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Central Eastern Land Parcels, Whitelands Farm, Southwest Bicester, Oxfordshire

Phase II Geo-Environmental and Geotechnical Assessment

Countryside Properties (Bicester) Ltd

June 2011

QUALITY MANAGEMENT

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EXECUTIVE SUMMARY

WSP Environmental Limited (WSPE) was instructed by Countryside Properties (Bicester) Ltd (the Client) to complete a Phase II Geo-Environmental and Geotechnical Assessment at Central Eastern Land Parcels, Whitelands Farm, South West Bicester, Oxford.

Based on information provided by the client, it is understood that the site is to be redeveloped into residential housing plus associated garden and amenity space and commercial centre. A detailed development plan was not available at the time of writing.

The ground investigation was completed between 16th and 23rd November 2010 and included the progression of four cable percussive boreholes, twelve window sampler boreholes and thirty four trial pits (ten with soakaways tests).

The ground conditions encountered are broadly consistent with the geological sequence as described by the published geology and the previous investigations undertaken by WSPE and comprised Kellaways Clay Member overlying Cornbrash Formation over Forest Marble.

It is considered that, suspended floor slabs in the form of beam and block floors, traditionally used for modern housing will likely be suitable.

With reference to the commercial centre shallow spread foundations may be more suitable depending on the structural load parameters and final design founding on the firm to stiff Kellaways Clay Member or the weathered Cornbrash Formation.

Spread foundations, if adopted, should be taken below any waterlogged soft Kellaways Clay Member and bear on firm to stiff Kellaways Clay Member (if present) or through the completely to highly weathered Cornbrash Formation and into the weathered Cornbrash Formation.

In areas of the site where the base of the Kellaways Clay Member was found to be deeper (up to 2.5 m bgl) it is anticipated that the minimum foundation depth is anticipated to be 1.25m below existing ground levels and at this foundation depth, the Kellaways Clay Member would likely provide an allowable bearing capacity of 100kN/m^2 for standard spread foundations.

In areas were the base of the Kellaways Clay Member is either less than 1.5m bgl or not present, it is considered feasible that the foundations be taken down to bear on the hard Cornbrash Formation at a minimum depth of between 1.0 and 1.5m below original ground level (not directly on completely to highly weathered Cornbrash Formation).

At this stage, for the commercial centre, use of a ground floor bearing on the firm to stiff Kellaways Clay Member or weathered Cornbrash Formation may be suitable, provided that topsoil is stripped and any soft spots removed and replaced with suitable granular fill. However, this should be confirmed once structural load parameters and final design of the commercial centre has been determined

It is recommended that a CBR value of 3% be adopted in the preliminary design of road pavements and parking areas constructed on the Kellaways Clay Member. Pavements with subgrade in the structured rock of the Cornbrash Formation could be designed for a CBR of up to 15%. Where the pavement subgrade is in the weathered Cornbrash Formation, the design CBR value should be reduced to 3%. Further testing should be undertaken along the line of the road networks and during detailed design.

In accordance with BRE Special Digest 1 (2005) indicate that the design sulphate class is DS-1 and aggressive chemical environment for concrete (ACEC) class for the site is AC-1 (mobile groundwater conditions).

Infiltration rates indicate the Kellaways Clay Member is not a suitable for soakaway pits and the Cornbrash Formation requires further assessment before finalising the suitability for soakaway drainage.

The geotechnical data within this report should be reviewed and a design investigation should be scoped and implemented in accordance with Eurocode 7 (EC7) once development proposals are finalised and the column loads, tolerable settlements / ultimate limit state requirements of the structure are known a Geotechnical Design Report (GDR) should be produced in accordance with the Eurocodes for the site.

A number of exceedances of arsenic were noted across the site when compared with the respective Generic Acceptance Criteria for the respective end use that is currently proposed. However, it is considered likely that risks to human health may be mitigated by ensuring that exceedances are either underneath the commercial centre, roads or building footprints; dug out and disposed of appropriately; placed elsewhere on-site under a clean capping layer of fill material at least 0.5m thick or left insitu but capped by a minimum of 0.5m of clean fill. Likewise, where areas are already proposed to be raised by 0.5m or more (current site levels to proposed site levels) as part of the redevelopment, this would form a suitable clean capping layer. Any exceedances within residential or communal garden areas may require excavation and appropriate disposal, capping and/or further testing on a plot by plot basis once the final masterplan layout is determined.

Six water samples showed a marginal exceedances of Benzo(a)pyrene and further monitoring and sampling of these may be required prior to redevelopment depending on requirements from the local Environmental Health Officer. However, it is considered that the presence of the Kellaways Clay Member unproductive aquifer reduces the risk that the vertical and lateral migration of these contaminants in the groundwater.

Based on the available data the risks to the proposed development and future site users from ground gas migrating onto the site are considered to be low.

WSP ENVIRONMENT & ENERGY

The executive summary should be read in conjunction with the complete report (Ref. WSPE Phase II Geo-Environmental and Geotechnical Assessment Report 12370324-002, March 2011) and not relied upon as a separate document.

1 INTRODUCTION

1.1 AUTHORISATION

WSP Environmental Limited (WSPE) was instructed by Countryside Properties (Bicester) Ltd (the Client) to complete a review of previous Phase I Assessment information surrounding and covering the current site and a Phase II Geo-Environmental and Geotechnical Assessment at Central Eastern Land Parcels, Whitelands Farm, South West Bicester, Oxfordshire (the site). A Site Location Plan is provided as Figure 1 within **Appendix A**.

1.2 BACKGROUND

The subject site is part of a larger proposed development of the Whitelands Farm site in Bicester. A phased approach has been undertaken to produce Geo-Environmental and Geotechnical assessments of the individual stages of the overall development. WSPE have previously completed the following reports on other parts of the site:

- WSPE 12370178-001 (July 2007) Whitelands Farm, Southeest Bicester Geo-Environmental and Geotechnical Interpretative Report;
- WSPE 12370324-001 (December 2009) Southwest Bicester Schools Sites Geo-Environmental and Geotechnical Interpretative Assessment; and
- WSPE 12370399-001 (May 2010) SW Bicester Geo-Environmental and Geotechnical Interpretative Assessment (for the purposes of distinguishing the area covered by this report, it will be referred to here as the northern land parcels).

This report should be read in conjunction with the previous reports listed above that investigated other stages of the proposed development. For the purposes of distinguishing the study area covered by this report, it will be referred to as the central eastern land parcels.

1.3 PROPOSED DEVELOPMENT

The proposed development of the current site that this report purports to includes the proposed construction of a commercial centre and development of residential properties within land parcels designated by our client as KM7 to KM12, part of KM13 south of a proposed road and KM19. Although a detailed development plan is not available at the time of writing, the locations of the land parcels is presented within a Site Layout and Exploratory Hole Location Plan, Figure 2 in **Appendix A**). The proposed development requires the current surface levels to be altered by way of cut and fill. A plan showing the current proposed earthworks strategy is presented within **Appendix A**.

Based on information provided by the client, it is understood that the central eastern land parcels are to be redeveloped into residential housing plus associated garden and amenity space and a commercial centre. It has been assumed that no below ground structures such as basements or below ground car parking are included within the proposed scheme.

1.4 OBJECTIVES

The objectives of the ground investigation and subsequent assessment were to appraise the ground and groundwater conditions in the context of potential risks to identified receptors and provide advice on foundation solutions.

1.5 SCOPE OF WORKS

The following scope of works was undertaken at the site:

- Preparation of site specific health safety documentation;
- Utilities clearance survey of all proposed exploratory hole locations to enable safe working;

- Four cable percussion boreholes to be drilled and each with combined gas and groundwater monitoring wells to be installed (due to ground refusals a maximum depth of 3.0m bgl was achieved);
- Representative soakaway testing within ten pits spread across the site undertaken in accordance with BRE Digest 365 ‘Soakaway Design’ 2007 to determine preliminary indicative infiltration rates;
- The advancement of twelve window sample boreholes, each with combined gas and groundwater monitoring wells installed (due to ground refusals a maximum depth of 2.5m bgl was achieved);
- The advancement of twenty four trial pits at approximate 75m centres (due to ground refusals a maximum depth of 2.8m bgl was achieved);
- In-situ testing and recovery of undisturbed and disturbed samples;
- Undertaking of laboratory testing, as appropriate, to allow representative derivation of geotechnical parameters and assessment of general contamination status; and
- Completion of three rounds of ground gas and groundwater (level) monitoring and one round of groundwater sampling with chemical laboratory testing .

1.6 LIMITATIONS

The general limitations to the nature of the investigation are outlined in **Appendix L.**

2 SITE CHARACTERISATION

2.1 SITE DETAILS

Table 2.1 Site Details

Site Address	**Whitelands Farm, Middleton Stoney Road, Southwest Bicester**
National Grid Reference	457523,221684
Area	Approximately 20 hectares
Site Location	The site is located approximately 250m southwest of the existing residential extents of the town of Bicester, Oxfordshire.
Current Site Use	The site was previously used for agricultural purposes but is not currently in use. Although construction works have started on the wider area.
Summary of Surrounding Land Uses	The surrounding land uses comprise: ■ North: Development of formerly agricultural land into a health care centre with residential properties beyond; ■ South: Development of formerly agricultural land into a secondary school; ■ East: Oxford Road with adjacent petrol station, garden centre, supermarket and shopping centre; and, ■ West: Development of formerly agricultural land into residential properties.

The layout of the site is presented in Figure 2 of **Appendix A**.

2.2 REVIEW OF PREVIOUS PHASE I ASSESSMENT DATA

A review of the existing desk based information contained in Envirocheck Report ref (Ref. 26359746_1_1 dated September 2008) was undertaken and findings are summarised below.

2.2.1 Site History

A study of historic Ordnance Survey maps has been undertaken to identify any potentially contaminative former land uses. The following tables provide a summary of the available map information, extracts of which are presented in **Appendix C**.

Table 2.2 – On-site Land Uses

Land Use	Dates
Agricultural land	Pre 1875 – to date

Table 2.3 Surrounding Land Uses

Land Use	Dates	Distance from site boundary	Direction
Petrol Station	Pre 1996 – to present	Adjacent	East
Roman Way *Then* Roman Road *Then* Oxford Road (A41)	Pre 1885 – pre 1923 Pre 1923 – pre 1955 Pre 1955 – to present	Adjacent	East
Whitelands Farmhouse and out buildings	Pre 1885 – to present	75m	West
Petrol Station	Pre 1996 – to present	275m	East
Oxford and Bletchley Branch Railway	Pre 1885 – to present	350m	East
Bicester sewage pipe *Then* drain	Pre 1885 – pre 1996 Pre 1996 – to present	300m	East
Sewage Tank *Then* Sewage Farm *Then* Sewage Works	Pre 1885 – pre 1970 Pre 1970 – pre 1980 Pre 1980 – to present	275m	Southeast
Old Clay Pit	Pre 1885 – pre 1970	750m	South
Old Clay Pit	Pre 1885 – pre 1970	800m	South
Langford Farm *Then* Langford Park Farm	Pre 1885 – pre 1970 Pre 1970 – to present	800m	Southeast
Coal Depot	Pre 1885 – to present	750m	East
Goods Shed	Pre 1885 – pre 1970	775m	East
Station	Pre 1885 – to present	800m	East
Quarry *Then* Old Quarry	Pre 1900 – pre 1923 Pre 1923 – pre 1970	950m	Northwest
Brewery *Then* Police Station *Then* Public building	Pre 1885 – pre 1923 Pre 1923 – pre 1970 Pre 1970 – to present	550m	Northeast
Manor Farm	Pre 1885 – pre 1970	550m	Northeast
Home Farm	Pre 1885 – pre 1900	475m	Northeast
Works *Then* McKay Trading Estate *Then* Trading Estate	Pre 1970 – pre 1988 Pre 1988 – pre 2008 Pre 2008 – to present	800m	East
Wendlebury Farm	Pre 1996 – to present	600m	South
Promised Land Farm	Pre 1996 – to present	850m	South

2.2.2 Geology and Hydrogeology

In accordance with the British Geological Survey (BGS) 1:50,000 Map Sheet 219 Buckingham (Solid and Drift) published in 2002, the site is indicated to be underlain by the following geological sequence.

Table 2.4 Published Geology

Geological Unit	Description	Aquifer Status*
Kellaways Clay Member	Dark grey clay	Unproductive strata
Cornbrash Formation	Rubbly grey to brown limestone	Secondary (A^+)
Forest Marble Formation	Grey mudstone with beds of limestone	Secondary (A^+)

Note: * Taken from the Environment Agency Website

+ Secondary (A) is defined by the Environment Agency as permeable layers capable of supporting water supplies at a local rather than strategic scale, and in some cases forming an important source of base flow to rivers. These are generally aquifers formerly classified as minor aquifers.

The published geology map shows the Kellaways Clay Member to be absent in an area in the northern part of the site and the Cornbrash Formation outcropping.

Alluvium is indicated to outcrop adjacent to the southwest boundary of the site (off-site), the presence of which was confirmed during the site investigation of the secondary school site (12370324-001 (2009)). Alluvium was also encountered during the site investigation of the adjacent northern land parcels (12370399-001 (2010)).

The Environment Agency website indicates that the waterbody within the Cornbrash Formation (known as the Bicester-Otmoor Cornbrash Formation waterbody) is part of the Thames River Basin District. Current Quantitative Quality is good and the Current Chemical Quality is poor.

2.2.3 Radon

In accordance with the information provided in the BRE 211 Radon Report, the site is not in a radon affected area, less than 1% of homes are above the action level, therefore, no radon protection measures are deemed as necessary.

2.2.4 Hydrology

The nearest surface water features in the vicinity of the subject site are summarised below.

Table 2.5 Surface Water Features

Surface Water Feature	Flow Direction	River Basin Management		Distance from site boundary	Direction
		Ecological Quality	Chemical Quality		
Drain	Southeast	-	-	Adjacent	Southwest
Drain	Unknown	-	-	30m	Southeast
Pringle Brook	East	-	-	35m	North
Pond	No flow	-	-	110m	Southeast
Drains	South	-	-	Various (closest 175m)	Southeast
Langford Brook	South	Moderate	Does not require assessment	240m	Southeast
Gagle Brook	South	Moderate	Does not require assessment	350m	West

As of the Envirocheck report dated September 2008, there were no listedsurface water abstractions within 1,000m of the site.

As of September 2008 there were six recorded discharge consents within 1,000 of the site. The closest was located 175m northeast of the site where Sovreign Tyre Ltd is discharging trade effluent discharge from site drainage into a tributary of the Pringle Brook (referred to as the Town Brook on the Envirocheck datasheet).

Until September 2008 there were thirteen known pollution incidents within 1km of the site. The closest incident occurred in 1998 and was located 75m northeast of the site. The incident was reported as a Category 3 – Minor Incident involving unknown oils by the Environment Agency, Thames Region. The cause of the incident and receiving water is not given.

2.2.5 Regulatory Database

AAs part of this report WSPE has reviewed the existing regulatory information from the Envirocheck Report (Ref. 26359746_1_1) dated September 2008). A summary of this data is presented in the table below.

Table 2.6 Summary of Regulatory Databases

Regulatory Database	0-250m	250-500m	Details
Registered landfills	0	0	Not Applicable (N/A)
Closed landfill facilities	0	0	N/A
Registered transfer stations/treatment facilities	0	0	N/A
Closed transfer stations/treatment facilities	0	0	N/A

Authorised industrial processes (IPC/IPPC)	0	0	N/A
Fuel Station Entries	1	1	The closest is adjacent to the eastern site boundary. The other is located approximately 275m to the east of the site.
Licensed radioactive substances	0	0	N/A
Enforcements, prohibitions or prosecutions	0	0	N/A
Consents issued under the Planning (Hazardous Substances) Act 1990	0	0	N/A

2.2.6 Ground Stability

The assessment of hazard of ground stability on the subject site are summarised in the table below.

Table 2.7 Summary of Ground Stability Hazards

Potential Cause of Ground Stability Hazard	Hazard Potential
Compressible	Moderate
Ground Dissolution	Low
Land Slide	No Hazard
Running Sand	Low
Shrinking or Swelling Clay	Moderate

2.2.7 Environment Agency

Consultation with the Environment Agency was not within the scope of this report. However as part of the desk study for the adjacent primary and secondary school sites (Ref. 12370324-001) consultation was previously sought. Their response dated 6th October 2008 is summarised below and presented in **Appendix I**.

- There are no pre-license/licensed landfills recorded within 1,000m of the site;
- There are no category 1 or 2 pollution incidents recorded within 500m of the site; and,
- There are no abstraction licenses recorded within 500m of the site.

2.2.8 Local Authority

Consultation with the Local Authority was not within the scope of this report. However as part of the desk study for the adjacent primary and secondary school sites (Ref. 12370324-001) consultation was sought with the Cherwell District Contaminated Land Officer. Their response dated 22nd September 2008 is presented in **Appendix I**.

2.2.9 Preliminary Conceptual Site Model

The following table provides a summary of the potential pollutant linkages identified based on the review of the existing information and previous investigations undertaken by WSPE.

Table 2.8 Preliminary Conceptual Site Model

Potential contaminant sources	Associated contaminants	Potential migration pathways	Sensitive receptors
On-Site			
Possible Made Ground	▪ Metals and inorganics (such as pH and sulphate); ▪ Total Petroleum Hydrocarbons; and, ▪ Polyaromatic Hydrocarbons (PAHs).	**Human Health** ▪ Inhalation of volatile vapours/ ground gases; ▪ Direct contact with soil and groundwater; ▪ Ingress into potable water supply pipes.	▪ Future Site Users (residential); ▪ Construction & Maintenance Staff;
		Controlled Waters ▪ Leaching into groundwater; & lateral migration	N/A
		Built Environment ▪ Permeation into plastic pipes; ▪ Direct Contact with aggressive ground and/or groundwater	▪ Below ground service; potable supply pipes & building service entry points ▪ Building fabric; Potential degradation of concrete foundations & below ground structures.
Off Site			
▪ Petrol stations ▪ Adjacent railway land ▪ Infilled quarry; ▪ Former coal depot; and ▪ Printers	▪ Metals and Inorganics such as pH and sulphate; ▪ Total Petroleum Hydrocarbons (TPH); ▪ Polycyclic Aromatic Hydrocarbons (PAHs); ▪ Volatile Organic Compounds (VOCs) and Semi Volatile Organic Compounds (SVOCs); ▪ Volatile vapours & ground gas.	▪ Migration of groundwater or gas onto site.	▪ Future Site Users ▪ Construction & Maintenance Staff; ▪ Building fabric and construction materials ▪ Below ground services and supply pipes.

3 GROUND INVESTIGATION

The ground investigation was completed between 16th November and 23rd November 2010 under supervision of a WSPE engineer.

3.1 SUMMARY OF INVESTIGATION

The table below gives a summary of the exploratory holes completed as part of the ground investigation, along with the rationale for each technique.

Table 3.1 Rationale of Ground Investigation

Element of investigation	Details	Rationale
Trial Pits (with no soakage tests undertaken)	24 trial pits excavated to a maximum depth of 2.8m bgl (TP201 to TP224)	To provide general coverage of the shallow ground conditions. Note that TP224 is outside of the current site boundary, located to further assess the potential migration of contaminants to the north of the adjacent petrol station.
Trial Pits (with soakage tests)	10 trial pits excavated to maximum depth of 2.6m bgl (SA201 to SA210)	To provide general coverage of information on shallow ground conditions and on infiltration rates.
Cable percussion boreholes	4 boreholes holes excavated to between 2.0m – 3.0m bgl (CP201 to CP204)	To provide preliminary geotechnical design parameters and install ground gas and groundwater monitoring wells.
Window Sample Boreholes	12 boreholes excavated to between 0.75m to 2.5m bgl (WS201 to WS212)	To provide information on shallow ground conditions and to install ground gas and groundwater monitoring wells.
Insitu Testing	Standard Penetration Tests (SPTs) were undertaken on the insitu soils	To provide indicative geotechnical design parameters.
Installation of gas and groundwater monitoring wells	Installed in 4 cable percussive boreholes and 12 window sample boreholes with response zones within the Kellaways Clay Member and Cornbrash Formation. Monitored on three occasions.	To provide information for characterising the ground gas regime and groundwater conditions.
Sampling	Disturbed & undisturbed in-situ (U100) sampling.	To provide appropriate samples for laboratory testing
Geotechnical Laboratory Testing	Soils samples were submitted to the UKAS accredited laboratories of Geo Laboratory Testing Services Ltd for geotechnical testing.	To allow assessment of geotechnical soil parameters.
Chemical Laboratory Analysis	Soil and groundwater samples were submitted to the UKAS and MCERTS accredited laboratories of ALcontrol for chemical analysis.	To allow assessment of potential risks to identified receptors.

