIMITED

Ten Acre Lane Newton Heath Manchester

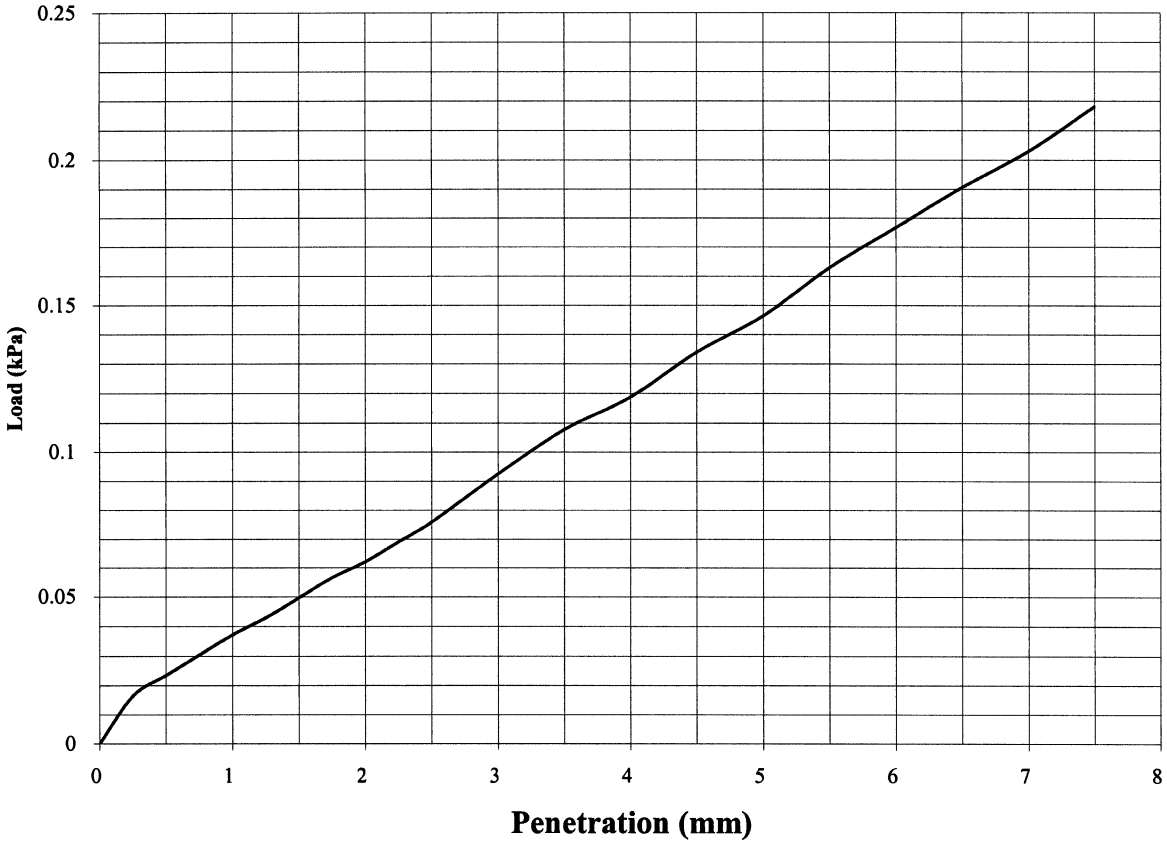
Contract No.:
GEO/4393/07
Client Ref No:
P4472NW

UKAS TESTING
2788

California Bearing Ratio Test.

BS 1377:Part 4:1990

Hole Number: BH7 **Depth (m)** 0.10&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:	2.02	Soaking Time hrs	n/a	Sample Top	18
Dry Density Mg/m3:	1.71	Swelling mm:	n/a	Sample Bottom	N/A
C.B.R. Value %	Sample Top	0.73		Sample Bottom	N/A
Percentage retained on 20mm BS test sieve:		16	Remarks:		

Checked by 19/7/07 Date

Approved by 19/07/07 Date

LABORATORY TESTING SERVICES LIMITED

Ten Acre Lane Newton Heath Manchester

Contract No.: GEO/4393/07

Client Ref No: P4472NW

UKAS TESTING 2788

California Bearing Ratio Test.

BS 1377:Part 4:1990

Hole Number: BH9 **Depth (m)** 0.10&1.20



Initial Sample Conditions		Test Conditions		Method of compaction : 2.5 Kg Rammer	
Moisture Content:	18	Surcharge Kg:	2.0	Final Moisture Content %	
Bulk Density Mg/m3:	1.95	Soaking Time hrs	n/a	Sample Top	21
Dry Density Mg/m3:	1.62	Swelling mm:	n/a	Sample Bottom	N/A
C.B.R. Value %	Sample Top	1.7		Sample Bottom	N/A
Percentage retained on 20mm BS test sieve:		13	Remarks:		

Checked by Date 19/1/07

Approved by Date 19/01/07

LABORATORY TESTING SERVICES LIMITED

Ten Acre Lane Newton Heath Manchester

Contract No.: GEO/4393/07

Client Ref No: P4472NW

UKAS TESTING 2788

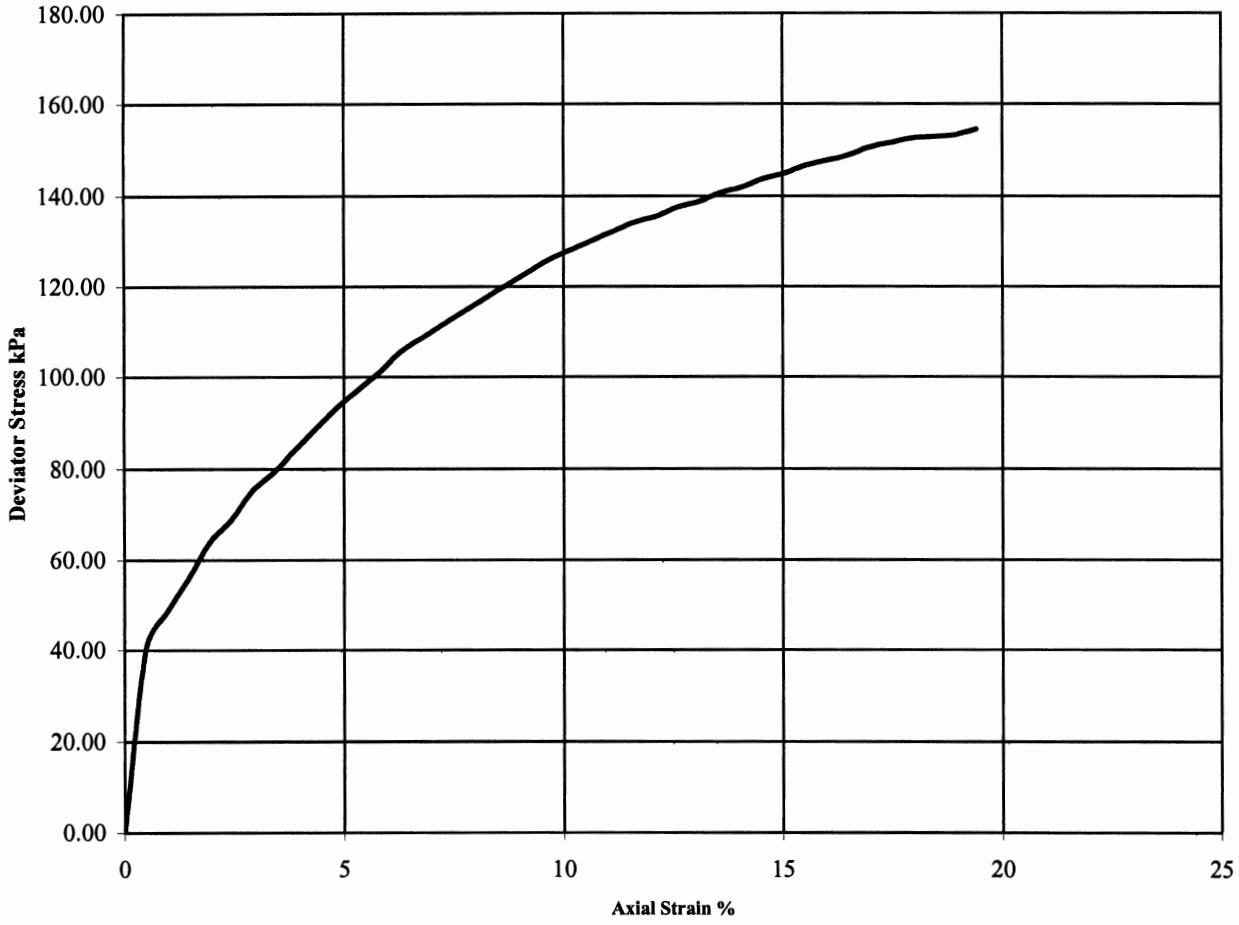
Undrained Shear Strength in Triaxial Compression

without measurement of Pore Pressure

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

Hole Number **R2**

Depth(m): **4.90-5.35**



Diameter (mm):		102.1	Height (mm):		206.1	Test:	100 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	20	2.10	1.75	100	155	77	19.4	Compound	
B									
C									

Checked by — Date: 19/5/07

Approved by — Date: 19/07/07

Contract No.