4 GROUND CONDITIONS

4.1 SUMMARY OF GROUND CONDITIONS

The table below provides a summary of ground conditions encountered with the associated exploratory hole logs provided in **Appendix B.**

Table 4.1 Summary of Ground Conditions

Strata	Depth range to top of stratum (m bgl)	Thickness of stratum (m bgl)	Brief Description
Topsoil	GL	0.05 to 0.5	Topsoil is generally grey brown slightly clayey, slightly sandy clay with rootlets.
Made Ground	GL	0.15 – 0.5	Material that was potentially Made Ground was only encountered in CP204, WS206 and TP211. It was generally found to comprise grey brown slightly sandy, slightly gravelly, occasionally silty clay.
Kellaways Clay Member	GL – 0.7	0.4 – 2.5	The Kellaways Clay Member is typically orange brown occasionally silty, slightly gravelly, slightly sandy clay. The unit was found to vary across the site and occasionally comprised fissured dark grey occasionally silty clay with occasional shells and white sand grains. In 12 exploratory holes (TP204, TP206, TP210, TP218, TP219, TP222, SA201, SA202, SA203, SA204, SA205, SA208 and SA209) a thin layer of very weak completely weathered orange brown mudstone was encountered that formed the interface with the Cornbrash Formation.
Possible Alluvium/Head Deposits	0.7 - 1.2	0.8	Material varies from soft to firm orange brown slightly gravelly clay to orange brown slightly clayey, silty, very sandy gravel.
Cornbrash Formation	0.15 – 2.8	0.7 - >2.3 Only place proven 2.15m	The Cornbrash Formation typically comprised orange brown and grey limestone. Due to the nature of the techniques used to sample the material it was typically recovered as clayey GRAVEL..
Forest Marble Formation	1.1 - 2.4	>0.8 - Not determined	Due the strength of the overlying Cornbrash Formation, the Forest Marble Formation was only encountered in two exploratory holes (WS202, WS204). It comprises dark grey clay and dark orange completely weathered mudstone.

The ground conditions encountered within this investigation are generally consistent with the published geology and that encountered during the investigation previously undertaken on-site on and the adjacent school sites and northern land parcels (12370178-001 (2007), 12370324-001 (2009) and 12370399-001 (2010) respectively). However, the detailed ground investigation found the following inconsistences with the published geology:

- The area in the south of the site (within Land Parcel KM9) in the vicinity of TP42 (12370324-001 (2009)), TP211, TP212, WS204 and CP202. The published geology shows that Kellaways Clay Member is expected to outcrop in this location. However, the detailed ground investigation found the Cornbrash Formation to be at very shallow depths (less than 0.5m bgl). The surrounding exploratory holes shows that the area where the Cornbrash Formation outcrops extends south into the secondary school site and north east into the secondary school site; and,

- In the north of the site (within Land Parcel KM19 and the northern part of KM10) the published geology indicates that the Cornbrash Formation is expected to be outcropping. However, within TP38 (12370178-001 (2007) TP220, TP221, TP222, SA208, WS208 and CP204 the Cornbrash is encountered at depth (from 1.0m bgl (WS208) to 2.2m bgl (TP220) and is overlain by the Kellaways Clay Member.

A band of possible Alluvium or Head Deposits was encountered in the south of the site in exploratory holes TP213, TP214 and WS205 from this investigation. In the 2009 investigation TP43 encountered a soft band of clay and TP41 from the 2007 investigation encountered 1.2m of possible Head Deposits. The published geology does not anticipate Alluvium or Head Deposits but several phases of investigation in this part of the site have encountered a mix of soft clays through the gravels indicative of variable shallow deposits.

Alluvium was encountered within TP03 (12370324-001 (2009)) in the secondary school site adjacent to the southern boundary of the site.

No visual or olfactory indicators of contamination were encountered during the ground investigation.

4.2 GROUNDWATER

Groundwater was not encountered within the boreholes, window sample boreholes and trial pits during the site investigation, with the exception of SA203 in which seepage was observed at the base of the pit. During the monitoring events, groundwater was encountered in the monitoring wells installed within the Kellaways Clay Member and the Cornbrash Formation at depths of between 0.3m bgl and 2.2m bgl.

The groundwater monitoring was undertaken during winter months and boggy, waterlogged ground was observed on-site throughout the site works. It is possible that the shallow groundwater levels observed were due to seepage of surface water through the Kellaways Clay Formation causing a delayed response due to slow infiltration rates through the clay. In addition, poor weather conditions may have increased water levels as monitoring proceeded.

Hence, during the first monitoring visit on 9th December 2010 the majority of the wells were dry with the exception of six monitoring wells (CP202, CP203, WS204, WS205, WS208 and WS210). After periods of heavy rainfall and snow the second and third monitoring periods (14th January and 24th January 2011 respectively) recorded groundwater levels of between 0.31 and 2.18m bgl. The groundwater level was not proven in WS211 (>1m bgl), on all three visits, WS208 on visits 2 and 3 (>2.5m bgl) and WS206 on visit 3 (>0.80m bgl).

Groundwater monitoring results are presented in **Appendix G**.

4.3 GROUND GAS

Ground gas monitoring was completed across three visits in standpipes that were installed within natural stratum (with the exception of WS206 which was installed through both the Made Ground and Cornbrash Formation response zones).

A full ground gas monitoring record is provided in **Appendix G** and is discussed in detail in Section 6.6.

- Methane was recorded at concentrations of between <0.1% and 0.1%v.v;

- Carbon dioxide was recorded between <0.1% and 3.3%v.v;
- Oxygen generally ranged between 4.0% and 22.9%v.v; and
- Ground gas flow was recorded between -0.4 litres per hour (l/hr) and 0.2l/hr.

4.4 DRAINAGE

A representative number of soakaway testing was undertaken at ten locations as part of this investigation to assess soil infiltrations rates generally across the site.

The original proposed location soakage tests at SA201, SA202, SA204 and SA205 had to be moved as the water tanker was unable to leave the site haul roads due to boggy site surface conditions.

The soakage tests were undertaken in varying targeted strata to gain representative infiltration rates of both Kellaways Clay Member and Cornbrash Formation as follows:

- SA201, SA206, SA207 and SA210 undertaken within the Cornbrash Formation;
- SA202, SA203 and SA208 undertaken within the Kellaways Clay Member; and
- SA204, SA205 and SA209 undertaken within Kellaways Clay Member exposed on the side walls with Cornbrash Formation exposed at the base of the pit.

The soakage tests were proposed to be undertaken in accordance with BRE Digest 365 'Soakaway Design' 2007. However, due to the low infiltration of the soils and consequential time constraints, the soakage tests were only carried out once at each trial pit.

Within SA201, SA204 and SA207 infiltration rates between 1 and 5 x 10^{-5} m/s were achieved and it is likely that this is representative of the Cornbrash layer.

The water within all the other trial pits did not drain within the available time constraints. For these trial pits it was not possible to assess the soil infiltration rates in accordance with the guidance in the BRE Digest as the fall in water level within the pits was not sufficient. However, this in itself is indicative of the low permeability of the soils.

Soakaway test results and plots are presented within **Appendix K**.

4.5 GEOTECHNICAL PROPERTIES AND CHARACTERISTIC VALUES OF SOIL PARAMETERS

A summary of the geotechnical properties of the strata present at the site is given in the table below. A full copy of geotechnical laboratory data is presented in **Appendix E**.

Table 4.2 Summary of Geotechnical Properties

Geotechnical Properties	Stratum			
	Kellaways Clay Member	Possible Alluvium/ Head Deposits	Cornbrash Formation	Forest Marble Formation
SPT 'N' Value	12 - 20	Not tested	9 - 60	10 - 60
Undrained shear strength based on triaxial testing (kPa)	49	Not tested	Not tested	Not tested
Moisture content (%)	6 - 38	12 - 15	6 - 49	Not tested
Plasticity Index (%)	17 - 43	34	14 – 35*	Not tested

Geotechnical Properties	Stratum			
	Kellaways Clay Member	Possible Alluvium/ Head Deposits	Cornbrash Formation	Forest Marble Formation
Bulk density (Mg/m^3)	2.29	Not tested	1.86 – 2.68	Not tested
Dry Density (Mg/m^3)	2.05 – 2.09	Not tested	1.42 – 2.34	Not tested
pH	8.1 – 8.69	8.54 – 8.64	7.96 – 8.45	Not tested
Sulphate (g/l)	0.0173 – 0.24	Not tested	0.013 – 0.162	Not tested

Note: * Testing undertaken on samples of the weathered top of the Cornbrash Formation in which the limestone has a matrix/pockets of cohesive material.

The following geotechnical plots have been compiled for correlation purposes and are presented within **Appendix J**.

- Moisture Content vs depth;
- SPT N Value vs depth;
- Undrained shear strength vs depth;
- Bulk density vs depth;
- Plasticity Index vs depth;
- Plasticity chart; and,
- Moisture Content vs Dry Density Relationship.

A summary of the Particle Size Distribution (PSD) tests undertaken is presented below:

Table 4.3 Summary of Particle Size Distribution tests

Stratum	Min/Max	Cobbles (%)	Gravel (%)	Sand (%)	Silt/Clay (%)
Kellaways Clay Member	Min	0	0	6	20
	Max	0	61*	19	94
Alluvium/Head Deposits	Min	0	63	25	5
	Max	0	70	25	12
Cornbrash Formation	Min	0	44	5	4
	Max	14	87	30	29

Note: * High gravel content indicates pockets of high gravel content within the Kellaways Clay Formation

The results within the Kellaways Clay Member and the Cornbrash Formation are broadly consistent with the tests undertaken within the Primary and Secondary School sites and the Northern land parcels in the respective strata.

The results within the Kellaways Clay Member are indicative the stratum being relatively variable, ranging from granular to cohesive composition. However, note that the more granular pockets tend to be a minority.

The results within the material interpreted as Alluvium/Head Deposits are indicative of the statum being generally clayey sandy gravel.

Site observations indicate the insitu Cornbrash Formation is comprised of completely weathered to hard limestone. The results of the PSD tests indicate the Cornbrash Formation was generally recovered as clayey, sandy cobbly gravel. This indicates the weathered nature of much of the shallow rock and the Cornbrash Formation was broken up in order to be excavated.

A summary of the California Bearing Ratio (CBR) tests undertaken is presented following table.

Table 4.4 Summary of CBR Tests

Exploratory Hole	Depth (m bgl)	Stratum	Moisture Content (%)	CBR Value* (%)
CP202	1.0 – 1.5	Cornbrash Formation	14	3.2
CP203	1.0 – 1.5	Cornbrash Formation	14.5	1.7
TP203	1.0	Cornbrash Formation	12	1.4
TP209	1.0	Cornbrash Formation	26	1.9
TP214	1.0	Kellaways Clay Member	11.4	4.3
TP220	0.8	Kellaways Clay Member	10	7.8

Note: * CBR value taken from the sample top

The results of the CBR tests are broadly consistent with the testing undertaking on the adjacent land parcels.

A summary of the compaction tests undertaken is presented below.

Table 4.5 Summary of Compaction Tests

Exploratory Hole	Depth (m bgl)	Stratum	Initial Moisture Content (%)	Optimum Moisture Content (%)	Maximum Dry Density (mg/m^3)
TP207	1.0	Kellaways Clay Member	31	13	1.73
TP210	1.0	Kellaways Clay Member	31	15	1.74
TP221	1.0	Kellaways Clay Member	33	17	1.72

A plot showing the compaction test results is presented in **Appendix J**.

The information presented in the tables above provides a summary of the geotechnical properties of the soils encountered at the site and should be referred to in conjunction with the Exploratory Hole Logs and Geotechnical Laboratory Results (**Appendix B** and **Appendix E** respectively).

5 GEOTECHNICAL ASSESSMENT

The recommendations given below are preliminary recommendations. The data within this report should be reviewed and a design investigation should be scoped and implemented in accordance with Eurocode 7 (EC7) once development proposals are finalised and the column loads, tolerable settlements / ultimate limit state requirements of the structure are known and if required a Geotechnical Design Report (GDR) should be produced in accordance with the Eurocodes for the site.

5.1 GENERAL

We understand that the central eastern land parcels are to be redeveloped into residential housing plus associated garden and amenity space and a commercial centre. It has been assumed that no below ground structures such as basements or below ground car parking are included within the proposed scheme.

The loads for the proposed structures were unknown at the time of production of this report.

5.2 FOUNDATIONS

The central eastern land parcels area is underlain by a thin veneer of topsoil then generally followed by soft to stiff Kellaways Clay Member which is occasional granular in composition overlying the limestone of the Cornbrash Formation which has a weathered surface and is underlain by soft to stiff clay becoming mudstone of the Forest Marble Formation.

Groundwater was encountered between 0.31m and 2.18m bgl during the three return monitoring visits during winter months, following adverse weather conditions. Construction during seasonally dry months is recommended when the groundwater levels are likely to be lower.

Made Ground was encountered in three exploratory holes (TP212, WS206 and CP204) and possible Alluvial/Head Deposits (TP13, TP14 and WS205) arenot considered a suitable founding stratum due to its inherent variability in composition and state of compaction.

Spread foundations may be suitable for lightly loaded structures founding (low rise residential properties) founding within firm to stiff Kellaways Clay Member (if present) or into the Cornbrash Formation.

In areas of the site where the base of the Kellaways Clay Member was found to be deeper (up to at least 2.5m bgl), test results show samples to have modified plasticity indices of between 17% and 43%, which in accordance with the NHBC guidance (Chapter 4.2 Building Near Tress 2008) are rated as having a predominantly medium volume change potential. Based on the ground conditions encountered and the test results available within the Kellaways Clay Member it is anticipated that the minimum foundation depth is anticipated to be 1.25m below existing ground levels. At this foundation depth, the Kellaways Clays Member would provide an allowable bearing capacity of 100kN/m^2 for standard spread foundations..

With reference to the commercial centre shallow spread foundations may be more suitable depending on the structural load parameters and final design founding on the firm to stiff Kellaways Clay Member or the weathered Cornbrash Formation. Should design loads prove higher than acceptable for shallow foundation techniques, micropiles into the Cornbrash Formation and/or Forest Marble Formation may be considered.

The final foundation depth should be determined with the consideration of existing trees and future tree planting. Guidance from NHBC Chapter 4.2 Building Near Trees should be referred and adhered to. It should be noted that there is an area in the subject site adjacent to the boundary of the Primary School site where trees are currently present.

In areas where the base of the Kellaways Clay Member is either shallower than 1.0m bgl or not present at all it is considered feasible that the foundations be taken down to found on the weathered Cornbrash Formation at a minimum depth of between 1.0 and 1.5m below original ground level (foundations must be taken down to 1.5m bgl where completely to highly weathered Cornbrash Formation exists below 1.0m bgl).

5.3 GROUND FLOOR CONSTRUCTION

The subject area is underlain by a thin veneer of topsoil then generally followed by Kellaways Clay Member (becoming stiffer with depth) and which is occasional granular in composition overlying the limestone of the Cornbrash Formation which has a completely to highly weathered surface and is underlain by the Forest Marble Formation.

Groundwater was encountered between 0.31m and 2.18m bgl during the three return monitoring visits during winter months, following adverse weather. Construction during seasonally dry months is recommended when the groundwater levels are likely to be lower.

Suspended floor slabs in the form of beam and block floors, traditionally used for modern housing are considered to be suitable. Should ground bearing floor slabs be required these are considered to be suitable subject to all topsoil being stripped and any areas of Made Ground or soft spots being removed and replaced with compacted granular material.

It is considered for preliminary design purposes the use of a ground floor bearing slab on the firm to stiff Kellaways Clay Member or weathered Cornbrash Formation for the Commercial Centre would likely be appropriate, provided that topsoil is stripped and any soft spots removed and replaced with suitable granular fill. However, this should be confirmed once the structural load parameters and the final design of the commercial centre have been determined.

The formation should be proof rolled, as per requirements set out within a detailed earthworks specification. In areas of potential desiccation, the NHBC recommend the use of suspended floor slabs in all situations where heave can occur in the area bounded by the proposed foundations. The recommendations further advise that this is considered to be applicable where thir recommendations identify a founding depth in excess of 1.5mbgl, or where the formation soils become seasonally desiccated.

Where appropriate consideration can be given to re-using suitable site won materials to raise ground levels beneath the slab, providing they are suitably compacted to prevent differential settlements occurring. However, note that based on the natural and optimum moisture contents recorded, the reuse of materials on site is likely require drying out and/or lime/cement stabilisation to achieve relevant specific compaction criteria.

5.4 PRELIMINARY PAVEMENT DESIGN

Road and car park pavements are anticipated to be constructed on either the Kellaways Clay Member or Cornbrash Formation which are variable in strength and composition..

5.4.1 Kellaways Clay Member

California Bearing ratio (CBR) test results indicate that the Kellaways Clay Member has a current CBR value ranging from 4.3 to 7.8%.

In addition to this in accordance with the ‘Design Manual for Roads and Bridges Interim Advice Note 73/06’ (Draft replacement for HD 25/94) based on the recorded plasticity indexes across the site, a CBR value of between 2.5% and 4% is anticipated as being available for design purposes for the Kellaways Clay Member. This is based on a plasticity index of between 17% and 43%, high water table conditions during construction, average weather conditions and a thin road construction base being adopted for the road.

Therefore, it is recommended that pavements with subgrade in the Kellaways Clay Member should be designed for a CBR of 3%. Note that should construction take place in dry weather conditions and a water table lower than 0.3m bgl be present across the site, a higher CBR value of up to 4% may be achievable.

5.4.2 Cornbrash Formation

CBR test results were undertaken on five samples of the Cornbrash Formation and indicate the soils have a typical CBR value ranging between 1.4 to 3.2%. It is considered that these results may be unrepresentatively low due to the tests being undertaken on clay pockets/matrix within the samples of weathered Cornbrash Formation.

Based on the ‘Design Manual for Roads and Bridges Interim Advice Note 73/06’ (Draft replacement for HD 25/94), a CBR value of between 2.5% and 4% is anticipated based on a plasticity index of between 14% and 35%, a high water table, average weather conditions and a thin road construction base being adopted for the road.

However, given the properties of the material encountered, pavements with subgrade in the structured rock of the Cornbrash Formation could be designed for a CBR of up to 15% forpavement subgrade in the weathered Cornbrash Formation, the design CBR value should be reduced to 3% due to the presence of fines. Further insitu CBR testing should be undertaken prior to emplacement especially along lengths of primary roading corridors. Note that the completely to highly weathered surface of the Cornbrash Formation would not likely be considered suitable for the construction of pavements without the replacement of soft material with granular fill and/or the use of reinforcement.

As the Cornbrash Formation is composed of limestone, it may be frost-susceptible, therefore in accordance with 'Design Manual for Roads and Bridges Interim Advice Note 73/06' (Draft replacement for HD 25/94) minimum depth of subgrade of 450mm of non-frost susceptible material should be allowed for.

5.4.3 Pavement Construction

The exposed subgrade should be proof rolled with a suitable heavy roller and any soft spots encountered should be excavated and a greater depth of subgrade provided. Any sub structure remains should be "grubbed out" to a minimum depth of 500mm below the underside of formation to prevent hard spots from forming. Any voids arising from the removal of below ground obstructions or soft zones should be backfilled with well graded granular fill compacted to an appropriate method or end product specification.

It is considered likely that following proof rolling a higher CBR value may able to be achieved, although in-situ CBR or plate load tests would be required to confirm this. In situ CBR testing are likely to be required as a matter of course for any adoptable areas of pavement.

5.5 EXCAVATIONS AND GROUND STABILITY

Excavation through the Kellaways Clay Member down to the top of the Cornbrash Formation should be readily achievable using conventional excavation plant. The side slopes should be generally stable in the short term as indicated by the trial pits being generally stable during this investigation. However the stability of unsupported excavations at the site should not be relied upon. Zones loosened by the removal of existing and relict construction may be particularly unpredictable and liable to collapse

It should also be readily achievable to excavate through the weathered Cornbrash Formation using conventional excavation plant. However, as per recommendations in the investigations of the surrounding sites, allowance should be made for the side slopes to be battered back to a stable angle (approximately 1vh in 2.5h) due to the fractured nature of the material.

Excavation through structured rock in the Cornbrash Formation is likely to prove difficult using conventional excavation plant as demonstrated by refusals of trial pit and borehole excavation during the ground investigation. Should this be required suitable allowance should be made for more robust excavation techniques.

Shallow groundwater (up to 0.3m bgl) was encountered extensively across the site. It is considered that the groundwater level may be prone to seasonal variation and in response to prolonged periods of heavy rainfall/storms. Groundwater ingress may be encountered as part of the excavation works of the proposed development. If groundwater is encountered, it is considered that appropriate measures should be taken to prevent groundwater ingress into open excavation such as sump and pump methods.

Where general excavations extend below 1.0m depth, it is recommended that the sides are battered back or appropriate shoring is used, in accordance with current Health and Safety requirements where access for personnel is required. Trench boxes may also be used where appropriate. Dewatering may also be required to facilitate the excavation.

Further Reference should be made to CIRIA Report No. 97,"Trenching Practice" 1992

5.6 REUSE OF EXCAVATED MATERIAL

5.6.1 Kellaways Clay Member

It would be expected that after appropriate on-site screening methods, the majority of this material would likely be suitable for re-use as Class 2 general cohesive fill. Compaction tests undertaken on samples of the Kellaways Clay Member found that initial moisture contents range between 31% and 33% and optimum moisture contents between 13% and 17%. These results indicate that the material would likely require drying out and/or lime stabilisation to reduce the natural moisture content to within the optimum range prior to use for engineering fill.

5.6.2 Cornbrash Formation

The majority of the Cornbrash Formation will likely be suitable as Class 1 structural fill. However, the size and shape of the particles will require that the material is crushed to the desired grain size prior to use. There may occasionally be weathered Cornbrash Formation that contains too much fines for Class 1 classification. However, it should be possible by mixing with crushed material to reduce the amount of fines to a satisfactory percentage.

5.7 BURIED CONCRETE

Laboratory testing identified groundwater conditions to be typically slightly alkaline (pH of 7.88 to 8.27). Laboratory testing on soil samples was also identified as typically alkaline (pH of 7.4 to 8.9 in all the samples with the exception of a single sample with a pH of 5.29).

Water soluble sulphate concentrations of between 7.57mg/l and 233mg/l were recorded in the groundwater samples taken from the site and between 13 and 240mg/l were recorded within the soils.

In accordance with BRE Special Digest 1 (2005), the results indicate that the design sulphate class is DS-1 and the corresponding Aggressive Chemical Environment for Concrete (ACEC) class for the site is AC-1 (mobile groundwater conditions).

5.8 DRAINAGE

Soakage testing was undertaken in ten locations during this investigation to assess general soil infiltration rates. The soakaway tests were undertaken as follows:

- SA206, SA207 and SA210 undertaken within the Cornbrash Formation;
- SA202, SA203 and SA208 undertaken within the Kellaways Clay Member; and
- SA201, SA204, SA205 and SA209 undertaken within Kellaways Clay Member exposed on the side walls with Cornbrash Formation exposed at the base of the pit.

The soakaway tests were designed to be in accordance with BRE Digest 365 ‘Soakaway Design 2007. However, due to the low infiltration of the soils and therefore time constraints, the soakage tests were only carried out once at each trial pit location.

Within SA201, SA204 and SA207 infiltration rates between 1 and 5 x 10^{-5} m/s were achieved, albeit with only a single filling and emptying cycle.

The water within all the other trial pits did not drain within the available time constraints. For these trial pits it was not possible to assess the soil infiltration rates in accordance with the guidance in the BRE Digest as the fall in water level within the pits was not sufficient. However, this in itself is indicative of soils of low permeability.

The soakaway test results are presented within Section 4.5 of this report. However, based on the test results recorded, it is considered that the Kellaways Clay Member is not suitable for soakaway drainage.

The infiltration rates achieved indicate that the Cornbrash Formation are considered possible for the use of soakaways at the depths and locations of testing, although the test results obtained should be treated with caution as they are not fully compliant with BRE guidelines. Furthermore the shallow groundwater conditions encountered on-site may prohibit the use of soakaway drainage in this formation.

The soakaway tests results are presented in full in **Appendix K**.

6 CONTAMINATION ASSESSMENT

6.1 HUMAN HEALTH ASSESSMENT

6.1.1 Overview

The presence of contaminated materials on a site is generally only of concern if an actual or potentially unacceptable risk exists. Part IIA was introduced into the EPA by the Environment Act 1995. Part IIA, its accompanying regulations and Statutory Guidance contained in DEFRA Circular 01/2006 presented the statutory definition of "contaminated land". For the purposes of Part IIA, contaminated land is defined as: "any land which appears to the local authority in whose area it is situated to be in such a condition, by reason of substances in, on, or under the land that::

- Significant harm is being caused or there is a significant possibility of such harm being caused;
- Pollution of controlled waters is being, or is likely to be caused.

The Part IIA regime was designed and intended to encourage voluntary remediation rather than regulatory action and to work with the established role of planning and building control in those cases where the land is suitable for or scheduled for redevelopment.

DEFRA Circular 01/2006 makes clear that, where new development is taking place, it is the developer's responsibility to ensure that development is safe and suitable for use for the purpose for which it is intended and thus to carry out any necessary remediation. In most cases the enforcement of remediation requirements is therefore through planning conditions and building control rather than through a Remediation Notice under Part IIA. Planning Policy Statement 23 (PPS23) Annex 2, states that 'As a minimum, after carrying out the development and commencement of its use, the land should not be capable of being determined as contaminated land under Part IIA of the EPA 1990.'

A developer will need to satisfy the local authority that unacceptable risk from contamination will be successfully addressed through remediation without undue environmental impact during and following the development.

Legislation and guidance on the assessment of contaminated sites acknowledges the need for a tiered risk based approach. This report represents a Generic Quantitative Risk Assessment (GQRA) being a comparison of site contaminant levels against generic standards and compliance criteria including an assessment of risk using the source-pathway-receptor model.

The term pollutant linkage has been described in the Preliminary Conceptual Site Model (**Section 2.2.9**) above as has Source, Pathway and Receptors. Each of these three elements can exist independently, but they create a risk only where they are linked together, so that a particular contaminant affects a particular receptor through a particular pathway. Without a pollutant linkage, there is not a risk – even if a contaminant is present. Even where there is a pollutant linkage and therefore some measure of risk, the question still needs to be asked as to whether the level of risk justifies remediation. In the context of land contamination, 'risk' is a combination of the probability, or frequency, of occurrence of a defined hazard and the magnitude of the consequences of the occurrence.

Further details of the WSPE risk assessment approach are provided in **Appendix H**.

6.2 RISK ASSESSMENT COMPLETED WITHIN THIS REPORT

6.2.1 Compliance Criteria

The Environment Agency have produced a number of Soil Guideline Values (SGVs) and where these are not available and in order to provide a consistent methodology for the assessment of various contaminants a series of Generic Assessment Criteria (GAC) screening values have been calculated by WSPE. These values have been calculated using CLEA V1.06, a computer modelling tool designed to assess human health related risks presented by contaminated soil.

6.2.2 Analysis of Data

This report includes a Generic Quantitative Risk Assessment (GQRA) which is presented in the following sections. The assessment completed is based on the proposed development comprise of a number of residential units with associated areas of communal gardens and private gardens.

As such, assessment criteria representative of a residential with plant uptake end use have been utilised. In addition, no statistical analysis has been completed and recorded concentrations have been compared directly to relevant Generic Assessment Criteria (GAC).

6.3 ASSESSMENT OF THE ANALYTICAL RESULTS – HUMAN HEALTH

6.3.1 General

A number of exploratory holes from previous WSPE investigations are located within the vicinity of the site boundary. The following table shows the exploratory holes (and depths) from which contamination results have been included in to this assessment.

Table 6.1 Exploratory hole samples and depths from previous WSPE reports

WSPE Report Reference	
12370178/001 (July 2007)	**12370324/001 (December 2009)**
TP31 – 0.30 - 0.70m bgl	TP03 – 0.40m bgl
TP37 – 0.10m bgl	TP05 – 0.50 and 1.00m bgl
TP41 – 0.30 – 0.65m bgl	TP07 – 0.50m bgl
	TP30 – 0.40 and 0.80m bgl
	TP33 – 0.20 and 0.40m bgl
	TP36 – 1.00m bgl
	TP39 – 0.20 and 0.90m bgl
	TP40 – 1.00m bgl
	TP41 – 0.20 and 0.50m bgl
	TP42 – 0.90m bgl
	TP43 – 0.20 and 0.40m bgl
	TP44 – 0.40 and 0.80m bgl
	TP45 – 0.20 and 0.40m bgl

Seventy one samples of the shallow soils (typically <1.0m bgl), comprising one sample of Made Ground, seven samples of topsoil, one sample of possible alluvium, thirty eight samples of Kellaways Clay Member, twenty two samples of Cornbrash Formation and two samples of the Forest Marble Formation were analysed for a range of metal, inorganic and organic determinands.

6.3.2 Metals and Inorganics

The majority of the determinands recorded concentrations below the relevant GAC/SGV considering a residential with plant uptake end use.

However, several marginal exceedances of arsenic were identified across the site, which are presented in the following table.

Table 6.2 Exceedances of determinands above respective GAC/SGV

Sample	Depth (m bgl)	Stratum	Exceedance		Proposed End Use**
			Determinand	Concentration (mg/kg)	
TP206*	0.50	Kellaways Clay Member	Arsenic	57.20	Residential with gardens
TP224*	0.20	Topsoil / Kellaways Clay Member***	Arsenic	35.60	Residential with gardens/commercial
WS202*	1.50	Forest Marble Clay	Arsenic	33.60	Residential with gardens
WS204*	0.70	Cornbrash Formation	Arsenic	32.50	Residential with gardens
TP41*	0.20	Topsoil / Kellaways Clay Member***	Arsenic	38.00	Residential with gardens
TP41*	0.50	Cornbrash Formation	Arsenic	52.00	Residential with gardens
TP45*	0.20	Topsoil / Kellaways Clay Member***	Arsenic	36.00	Residential with gardens

Notes: * Residential (with gardens) end use GAC of 32mg/kg

** Proposed End Use is shown in the Exploratory Hole and Site Layout Plan in Figure 2 of Appendix A

*** 'Topsoil' is generally similar in composition to the Kellaways Clay Member indicating mixing with the underlying stratum

A detailed design plan has not been made available at the time of writing. However, the proposed land uses across the site are shown in the Site Layout and Exploratory Hole Plan in Figure 2 of **Appendix A**.

A number of exceedances of arsenic were encountered across the site. The majority of these were marginal when compared against the relevant residential with plant uptake end use GAC of 32mg/kg.

One exceedance within the Forest Marble Formation (WS202) was identified at 1.50m bgl. Given the depth to this sample and assuming current proposed site levels are not significantly altered in this area (in accordance with the Earthworks Strategy Cut and Fill plan presented within **Appendix A**), this marginal exceedance is not currently considered to pose a risk to human health.

Depending on the final layout of the proposed development, it is possible that the exceedance within TP224 at 0.20m may be located under a building footprint / associated car parking of the healthcare centre, therefore mitigating the Source-Pathway-Receptor linkage. However, it is anticipated that the topsoil within this location shall be stripped prior to redevelopment and this will need to be disposed of appropriately.

Based on the current site layout plan presented in Figure 2 of **Appendix A**, TP41 and TP45 are located within the boundary of the Primary School. At this stage, the final layout of the Primary School is not known. Should the exceedances be located within a building footprint/car parking, the Source-Pathway-receptor linkage would be broken, thus mitigating any risk. If the exceedances are located within an area of soft landscaping, excavation and appropriate disposal, capping and/or further testing may be required once the final masterplan layout is determined.

Samples from TP216, TP217 and WS206 contained slightly elevated levels of arsenic that exceeded the recommended level for residential with plant uptake end use. However, these exploratory holes are located in an area with a proposed commercial end use. Therefore, the relevant commercial GAC (640mg/kg) indicates that there are no exceedances within these samples provided that the proposed site layout does not change.

All the emaining elevated arsenic levels should be considered in terms of their specific locations in the final masterplan layout to determine whether they are within building footprints, under roading corridors or within residential gardens or landscaped areas. Any exceedances within residential or communal garden areas may require excavation and appropriate disposal, capping and/or further testing on a plot by plot basis once the final masterplan layout is determined.

6.3.3 Organics

None of the determinands recorded concentrations elevated above the relevant GAC/SGV considering a residential (with plant uptake) end use. In particular, no elevated levels of hydrocarbons were identified within the soils in the vicinity of the petrol station to the east of the site.

Copies of the analytical results are provided in **Appendix D** and an assessment table is provided in **Appendix F.**

6.4 CONTROLLED WATERS

6.4.1 General Approach

Nine groundwater samples were collected and analysed for a range of determinands.

The geology beneath the majority of the site (Kellaways Clay Member) is designated as an Unproductive strata (in accordance with the Environment Agency) and as such is not classified as a groundwater body and therefore not considered to be a sensitive receptor. In the context of the site environmental setting potential groundwater contaminant concentrations have been assessed in terms of potential risks to off-site surface water and deeper potentially more sensitive groundwater bodies (Cornbrash Formation and Forest Marble Formation)

6.4.2 Water Quality Standards (WQS)

Based on the 'prevent and limit' approach of the Water Framework Directive (2000/60/EC) and the identified receptors, the following Water Quality Standards (WQS) have been applied:

- UK Drinking Water Quality Standards 2000 (Amended 2004);
- Environmental Quality Standards (EQS). The River Basin Districts Typology, Standards and Groundwater Threshold Values (Water Framework Directive) (England and Wales) Directions 2010; and
- World Health Organisation (WHO) Petroleum Products in Drinking Water, 2008.

6.5 ASSESSMENT OF THE ANALYTICAL RESULTS – CONTROLLED WATERS

The majority of determinands recorded were below the relevant WQS. Several exceedances of Polycyclic Aromatic Hydrocarbons (PAH), namely benzo(a)pyrene were encountered at six locations (WS203, WS204, CP202, WS205, CP203 and WS209) across the site. Results ranged between 0.0171 to 0.0418µg/l. The highest concentrations were recorded within WS205 (0.0418µg/l), WS204 (0.0407µg/l), and CP202 (0.0369µg/l) within the south of the site. Marginally elevated levels of Total Petroleum Hydrocarbons (TPH) were also seen within WS201. However, the comparison criteria used are the more stringent drinking water standards and with the low permeability of the Kellaways Clay Member reducing vertical and lateral migration of groundwater it is considered that therefore the risk posed by such levels within groundwater is considered to be low.

Note that discussion should be sought with the local Environmental Health Officer and further monitoring and sampling within these areas may be required prior to redevelopment. It is considered that during construction any risks to construction can be mitigated by the use of appropriate PPE and on-site health and safety procedures.

6.6 ASSESSMENT OF GROUND GAS

6.6.1 General Approach

A ground gas assessment has been undertaken to assess potential risks associated with carbon dioxide and methane to future site users and to provide an initial view of the potential ground gas regime should future development be considered. The results obtained have been compared with relevant guidance that includes the following:

- Guidance on evaluation of development proposals on sites where methane and carbon dioxide are present, report edition No.: 04, NHBC, 2007;
- The Building Regulations 2006, Approved Document C, Section 2;
- Assessing Risks Posed by Hazardous Gases to Buildings, CIRIA Report C665, 2007;
- BS 8485: 2007. Code of practice for the characterisation and remediation from ground gas in affected developments;
- Landfill Gas, Waste Management Paper Number 27;
- Construction of new buildings on gas-contaminated land, BRE Report, 1991; and,
- Protecting Developments from Methane, CIRA 149 Report 1995.

The CIRIA C665 method uses both gas concentrations and borehole flow rates to define a characteristic situation for a site based on the limiting borehole gas volume flow for methane and carbon dioxide. The limiting borehole gas volume flow is now renamed as the gas screening value. Gas screening value (l of gas per hour) = borehole flow rate (l/h) x gas concentration (%). The calculation is carried out for both methane and carbon dioxide and the worse case value adopted.

6.6.2 Assessment of the Results – Ground Gas

Ground gas monitoring has been undertaken on three monitoring visits.

The results are presented in **Appendix G** and the following table provides a summary of the maximum concentrations observed:

Screened Strata	Maximum Methane (%)	Maximum Carbon Dioxide (%)	Maximum Oxygen (%)	Flow (l/hr)	Gas Screening Value
CP201	<0.1	<0.1	20.9	<0.1	-
CP202	<0.1	0.3	20.3	<0.1	-
CP203	<0.1	0.3	22.0	<0.1	-
CP204	<0.1	<0.1	22.9	<0.1	-
WS201	<0.1	0.1	20.8	-0.1	<0.07
WS202	<0.1	0.3	20.7	<0.1	-
WS203	<0.1	0.4	22.6	<0.1	-
WS204	<0.1	0.2	21.4	<0.1	-
WS205	<0.1	<0.1	21.5	<0.1	-
WS206	<0.1	0.1	20.2	<0.1	-
WS207	<0.1	0.2	23.2	<0.1	-
WS208	0.1	3.3	22.8	<0.1	-
WS209	<0.1	0.1	22.0	0.2	<0.07

WS210	<0.1	<0.1	21.0	<0.1	-
WS211	<0.1	<0.1	21.5	<0.1	-
WS212	<0.1	0.4	21.2	<0.1	-

No elevated concentrations of bulk ground gases were recorded during the monitoring rounds and on this basis the ground gas regimes have been characterised as follows:

- NHBC Guidance: Green; ground gas protection measures are not required.
- CIRIA: Very Low Risk (Characteristic Situation 1).

It should be noted that the monitoring rounds were completed during periods of relatively high atmospheric pressure and none of the data was collected during periods of falling atmospheric pressure, as recommended within the CIRIA guidance. As such there is minor uncertainty associated with the ground gas regime.

However, based on the three rounds of ground gas monitoring completed, and that no possible source has been identified during the desk study assessment the risks from ground gas on the proposed development are considered to be very low and reference to the relevant guidance documents indicates that no special precautions would be required.

7 REVISED CONCEPTUAL SITE MODEL

The following section provides a revised conceptual model for the site as a result of the Generic Assessment of the analytical results and their risk to Human Health and Controlled Water receptors.

7.1 CONTAMINANT SOURCES

Slightly elevated levels of arsenic were recorded within several shallow soil samples at the site.

Slightly elevated levels of benzo[a]pyrene were recorded with in groundwater samples.

7.2 MIGRATION PATHWAYS

Note that the presence of the unproductive aquifer reduces the potential for both lateral and vertical migration of the recorded elevated benzo[a]pyrene contaminant.

In addition to this the elevated levels of arsenic recorded of arsenic in the soil samples can be discounted under the commercial areas, under the building footprints, under the road pavement corridors and when they are in areas proposed to have levels raised by 0.5m or more with clean fill.

7.2.1 Discounted Pathways

The following pathways have been discounted:

- Ingress into potable water supply pipes.
- Migration via the underlying soils and groundwater.

7.2.2 Active Pathways

The following pathways are considered to be active:

- Dermal contact with soil and groundwater; and
- Ingestion of soil and dust.

7.3 RECEPTORS

Based on the available data there is considered to be a plausible linkage between contaminants in the soil beneath in the areas with a proposed residential end use and potential human end users. Risks posed to construction works can be mitigated by the use of appropriate PPE and health and safety procedures during the construction phase.

7.4 CONSIDERATIONS

Should the location of the commercial centre move or areas of cut and fill alter, guidance should be sought as to the excavation and disposal of the material appropriately. Where exceeded levels of arsenic are present in residential or communal gardens, the material should be excavated and disposed of at an appropriate registered waste acceptor or reused on-site as fill material with appropriate capping of 0.5m or more suitably clean fill capping layer.

Note that once the final development layout plans are determined, the elevated arsenic levels will require reappraising with regards to soft standing and residential garden areas.

8 CONCLUSIONS AND RECOMMENDATIONS

8.1 GROUND INVESTIGATION

The ground investigation was completed between 16th November and 23rd November 2010 and included the progression of four cable percussive boreholes, 12 dynamic (window) sampler boreholes and 34 trial pits (10 in which soakage tests were undertaken).

Laboratory testing was completed on soil and groundwater samples collected during the ground investigation for a range of chemical and geotechnical determinands. Post completion of the investigation, groundwater level, ground gas and volatile vapour monitoring has also been undertaken.

The ground conditions encountered in the exploratory holes are broadly consistent with the geological sequence as described by the British Geological Survey map and the previous investigations undertaken by WSPE and comprised Kellaways Clay Member overlying Cornbrash Formation over Forest Marble Formation. Some possible Alluvial / Head Deposits were encountered in the southwest portion of the site.

Groundwater was not encountered during the ground investigation but was recorded during post completion monitoring at depths between 0.31 and 2.18m bgl during the three return monitoring visits. The high groundwater encountered within some of the exploratory holes may be representative of the slow infiltration response through the Kellaways Clay Member after periods of prolonged heavy rainfall and surface water infiltration from the waterlogged nature of the ground.

8.2 LAND CONTAMINATION

8.2.1 Soil

Based on the current information, localised slightly elevated concentrations of arsenic identified within the soil at the site are considered to pose a potential risk to future site users where they fall within areas of soft standing and/or residential gardens. However, it is considered likely that risks to human health may be mitigated by ensuring that exceedances are either dug out and disposed of appropriately; placed elsewhere on-site under a clean capping layer of fill material at least 0.5m thick or left insitu but capped by a minimum of 0.5m of clean fill. Likewise, where areas are already proposed to be raised by 0.5m or more (current site levels to proposed site levels) as part of the redevelopment, this would form a suitable clean capping layer. Note that approved clean fill would need to be used to achieve this.

In addition to the above, once final design layout plans are available, the elevated arsenic levels should be re-appraised with regards to soft standing and/or residential garden areas. It may be deemed necessary to further assess residential garden areas on a plot by plot basis.

Remaining risks posed to construction works can be mitigated by the use of appropriate PPE and health and safety procedures during the construction phase.

8.2.2 Groundwater

Six water samples showed a marginal exceedances of Benzo(a)pyrene and further monitoring and sampling of these may be required prior to redevelopment depending on requirements from the local Environmental Health Officer. However, it is considered that the presence of the Kellaways Clay Member unproductive aquifer reduces the risk that the vertical and lateral migration of these contaminants in the groundwater.

It is considered that during the construction phase, site workers will not be in contact with the groundwater for a sufficient amount of time to pose a risk to human health. Any risks can be mitigated by the use of appropriate PPE and on-site health and safety procedures. Future site users are not likely to come into contact with groundwater.

8.3 GEOTECHNICAL

The geotechnical data within this report should be reviewed and a design investigation should be scoped and implemented in accordance with EC7 once development proposals are finalised and the column loads, tolerable settlements / ultimate limit state requirements of the structure are known a Geotechnical Design Report (GDR) should be produced in accordance with the Eurocodes for the site, if required.

8.3.1 Foundations

The subject site is underlain by a thin veneer of topsoil then generally underlain by soft to stiff Kellaways Clay Member which is occasionally granular in composition overlying the limestone of the Cornbrash Formation which has weathered top and is in turn underlain by soft to stiff clay becoming the mudstone of the Forest Marble Formation.

Spread foundations, if adopted, have to be taken below any waterlogged soft Kellaways Clay Member and bear on firm to stiff Kellaways Clay Member (if present) or through the completely to highly weathered Cornbrash Formation and into the weathered Cornbrash Formation.

In areas of the site where the base of the Kellaways Clay Member was found to be deeper (up to 2.5 m bgl) it is anticipated that the minimum foundation depth is anticipated to be 1.25m below existing ground levels and at this foundation depth, the Kellaways Clay Member would likely provide an allowable bearing capacity of 100kN/m^2 for standard spread foundations.

In areas were the base of the Kellaways Clay Member is either less than 1.5m bgl or not present, it is considered feasible that the foundations be taken down to bear on the hard Cornbrash Formation at a minimum depth of between 1.0 and 1.5m below original ground level (not directly on completely to highly weathered Cornbrash Formation).