GEO/4393/07

LABORATORY TESTING SERVICES LIMITED

Ten Acre Lane Newton Heath Manchester

Client Ref No.

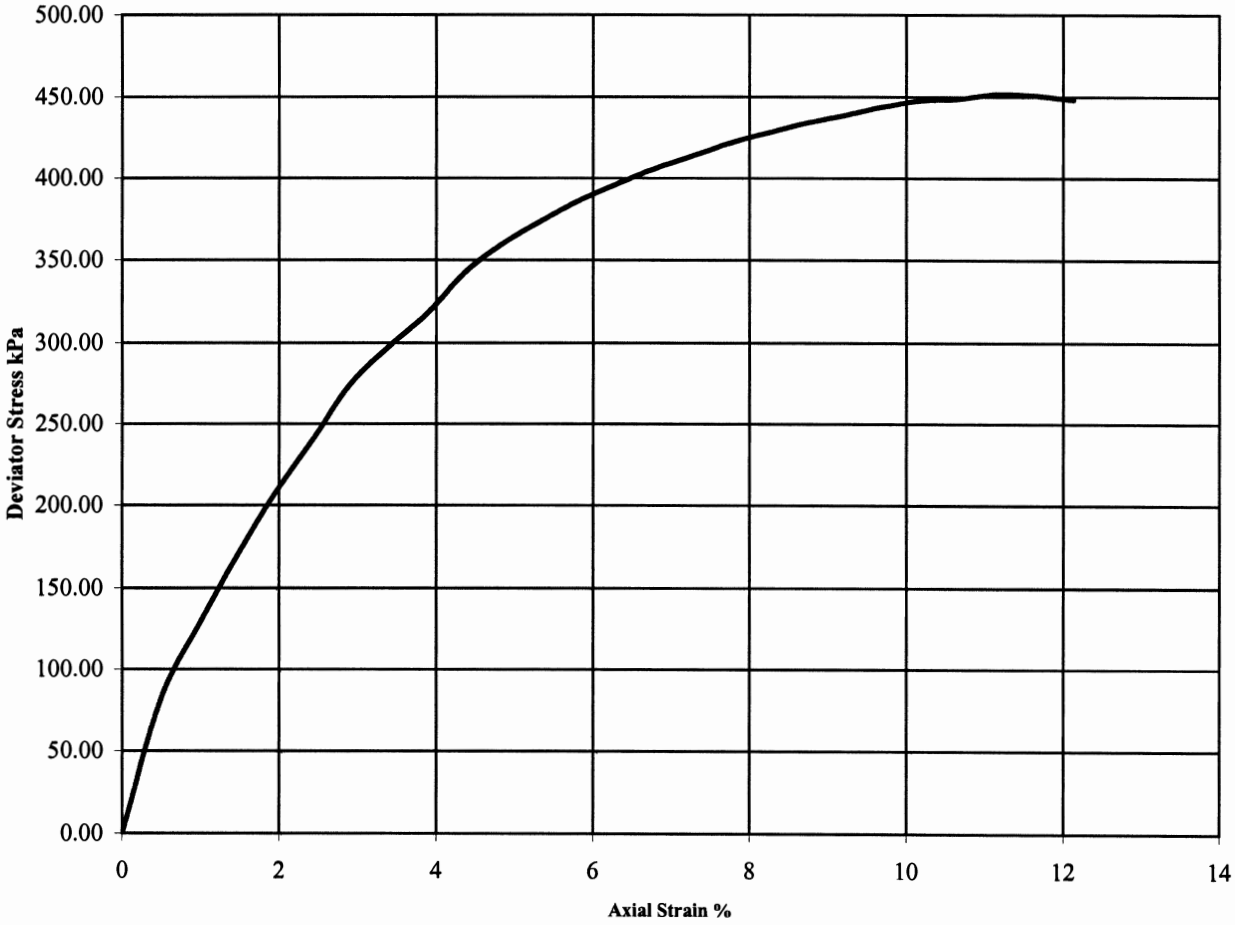
P4472NW

Undrained Shear Strength in Triaxial Compression

without measurement of Pore Pressure

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

Hole Number **R4** Depth(m): **4.60-5.05**



Diameter (mm):		102.1	Height (mm):		206.1	Test:	100 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	18	2.13	1.80	100	452	226	11.2	Compound	
B									
C									

Checked by 19/7/07 Date Approved by 19/07/07 Date

Contract No.
GEO/4393/07

LABORATORY TESTING SERVICES LIMITED

Ten Acre Lane Newton Heath Manchester

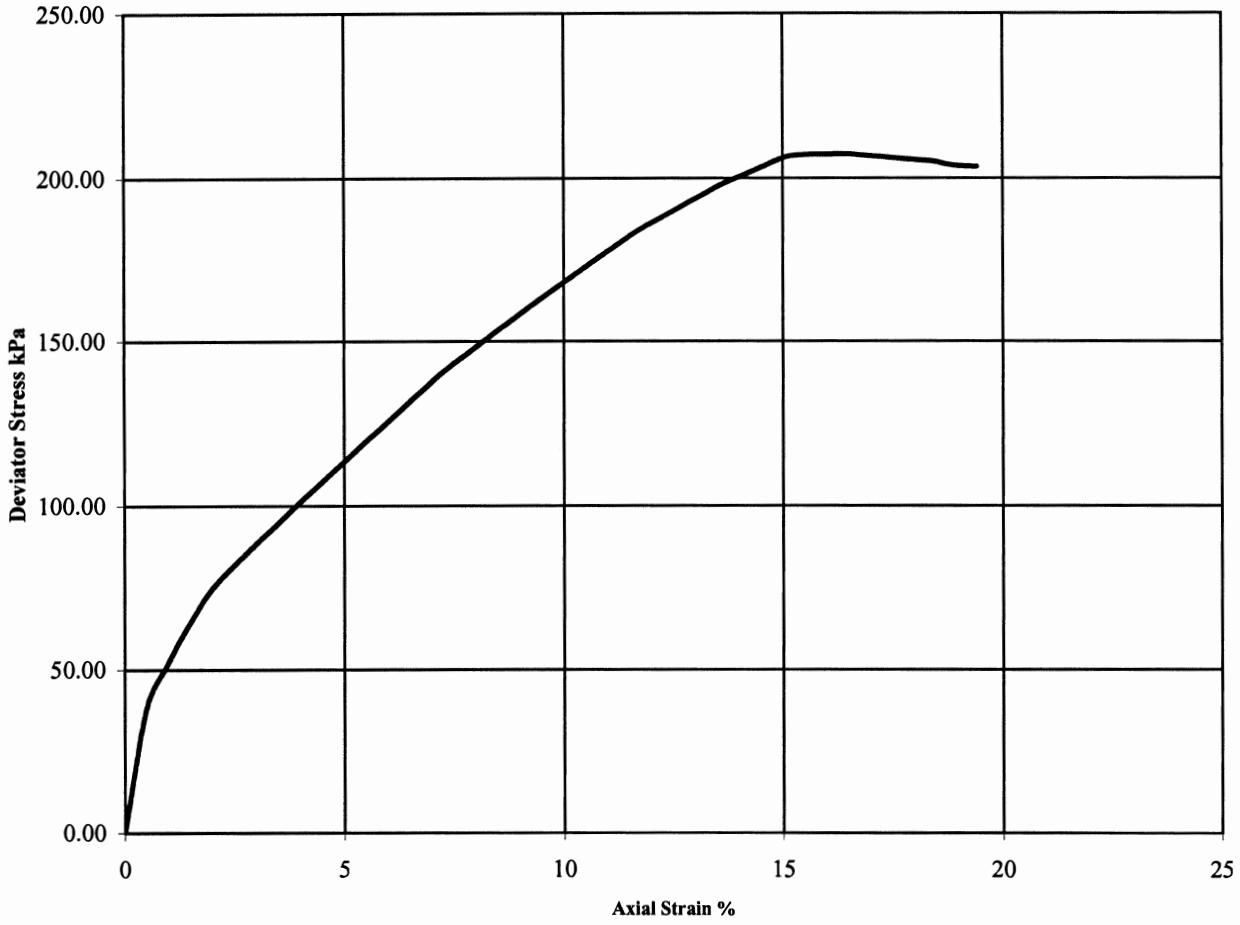
Client Ref No.
P4472NW

Undrained Shear Strength in Triaxial Compression

without measurement of Pore Pressure

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

Hole Number **BH6** Depth(m): **2.00-2.45**



Diameter (mm):		102.1	Height (mm):		206.1	Test:	100 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	24	2.03	1.64	50	207	104	16.5	Compound	
B									
C									