With reference to the commercial centre shallow spread foundations may be more suitable depending on the structural load parameters and final design founding on the firm to stiff Kellaways Clay Member or the weathered Cornbrash Formation.

8.3.2 Ground Floor Construction

It is considered that, suspended floor slabs in the form of beam and block floors, traditionally used for modern housing will likely be suitable.

At this stage, it is possible that for the commercial centre use of the a ground floor bearing on the firm to stiff Kellaways Clay Member or weathered Cornbrash Formation would be suitable, provided that topsoil is stripped and any soft spots removed and replaced with suitable granular fill. However, this should be confirmed once structural load parameters and final design of the commercial centre has been determined.

8.3.3 Preliminary Pavement Design

It is recommended that a CBR value of 3% be adopted in the preliminary design of road pavements and parking areas constructed on the Kellaways Clay Member and weathered Cornbrash Formation. Pavements with subgrade in the structured rock of the Cornbrash Formation could be designed for a CBR of up to15%.

Further testing should be undertaken along the line of the road networks and during detailed design.

8.3.4 Material Re-Use Suitability

It is considered at this stage that materials may be reused on-site for development purposes. However, a formal earthworks specification is required to ensure appropriate material and placement controls are in place. This can either be done by method specification or end product specification in accordance with Design Manual for Roads and Bridges.

8.3.5 Buried Concrete

In accordance with BRE Special Digest 1 (2005), the majority of the results indicate that the design sulphate class is DS-1 and the corresponding Aggressive Chemical Environment for Concrete (ACEC) class for the site is AC-1 (mobile groundwater conditions).

8.3.6 Drainage

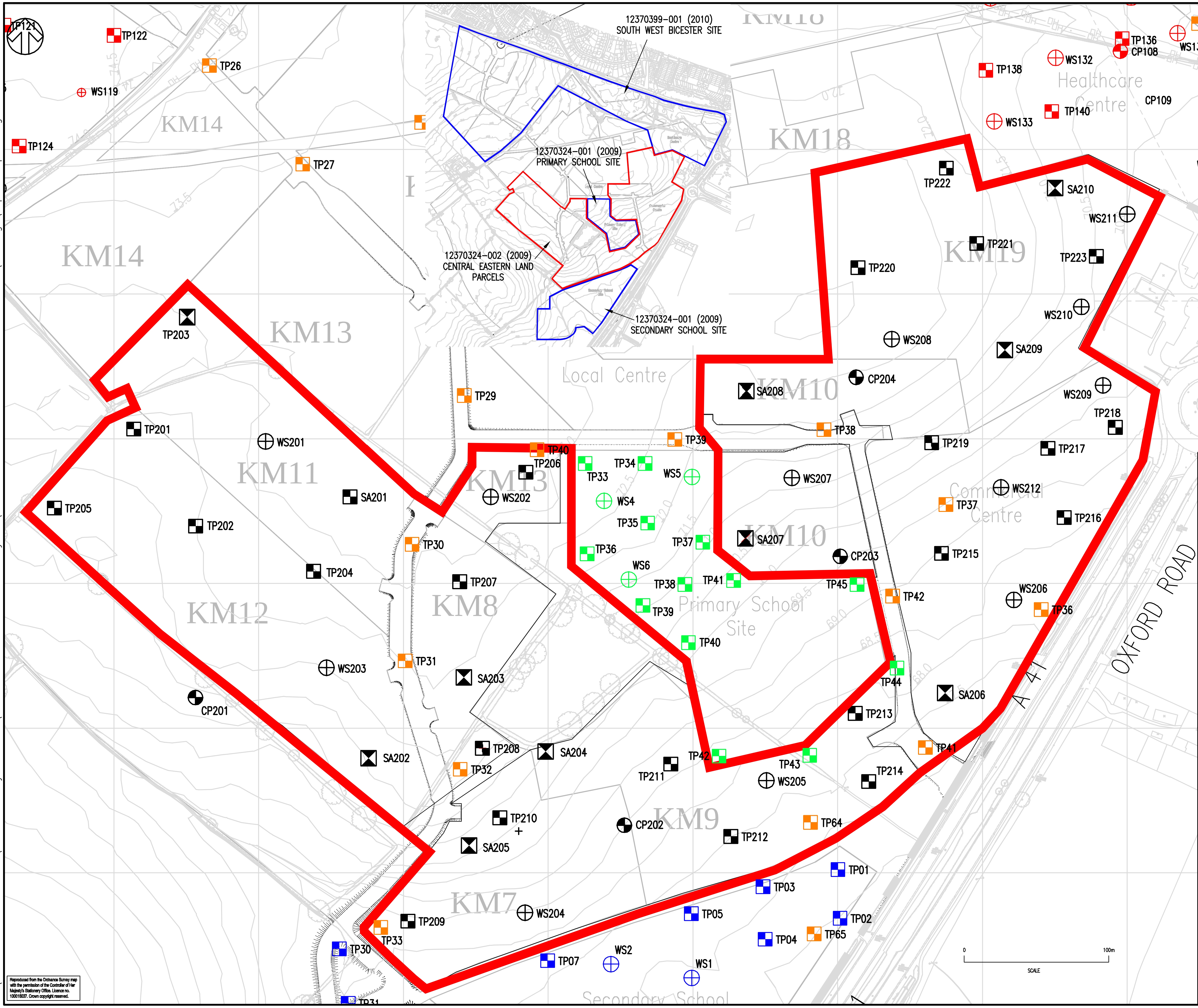
Based on the test results undertaken the Kellaways Clay Member is not a suitable for soakaway pits.

The infiltration rates achieved indicate that the Cornbrash Formation requires further assessment before finalising the suitability for soakaway drainage.

APPENDIX A FIGURES AND DEVELOPMENT SCHEMATICS


KEY
Site Boundary
M40
A4095
Lord's Ln
Southwold Ln
Banbury Rd
B4100
Buckingham Rd
Skimmingdish Ln
A4421
Howes Ln
B4030
Bicester
Manorsfield Rd
King's End
London Rd
Charbridge Ln
Gavray Dr
Oxford Rd
A41
Chesterton Golf And Country Club
Chesterton
0
1 km
Google
Imagery ©2011 DigitalGlobe, Infoterra Ltd & Bluesky, GeoEye, Getmapping plc, TerraMetrics, Map data ©2011 Tele Atlas, Google
WSP
TITLE
SITE LOCATION PLAN
FIGURE No
FIGURE 1

M:_SOIL & GROUNDWATER\Bids and Projects 1237\12370324 - Bicester - Countryside\002 - Bicester Central Eastern Land Parcels\Drawings\exp hole plan.dwg



12370399-001 (2010) SOUTH WEST BICESTER SITE
12370324-001 (2009) PRIMARY SCHOOL SITE
12370324-002 (2009) CENTRAL EASTERN LAND PARCELS
12370324-001 (2009) SECONDARY SCHOOL SITE
KM7
KM8
KM9
KM10
KM11
KM12
KM13
KM14
KM18
KM19
Local Centre
Commercial Centre
Healthcare Centre
Primary School Site
Secondary School
OXFORD ROAD
A 41
A 4421
KEY
SITE BOUNDARY
CURRENT INVESTIGATION
CABLE PERCUSSION BOREHOLE
WINDOW SAMPLE BOREHOLE
TRIAL PIT
SOAKAGE PIT
12370178-001 (2007) WHITELANDS FARM INITIAL INVESTIGATION
TRIAL PIT
12370324 -001 (2009) PRIMARY SCHOOL SITE
WINDOW SAMPLE BOREHOLE
TRIAL PIT
12370324-001 (2009) SECONDARY SCHOOL SITE
WINDOW SAMPLE BOREHOLE
TRIAL PIT
12370399-001 (2010) NORTHERN LAND PARCELS
CABLE PERCUSSION BOREHOLE
WINDOW SAMPLE BOREHOLE
TRIAL PIT
SCALE
0
100m

WSP

TITLE:

SITE LAYOUT AND EXPLORATORY HOLE LOCATION PLAN

FIGURE No:

FIGURE 2

POSSIBLE SOURCES

- Petrol Station (adjacent to the site)
- Made Ground (on-site)

POSSIBLE PATHWAYS

Human Health	Controlled Waters	Built Environment
• Migration onto site and inhalation of volatile vapours/ground gases • Direct contact with soil and groundwater; and • ingress into potable water supply pipes.	• Leaching onto groundwater and lateral migration; and • Migration of groundwater onto site	• Permeation in plastic pipes; and • Direct Contact with aggressive ground and/or groundwater

POSSIBLE RECEPTORS

- Future Site users (Residiential)
- Construction and Maintenance Staff
- Below ground services and supply pipes; and
- Building fabric and construction materials.

POSSIBLE POLLUTANT LINKAGES - Post Analysis

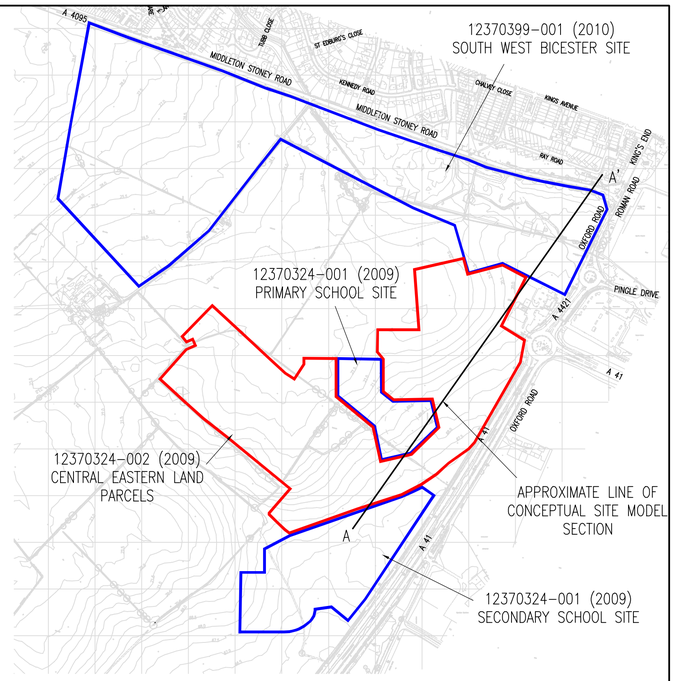
① Soil and groundwater testing of soils in the vicinity of the adjacent petrol station found no elevated levels of TPH contamination.

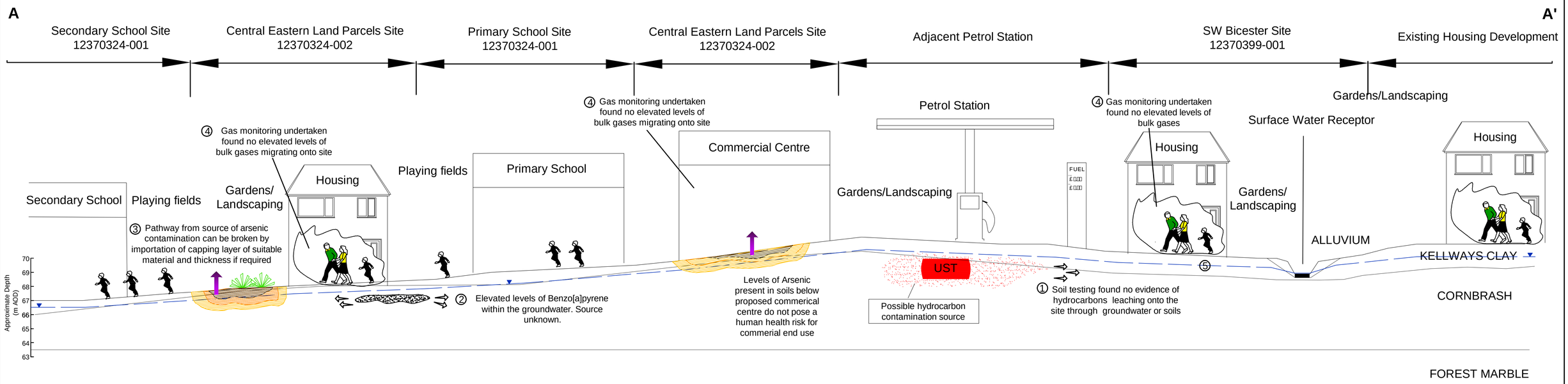
② Migration of groundwater contamination through to end users not likely, any risk posed to construction works mitigated by the use of PPE and on-site health and safety procedures.

③ The risk posed to human health posed by dermal contact/ingestion and/or inhalation of dust both containing slightly elevated levels of Arsenic can be mitigated by the use of a capping layer of suitable material and thickness within garden areas.

④ Gas monitoring undertaken on-site found no elevated levels of bulk gases migrating on to site.

⑤ Kellaways Clay Member mitigating extensive vertical and lateral migration of contaminants.





WSP

TITLE: CONCEPTUAL SITE MODEL

FIGURE No: FIGURE 3

M:_SOIL & GROUNDWATER\Bids and Projects 1237\12370324 - Bicester - Countryside\002 - Bicester Central Eastern Land Parcels\Drawings\CSM ex vert scale.dwg

APPENDIX B EXPLORATORY HOLE LOGS

WSP Environmental Ltd
Mountbatten House, Basing View
Basingstoke, Hampshire RG21 4HJ
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Fax: 01256 318700

BOREHOLE LOG

Hole No. **CP201**

Project: Whitelands Farm, South West Bicester, Oxford

Sheet: 1 of 1

Job No: 12370324-002

Client: Countryside Properties

Date: 17-11-10
17-11-10

Contractor / Driller	Method/Plant Used	Logged By	Co-Ordinates (NGR)	Ground Level (m AOD)
Hutson Drilling	150mm Diameter Light Cable Percussion	Ajq	E 0.000 N 0.000	

SAMPLES & TESTS							STRATA						Install / Backfill
Depth	Type	Test Result	PID (ppmV)	HSV (kN/m2)	P.Pen (kN/m2)	Water	Elev. (mAOD)	Depth (Thick-ness)	Description		Legend	Geology	Dia. 50 mm
0.00-0.40	B							(0.60)	Soft orange brown mottled grey CLAY with occasional rootlets. (KELLAWAYS CLAY MEMBER)			KLB	
0.20-0.20	D							0.60					
0.50-0.50	D												
0.60-1.10	B												
0.60	SPT	12,12 23,16,38 N=89(S)						(0.90)	Very weak orange brown and grey completely to highly weathered LIMESTONE recovered as very clayey subrounded fine to coarse gravel. (CORNBRASH FORMATION)			CB	
								1.50					
1.50-1.50	D												
1.60-2.00	B							(0.50)	Weak orange brown and grey highly weathered LIMESTONE recovered as slightly clayey very sandy gravel with occasional cobbles. Gravel is tabular angular to subangular fine to coarse. (CORNBRASH FORMATION)			CB	
1.60	SPT	37,60 N=60/ 0(S)						2.00					
2.00	SPT	60 N=60/ 0(S)							Borehole terminated due to a refusal at 2.0m				

Boring Progress

Date	Time	Depth	Casing Dpt	Dia. (mm)	Water Dpt

Chiselling

From	To	Hours	Tool
0.5	1.5	1	
1.5	2	1 30	

Water Added

From	To

Water Strikes

Date	Time	Strike	Minutes	Standing	Casing

General Remarks

Scale 1:62.5

Notes: All dimensions in metres. Logs should be read in accordance with the provided Key. Descriptions are based on visual and manual identification.

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BOREHOLE LOG

Hole No. **CP202**

Project: Whitelands Farm, South West Bicester, Oxford

Sheet: 1 of 1

Job No: 12370324-002

Client: Countryside Properties

Date: 16-11-10, 17-11-10

Contractor / Driller	Method/Plant Used	Logged By	Co-Ordinates (NGR)	Ground Level (m AOD)
Hutson Drilling	150mm Diameter Light Cable Percussion	Ajq	E 0.000 N 0.000	

SAMPLES & TESTS							STRATA					Install / Backfill
Depth	Type	Test Result	PID (ppmV)	HSV (kN/m2)	P.Pen (kN/m2)	Water	Elev. (mAOD)	Depth (Thick-ness)	Description	Legend	Geology	Dia. 50 mm
0.00-0.40	B							0.40	Firm orange brown slightly gravelly slightly sandy CLAY. (KELLAWAYS CLAY MEMBER)		KLB	
0.20-0.20	D											
0.50-0.90	B								Very weak orange brown and brown highly weathered LIMESTONE recovered as very clayey very sandy gravel with occasional cobbles. (CORNBRASH FORMATION)			
0.50-0.50	D											
1.00-1.50	B											
1.00-1.00	D							(1.80)			CB	
1.00	SPT	29,37 41 N=78/ 0.15(C)							1.70 Becoming grey			
1.70-2.20	B							2.20				
1.70-1.70	D											
1.70	SPT	23,21 47 N=68/ 0.15(C)						2.50	Strong grey moderately weathered LIMESTONE recovered as slightly clayey sandy cobbly gravel. (CORNBRASH FORMATION)		CB	
2.30-2.50	B								Borehole terminated at 2.5m due a refusal			
2.30-2.30	D											
2.30	SPT	60,60 N=60/ 0(C)										
2.50	SPT	60 N=60/ 0(C)										

Boring Progress

Date	Time	Depth	Casing Dpt	Dia. (mm)	Water Dpt

Water Strikes

Date	Time	Strike	Minutes	Standing	Casing

Chiselling

From	To	Hours	Tool
0.4	1.5	1	
1.5	2.2	1	
2.2	2.5	1 30	

Water Added

From	To

General Remarks

Scale 1:62.5

Notes: All dimensions in metres. Logs should be read in accordance with the provided Key. Descriptions are based on visual and manual identification.

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BOREHOLE LOG

Hole No. **CP203**

Project: Whitelands Farm, South West Bicester, Oxford

Sheet: 1 of 1

Job No: 12370324-002

Client: Countryside Properties

Date: 16-11-10
16-11-10

Contractor / Driller	Method/Plant Used	Logged By	Co-Ordinates (NGR)	Ground Level (m AOD)
Hutson Drilling	150mm Diameter Light Cable Percussion	Ajq	E 0.000 N 0.000	

SAMPLES & TESTS							STRATA					Install / Backfill
Depth	Type	Test Result	PID (ppmV)	HSV (kN/m2)	P.Pen (kN/m2)	Water	Elev. (mAOD)	Depth (Thick-ness)	Description	Legend	Geology	Dia. 50 mm
0.00-0.60	B							(0.70) 0.70	Firm orange brown mottled grey gravelly CLAY with occasional rootlets. Gravel is fine to medium. (KELLAWAYS CLAY MEMBER)		KLB	
0.70-1.00	B							(1.70) 2.40	Moderately orange brown and grey highly weathered LIMESTONE recovered as clayey, very sandy gravel (drilling induced). (CORNBRASH FORMATION) 1.60 - 2.00 Becoming very clayey very sandy gravel.		CB	
1.00-1.50	B											
1.00	SPT	37,21 12,11,18 N=62(C)										
1.60-2.10	B											
1.60	SPT	23,19 18,14,16 N=67(C)										
2.40-2.40	D											
2.50-3.00	B							(0.60) 3.00	Strong grey moderately weathered LIMESTONE recovered as gravel and cobbles. (CORNBRASH FORMATION)		CB	
2.50	SPT	50,60 N=60/ 0(C)										
3.00	SPT	60 N=60/ 0(C)							Borehole terminated at 3.0m due to refusal.			

Boring Progress

Date	Time	Depth	Casing Dpt	Dia. (mm)	Water Dpt

Chiselling

From	To	Hours	Tool
0.7	2.4	1	
2.4	3	1 30	

Water Added

From	To

Water Strikes

Date	Time	Strike	Minutes	Standing	Casing

General Remarks

Scale 1:62.5

Notes: All dimensions in metres. Logs should be read in accordance with the provided Key. Descriptions are based on visual and manual identification.

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BOREHOLE LOG

Hole No. **CP204**

Project: Whitelands Farm, South West Bicester, Oxford

Sheet: 1 of 1

Job No: 12370324-002

Client: Countryside Properties

Date: 18-11-10
18-11-10

Contractor / Driller	Method/Plant Used	Logged By	Co-Ordinates (NGR)	Ground Level (m AOD)
Hutson Drilling	150mm Diameter Light Cable Percussion	Ajq	E 0.000 N 0.000	

SAMPLES & TESTS							STRATA					Install / Backfill
Depth	Type	Test Result	PID (ppmV)	HSV (kN/m2)	P.Pen (kN/m2)	Water	Elev. (mAOD)	Depth (Thick-ness)	Description	Legend	Geology	Dia. 50 mm
								0.40	MADE GROUND: Fine to coarse gravel and cobbles of crushed brick and concrete (Haul Road)		MG	
0.40-0.90	B							(0.60)	Soft orange brown and grey slightly sandy slightly gravelly CLAY. Gravel is fine. (KELLAWAYS CLAY MEMBER)		KLB	
0.50-0.50	D							1.00				
1.00-1.00	D							(0.90)	Firm fissured grey mottled orange brown slightly gravelly CLAY. Gravel is fine to coarse. (KELLAWAYS CLAY MEMBER)		KLB	
1.10	SPT	5,3 3,4,4 N=14(S)						1.90				
1.90-1.90	D							(0.60)	Firm medium strength orange brown sandy CLAY. KELLAWAYS CLAY MEMBER)		CB	
2.00-2.50	B							2.50				
2.00-2.50	U100							2.70	Moderately weak grey orange brown highly weathered LIMESTONE recovered as clayey very sandy gravel. (CORNBRASH FORMATION)		CB	
2.50-2.70	B								Borehole terminated at 2.7m due to refusal.			
2.50-2.50	D											
2.60-2.60	D											
2.60	SPT	60 N=60/ 0.01(C)										
2.70	SPT	60 N=60/ 0(C)										

Boring Progress

Date	Time	Depth	Casing Dpt	Dia. (mm)	Water Dpt

Water Strikes

Date	Time	Strike	Minutes	Standing	Casing

Chiselling

From	To	Hours	Tool
0	0.4	30	
2.5	2.7	1 30	

Water Added

From	To

General Remarks

Scale 1:62.5

Notes: All dimensions in metres. Logs should be read in accordance with the provided Key. Descriptions are based on visual and manual identification.

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TRIAL PIT LOG

Hole No. **SA201**

Project: Whitelands Farm, South West Bicester, Oxford

Sheet: 1 of 1

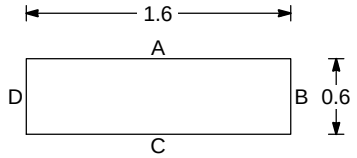
Job No: 12370324-002

Client: Countryside Properties

Date: 23-11-10
23-11-10

Contractor / Driller	Method/Plant Used	Logged By	Co-Ordinates (NGR)	Ground Level (m AOD)
	JCB 3CX	Ajq	E 0.000 N 0.000	

SAMPLES & TESTS						STRATA					Install / Backfill
Depth	Type	PID (ppmV)	HSV (kN/m2)	P.Pen (kN/m2)	Water	Elev. (mAOD)	Depth (Thick-ness)	Description	Legend	Geology	
							(0.30) 0.30	Soft grey brown slightly gravelly slightly sandy CLAY with rootlets. Gravel is subrounded fine to coarse. (TOPSOIL)		TS	
							(0.20) 0.50	Firm friable brown slightly gravelly slightly sandy CLAY. Gravel is fine to medium. Occasional orange brown sand lenses. (KELLAWAYS CLAY MEMBER)		KLB	
							(0.65) 1.15	Stiff fissured dark grey locally mottled orange brown fissured CLAY. (KELLAWAYS CLAY MEMBER)		KLB	
							1.20	Very weak dark orange brown completely weathered MUDSTONE. (CORNBRASH FORMATION)		CB	
							(0.30) 1.50	Moderately weak to strong orange brown highly weathered LIMESTONE recovered as clayey subrounded tabular fine to coarse gravel and cobbles. (CORNBRASH FORMATION)		CB	



Length: 1.60m

Width: 0.60m

Orientation: degrees from north

Shoring/Support:

Stability: Stable

Water Strikes

Date	Time	Strike	Minutes	Standing	Remarks

General Remarks
Soakaway test undertaken.
Trial pit backfilled with arisings on completion.

Scale 1:25

Notes: All dimensions in metres. Logs should be read in accordance with the provided Key. Descriptions are based on visual and manual identification.

08 WSP TP LOG STANDARD 12370324-002 WHITELANDS FARM SW BICESTER.GPJ WSPETEMPLATE1.03.GDT 24/2/11

WSP Environmental Ltd
Mountbatten House, Basing View
Basingstoke, Hampshire RG21 4HJ
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TRIAL PIT LOG

Hole No. **SA202**

Project: Whitelands Farm, South West Bicester, Oxford

Sheet: 1 of 1

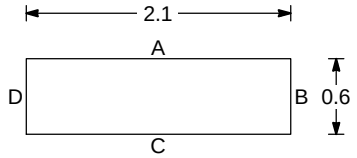
Job No: 12370324-002

Client: Countryside Properties

Date: 23-11-10
23-11-10

Contractor / Driller	Method/Plant Used	Logged By	Co-Ordinates (NGR)	Ground Level (m AOD)
	JCB 3CX	Ajq	E 0.000 N 0.000	

SAMPLES & TESTS						STRATA					Install / Backfill
Depth	Type	PID (ppmV)	HSV (kN/m2)	P.Pen (kN/m2)	Water	Elev. (mAOD)	Depth (Thick-ness)	Description	Legend	Geology	
							(0.30) 0.30	Soft grey brown slightly sandy slightly gravelly CLAY with rootlets. Gravel is subrounded fine to coarse. (TOPSOIL)		TS	
							(0.30) 0.60	Firm grey brown slightly sandy slightly gravelly CLAY. Gravel is fine to medium. Occasional orange brown sand lenses. (KELLAWAYS CLAY MEMBER)		KLB	
							(1.40) 2.00	Stiff fissured dark grey locally mottled orange brown CLAY with occasional white sand sized grains (possibly comminuted shells). (KELLAWAYS CLAY MEMBER)		KLB	
							(0.20) 2.20	Very weak dark orange brown completely weathered MUDSTONE. (KELLAWAYS CLAY MEMBER)		KLB	



Length: 2.10m

Width: 0.60m

Orientation: degrees from north

Shoring/Support:

Stability: Stable

Water Strikes

Date	Time	Strike	Minutes	Standing	Remarks

General Remarks
Soakaway test undertaken.
Trial pit backfilled with arisings on completion.

Scale 1:25

Notes: All dimensions in metres. Logs should be read in accordance with the provided Key. Descriptions are based on visual and manual identification.

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TRIAL PIT LOG

Hole No. **SA203**

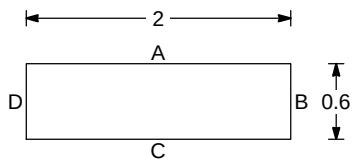
Project: Whitelands Farm, South West Bicester, Oxford

Sheet: 1 of 1

Job No	Client	Date
12370324-002	Countryside Properties	21-11-10 21-11-10

Contractor / Driller	Method/Plant Used	Logged By	Co-Ordinates (NGR)	Ground Level (m AOD)
	JCB 3CX	Ajq	E 0.000 N 0.000	

SAMPLES & TESTS						STRATA					Install / Backfill
Depth	Type	PID (ppmV)	HSV (kN/m2)	P.Pen (kN/m2)	Water	Elev. (mAOD)	Depth (Thick-ness)	Description	Legend	Geology	
							(0.20) 0.20	Soft grey brown slightly sandy slightly gravelly CLAY with rootlets. Gravel is subrounded fine to coarse. (TOPSOIL)		TS	
							(0.30) 0.50	Soft to firm grey brown slightly sandy slightly gravelly CLAY with occasional orange brown sand partings. Gravel is fine to medium. (KELLAWAYS CLAY MEMBER) 0.30 Pocket of sand and gravel		KLB	
							(2.00) 2.50	Firm to stiff fissured dark grey locally mottled orange brown CLAY with occasional shells and white sand sized grains (possibly comminuted shells). (KELLAWAYS CLAY MEMBER)		KLB	
							2.60	Very weak dark orange brown completely weathered MUDSTONE. (KELLAWAYS CLAY MEMBER)		KLB	
								Water seepage			



Length: 2.00m

Width: 0.60m

Orientation: degrees from north

Shoring/Support:

Stability: Stable

Water Strikes

Date	Time	Strike	Minutes	Standing	Remarks

General Remarks

Groundwater seepage at 2.6m.
Soakaway test undertaken.
Trial pit backfilled with arisings on completion.

Scale 1:25

Notes: All dimensions in metres. Logs should be read in accordance with the provided Key. Descriptions are based on visual and manual identification.

08 WSP TP LOG STANDARD 12370324-002 WHITELANDS FARM SW BICESTER.GPJ WSPETEMPLATE1.03.GDT 24/2/11

WSP Environmental Ltd
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Basingstoke, Hampshire RG21 4HJ
Telephone: 01256 318800
Fax: 01256 318700

TRIAL PIT LOG

Hole No. **SA204**

Project: Whitelands Farm, South West Bicester, Oxford

Sheet: 1 of 1

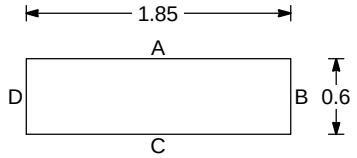
Job No: 12370324-002

Client: Countryside Properties

Date: 23-11-10
23-11-10

Contractor / Driller	Method/Plant Used	Logged By	Co-Ordinates (NGR)	Ground Level (m AOD)
	JCB 3CX	Ajq	E 0.000 N 0.000	

SAMPLES & TESTS					Water	STRATA					Install / Backfill
Depth	Type	PID (ppmV)	HSV (kN/m2)	P.Pen (kN/m2)		Elev. (mAOD)	Depth (Thick-ness)	Description	Legend	Geology	
							(0.20) 0.20	Soft grey brown slightly sandy slightly gravelly CLAY with rootlets. Gravel is subrounded fine to coarse gravel. (TOPSOIL)		TS	
							(0.30) 0.50	Firm brown slightly sandy CLAY with occasional rootlets. (KELLAWAYS CLAY MEMBER)		KLB	
							(0.80) 1.30	Stiff fissured dark grey locally mottled orange brown CLAY. (KELLAWAYS CLAY MEMBER) 1.00 Pockets of orange brown sand.		KLB	
							(0.20) 1.50	Verk weak dark orange brown completely weathered MUDSTONE. (KELLAWAYS CLAY MEMBER)		KLB	
							(0.20) 1.70	Moderately weak to strong orange brown highly weathered LIMESTONE recovered as clayey subrounded tabular fine to coarse gravel and cobbles. (CORNBRASH FORMATION)		CB	



Length: 1.85m

Width: 0.60m

Orientation: degrees from north

Shoring/Support:

Stability: Stable

Water Strikes

Date	Time	Strike	Minutes	Standing	Remarks

General Remarks
Soakaway test undertaken.
Trial pit backfilled with arisings on completion.

Scale 1:25

Notes: All dimensions in metres. Logs should be read in accordance with the provided Key. Descriptions are based on visual and manual identification.

WSP Environmental Ltd
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TRIAL PIT LOG

Hole No. **SA205**

Project: Whitelands Farm, South West Bicester, Oxford

Sheet: 1 of 1

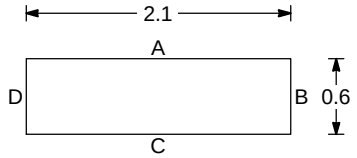
Job No: 12370324-002

Client: Countryside Properties

Date: 23-11-10
23-11-10

Contractor / Driller	Method/Plant Used	Logged By	Co-Ordinates (NGR)	Ground Level (m AOD)
	JCB 3CX	Ajq	E 0.000 N 0.000	

SAMPLES & TESTS						STRATA					Install / Backfill
Depth	Type	PID (ppmV)	HSV (kN/m2)	P.Pen (kN/m2)	Water	Elev. (mAOD)	Depth (Thick-ness)	Description	Legend	Geology	
							(0.30) 0.30	Soft grey brown slightly sandy slightly gravelly CLAY with rootlets. Gravel is subrounded fine to coarse.		TS	
							(0.40) 0.70	Firm grey brown mottled orange brown CLAY. (KELLAWAYS CLAY MEMBER)		KLB	
							(0.80) 1.50	Stiff fissured dark grey locally mottled orange brown CLAY with occasional shells and white sand sized grains (possibly comminuted shells). (KELLAWAYS CLAY MEMBER)		KLB	
							1.60	Very weak dark orange brown completely weathered MUDSTONE. (KELLAWAYS CLAY MEMBER)		KLB	
							(0.40) 2.00	Moderately weak to strong orange brown highly weathered LIMESTONE recovered as clayey subrounded tabular fine to coarse gravel and cobbles. (CORNBRASH FORMATION)		CB	



Length: 2.10m

Width: 0.60m

Orientation: degrees from north

Shoring/Support:

Stability: Stable

Water Strikes

Date	Time	Strike	Minutes	Standing	Remarks

General Remarks
Soakaway test undertaken.
Trial pit backfilled with arisings on completion.

Scale 1:25

Notes: All dimensions in metres. Logs should be read in accordance with the provided Key. Descriptions are based on visual and manual identification.

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TRIAL PIT LOG

Hole No. **SA206**

Project: Whitelands Farm, South West Bicester, Oxford

Sheet: 1 of 1

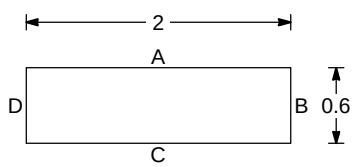
Job No: 12370324-002

Client: Countryside Properties

Date: 20-11-10
20-11-10

Contractor / Driller	Method/Plant Used	Logged By	Co-Ordinates (NGR)	Ground Level (m AOD)
	JCB 3CX	Ajq	E 0.000 N 0.000	

SAMPLES & TESTS						STRATA					Install / Backfill
Depth	Type	PID (ppmV)	HSV (kN/m2)	P.Pen (kN/m2)	Water	Elev. (mAOD)	Depth (Thick-ness)	Description	Legend	Geology	
							(0.25) 0.25	Soft grey brown slightly sandy slightly gravelly CLAY with rootlets. (TOPSOIL)		TS	
							(0.35) 0.60	Soft to firm orange brown slightly sandy slightly gravelly CLAY. Gravel is medium. (KELLAWAYS CLAY MEMBER)		KLB	
							(1.30) 1.90	Moderately weak to strong orange brown highly weathered LIMESTONE recovered as clayey subrounded tabular fine to coarse gravel and cobbles. (CORNBRASH FORMATION) 1.30 Orange brown mottled light grey sandy gravelly clay.		CB	



Length: 2.00m

Width: 0.60m

Orientation: degrees from north

Shoring/Support:

Stability: Stable

Water Strikes

Date	Time	Strike	Minutes	Standing	Remarks

General Remarks
Groundwater seepage at 1.9m.
Soakaway test undertaken.
Trial pit backfilled with arisings on completion.

Scale 1:25

Notes: All dimensions in metres. Logs should be read in accordance with the provided Key. Descriptions are based on visual and manual identification.

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TRIAL PIT LOG

Hole No. **SA207**

Project: Whitelands Farm, South West Bicester, Oxford

Sheet: 1 of 1

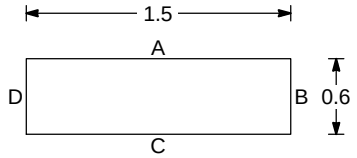
Job No: 12370324-002

Client: Countryside Properties

Date: 20-11-10
20-11-10

Contractor / Driller	Method/Plant Used	Logged By	Co-Ordinates (NGR)	Ground Level (m AOD)
	JCB 3CX	Ajq	E 0.000 N 0.000	

SAMPLES & TESTS						STRATA					
Depth	Type	PID (ppmV)	HSV (kN/m2)	P.Pen (kN/m2)	Water	Elev. (mAOD)	Depth (Thick-ness)	Description	Legend	Geology	Install / Backfill
							(0.20) 0.20	Soft grey brown slightly sandy slightly gravelly CLAY with rootlets. Gravel is subrounded fine to coarse. (TOPSOIL)		TS	
							(0.30) 0.50	Soft to firm grey brown slightly sandy slightly gravelly CLAY. Gravel is fine to medium. (KELLAWAYS CLAY MEMBER)		KLB	
							(0.85) 1.35	Moderately weak to strong orange brown highly weathered LIMESTONE recovered as clayey subrounded tabular fine to coarse gravel and cobbles. (CORNBRASH FORMATION)		CB	



Length: 1.50m

Width: 0.60m

Orientation: degrees from north

Shoring/Support:

Stability: Stable

Water Strikes

Date	Time	Strike	Minutes	Standing	Remarks

General Remarks
Soakaway test undertaken.
Trial pit backfilled with arisings on completion.

Scale 1:25

Notes: All dimensions in metres. Logs should be read in accordance with the provided Key. Descriptions are based on visual and manual identification.

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TRIAL PIT LOG

Hole No. **SA208**

Project: Whitelands Farm, South West Bicester, Oxford

Sheet: 1 of 1

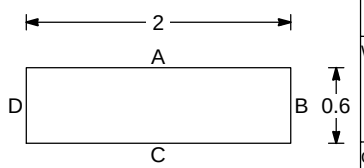
Job No: 12370324-002

Client: Countryside Properties

Date: 20-11-10
20-11-10

Contractor / Driller	Method/Plant Used	Logged By	Co-Ordinates (NGR)	Ground Level (m AOD)
	JCB 3CX	Ajq	E 0.000 N 0.000	

SAMPLES & TESTS					Water	STRATA					Install / Backfill
Depth	Type	PID (ppmV)	HSV (kN/m2)	P.Pen (kN/m2)		Elev. (mAOD)	Depth (Thick-ness)	Description	Legend	Geology	
							(0.20) 0.20	Soft grey brown slightly sandy slightly gravelly CLAY with rootlets. Gravel is subrounded fine to coarse. (TOPSOIL)		TS	
							(1.00) 1.20	Soft to firm grey brown slightly sandy slightly gravelly CLAY. Gravel is fine to medium. Occasional orange brown sand partings. (KELLAWAYS CLAY MEMBER) 0.70 Pocket of sand and gravel		KLB	
							(0.30) 1.50	Firm to stiff fissured dark grey locally mottled orange brown CLAY with occasional shells and white sand sized grains (possibly comminuted shells). (KELLAWAYS CLAY MEMBER)		KLB	
							1.60	Very weak dark orange brown completely weathered MUDSTONE. (KELLAWAYS CLAY MEMBER)		KLB	



Length: 2.00m

Width: 0.60m

Orientation: degrees from north

Shoring/Support:

Stability: Stable

Water Strikes

Date	Time	Strike	Minutes	Standing	Remarks

General Remarks
Soakaway test undertaken.
Trial pit backfilled with arisings on completion.

Scale 1:25

Notes: All dimensions in metres. Logs should be read in accordance with the provided Key. Descriptions are based on visual and manual identification.

08 WSP TP LOG STANDARD 12370324-002 WHITELANDS FARM SW BICESTER.GPJ WSPETEMPLATE1.03.GDT 24/2/11

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TRIAL PIT LOG

Hole No. **SA209**

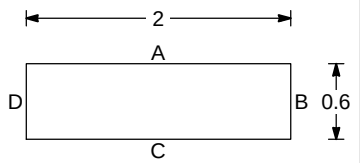
Project: Whitelands Farm, South West Bicester, Oxford

Sheet: 1 of 1

Job No	Client	Date
12370324-002	Countryside Properties	20-11-10 20-11-10

Contractor / Driller	Method/Plant Used	Logged By	Co-Ordinates (NGR)	Ground Level (m AOD)
	JCB 3CX	Ajq	E 0.000 N 0.000	

SAMPLES & TESTS						STRATA					
Depth	Type	PID (ppmV)	HSV (kN/m2)	P.Pen (kN/m2)	Water	Elev. (mAOD)	Depth (Thick-ness)	Description	Legend	Geology	Install / Backfill
							(0.20) 0.20	Soft grey brown slightly sandy slightly gravelly CLAY with rootlets. Gravel is subrounded fine to coarse subrounded. (TOPSOIL)		TS	
							(0.40) 0.60	Firm orange brown CLAY. (KELLAWAYS CLAY MEMBER)		KLB	
							(0.80) 1.40	Firm grey brown mottled orange brown CLAY with occasional lenses of fine sand. (KELLAWAYS CLAY MEMBER)		KLB	
							1.50	Very weak dark orange brown completely weathered MUDSTONE. (KELLAWAYS CLAY MEMBER)		KLB	
							1.60	Moderately weak to strong orange brown highly weathered LIMESTONE recovered as clayey subrounded tabular gravel and cobbles. (CORNBRASH FORMATION)		CB	



Length: 2.00m

Width: 0.60m

Orientation: degrees from north

Shoring/Support:

Stability: Stable

Water Strikes

Date	Time	Strike	Minutes	Standing	Remarks

General Remarks
Soakaway test undertaken.
Trial pit backfilled with arisings on completion.

Scale 1:25

Notes: All dimensions in metres. Logs should be read in accordance with the provided Key. Descriptions are based on visual and manual identification.

08 WSP TP LOG STANDARD 12370324-002 WHITELANDS FARM SW BICESTER.GPJ WSPETEMPLATE1.03.GDT 24/2/11

WSP Environmental Ltd
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TRIAL PIT LOG

Hole No. **SA210**

Project: Whitelands Farm, South West Bicester, Oxford

Sheet: 1 of 1

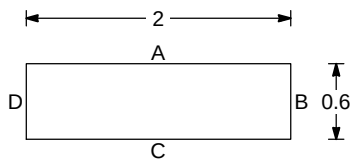
Job No: 12370324-002

Client: Countryside Properties

Date: 20-11-10
20-11-10

Contractor / Driller	Method/Plant Used	Logged By	Co-Ordinates (NGR)	Ground Level (m AOD)
	JCB 3CX	Ajq	E 0.000 N 0.000	

SAMPLES & TESTS					Water	STRATA					Install / Backfill
Depth	Type	PID (ppmV)	HSV (kN/m2)	P.Pen (kN/m2)		Elev. (mAOD)	Depth (Thick-ness)	Description	Legend	Geology	
							(0.20) 0.20	Firm grey brown slightly sandy slightly gravelly CLAY with occasional fine to coarse subrounded gravel and rootlets. (TOPSOIL)		TS	
							(0.50) 0.70	Soft to firm grey brown slightly sandy slightly gravelly CLAY. Gravel is fine to medium. (KELLAWAYS CLAY MEMBER)		KLB	
							(0.95) 1.65	Moderately weak to strong orange brown highly weathered LIMESTONE recovered as clayey subrounded tabular fine to coarse gravel and cobbles. (CORNBRASH FORMATION) 1.50 Becoming brown		CB	



Length: 2.00m

Width: 0.60m

Orientation: degrees from north

Shoring/Support:

Stability: Stable

Water Strikes

Date	Time	Strike	Minutes	Standing	Remarks

General Remarks
Soakaway test undertaken.
Trial pit backfilled with arisings on completion.

Scale 1:25

Notes: All dimensions in metres. Logs should be read in accordance with the provided Key. Descriptions are based on visual and manual identification.