Checked by 13/1/05 Date Approved by 19/01/05 Date

Contract No.
GEO/4393/07

LABORATORY TESTING SERVICES LIMITED

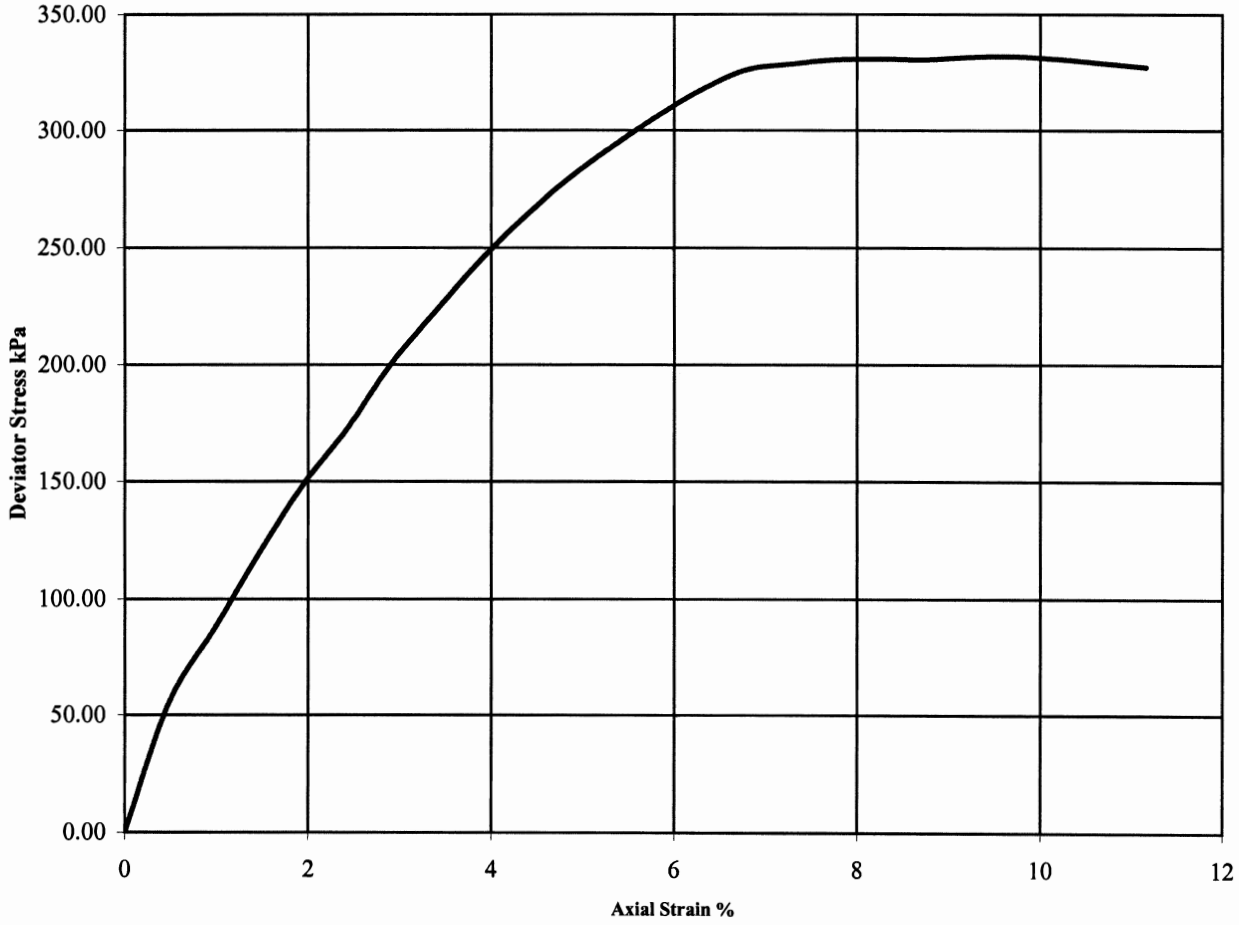
Ten Acre Lane Newton Heath Manchester **Client Ref No.**
P4472NW

Undrained Shear Strength in Triaxial Compression

without measurement of Pore Pressure

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

Hole Number **BH9** Depth(m): **3.00-3.45**



Diameter (mm):		102.1	Height (mm):		206.1	Test:	100 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	16	2.17	1.87	50	332	166	9.7	Compound	
B									
C									

Checked by 19/7/07 Date Approved by Date

Contract No.
GEO/4393/07

LABORATORY TESTING SERVICES LIMITED

Ten Acre Lane Newton Heath Manchester **Client Ref No.**
P4472NW

SUMMARY OF UNDRAINED TRIAXIAL COMPRESSION TESTS

(B.S. 1377 : PART 7 : 1990)

Hole Number	Sample Number	Depth m	Moisture Content %	Bulk Density Mg/m^3	Dry Density Mg/m^3	Undrained Triaxial Compession Tests (Total Stress)						Hand Vane kPa	
						Size mm	Lateral Pressure σ_3 kPa	Cohesion $1/2(\sigma_1-\sigma_3)$ kPa	Average Cohesion kPa	Failure Strain %	Type of Failure	Peak	Residual
BH2		4.10	18									71	41
BH3		3.10	28									40	17
BH6		6.40	19									143	58
BH9		5.00	15									133	23
BH12		2.10	24									66	27
R4		2.10	20									159	58
R5		3.10	17									186	44
R6		3.00	17									191	38

SYMBOLS: RM: Remoulded MS: Multistage B: Brittle P: Plastic C: Compound Hand Vane:

Sheet of

Checked by 19/7/07 Date

Approved by 19/07/07. Date

LABORATORY TESTING SERVICES LIMITED

GEO/036 Issue No.1.0

Ten Acre Lane Newton Manchester

Contract No. GEO/4393/07

Client Ref No.