08 WSP TP LOG STANDARD 12370324-002 WHITELANDS FARM SW BICESTER.GPJ WSPETEMPLATE1.03.GDT 24/2/11

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TRIAL PIT LOG

Hole No. **TP201**

Project: Whitelands Farm, South West Bicester, Oxford

Sheet: 1 of 1

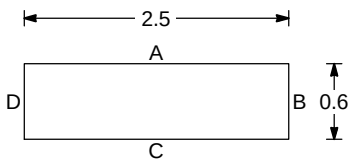
Job No: 12370324-002

Client: Countryside Properties

Date: 19-11-10
19-11-10

Contractor / Driller	Method/Plant Used	Logged By	Co-Ordinates (NGR)	Ground Level (m AOD)
	JCB 3CX	Ajq	E 0.000 N 0.000	

SAMPLES & TESTS						STRATA					
Depth	Type	PID (ppmV)	HSV (kN/m2)	P.Pen (kN/m2)	Water	Elev. (mAOD)	Depth (Thick-ness)	Description	Legend	Geology	Install / Backfill
							(0.20) 0.20	Soft grey brown slightly sandy slightly gravelly CLAY with rootlets. Gravel is subrounded fine to coarse. (TOPSOIL)		TS	
0.40-0.40	D						(0.40) 0.60	Soft to firm grey brown mottled orange brown slightly sandy slightly gravelly CLAY. Gravel is fine to medium. Occasional orange brown sand partings. (KELLAWAYS CLAY MEMBER)		KLB	
1.00-1.00 1.00-1.00 1.00-1.00	B D ES						(0.80) 1.40	Moderately weak to strong orange brown highly weathered LIMESTONE recovered as clayey subrounded tabular fine to coarse gravel and cobbles. (CORNBRASH FORMATION) 1.10 Becoming grey		CB	



Length: 2.50m

Width: 0.60m

Orientation: degrees from north

Shoring/Support:

Stability: Stable

Water Strikes

Date	Time	Strike	Minutes	Standing	Remarks

General Remarks
Trial Pit terminated on hard strata.
Trial pit backfilled with arisings on completion

Scale 1:25

Notes: All dimensions in metres. Logs should be read in accordance with the provided Key. Descriptions are based on visual and manual identification.

08 WSP TP LOG STANDARD 12370324-002 WHITELANDS FARM SW BICESTER.GPJ WSPETEMPLATE1.03.GDT 24/2/11

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TRIAL PIT LOG

Hole No. **TP202**

Project: Whitelands Farm, South West Bicester, Oxford

Sheet: 1 of 1

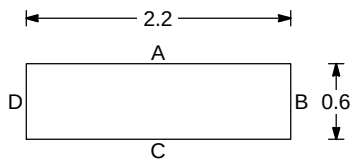
Job No: 12370324-002

Client: Countryside Properties

Date: 19-11-10
19-11-10

Contractor / Driller	Method/Plant Used	Logged By	Co-Ordinates (NGR)	Ground Level (m AOD)
	JCB 3CX	Ajq	E 0.000 N 0.000	

SAMPLES & TESTS						STRATA					Install / Backfill
Depth	Type	PID (ppmV)	HSV (kN/m2)	P.Pen (kN/m2)	Water	Elev. (mAOD)	Depth (Thick-ness)	Description	Legend	Geology	
							(0.20) 0.20	Soft grey brown slightly sandy slightly gravelly CLAY with rootlets. Gravel is subrounded fine to coarse. (TOPSOIL)		TS	
0.60-0.60	D						(0.90)	Firm to stiff grey brown slightly sandy slightly gravelly CLAY. Gravel is fine to medium. Occasional orange brown sand partings. (KELLAWAYS CLAY MEMBER)		KLB	
1.00-1.00 1.00-1.00 1.00-1.00	B D ES						1.10				
							(0.70)	Moderately weak to strong orange brown LIMESTONE recovered as clayey tabular fine to coarse subrounded gravel and cobbles. (CORNBRASH FORMATION)		CB	
1.80-1.80	D						1.80				



Length: 2.20m

Width: 0.60m

Orientation: degrees from north

Shoring/Support:

Stability: Stable

Water Strikes

Date	Time	Strike	Minutes	Standing	Remarks

General Remarks
Trial Pit terminated on hard strata.
Trial pit backfilled with arisings on completion

Scale 1:25

Notes: All dimensions in metres. Logs should be read in accordance with the provided Key. Descriptions are based on visual and manual identification.

08 WSP TP LOG STANDARD 12370324-002 WHITELANDS FARM SW BICESTER.GPJ WSPETEMPLATE1.03.GDT 24/2/11

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Basingstoke, Hampshire RG21 4HJ
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TRIAL PIT LOG

Hole No. **TP203**

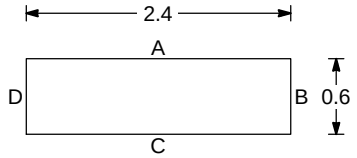
Project: Whitelands Farm, South West Bicester, Oxford

Sheet: 1 of 1

Job No	Client	Date
12370324-002	Countryside Properties	19-11-10 19-11-10

Contractor / Driller	Method/Plant Used	Logged By	Co-Ordinates (NGR)	Ground Level (m AOD)
	JCB 3CX	Ajq	E 0.000 N 0.000	

SAMPLES & TESTS						STRATA					
Depth	Type	PID (ppmV)	HSV (kN/m2)	P.Pen (kN/m2)	Water	Elev. (mAOD)	Depth (Thick-ness)	Description	Legend	Geology	Install / Backfill
							(0.30) 0.30	Soft grey brown slightly sandy slightly gravelly CLAY with rootlets. Gravel is subrounded fine to coarse. (TOPSOIL)		TS	
							(0.20) 0.50	Soft to firm grey brown mottled orange brown slightly sandy slightly gravelly CLAY. Gravel is fine to medium. Occasional orange brown sand partings. (KELLAWAYS CLAY MEMBER)		KLB	
0.50-0.50 0.50-0.50 0.50-0.50	B D ES						(0.30) 0.80	Grey brown clayey silty sandy GRAVEL. Gravel is fine to medium. (KELLAWAYS CLAY MEMBER)		KLB	
							(0.30) 1.10	Moderately weak to strong orange brown highly weathered LIMESTONE recovered as clayey subrounded tabular fine to coarse gravel and cobbles. (CORNBRASH FORMATION) 1.00 - 1.10 Becoming grey		CB	
1.00-1.00 1.00-1.00 1.00-1.00	B D ES						1.20	Strong orange brown highly to moderately weathered LIMESTONE recovered as clayey sandy gravel with occasional cobbles. Gravel subrounded tabular fine to coarse. (CORNBRASH FORMATION)		CB	



Length: 2.40m

Width: 0.60m

Orientation: degrees from north

Shoring/Support:

Stability: Stable

Water Strikes

Date	Time	Strike	Minutes	Standing	Remarks

General Remarks
Trial Pit terminated on hard strata.
Trial pit backfilled with arisings on completion

Scale 1:25

Notes: All dimensions in metres. Logs should be read in accordance with the provided Key. Descriptions are based on visual and manual identification.

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TRIAL PIT LOG

Hole No. **TP204**

Project: Whitelands Farm, South West Bicester, Oxford

Sheet: 1 of 1

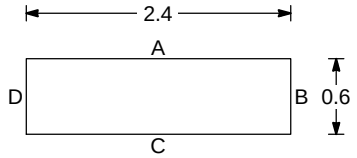
Job No: 12370324-002

Client: Countryside Properties

Date: 19-11-10
19-11-10

Contractor / Driller	Method/Plant Used	Logged By	Co-Ordinates (NGR)	Ground Level (m AOD)
	JCB 3CX	Ajq	E 0.000 N 0.000	

SAMPLES & TESTS						STRATA					Install / Backfill
Depth	Type	PID (ppmV)	HSV (kN/m2)	P.Pen (kN/m2)	Water	Elev. (mAOD)	Depth (Thick-ness)	Description	Legend	Geology	
							(0.20) 0.20	Soft grey brown slightly sandy slightly gravelly CLAY with rootlets. Gravel is subrounded fine to coarse. (TOPSOIL)		TS	
0.40-0.40	D						(0.30) 0.50	Soft to firm grey brown slightly sandy slightly gravelly CLAY. Gravel is fine to medium. Occasional orange brown sand lenses. (KELLAWAYS CLAY MEMBER)		KLB	
1.00-1.00 1.00-1.00 1.00-1.00	B D ES						(1.00)	Stiff fissured dark grey locally mottled orange brown CLAY with occasional shells and white sand sized grains (possibly comminuted shells). (KELLAWAYS CLAY MEMBER)		KLB	
							1.50				
							1.60	Very weak dark orange brown completely weathered MUDSTONE. (KELLAWAYS CLAY MEMBER)		KLB	
1.80-1.80	D						(0.20) 1.80	Moderately weak to strong orange brown highly weathered LIMESTONE recovered as clayey subrounded tabular fine to coarse gravel and cobbles. (CORNBRASH FORMATION)		CB	



Length: 2.40m

Width: 0.60m

Orientation: degrees from north

Shoring/Support:

Stability: Stable

Water Strikes

Date	Time	Strike	Minutes	Standing	Remarks

General Remarks
Trial Pit terminated on hard strata.
Trial pit backfilled with arisings on completion

Scale 1:25

Notes: All dimensions in metres. Logs should be read in accordance with the provided Key. Descriptions are based on visual and manual identification.

08 WSP TP LOG STANDARD 12370324-002 WHITELANDS FARM SW BICESTER.GPJ WSPETEMPLATE1.03.GDT 24/2/11

WSP Environmental Ltd
Mountbatten House, Basing View
Basingstoke, Hampshire RG21 4HJ
Telephone: 01256 318800
Fax: 01256 318700

TRIAL PIT LOG

Hole No. **TP205**

Project: Whitelands Farm, South West Bicester, Oxford

Sheet: 1 of 1

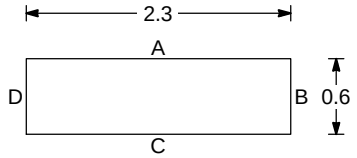
Job No: 12370324-002

Client: Countryside Properties

Date: 19-11-10
19-11-10

Contractor / Driller	Method/Plant Used	Logged By	Co-Ordinates (NGR)	Ground Level (m AOD)
	JCB 3CX	Ajq	E 0.000 N 0.000	

SAMPLES & TESTS						STRATA					
Depth	Type	PID (ppmV)	HSV (kN/m2)	P.Pen (kN/m2)	Water	Elev. (mAOD)	Depth (Thick-ness)	Description	Legend	Geology	Install / Backfill
							(0.30) 0.30	Soft grey brown slightly sandy slightly gravelly CLAY with rootlets. Gravel is subrounded fine to coarse. (TOPSOIL)		TS	
1.00-1.00 1.00-1.00 1.00-1.00	B D ES						(1.10) 1.40	Moderately weak to strong orange brown highly weathered LIMESTONE recovered as slightly clayey slightly sandy cobbly gravel. Gravel is subrounded tabular fine to coarse (CORNBRASH FORMATION) 1.10 Becoming grey		CB	
1.40-1.40	D										



Length: 2.30m

Width: 0.60m

Orientation: degrees from north

Shoring/Support:

Stability: Stable

Water Strikes

Date	Time	Strike	Minutes	Standing	Remarks

General Remarks
Trial Pit terminated on hard strata.
Trial pit backfilled with arisings on completion

Scale 1:25

Notes: All dimensions in metres. Logs should be read in accordance with the provided Key. Descriptions are based on visual and manual identification.

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TRIAL PIT LOG

Hole No. **TP206**

Project: Whitelands Farm, South West Bicester, Oxford

Sheet: 1 of 1

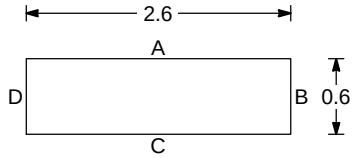
Job No: 12370324-002

Client: Countryside Properties

Date: 18-11-10
18-11-10

Contractor / Driller	Method/Plant Used	Logged By	Co-Ordinates (NGR)	Ground Level (m AOD)
	JCB 3CX	Ajq	E 0.000 N 0.000	

SAMPLES & TESTS						STRATA					Install / Backfill
Depth	Type	PID (ppmV)	HSV (kN/m2)	P.Pen (kN/m2)	Water	Elev. (mAOD)	Depth (Thick-ness)	Description	Legend	Geology	
							(0.30) 0.30	Soft grey brown slightly sandy slightly gravelly CLAY with rootlets. Gravel is subrounded fine to coarse. (TOPSOIL)		TS	
0.50-0.50 0.50-0.50	D ES						(0.40) 0.70	Orange brown fine to coarse SAND and subangular to subrounded fine to coarse GRAVEL. (KELLAWAYS CLAY MEMBER)			
1.00-1.00 1.00-1.00 1.00-1.00	B D ES						(1.20) 1.90	Stiff dark grey locally mottled orange brown fissured CLAY with occasional shells and white sand sized grains (possibly comminuted shells). Occasional roots. (KELLAWAYS CLAY MEMBER)		KLB	
2.00-2.00	D						2.00	Very weak dark orange brown completely weathered MUDSTONE. (KELLAWAYS CLAY MEMBER)		KLB	
								Orange brown LIMESTONE. No Recovery. (CORNBRASH FORMATION)		CB	



Length: 2.60m

Width: 0.60m

Orientation: degrees from north

Shoring/Support:

Stability: Stable

Water Strikes

Date	Time	Strike	Minutes	Standing	Remarks

General Remarks
Trial Pit terminated on hard strata.
Trial pit backfilled with arisings on completion

Scale 1:25

Notes: All dimensions in metres. Logs should be read in accordance with the provided Key. Descriptions are based on visual and manual identification.

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TRIAL PIT LOG

Hole No. **TP207**

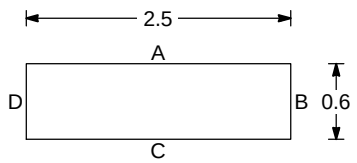
Project: Whitelands Farm, South West Bicester, Oxford

Sheet: 1 of 1

Job No	Client	Date
12370324-002	Countryside Properties	18-11-10 18-11-10

Contractor / Driller	Method/Plant Used	Logged By	Co-Ordinates (NGR)	Ground Level (m AOD)
	JCB 3CX	Ajq	E 0.000 N 0.000	

SAMPLES & TESTS						STRATA					Install / Backfill
Depth	Type	PID (ppmV)	HSV (kN/m2)	P.Pen (kN/m2)	Water	Elev. (mAOD)	Depth (Thick-ness)	Description	Legend	Geology	
							(0.30) 0.30	Soft grey brown slightly sandy slightly gravelly CLAY with rootlets. Gravel is subrounded fine to coarse. (TOPSOIL)		TS	
							(0.70) 1.00	Soft to firm grey brown slightly gravelly very silty CLAY. Gravel is fine to medium. Occasional orange brown sand lenses. (KELLAWAYS CLAY MEMBER)		KLB	
1.00-1.00 1.00-1.00 1.00-1.00	B D ES						(1.40) 2.40	Stiff dark grey locally mottled orange brown fissured sandy CLAY with occasional shells and white sand sized grains (possibly comminuted shells). (KELLAWAYS CLAY MEMBER)		KLB	
2.00-2.00 2.00-2.00	B ES										
2.30-2.30	D										
								Orange brown LIMESTONE. No Recovery. (CORNBRASH FORMATION)		CB	



Length: 2.50m

Width: 0.60m

Orientation: degrees from north

Shoring/Support:

Stability: Stable

Water Strikes

Date	Time	Strike	Minutes	Standing	Remarks

General Remarks
Trial Pit terminated on hard strata.
Trial pit backfilled with arisings on completion

Scale 1:25

Notes: All dimensions in metres. Logs should be read in accordance with the provided Key. Descriptions are based on visual and manual identification.

08 WSP TP LOG STANDARD 12370324-002 WHITELANDS FARM SW BICESTER.GPJ WSPETEMPLATE1.03.GDT 24/2/11

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TRIAL PIT LOG

Hole No. **TP208**

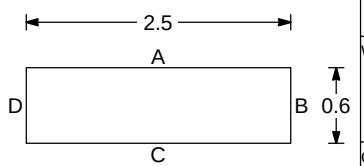
Project: Whitelands Farm, South West Bicester, Oxford

Sheet: 1 of 1

Job No	Client	Date
12370324-002	Countryside Properties	18-11-10 18-11-10

Contractor / Driller	Method/Plant Used	Logged By	Co-Ordinates (NGR)	Ground Level (m AOD)
	JCB 3CX	Ajq	E 0.000 N 0.000	

SAMPLES & TESTS						STRATA				
Depth	Type	PID (ppmV)	HSV (kN/m2)	P.Pen (kN/m2)	Water	Elev. (mAOD)	Depth (Thick-ness)	Description	Legend	Geology	Install / Backfill
							(0.30) 0.30	Soft grey brown slightly sandy slightly gravelly CLAY with rootlets. Gravel is subrounded fine to coarse. (TOPSOIL)		TS	
1.00-1.00 1.00-1.00 1.00-1.00	B D ES						(0.90) 1.20	Soft to firm grey brown slightly gravelly very silty CLAY. Gravel is fine to medium. Occasional orange brown sand lenses. (KELLAWAYS CLAY MEMBER)		KLB	
2.00-2.00 2.00-2.00 2.00-2.00	B D ES						(1.60) 2.80	Stiff fissured dark grey locally mottled orange brown CLAY with occasional shells and white sand sized grains (possibly comminuted shells). (KELLAWAYS CLAY MEMBER)		KLB	
2.80-2.80	D						2.85	Orange brown LIMESTONE. No Recovery. (CORNBRASH FORMATION)		CB	



Length: 2.50m

Width: 0.60m

Orientation: degrees from north

Shoring/Support:

Stability: Stable

Water Strikes

Date	Time	Strike	Minutes	Standing	Remarks

General Remarks

Trial Pit terminated on hard strata.
Trial pit backfilled with arisings on completion

Scale 1:25

Notes: All dimensions in metres. Logs should be read in accordance with the provided Key. Descriptions are based on visual and manual identification.

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TRIAL PIT LOG

Hole No. **TP209**

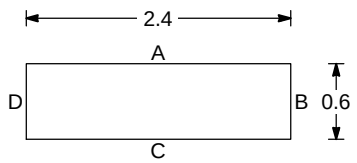
Project: Whitelands Farm, South West Bicester, Oxford

Sheet: 1 of 1

Job No	Client	Date
12370324-002	Countryside Properties	18-11-10 18-11-10

Contractor / Driller	Method/Plant Used	Logged By	Co-Ordinates (NGR)	Ground Level (m AOD)
	JCB 3CX	Ajq	E 0.000 N 0.000	

SAMPLES & TESTS						STRATA					
Depth	Type	PID (ppmV)	HSV (kN/m2)	P.Pen (kN/m2)	Water	Elev. (mAOD)	Depth (Thick-ness)	Description	Legend	Geology	Install / Backfill
							(0.35) 0.35	Soft grey brown slightly sandy slightly gravelly CLAY with rootlets. Gravel is subrounded fine to coarse. (TOPSOIL)		TS	
1.00-1.00 1.00-1.00 1.00-1.00	B D ES						(1.50) 1.85	Moderately weak to strong orange brown highly weathered LIMESTONE recovered as clayey subrounded tabular fine to coarse gravel and cobbles. (CORNBRASH FORMATION) 1.10 Becoming grey		CB	
1.80-1.80	D										



Length	Shoring/Support:
2.40m	
Width: 0.60m	Stability:
Orientation: degrees from north	Stable

Water Strikes

Date	Time	Strike	Minutes	Standing	Remarks

General Remarks
Trial Pit terminated on hard strata.
Trial pit backfilled with arisings on completion

Scale 1:25

Notes: All dimensions in metres. Logs should be read in accordance with the provided Key. Descriptions are based on visual and manual identification.

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TRIAL PIT LOG

Hole No. **TP210**

Project: Whitelands Farm, South West Bicester, Oxford

Sheet: 1 of 1

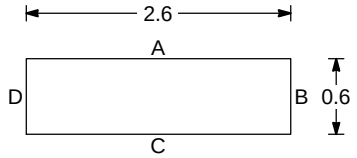
Job No: 12370324-002

Client: Countryside Properties

Date: 18-11-10
18-11-10

Contractor / Driller	Method/Plant Used	Logged By	Co-Ordinates (NGR)	Ground Level (m AOD)
	JCB 3CX	Ajq	E 0.000 N 0.000	

SAMPLES & TESTS						STRATA					Install / Backfill
Depth	Type	PID (ppmV)	HSV (kN/m2)	P.Pen (kN/m2)	Water	Elev. (mAOD)	Depth (Thick-ness)	Description	Legend	Geology	
							(0.20) 0.20	Soft grey brown slightly sandy slightly gravelly CLAY with rootlets. Gravel is subrounded fine to coarse. (TOPSOIL)		TS	
							(0.70) 0.90	Soft to firm grey brown very silty very gravelly CLAY. Gravel is fine to medium. Occasional orange brown sand pockets. (KELLAWAYS CLAY MEMBER)		KLB	
1.00-1.00 1.00-1.00 1.00-1.00	B D ES						(0.90) 1.80	Dark grey locally mottled orange brown sandy very clayey SILT with occasional shells and white sand sized grains (possibly comminuted shells). (KELLAWAYS CLAY MEMBER)		KLB	
1.85-1.85	D						1.90	Very weak dark orange brown completely weathered MUDSTONE. (KELLAWAYS CLAY MEMBER)		KLB	
								Hard LIMESTONE. No recovery. (CORNBRASH FORMATION)		CB	



Length: 2.60m

Width: 0.60m

Orientation: degrees from north

Shoring/Support:

Stability: Stable

Water Strikes

Date	Time	Strike	Minutes	Standing	Remarks

General Remarks
Trial Pit terminated on hard strata.
Trial pit backfilled with arisings on completion

Scale 1:25

Notes: All dimensions in metres. Logs should be read in accordance with the provided Key. Descriptions are based on visual and manual identification.

08 WSP TP LOG STANDARD 12370324-002 WHITELANDS FARM SW BICESTER.GPJ WSPETEMPLATE1.03.GDT 24/2/11

WSP Environmental Ltd
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TRIAL PIT LOG

Hole No. **TP211**

Project: Whitelands Farm, South West Bicester, Oxford

Sheet: 1 of 1

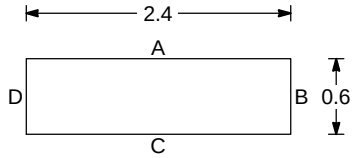
Job No: 12370324-002

Client: Countryside Properties

Date: 18-11-10
18-11-10

Contractor / Driller	Method/Plant Used	Logged By	Co-Ordinates (NGR)	Ground Level (m AOD)
	JCB 3CX	Ajq	E 0.000 N 0.000	

SAMPLES & TESTS						STRATA					
Depth	Type	PID (ppmV)	HSV (kN/m2)	P.Pen (kN/m2)	Water	Elev. (mAOD)	Depth (Thick-ness)	Description	Legend	Geology	Install / Backfill
							0.15	Possible MADE GROUND: Firm friable grey brown mottled orange brown very silty CLAY.		MG	
1.00-1.00 1.00-1.00 1.00-1.00	B D ES						(1.15)	Moderately weak to strong orange brown highly weathered LIMESTONE recovered as clayey sandy subrounded tabular fine to coarse gravel with occasional cobbles. (CORNBRASH MEMBER) 0.60 Becoming grey		CB	
							1.30	Strong orange brown highly to moderately weathered LIMESTONE. (CORNBRASH FORMATION)		CB	



Length: 2.40m

Width: 0.60m

Orientation: degrees from north

Shoring/Support:

Stability: Stable

Water Strikes

Date	Time	Strike	Minutes	Standing	Remarks

General Remarks
Trial Pit terminated on hard strata.
Trial pit backfilled with arisings on completion

Scale 1:25

Notes: All dimensions in metres. Logs should be read in accordance with the provided Key. Descriptions are based on visual and manual identification.

08 WSP TP LOG STANDARD 12370324-002 WHITELANDS FARM SW BICESTER.GPJ WSPETEMPLATE1.03.GDT 24/2/11

WSP Environmental Ltd
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TRIAL PIT LOG

Hole No. **TP212**

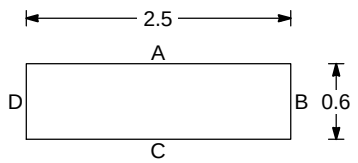
Project: Whitelands Farm, South West Bicester, Oxford

Sheet: 1 of 1

Job No	Client	Date
12370324-002	Countryside Properties	18-11-10 18-11-10

Contractor / Driller	Method/Plant Used	Logged By	Co-Ordinates (NGR)	Ground Level (m AOD)
	JCB 3CX	Ajq	E 0.000 N 0.000	

SAMPLES & TESTS						STRATA					
Depth	Type	PID (ppmV)	HSV (kN/m2)	P.Pen (kN/m2)	Water	Elev. (mAOD)	Depth (Thick-ness)	Description	Legend	Geology	Install / Backfill
							0.15	MADE GROUND: Reworked soft grey brown slightly sandy slightly gravelly CLAY. Gravel is fine to coarse of concrete.		MG	
1.00-1.00 1.00-1.00 1.00-1.00	B D ES						(1.35)	Weak orange brown highly weathered LIMESTONE recovered as subrounded slightly clayey silty sandy fine to coarse gravel with occasional cobbles. (CORNBRASH FORMATION)		CB	
							1.50				
							1.60	Strong orange brown highly to moderately weathered LIMESTONE. (CORNBRASH FORMATION)		CB	



Length: 2.50m

Width: 0.60m

Orientation: degrees from north

Shoring/Support:

Stability: Stable

Water Strikes

Date	Time	Strike	Minutes	Standing	Remarks

General Remarks

Trial Pit terminated on hard strata.
Trial pit backfilled with arisings on completion
Excavated in area of stockpiles

Scale 1:25

Notes: All dimensions in metres. Logs should be read in accordance with the provided Key. Descriptions are based on visual and manual identification.

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TRIAL PIT LOG

Hole No. **TP213**

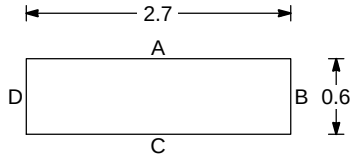
Project: Whitelands Farm, South West Bicester, Oxford

Sheet: 1 of 1

Job No	Client	Date
12370324-002	Countryside Properties	18-11-10 18-11-10

Contractor / Driller	Method/Plant Used	Logged By	Co-Ordinates (NGR)	Ground Level (m AOD)
	JCB 3CX	Ajq	E 0.000 N 0.000	

SAMPLES & TESTS						STRATA					Install / Backfill
Depth	Type	PID (ppmV)	HSV (kN/m2)	P.Pen (kN/m2)	Water	Elev. (mAOD)	Depth (Thick-ness)	Description	Legend	Geology	
							(0.25) 0.25	Soft grey brown slightly sandy slightly gravelly CLAY with rootlets. Gravel is subrounded fine to coarse. (TOPSOIL)		TS	
							(0.45) 0.70	Firm grey slightly gravelly very silty CLAY. Gravel is fine to medium. (KELLAWAYS CLAY MEMBER)		KLB	
0.50-0.50	D										
1.00-1.00 1.00-1.00 1.00-1.00	B D ES						(1.00) 1.70	Orange brown slightly clayey silty very sandy subangular to subrounded fine to coarse GRAVEL. Sand is fine to coarse. (Possible HEAD/ALLUVIUM)		HD	
1.60-1.60	D										
							1.80	Strong orange brown highly to moderately weathered LIMESTONE. (CORNBRASH FORMATION)		CB	



Length: 2.70m

Width: 0.60m

Orientation: degrees from north

Shoring/Support:

Stability: Unstable

Water Strikes

Date	Time	Strike	Minutes	Standing	Remarks

General Remarks

Groundwater inflow at 1.7m.
Trial pit unstable below 0.7m.
Trial Pit terminated on hard strata.
Trial pit backfilled with arisings on completion

Scale 1:25

Notes: All dimensions in metres. Logs should be read in accordance with the provided Key. Descriptions are based on visual and manual identification.

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TRIAL PIT LOG

Hole No. **TP214**

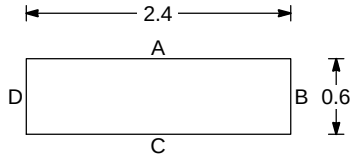
Project: Whitelands Farm, South West Bicester, Oxford

Sheet: 1 of 1

Job No	Client	Date
12370324-002	Countryside Properties	18-11-10 18-11-10

Contractor / Driller	Method/Plant Used	Logged By	Co-Ordinates (NGR)	Ground Level (m AOD)
	JCB 3CX	Ajq	E 0.000 N 0.000	

SAMPLES & TESTS						STRATA					
Depth	Type	PID (ppmV)	HSV (kN/m2)	P.Pen (kN/m2)	Water	Elev. (mAOD)	Depth (Thick-ness)	Description	Legend	Geology	Install / Backfill
							(0.50) 0.50	Firm friable brown slightly sandy CLAY. (KELLAWAYS CLAY MEMBER)		KLB	
1.00-1.00 1.00-1.00 1.00-1.00	B D ES						(0.80) 1.30	Orange brown slightly clayey very sandy subangular to subrounded fine to coarse GRAVEL. Sand is fine to coarse. (Possible HEAD/ALLUVIUM)		HD	
							(0.20) 1.50	Strong orange brown highly to moderately weathered LIMESTONE recovered as fine to coarse gravel and cobbles. (CORNBRASH FORMATION)		CB	



Length	Shoring/Support:
2.40m	
Width 0.60m	**Stability:** Stable
Orientation degrees from north	

Water Strikes

Date	Time	Strike	Minutes	Standing	Remarks

General Remarks
Trial Pit terminated on hard strata.
Trial pit backfilled with arisings on completion

Scale 1:25

Notes: All dimensions in metres. Logs should be read in accordance with the provided Key. Descriptions are based on visual and manual identification.

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TRIAL PIT LOG

Hole No. **TP215**

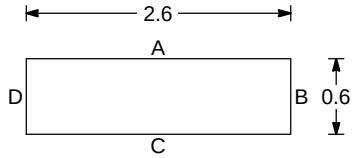
Project: Whitelands Farm, South West Bicester, Oxford

Sheet: 1 of 1

Job No	Client	Date
12370324-002	Countryside Properties	18-11-10 18-11-10

Contractor / Driller	Method/Plant Used	Logged By	Co-Ordinates (NGR)	Ground Level (m AOD)
	JCB 3CX	Ajq	E 0.000 N 0.000	

SAMPLES & TESTS						STRATA					
Depth	Type	PID (ppmV)	HSV (kN/m2)	P.Pen (kN/m2)	Water	Elev. (mAOD)	Depth (Thick-ness)	Description	Legend	Geology	Install / Backfill
							(0.30) 0.30	Soft grey brown slightly sandy slightly gravelly CLAY with rootlets. Gravel is subrounded fine to coarse. (TOPSOIL)		TS	
0.70-0.70 0.70-0.70	D ES						(0.70) 1.00	Very weak orange brown completely to highly weathered LIMESTONE recovered as clayey subrounded fine to coarse gravel and occasional shell fragments. (CORNBRASH FORMATION)		CB	



Length: 2.60m

Width: 0.60m

Orientation: degrees from north

Shoring/Support:

Stability: Stable

Water Strikes

Date	Time	Strike	Minutes	Standing	Remarks

General Remarks
Trial Pit terminated on hard strata.
Trial pit backfilled with arisings on completion

Scale 1:25

Notes: All dimensions in metres. Logs should be read in accordance with the provided Key. Descriptions are based on visual and manual identification.

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TRIAL PIT LOG

Hole No. **TP216**

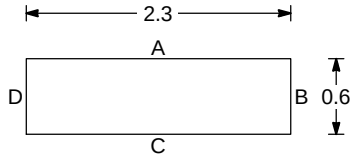
Project: Whitelands Farm, South West Bicester, Oxford

Sheet: 1 of 1

Job No	Client	Date
12370324-002	Countryside Properties	17-11-10 17-11-10

Contractor / Driller	Method/Plant Used	Logged By	Co-Ordinates (NGR)	Ground Level (m AOD)
	JCB 3CX	Ajq	E 0.000 N 0.000	

SAMPLES & TESTS						STRATA					Install / Backfill
Depth	Type	PID (ppmV)	HSV (kN/m2)	P.Pen (kN/m2)	Water	Elev. (mAOD)	Depth (Thick-ness)	Description	Legend	Geology	
							(0.20) 0.20	Soft grey brown slightly sandy slightly gravelly CLAY with rootlets. Gravel is subrounded fine to coarse. (TOPSOIL)		TS	
							(0.30) 0.50	Firm red brown CLAY. (KELLAWAYS CLAY MEMBER)		KLB	
0.40-0.40	B										
0.40-0.40	D										
0.40-0.40	ES										
							(0.20) 0.70	Weak orange brown highly weathered LIMESTONE recovered as subrounded fine to coarse gravel and cobbles. (CORNBRASH FORMATION)		CB	
0.70-0.70	D										



Length: 2.30m

Width: 0.60m

Orientation: degrees from north

Shoring/Support:

Stability: Stable

Water Strikes

Date	Time	Strike	Minutes	Standing	Remarks

General Remarks
Trial Pit terminated on hard strata.
Trial pit backfilled with arisings on completion

Scale 1:25

Notes: All dimensions in metres. Logs should be read in accordance with the provided Key. Descriptions are based on visual and manual identification.

08 WSP TP LOG STANDARD 12370324-002 WHITELANDS FARM SW BICESTER.GPJ WSPETEMPLATE1.03.GDT 24/2/11

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TRIAL PIT LOG

Hole No. **TP217**

Project: Whitelands Farm, South West Bicester, Oxford

Sheet: 1 of 1

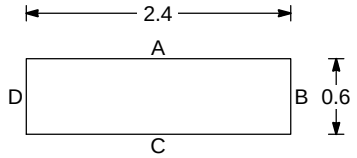
Job No: 12370324-002

Client: Countryside Properties

Date: 17-11-10
17-11-10

Contractor / Driller	Method/Plant Used	Logged By	Co-Ordinates (NGR)	Ground Level (m AOD)
	JCB 3CX	Ajq	E 0.000 N 0.000	

SAMPLES & TESTS						STRATA					Install / Backfill
Depth	Type	PID (ppmV)	HSV (kN/m2)	P.Pen (kN/m2)	Water	Elev. (mAOD)	Depth (Thick-ness)	Description	Legend	Geology	
							(0.25) 0.25	Soft grey brown slightly sandy slightly gravelly CLAY with rootlets. Gravel is subrounded fine to coarse. (TOPSOIL)		TS	
							(0.25) 0.50	Firm friable grey brown mottled orange brown very silty CLAY. (KELLAWAYS CLAY MEMBER)		KLB	
0.40-0.40 0.40-0.40 0.40-0.40	B D ES						(1.00)	Very weak orange brown completely to highly weathered LIMESTONE recovered as clayey subrounded fine to coarse gravel. (CORNBRASH FORMATION)		CB	
1.40-1.40	D						1.50				



Length: 2.40m

Width: 0.60m

Orientation: degrees from north

Shoring/Support:

Stability: Stable

Water Strikes

Date	Time	Strike	Minutes	Standing	Remarks

General Remarks
Trial Pit terminated on hard strata.
Trial pit backfilled with arisings on completion

Scale 1:25

Notes: All dimensions in metres. Logs should be read in accordance with the provided Key. Descriptions are based on visual and manual identification.

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TRIAL PIT LOG

Hole No. **TP218**

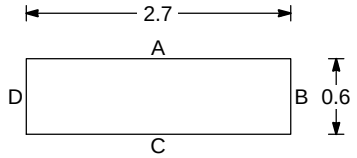
Project: Whitelands Farm, South West Bicester, Oxford

Sheet: 1 of 1

Job No	Client	Date
12370324-002	Countryside Properties	17-11-10 17-11-10

Contractor / Driller	Method/Plant Used	Logged By	Co-Ordinates (NGR)	Ground Level (m AOD)
	JCB 3CX	Ajq	E 0.000 N 0.000	

SAMPLES & TESTS						STRATA					
Depth	Type	PID (ppmV)	HSV (kN/m2)	P.Pen (kN/m2)	Water	Elev. (mAOD)	Depth (Thick-ness)	Description	Legend	Geology	Install / Backfill
							(0.30) 0.30	Soft grey brown slightly sandy slightly gravelly CLAY with rootlets. Gravel is subrounded fine to coarse. (TOPSOIL)		TS	
0.60-0.60 0.60-0.60 0.60-0.60	B D ES						(0.60) 0.90	Firm grey slightly gravelly very silty CLAY. Gravel is fine to medium. Occasional orange brown sand pockets. (KELLAWAYS CLAY MEMBER)		KLB	
							1.00	Very weak dark orange brown completely weathered MUDSTONE. (KELLAWAYS CLAY MEMBER)		KLB	
							(0.30) 1.30	Weak orange brown highly weathered LIMESTONE recovered as subrounded fine to coarse gravel and cobbles. (CORNBRASH FORMATION)		CB	
1.30-1.30	D										



Length	Shoring/Support:
2.70m	
Width	
0.60m	**Stability:**
Orientation	
degrees from north	Stable

Water Strikes

Date	Time	Strike	Minutes	Standing	Remarks

General Remarks
Trial Pit terminated on hard strata.
Trial pit backfilled with arisings on completion

Scale 1:25

Notes: All dimensions in metres. Logs should be read in accordance with the provided Key. Descriptions are based on visual and manual identification.

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TRIAL PIT LOG

Hole No. **TP219**

Project: Whitelands Farm, South West Bicester, Oxford

Sheet: 1 of 1

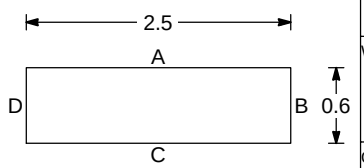
Job No: 12370324-002

Client: Countryside Properties

Date: 17-11-10
17-11-10

Contractor / Driller	Method/Plant Used	Logged By	Co-Ordinates (NGR)	Ground Level (m AOD)
	JCB 3CX	Ajq	E 0.000 N 0.000	

SAMPLES & TESTS						STRATA					Install / Backfill
Depth	Type	PID (ppmV)	HSV (kN/m2)	P.Pen (kN/m2)	Water	Elev. (mAOD)	Depth (Thick-ness)	Description	Legend	Geology	
							(0.80) 0.80	Firm to stiff grey slightly gravelly very silty CLAY. Gravel is fine to medium. Occasional orange brown sand pockets. (KELLAWAYS CLAY MEMBER)		KLB	
0.60-0.60 0.60-0.60 0.60-0.60	B D ES						(0.20) 1.00	Very weak dark orange brown completely weathered MUDSTONE. (KELLAWAYS CLAY MEMBER)		KLB	
							(0.40) 1.40	Weak orange brown highly weathered LIMESTONE recovered as subrounded fine to coarse gravel and cobbles. (CORNBRASH FORMATION)		CB	
1.40-1.40	D										



Length: 2.50m

Width: 0.60m

Orientation: degrees from north

Shoring/Support:

Stability: Stable

Water Strikes

Date	Time	Strike	Minutes	Standing	Remarks

General Remarks
Trial Pit terminated on hard strata.
Trial pit backfilled with arisings on completion

Scale 1:25

Notes: All dimensions in metres. Logs should be read in accordance with the provided Key. Descriptions are based on visual and manual identification.

08 WSP TP LOG STANDARD 12370324-002 WHITELANDS FARM SW BICESTER.GPJ WSPETEMPLATE1.03.GDT 24/2/11

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TRIAL PIT LOG

Hole No. **TP220**

Project: Whitelands Farm, South West Bicester, Oxford

Sheet: 1 of 1

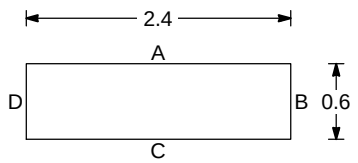
Job No: 12370324-002

Client: Countryside Properties

Date: 17-11-10
17-11-10

Contractor / Driller	Method/Plant Used	Logged By	Co-Ordinates (NGR)	Ground Level (m AOD)
	JCB 3CX	Ajq	E 0.000 N 0.000	

SAMPLES & TESTS						STRATA				
Depth	Type	PID (ppmV)	HSV (kN/m2)	P.Pen (kN/m2)	Water	Elev. (mAOD)	Depth (Thick-ness)	Description	Legend	Geology	Install / Backfill
							(0.30) 0.30	Soft grey brown slightly sandy slightly gravelly CLAY with rootlets. Gravel is subrounded fine to coarse. (TOPSOIL)		TS	
1.00-1.00 1.00-1.00 1.00-1.00	B D ES						(1.30) 1.60	Firm to stiff grey brown mottled orange brown slightly gravelly very silty CLAY with white sand sized grains (possibly comminuted shells). Gravel is fine to medium. (KELLAWAYS CLAY MEMBER)		KLB	
1.50-1.50	D						(0.60) 2.20	Firm to stiff dark grey mottled orange brown very silty CLAY with occasional shell fragments and white sand sized grains (possibly comminuted shells). (KELLAWAYS CLAY MEMBER)		KLB	
2.00-2.00	ES						2.30	Very weak orange brown completely to highly weathered LIMESTONE recovered as clayey subrounded fine to coarse subrounded gravel. (CORNBRASH FORMATION)		CB	



Length: 2.40m

Width: 0.60m

Orientation: degrees from north

Shoring/Support:

Stability: Stable

Water Strikes

Date	Time	Strike	Minutes	Standing	Remarks

General Remarks
Trial Pit terminated on hard strata.
Trial pit backfilled with arisings on completion

Scale 1:25

Notes: All dimensions in metres. Logs should be read in accordance with the provided Key. Descriptions are based on visual and manual identification.

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TRIAL PIT LOG

Hole No. **TP221**

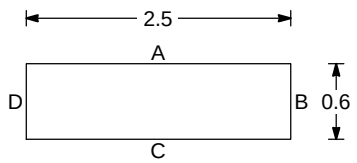
Project: Whitelands Farm, South West Bicester, Oxford

Sheet: 1 of 1

Job No	Client	Date
12370324-002	Countryside Properties	17-11-10 17-11-10

Contractor / Driller	Method/Plant Used	Logged By	Co-Ordinates (NGR)	Ground Level (m AOD)
	JCB 3CX	Ajq	E 0.000 N 0.000	

SAMPLES & TESTS						STRATA					
Depth	Type	PID (ppmV)	HSV (kN/m2)	P.Pen (kN/m2)	Water	Elev. (mAOD)	Depth (Thick-ness)	Description	Legend	Geology	Install / Backfill
							(0.20) 0.20	Soft grey brown slightly sandy slightly gravelly CLAY with rootlets. Gravel is subrounded fine to coarse. (TOPSOIL)		TS	
0.50-0.50	D						(0.50) 0.70	Firm to stiff grey brown mottled orange brown slightly gravelly very silty CLAY with white sand sized grains (possibly comminuted shells) and occasional orange brown sand lenses. Gravel is fine to medium. (KELLAWAYS CLAY MEMBER)		KLB	
1.00-1.00 1.00-1.00 1.00-1.00	B D ES						(1.20) 1.90	Stiff fissured dark grey mottled orange brown slightly gravelly very silty CLAY with occasional shell fragments and white sand sized grains (possibly comminuted shells). (KELLAWAYS CLAY MEMBER)		KLB	
1.90-1.90	D						1.95	Very weak orange brown completely to highly weathered LIMESTONE recovered as clayey subrounded fine to coarse gravel and occasional shell fragments. (CORNBRASH FORMATION)		CB	



Length: 2.50m

Width: 0.60m

Orientation: degrees from north

Shoring/Support:

Stability: Stable

Water Strikes

Date	Time	Strike	Minutes	Standing	Remarks

General Remarks
Trial Pit terminated on hard strata.
Trial pit backfilled with arisings on completion

Scale 1:25

Notes: All dimensions in metres. Logs should be read in accordance with the provided Key. Descriptions are based on visual and manual identification.