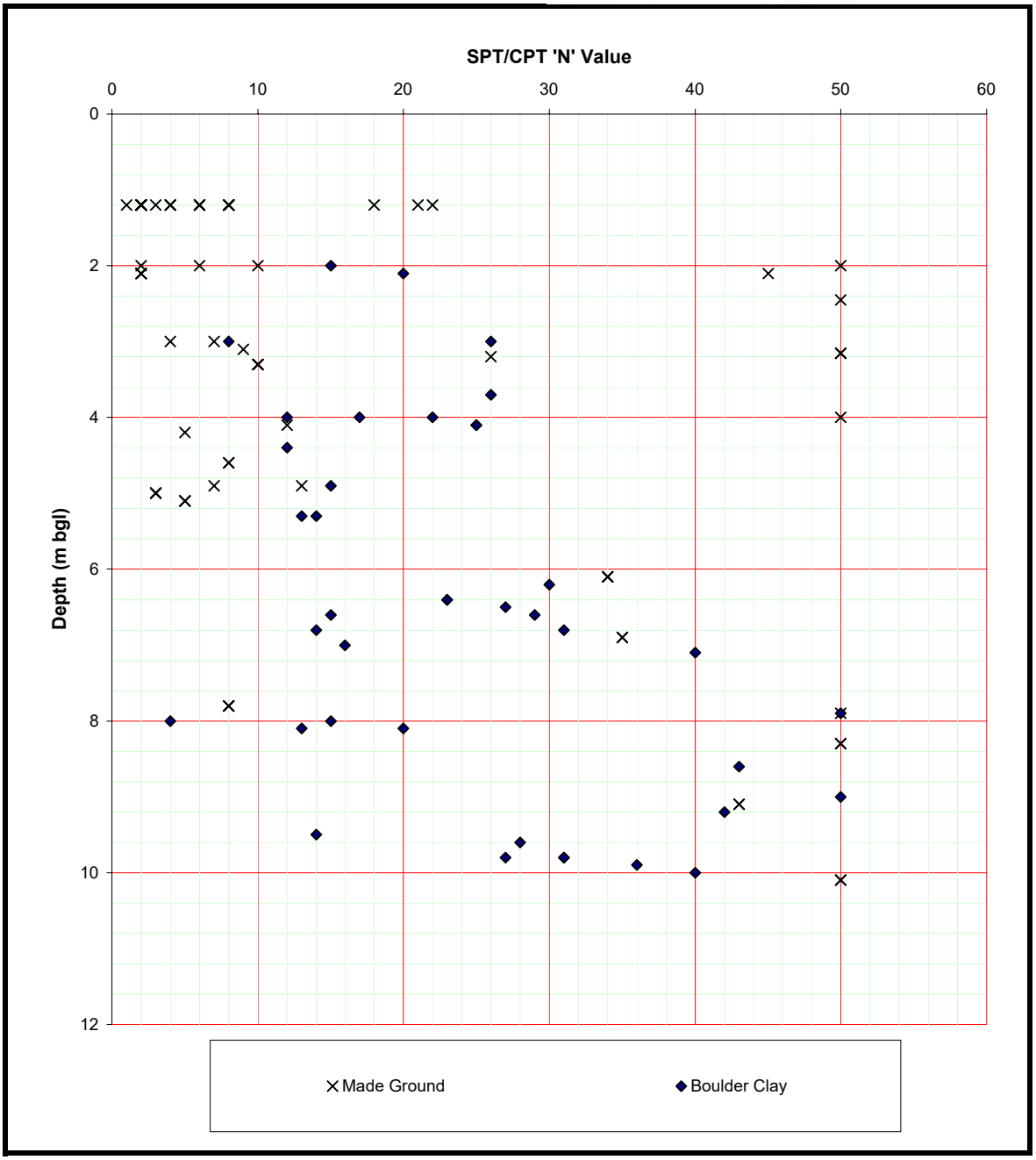
Bynea, Llanelli, SA14 9SU.

APPENDIX B(i)

Project: Ten Acre Lane, Newton Heath, Manchester

Report No: P4472NW

Plot 1 - SPT 'N' Value vs Depth Profile

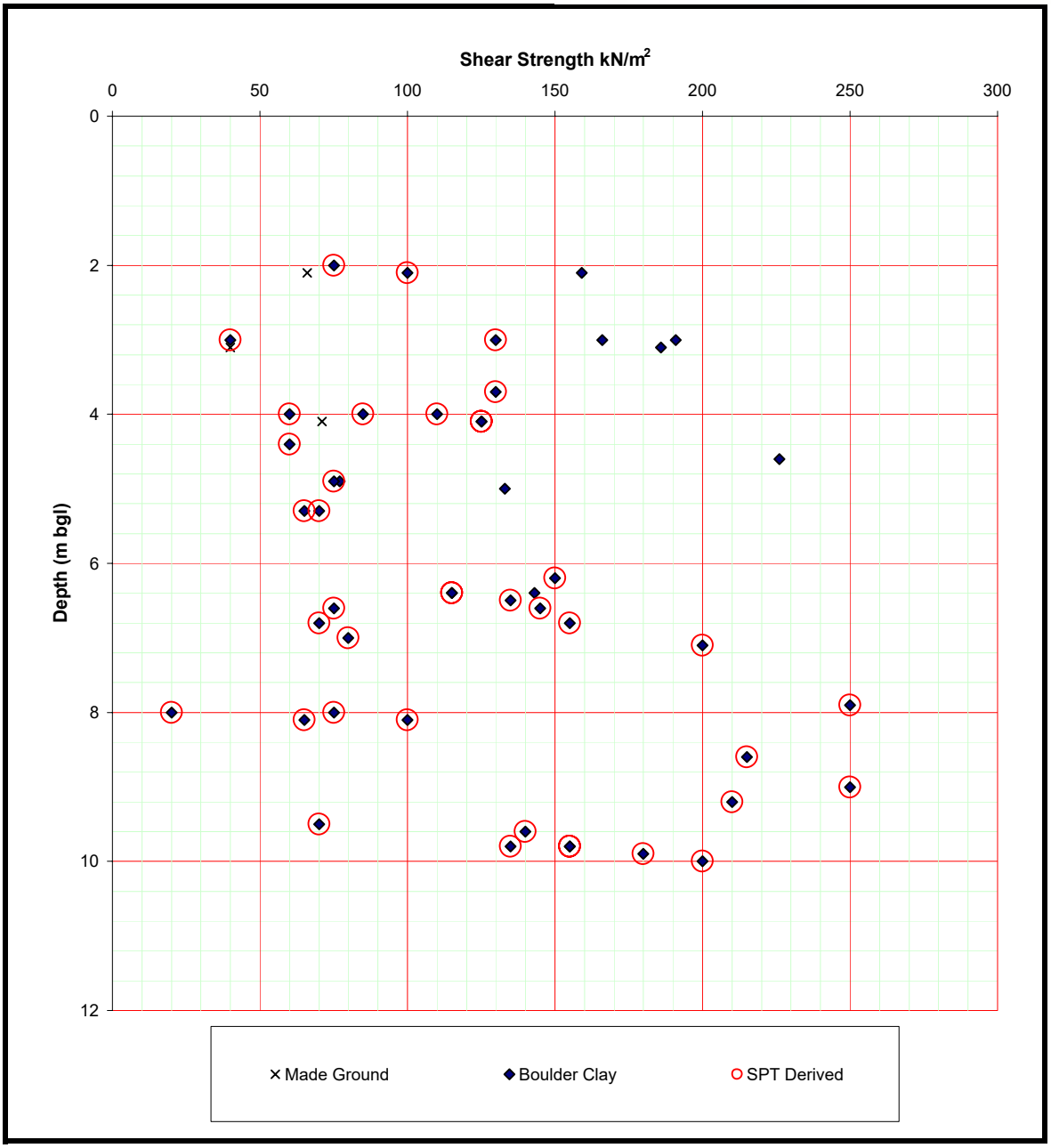


APPENDIX B(ii)

Project: Ten Acre Lane, Newton Heath, Manchester

Report No: P4472NW

Plot 2 - Shear Strength vs Depth Profile



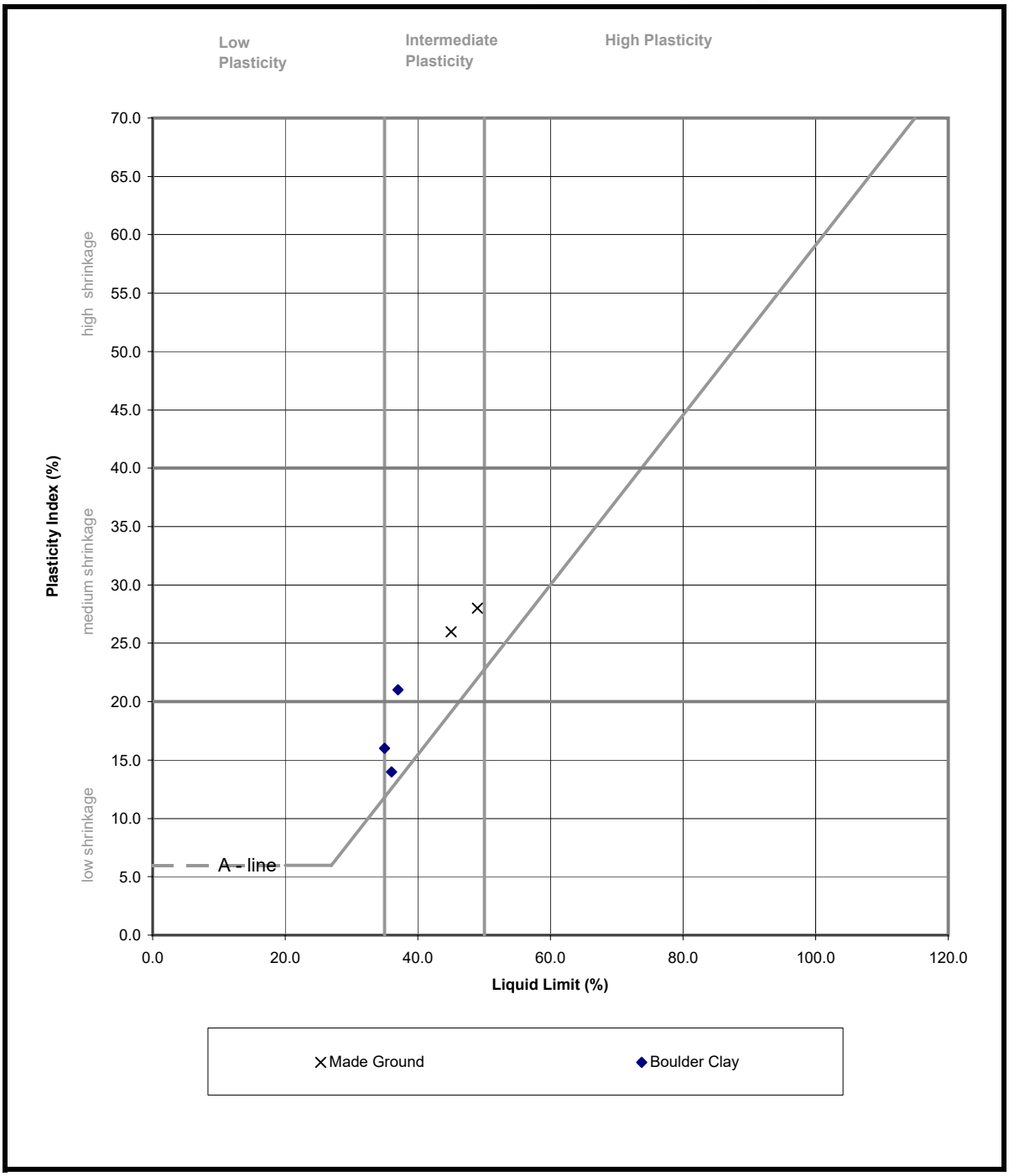
Shear Strength values are based on the results of Hand Vane readings, undrained triaxial tests and correlated SPT N values in cohesive strata.
SPT 'N' Value have been multiplied by a correlation factor of 5 (after Stroud 1974) - At SPT refusal, N=50.

APPENDIX B(iii)

Project: Ten Acre Lane, Newton Heath, Manchester

Report No: P4472NW

Plot 3 - Liquid Limit vs Plasticity Index Profile



Former Jackson Brickworks

Trial Geophysical Investigation
For
Celtic Technologies Limited

Project Number ES251

Report Number ES251-01

Written by

R Eddies BSc MSc PhD FGS

August 2007

Earth Solutions
Applied Geophysics

Earth Solutions
27-29 Park Road
Buxton
Derbyshire
SK17 6SG

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Figure 1 ERT layout Plan on 1922 OS Site Map
Figure 2 ERT Results and Line Location Plan
Figure 3 Interpreted ERT Results and Line Location Plan

1 INTRODUCTION

1.1 The Brief

1.1.1 Earth Solutions was commissioned by Celtic Technologies Limited to carry out a trial geophysical investigation on land forming part of the former Jackson Brickworks, Newton Heath, Manchester.

1.1.2 The key objective of the investigation was to assess the efficacy of a geophysical technique to determine the presence and extent of potentially anomalous ground conditions within the site with specific reference to filled excavations associated with former clay pits.

1.2 Terms of Reference

1.2.1 This report is compiled by Earth Solutions at the request of Celtic Technologies Limited and is based on fieldwork carried out by Earth Solutions on 18th and 19th June 2007.

1.2.2 This report represents the best professional opinion of the author. This report supersedes any previous reports, whether written or oral and completes the work currently commissioned by the Client.

1.3 The Site

1.3.1 The survey area formed a small part of a site totalling about 17 Ha. The survey area, comprised largely grasses on level to gently sloping ground with patches of trees and dense vegetation.

1.3.2 The shallow geology of the site was expected to comprise soils over Made Ground (up to 5-10 m and possibly 15 m thick in places) overlying boulder clay. Boulder clay thickness was expected to exceed 15 m.

2 GEOPHYSICAL INVESTIGATION

2.1 Electrical Resistivity Tomography (ERT)

2.1.1 The electrical properties of natural near-surface materials are largely controlled by electrolytic conduction through fluids in connected pore spaces and surface conduction associated with the presence of clay particles.

2.1.2 Resistivity is an intrinsic property of a material and can be used as a diagnostic tool to predict changes, variations or contrasts in the distribution of subsurface media. Electrical resistivity tomography (ERT) determines the distribution of resistivity below a set of surface electrodes.

2.1.3 For the Former Jackson Brickworks site, near-surface materials were likely to have a reasonably broad range of electrical properties. Media such as dry, coarse fill would be likely to have relatively high resistivity characteristics whereas clayey ground or saturated, contaminated fill would be expected to have more conductive characteristics.

2.1.4 In ERT investigations an image or profile of the electrical properties of the ground is built up by transmitting electrical currents using a variety of paths through a cross-section of the ground to be imaged. The depth of investigation depends primarily on the distance between electrodes within the acquisition array.

2.1.5 ERT data were acquired along two survey profiles (A-B and C-D, Figure 1) using a 72-channel acquisition system (Syscal Pro, Iris Instruments) using electrodes spaced 3 m apart. Lines were positioned in order to 1) avoid dense vegetation and 2) to investigate the margins of an excavated pit shown in a 1922 OS map of the site. ERT Trial Line 1 (A-B) was 320 m in length, oriented approximately southeast-northwest (Figure 1) whilst ERT Trial Line 2 (C-D) was oriented approximately southwest-northeast and was 164 m in length). The trial ERT lines had a mutual intersection point at 276 m along A-D and 77 m along C-D.

2.1.6 Along each survey line, ERT data were acquired using a Wenner-Schlumberger array configuration which provided a good compromise between lateral and vertical resolution.

2.1.7 Depth penetration within ERT investigations is limited largely by length of array. Typically, 3 m electrode spacing within a 72-channel system will yield a maximum depth of exploration of 20 m bgl, thinning to zero towards each end of the array.

2.1.8 A single ERT measurement involves using two electrodes to transmit current (termed C1 and C2), and two electrodes across which the potential difference or voltage is measured (termed P1 and P2). The voltage divided by the current gives the measured resistance (*R*). As the positions of the current and voltage electrodes (P1,P2,C1,C2) vary (controlled by the field computer), each four-electrode resistance measurement will investigate a different volume of the ground. Each array comprised 72 electrodes. Approximately 1000 independent resistivity measurements were made during acquisition for each ERT profile using different 4-electrode combinations.

2.1.9 Measured resistance values (in ohms, Ω) were converted to apparent resistivity values ρ_a (in ohm-metres, ohmm or Ωm) using a geometric factor appropriate for the array used at the site, in this case the Wenner-Schlumberger array.

2.2 ERT Data Processing

2.2.1 A sophisticated, industry-standard software package (*Res2dinv* Version 3.54i) was used to process the resistivity data for final analysis . *Res2dinv* is a computer program that can automatically determine a two-dimensional resistivity model for the sub-surface using data obtained from ERT surveys.

2.2.2 Data were further processed using mathematical inversion techniques to produce an ERT image or profile (colour-contoured resistivity as a function of depth and distance along profile).

2.2.3 An inversion process yielded the best-fit ground model (true resistivity distribution) whose model response (synthetic apparent resistivity values) fitted the observed data (measured apparent resistivity values).

2.2.4 RMS errors measured as a percentage of error between model data and field data were generally less than 3% indicating excellent data quality across the site.

2.2.5 Each model response data set was further processed within *Surfer* software (Golden Software, Version. 7). Data were gridded using a krigging algorithm at a very fine spacing to produce a colour- contoured data set showing resistivity distribution to

about 20 m bgl (Figure 2). A non-linear, resistivity colour-contour scheme from 0 to 150 Ωm was used to allow profile to profile comparison.

2.2.6 ERT profiles of best-fit ground models (Figure 2) were then further processed for interpretation of physical significance (Figure 3).

2.3 Positional Control

2.3.1 ERT survey line positions were determined from dGPS data acquired using a CSI Seres differential GPS system with lateral positional accuracy likely to be better than 0.5 m.

3 KEY FINDINGS

3.1.1 Two-dimensional ERT profiles are presented within Figure 2. Resistivity values encountered below the site varied from about 10 Ωm (relatively conductive) to more than 150 Ωm (relatively resistive), indicating the presence of media with varying electrical properties below the ground surface.

3.1.2 Coherent zones were manifest in the data for ERT Trial Line 1 (Figure 2, Figure 3). Shallow, discontinuous high resistivity zones were found within about 4 m bgl and were consistent with the presence of laterally discontinuous units of unsaturated, granular Made Ground.

3.1.3 Historical map data indicated that evidence for excavation fill would likely be found between about 200 m and 290 m chainage between A and B, ERT Trial Line 1 (Figure 1).

3.1.4 Between approximate chainages 200 m and about 290 m, a zone of relatively low resistivity (< 26 Ωm) or conductive media was present below about 3-4 m bgl (Figure 2). In the vicinity of chainage 200 m, the presence of strong vertical discordance with a strong contrast in resistivity values (from about 38 Ωm at chainage 190 m to less than 12 Ωm at chainage 210 m) was consistent with the presence of a buried former high wall to a clay pit, coincident to within about 4 m of the historical boundary of an excavation present in 1922 (Figure 1). The corresponding northern edge of the clay pit could not be confidently interpreted from the data owing to the lack of data continuity at that location.

3.1.5 Borehole R1 was located proximal to the start of ERT Trial Line 1 (Figure 1) and encountered 2 m of Made Ground over boulder clay. Window sample WS17 similarly encountered 2 m of Made Ground over clays. A relatively uniform resistivity distribution (30-46 Ωm) extending to about 20 m bgl was consistent with a significant unit of boulder clay underlying the ERT profile between chainages 0 m and 200 m.

3.1.6 Figure 1 highlights a current absence of boreholes extending to more than 5 m depth from the area evident as an excavation in the 1922 OS map of the site. Accordingly, direct calibration could not be carried out between ERT and existing direct data within the former excavation area. An interpretation of likely excavation depth was

therefore made, based upon the limited resistivity distribution (Figure 2, Figure 3); minimum and maximum likely fill depths were interpreted and predicted a general fill depth of between about 7 and 12 metres within the limits of a plane containing ERT Trial Line 1 (A-B).

3.1.7 Coherent zones were manifest in the data for ERT Trial Line 2 (Figure 2). Shallow, discontinuous high resistivity zones were found within about 3 m bgl and were consistent with the presence of laterally discontinuous units of unsaturated, granular Made Ground.

3.1.8 Historical map data indicated that evidence for excavation fill would likely be found between about 0 m and 100 m chainage between C and D, ERT Trial Line 2 (Figure 1).

3.1.9 Window sample WS 16 was located at approximate chainage 22 m on ERT Trial Line 2 and encountered 5 m of Made Ground prior to borehole termination.

3.1.10 A zone of low resistivity media (<23 Ωm) was found between chainage 0 m and 100 m, consistent with the presence of a buried excavation. ERT data indicated that the maximum depth of the former excavation was between 7 and 13 m bgl. At the intersection point of the two ERT profiles, the depth of the excavation was likely to lie between 7 and 12 m bgl. ERT data indicated that the excavation depth may exceed 14 m bgl towards chainage 0 m on Trial ERT Line 2.

4 RECOMMENDATIONS

4.1.1 A trial electrical resistivity tomography investigation successfully highlighted zones consistent with excavation fill below the former Jackson Brickworks site.

4.1.2 The ERT method would provide a means to confidently determine the lateral extent of buried fill across the site as part of a future full-scale investigation. An EM31 ground conductivity investigation might be considered, but key electrical contrasts lie largely outside the depth range of the EM31 instrument.

4.1.3 Determination of the vertical extent of buried fill presents a greater challenge in that ERT data require some form of direct calibration with borehole data to achieve a confidence level where data could be confidently used for volume estimation or accurate determination of basal excavation profile.

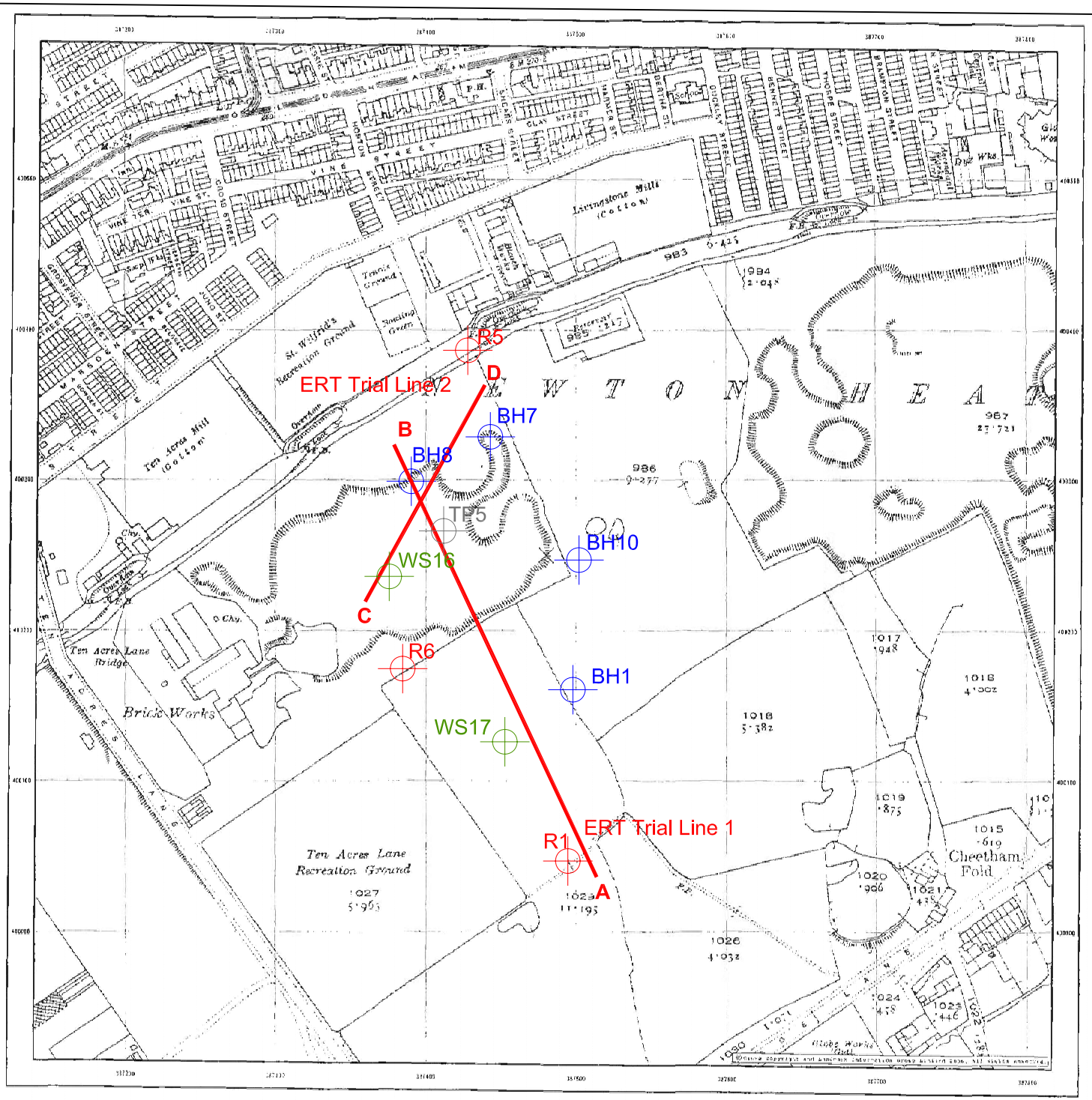
4.1.4 Within the trial area (and for the excavation in the western part of the site as shown within 1922 OS data) sparse borehole sampling precluded ERT calibration, and only tentative depth/thickness estimation could be made.

4.1.5 We recommend the following prior to a full-scale investigation of the site:

- Clearance of vegetation along ERT survey lines to enable a systematic grid to be established across the site for full 3D interpretation and volume estimation

- Boreholes to be drilled to the base of the former excavations shown in the western part of the site within 1922 mapping data to coincide with ERT profiles

FIGURES



Envirocheck®
A Landmark® product

CLIENT DETAILS Envirocheck Order No. EC20213420_4_2

Customer Ref: Mr S Kidley,24557
Celtic Technologies Ltd
Columbus House Greenmeadow Springs
Cardiff
CF15 7AE

SITE DETAILS Grid Reference 387480 400250

Jackson Brickworks
Mitchell Street
Manchester

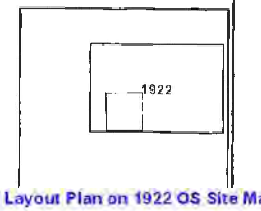
Historical Map Legend

Quarry | Sand Pit | Marsh | Reeds
Gravel Pit | Clay Pit | Rough Pasture | Furze
Refuse Heap | Shingle | Osiers | Ford
Railway crossing River or Canal | Railway crossing Road | Level Crossing
Embankment | Cutting | Road crossing Railway
Road over single Stream | Road over River or Canal | Arrow denotes flow of Water

Ordnance Survey County Series 3

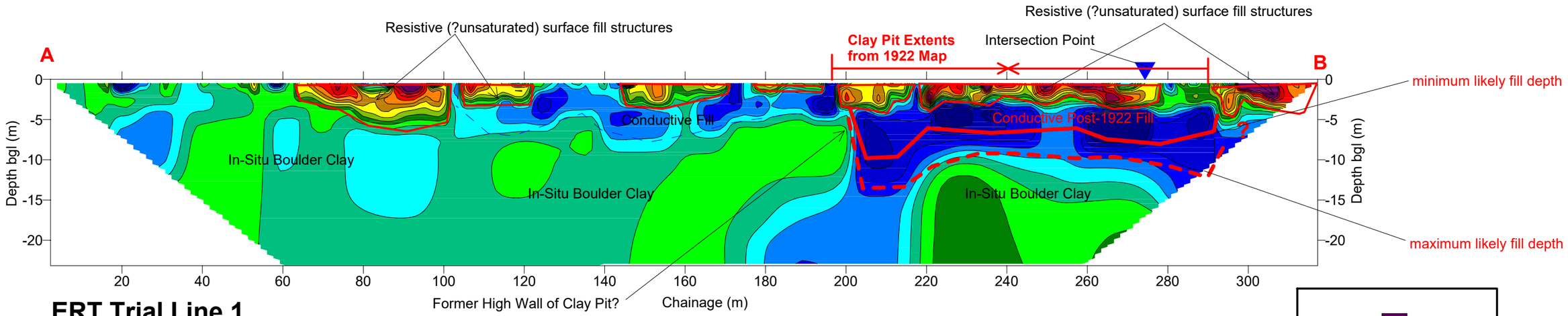
The historical maps shown were reproduced from maps predominantly held at the scale adopted for England, Wales and Scotland in the 1840's. In 1854 the 1:2,500 scale was adopted for mapping urban areas and by 1879 it covered the whole of what were considered to be the developed parts of Great Britain. The published date given on the right is often some years later than the surveyed date. Before 1918, all OS maps were based on the Gassiot Projection with independent surveys of a single county or group of counties, giving rise to significant inaccuracies in outlying areas.

LANCASHIRE AND FURNESS
Published 1922
Source map scale - 1:2,500

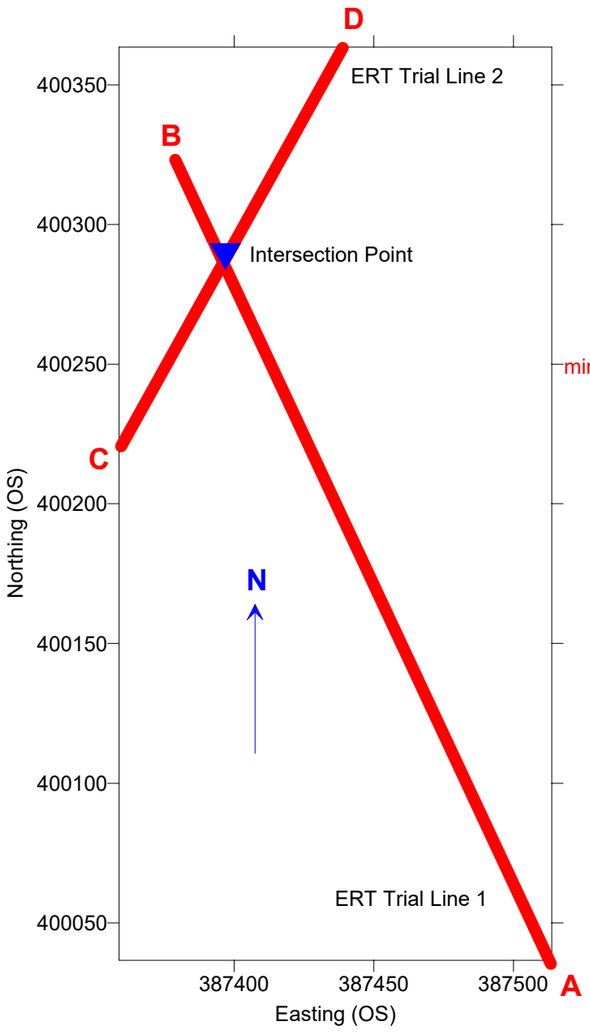


Title: Figure 1: ERT Layout Plan on 1922 OS Site Map
Client: Celtic Technologies Limited
Project Number: ES251
Project Name: Former Jackson Brickworks, Newton Heath

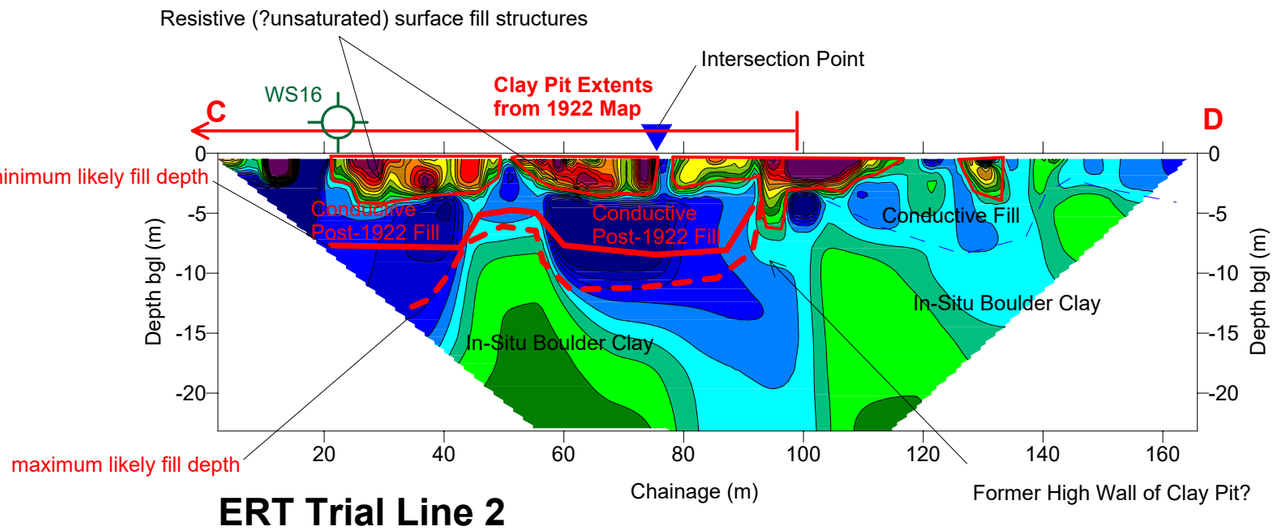
Earth Solutions
Applied Geophysics



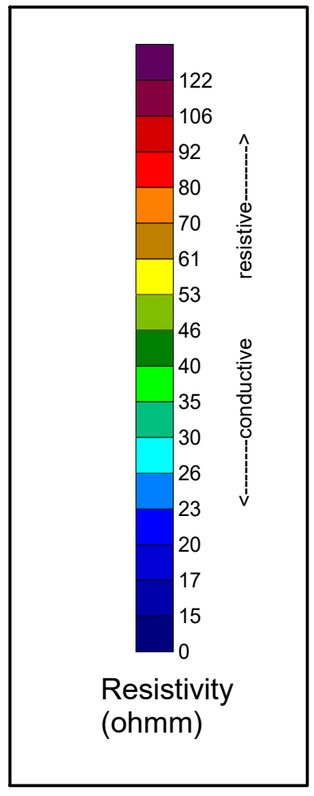
ERT Trial Line 1



ERT Line Location Plan



ERT Trial Line 2



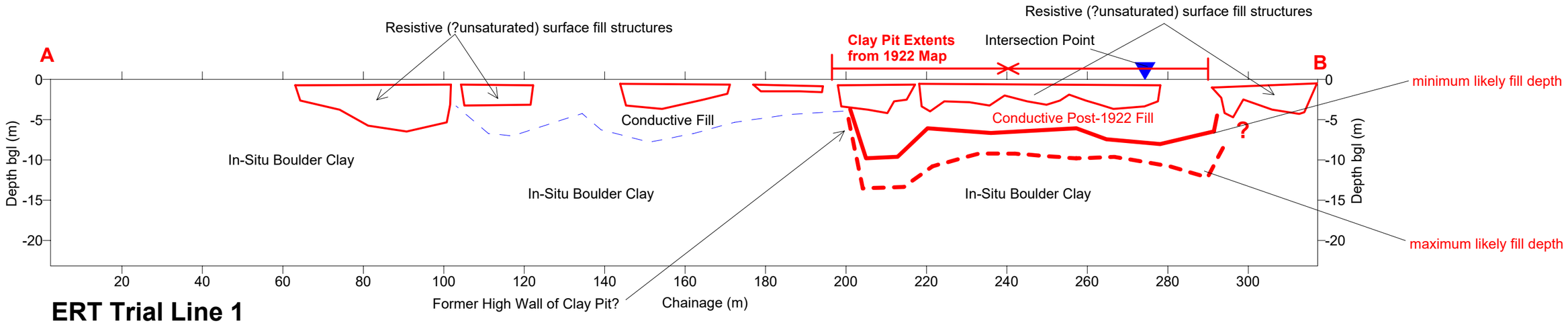
Title: Figure 2: ERT Results and Line Location Plan

Client: Celtic Technologies Limited

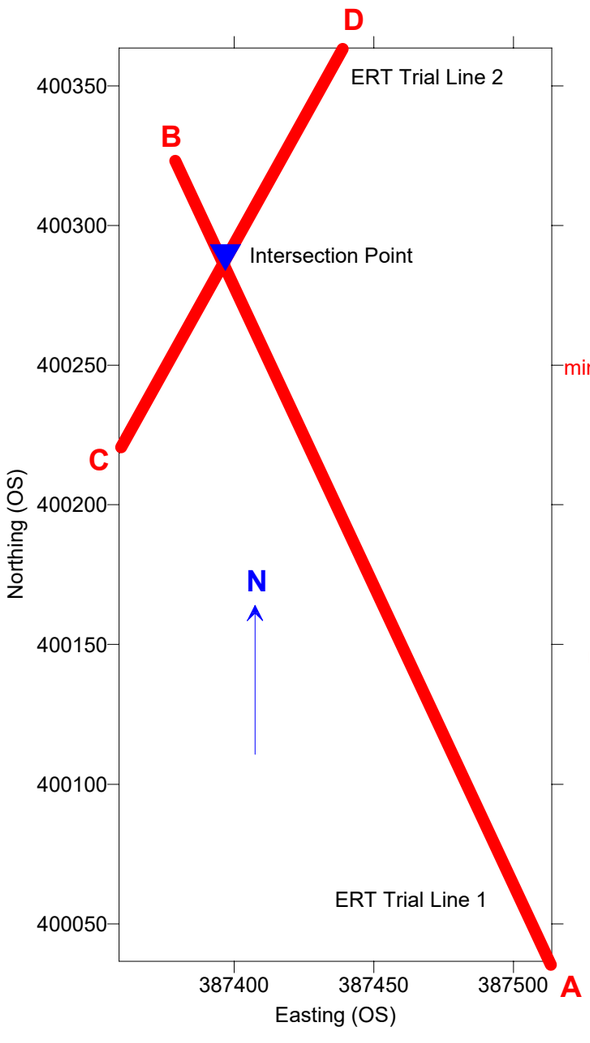
Project Number: ES251

Project Name: Former Jackson Brickworks, Newton Heath

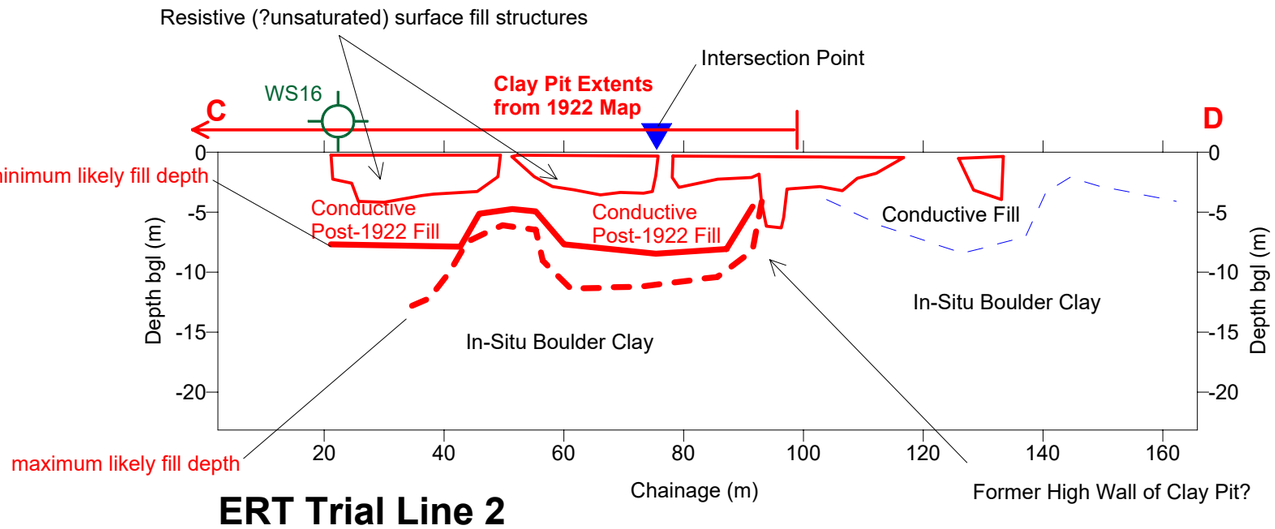
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Applied Geophysics



ERT Trial Line 1



ERT Line Location Plan



ERT Trial Line 2

Title: Figure 3: Interpreted ERT Results and Line Location Plan

Client: Celtic Technologies Limited

Project Number: ES251

Project Name: Former Jackson Brickworks, Newton Heath

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REPORT NOTES

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1. Any assessments made in this report are based on the ground conditions as revealed by the trial pits and boreholes, together with the results of any field or laboratory testing undertaken and where appropriate, other relevant data which may have been obtained for the sites including previous site investigation reports. There may be special conditions appertaining to the site, however, which have not been revealed by the investigation and which have not, therefore, been taken into account in the report. The assessment may be subject to amendment in the light of additional information becoming available.

2. Where the data available from previous site investigation reports, supplied by the Client, have been used it has been assumed that the information is correct. No responsibility can be accepted by Earth Solutions for inaccuracies within the data supplied.

3. Whilst the report may express an opinion on possible configurations of strata between or beyond trial pit or borehole locations, or on the possible presence of features based on either visual, verbal or published evidence this is for guidance only and no liability can be accepted for the accuracy.

4. Comments on groundwater conditions are based on observations made at the time of the investigation unless otherwise stated. It should be noted, however, that groundwater levels vary due to seasonal or other effects.

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6. This report is prepared and written in the context of the proposals stated in the introduction to this report and should not be used in a differing context. Furthermore, new information, improved practices and legislation may necessitate an alteration to the report in whole or in part after its submission. Therefore with any change in circumstances or after the expiry of one year from the date of the report, the report should be referred to us for re-assessment and if necessary re-appraisal.

7. The report is provided for sole use by the Client and is confidential to him/her and his/her professional advisors. No responsibility whatsoever for the contents of the report will be accepted to any person other than the Client.

8. The response of the ground to differing physical forces is highly variable. The interpretation of these responses in our report is based on our experience in similar conditions. The fact that due to highly variable ground conditions the interpretation may be found to be at variance with direct methods of investigation has to be accepted when using any remote sensing techniques.