08 WSP TP LOG STANDARD 12370324-002 WHITELANDS FARM SW BICESTER.GPJ WSPETEMPLATE1.03.GDT 24/2/11

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TRIAL PIT LOG

Hole No. **TP222**

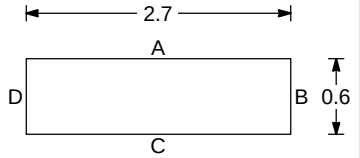
Project: Whitelands Farm, South West Bicester, Oxford

Sheet: 1 of 1

Job No	Client	Date
12370324-002	Countryside Properties	17-11-10 17-11-10

Contractor / Driller	Method/Plant Used	Logged By	Co-Ordinates (NGR)	Ground Level (m AOD)
	JCB 3CX	Ajq	E 0.000 N 0.000	

SAMPLES & TESTS						STRATA					Install / Backfill
Depth	Type	PID (ppmV)	HSV (kN/m2)	P.Pen (kN/m2)	Water	Elev. (mAOD)	Depth (Thick-ness)	Description	Legend	Geology	
							(0.30) 0.30	Soft grey brown slightly sandy slightly gravelly CLAY with rootlets. Gravel is subrounded fine to coarse. (TOPSOIL)		TS	
							(0.60) 0.90	Soft to firm grey brown mottled orange brown slightly gravelly very silty CLAY with occasional rootlets. Gravel is fine to medium. (KELLAWAYS CLAY MEMBER) 0.30 - 0.90 Becoming sandy very clayey silt		KLB	
0.80-0.80 0.80-0.80 0.80-0.80	B D ES						(0.20) 1.10	Very weak dark orange brown completely weathered MUDSTONE. (KELLAWAYS CLAY MEMBER)		KLB	
1.10-1.10	D										



Length	Shoring/Support:
2.70m	
Width	
0.60m	**Stability:**
Orientation	Stable
degrees from north	

Water Strikes

Date	Time	Strike	Minutes	Standing	Remarks

General Remarks
Trial Pit terminated on hard strata.
Trial pit backfilled with arisings on completion

Scale 1:25

Notes: All dimensions in metres. Logs should be read in accordance with the provided Key. Descriptions are based on visual and manual identification.

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TRIAL PIT LOG

Hole No. **TP223**

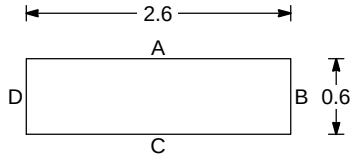
Project: Whitelands Farm, South West Bicester, Oxford

Sheet: 1 of 1

Job No	Client	Date
12370324-002	Countryside Properties	17-11-10 17-11-10

Contractor / Driller	Method/Plant Used	Logged By	Co-Ordinates (NGR)	Ground Level (m AOD)
	JCB 3CX	Ajq	E 0.000 N 0.000	

SAMPLES & TESTS						STRATA					
Depth	Type	PID (ppmV)	HSV (kN/m2)	P.Pen (kN/m2)	Water	Elev. (mAOD)	Depth (Thick-ness)	Description	Legend	Geology	Install / Backfill
							(0.50) 0.50	Soft grey brown slightly sandy slightly gravelly CLAY with rootlets. Gravel is subrounded fine to coarse. (TOPSOIL)		TS	
0.60-0.60 0.60-0.60 0.60-0.60	B D ES						(0.65) 1.15	Firm grey brown mottled orange brown slightly gravelly very silty CLAY with occasional orange brown sand partings. Gravel is fine to coarse. (KELLAWAYS CLAY FORMATION)		KLB	
1.10-1.10	D						1.25	Very weak orange brown completely to highly weathered LIMESTONE recovered as clayey subrounded fine to coarse gravel. (CORNBRASH FORMATION)		CB	
1.40-1.40	D						1.40	Strong grey moderately weathered LIMESTONE recovered as gravel and cobbles. (CORNBRASH FORMATION)		CB	



Length	Shoring/Support:
2.60m	
Width 0.60m	**Stability:** Stable
Orientation degrees from north	

Water Strikes

Date	Time	Strike	Minutes	Standing	Remarks

General Remarks
Trial Pit terminated on hard strata.
Trial pit backfilled with arisings on completion

Scale 1:25

Notes: All dimensions in metres. Logs should be read in accordance with the provided Key. Descriptions are based on visual and manual identification.

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TRIAL PIT LOG

Hole No. **TP224**

Project: Whitelands Farm, South West Bicester, Oxford

Sheet: 1 of 1

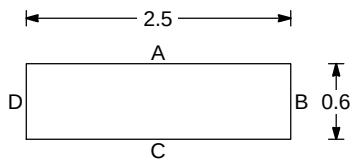
Job No: 12370324-002

Client: Countryside Properties

Date: 17-11-10
17-11-10

Contractor / Driller	Method/Plant Used	Logged By	Co-Ordinates (NGR)	Ground Level (m AOD)
	JCB 3CX	Ajq	E 0.000 N 0.000	

SAMPLES & TESTS						STRATA				
Depth	Type	PID (ppmV)	HSV (kN/m2)	P.Pen (kN/m2)	Water	Elev. (mAOD)	Depth (Thick-ness)	Description	Legend	Geology	Install / Backfill
0.20-0.20	ES						(0.30) 0.30	Soft grey brown slightly sandy slightly gravelly CLAY with rootlets. Gravel is subrounded fine to coarse. (TOPSOIL)		TS	
1.00-1.00	D						(1.20)	Very weak orange brown completely to highly weathered LIMESTONE with occasional shell fragments recovered as slightly clayey slightly sandy very gravelly cobbles. (CORNBRASH FORMATION)		CB	
1.50-1.50	B						1.50				



Length: 2.50m

Width: 0.60m

Orientation: degrees from north

Shoring/Support:

Stability: Stable

Water Strikes

Date	Time	Strike	Minutes	Standing	Remarks

General Remarks
Groundwater seepage at 1.5m.
Trial Pit terminated on hard strata.
Trial pit backfilled with arisings on completion

Scale 1:25

Notes: All dimensions in metres. Logs should be read in accordance with the provided Key. Descriptions are based on visual and manual identification.

08 WSP TP LOG STANDARD 12370324-002 WHITELANDS FARM SW BICESTER.GPJ WSPETEMPLATE1.03.GDT 24/2/11

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WINDOW SAMPLE LOG

Hole No. **WS201**

Project: Whitelands Farm, South West Bicester, Oxford

Sheet: 1 of 1

Job No: 12370324-002

Client: Countryside Properties

Date: 16-11-10
16-11-10

Contractor / Driller	Method/Plant Used	Logged By	Co-Ordinates (NGR)	Ground Level (m AOD)
Dynamic Sampling		Ajq	E 0.000 N 0.000	

SAMPLES & TESTS							STRATA					Install / Backfill
Depth	Type	Test Result	PID (ppmV)	HSV (kN/m2)	P.Pen (kN/m2)	Water	Elev. (mAOD)	Depth (Thick-ness)	Description	Legend	Geology	Dia. 50 mm
								(0.25) 0.25	Soft grey brown slightly sandy slightly gravelly CLAY with rootlets. Gravel is subrounded fine to coarse. (TOPSOIL)		TS	
0.70-0.80	ES	.						(0.85) 1.10	Soft to firm grey brown mottled orange brown slightly sandy slightly gravelly CLAY. Gravel is fine. (KELLAWAYS CLAY MEMBER)		KLB	
0.90-0.90	D	.										
1.00	(S)	2,3,3 3,3,3 N=12.										
1.70-1.70	ES	.						(0.80) 1.90	Moderately weak to strong orange brown highly weathered LIMESTONE recovered as clayey subrounded tabular fine to coarse gravel. (CORNBRASH FORMATION)		CB	
1.90-1.90	D	.										
2.00	(S)	21,4,31 29 N=60/ 0.135.										

Hole Diameter			Recovery			Water Strikes					
Depth	Diameter (mm)	Remarks	Core Top (m)	Core Base (m)	% Recovery	Date	Time	Strike	Minutes	Standing	Casing

General Remarks

Scale 1:25

Notes: All dimensions in metres. Logs should be read in accordance with the provided Key. Descriptions are based on visual and manual identification.

08 WSP WINDOW SAMPLE LOG 12370324-002 WHITELANDS FARM SW BICESTER.GPJ WSPETEMPLATE1.03.GDT 24/2/11

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WINDOW SAMPLE LOG

Hole No. **WS202**

Project: Whitelands Farm, South West Bicester, Oxford

Sheet: 1 of 1

Job No: 12370324-002

Client: Countryside Properties

Date: 16-11-10
16-11-10

Contractor / Driller	Method/Plant Used	Logged By	Co-Ordinates (NGR)	Ground Level (m AOD)
Dynamic Sampling		Ajq	E 0.000 N 0.000	

SAMPLES & TESTS							STRATA					Install / Backfill
Depth	Type	Test Result	PID (ppmV)	HSV (kN/m2)	P.Pen (kN/m2)	Water	Elev. (mAOD)	Depth (Thick-ness)	Description	Legend	Geology	Dia. 50 mm
								(0.25) 0.25	Soft grey brown slightly sandy slightly gravelly CLAY with rootlets. Gravel is subrounded fine to coarse. (TOPSOIL)		TS	
0.50-0.50 0.60-0.60	ES D	. .						(0.65) 0.90	Firm grey brown mottled orange brown slightly sandy slightly gravelly CLAY. Gravel is fine. (KELLAWAYS CLAY MEMBER)		KLB	
1.00 1.20-1.20 1.50-1.50	(S) D ES	5,6,8 7,5,3 N=23. . .						(1.10) 2.00	Moderately weak to strong orange brown highly weathered LIMESTONE recovered as clayey subrounded tabular fine to coarse gravel and cobbles. (CORNBRASH FORMATION)		CB	
2.00 2.20-2.20 2.20-2.20	(S) D ES	2,2,2 2,3,3 N=10. . .						(0.40) 2.40	Soft to firm dark grey CLAY. (FOREST MARBLE FORMATION)		FMB	
2.50	(S)	25,29 31 N=60/ 0.125.						2.50	Very weak dark orange brown completely weathered MUDSTONE. (FOREST MARBLE FORMATION)		FMB	

Hole Diameter			Recovery			Water Strikes					
Depth	Diameter (mm)	Remarks	Core Top (m)	Core Base (m)	% Recovery	Date	Time	Strike	Minutes	Standing	Casing

General Remarks

Scale 1:25

Notes: All dimensions in metres. Logs should be read in accordance with the provided Key. Descriptions are based on visual and manual identification.

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WINDOW SAMPLE LOG

Hole No. **WS203**

Project: Whitelands Farm, South West Bicester, Oxford

Sheet: 1 of 1

Job No: 12370324-002

Client: Countryside Properties

Date: 16-11-10
16-11-10

Contractor / Driller	Method/Plant Used	Logged By	Co-Ordinates (NGR)	Ground Level (m AOD)
Dynamic Sampling		Ajq	E 0.000 N 0.000	

SAMPLES & TESTS							STRATA					Install / Backfill
Depth	Type	Test Result	PID (ppmV)	HSV (kN/m2)	P.Pen (kN/m2)	Water	Elev. (mAOD)	Depth (Thick-ness)	Description	Legend	Geology	Dia. 50 mm
								(0.20) 0.20	Soft grey brown slightly sandy slightly gravelly CLAY with rootlets. Gravel is subrounded fine to coarse. (TOPSOIL)		TS	
0.60-0.60	ES	.							Firm grey brown mottled orange brown slightly sandy slightly gravelly CLAY. Gravel is fine. (KELLAWAYS CLAY MEMBER)			
0.90-0.90	D	.						(1.25)			KLB	
1.00	(S)	1,1,2 2,3,13 N=20.										
								1.45				
1.60-1.60	ES	.						(0.35)	Moderately weak to strong orange brown highly weathered LIMESTONE recovered as clayey subrounded tabular fine to coarse gravel. (CORNBRASH FORMATION)		CB	
1.80-1.80	D (S)	25,38 22 N=60/ 0.115.						1.80				

Hole Diameter			Recovery			Water Strikes					
Depth	Diameter (mm)	Remarks	Core Top (m)	Core Base (m)	% Recovery	Date	Time	Strike	Minutes	Standing	Casing

General Remarks

Scale 1:25

Notes: All dimensions in metres. Logs should be read in accordance with the provided Key. Descriptions are based on visual and manual identification.

08 WSP WINDOW SAMPLE LOG 12370324-002 WHITELANDS FARM SW BICESTER.GPJ WSPETEMPLATE1.03.GDT 24/2/11

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WINDOW SAMPLE LOG

Hole No. **WS204**

Project: Whitelands Farm, South West Bicester, Oxford

Sheet: 1 of 1

Job No: 12370324-002

Client: Countryside Properties

Date: 16-11-10
16-11-10

Contractor / Driller	Method/Plant Used	Logged By	Co-Ordinates (NGR)	Ground Level (m AOD)
Dynamic Sampling		Ajq	E 0.000 N 0.000	

SAMPLES & TESTS							STRATA					Install / Backfill
Depth	Type	Test Result	PID (ppmV)	HSV (kN/m2)	P.Pen (kN/m2)	Water	Elev. (mAOD)	Depth (Thick-ness)	Description	Legend	Geology	Dia. 50 mm
								(0.20) 0.20	Soft grey brown slightly sandy slightly gravelly CLAY with rootlets. Gravel is subrounded fine to coarse. (TOPSOIL)		TS	
								(0.20) 0.40	Soft to firm grey brown mottled orange brown slightly sandy slightly gravelly CLAY. Gravel is fine. (KELLAWAYS CLAY MEMBER)		KLB	
0.60-0.90	D	.							Moderately weak to strong orange brown highly weathered LIMESTONE recovered as clayey subrounded tabular fine to coarse gravel. (CORNBRASH FORMATION) 0.60 - 0.90 Orange brown soft to firm clay			
0.70-0.70	ES	.						(0.70)			CB	
1.00	(S)	2,5,10 8,10,9 N=37.						1.10	Very weak dark orange brown completely weathered MUDSTONE. (FOREST MARBLE FORMATION)			
1.50-1.50	ES	.						(0.80)			FMB	
1.90-1.90	D (S)	20,5,33 27 N=60/ 0.135.						1.90				

Hole Diameter			Recovery			Water Strikes					
Depth	Diameter (mm)	Remarks	Core Top (m)	Core Base (m)	% Recovery	Date	Time	Strike	Minutes	Standing	Casing

General Remarks

Scale 1:25

Notes: All dimensions in metres. Logs should be read in accordance with the provided Key. Descriptions are based on visual and manual identification.

08 WSP WINDOW SAMPLE LOG 12370324-002 WHITELANDS FARM SW BICESTER.GPJ WSPETEMPLATE1.03.GDT 24/2/11

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WINDOW SAMPLE LOG

Hole No. **WS205**

Project: Whitelands Farm, South West Bicester, Oxford

Sheet: 1 of 1

Job No: 12370324-002

Client: Countryside Properties

Date: 16-11-10
16-11-10

Contractor / Driller	Method/Plant Used	Logged By	Co-Ordinates (NGR)	Ground Level (m AOD)
Dynamic Sampling		Ajq	E 0.000 N 0.000	

SAMPLES & TESTS							STRATA					Install / Backfill
Depth	Type	Test Result	PID (ppmV)	HSV (kN/m2)	P.Pen (kN/m2)	Water	Elev. (mAOD)	Depth (Thick-ness)	Description	Legend	Geology	Dia. 50 mm
									Firm to stiff minor fissures red brown orange brown very silty CLAY with minor fissures with light grey fine sand partings. (KELLAWAYS CLAY MEMBER)			
0.50-0.50	D	.						(1.20)			KLB	
0.60-0.60	ES	.										
1.00-1.00	D (S)	1,2,2 3,5,9 N=19.						1.20				
									Soft light orange brown slightly gravelly CLAY. Gravel is fine to medium. (KELLAWAYS CLAY MEMBER)			
1.50-1.50	ES	.						(0.80)	1.60 Limestone band		KLB	
									1.75 Limestone band			
2.00-2.00	D (S)	2,6,21 39 N=60/ 0.145.						2.00	Limestone band			

Hole Diameter			Recovery			Water Strikes					
Depth	Diameter (mm)	Remarks	Core Top (m)	Core Base (m)	% Recovery	Date	Time	Strike	Minutes	Standing	Casing

General Remarks

Scale 1:25

Notes: All dimensions in metres. Logs should be read in accordance with the provided Key. Descriptions are based on visual and manual identification.

08 WSP WINDOW SAMPLE LOG 12370324-002 WHITELANDS FARM SW BICESTER.GPJ WSPETEMPLATE1.03.GDT 1/3/11

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WINDOW SAMPLE LOG

Hole No. **WS206**

Project: Whitelands Farm, South West Bicester, Oxford

Sheet: 1 of 1

Job No: 12370324-002

Client: Countryside Properties

Date: 16-11-10
16-11-10

Contractor / Driller	Method/Plant Used	Logged By	Co-Ordinates (NGR)	Ground Level (m AOD)
Dynamic Sampling		Ajq	E 0.000 N 0.000	

SAMPLES & TESTS							STRATA					Install / Backfill
Depth	Type	Test Result	PID (ppmV)	HSV (kN/m2)	P.Pen (kN/m2)	Water	Elev. (mAOD)	Depth (Thick-ness)	Description	Legend	Geology	Dia. 50 mm
0.10-0.20	ES	.						(0.25) 0.25	Possible MADE GROUND: Soft to firm grey brown mottled orange brown slightly sandy slightly gravelly CLAY with pockets of topsoil. Gravel is fine.		MG	
								(0.25) 0.50	Possible MADE GROUND: Orange brown clayey limestone.		MG	
								(0.25) 0.75	Moderately weak to strong orange brown highly weathered LIMESTONE recovered as clayey subrounded tabular fine to coarse gravel and cobbles. (CORNBRASH FORMATION)		CB	
0.75-0.75	D (S)	25,58 2 N=60/ 0.08.										

Hole Diameter			Recovery			Water Strikes					
Depth	Diameter (mm)	Remarks	Core Top (m)	Core Base (m)	% Recovery	Date	Time	Strike	Minutes	Standing	Casing

General Remarks

Scale 1:25

Notes: All dimensions in metres. Logs should be read in accordance with the provided Key. Descriptions are based on visual and manual identification.

08 WSP WINDOW SAMPLE LOG 12370324-002 WHITELANDS FARM SW BICESTER.GPJ WSPETEMPLATE1.03.GDT 24/2/11

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WINDOW SAMPLE LOG

Hole No. **WS207**

Project: Whitelands Farm, South West Bicester, Oxford

Sheet: 1 of 1

Job No: 12370324-002

Client: Countryside Properties

Date: 15-11-10
15-11-10

Contractor / Driller	Method/Plant Used	Logged By	Co-Ordinates (NGR)	Ground Level (m AOD)
Dynamic Sampling		Ajq	E 0.000 N 0.000	

SAMPLES & TESTS							STRATA					Install / Backfill
Depth	Type	Test Result	PID (ppmV)	HSV (kN/m2)	P.Pen (kN/m2)	Water	Elev. (mAOD)	Depth (Thick-ness)	Description	Legend	Geology	Dia. 50 mm
								(0.20) 0.20	Soft grey brown slightly sandy slightly gravelly CLAY with rootlets. Gravel is subrounded fine to coarse. (TOPSOIL)		TS	
0.50-0.50 0.60-0.60	D ES	. .						(0.70) 0.90	Firm grey brown mottled orange brown slightly sandy slightly gravelly CLAY with occasional orange brown sand partings. Gravel is fine to medium. (KELLAWAYS CLAY MEMBER)		KLB	
1.00-1.00	D (S)	6,12,13 37 N=50/ 0.14.						1.00	Moderately weak to strong orange brown highly weathered LIMESTONE recovered as clayey subrounded tabular fine to coarse gravel and cobbles. (CORNBRASH FORMATION)		CB	

Hole Diameter			Recovery			Water Strikes					
Depth	Diameter (mm)	Remarks	Core Top (m)	Core Base (m)	% Recovery	Date	Time	Strike	Minutes	Standing	Casing

General Remarks

Scale 1:25

Notes: All dimensions in metres. Logs should be read in accordance with the provided Key. Descriptions are based on visual and manual identification.

08 WSP WINDOW SAMPLE LOG 12370324-002 WHITELANDS FARM SW BICESTER.GPJ WSPETEMPLATE1.03.GDT 24/2/11

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WINDOW SAMPLE LOG

Hole No. **WS208**

Project: Whitelands Farm, South West Bicester, Oxford

Sheet: 1 of 1

Job No: 12370324-002

Client: Countryside Properties

Date: 15-11-10
15-11-10

Contractor / Driller	Method/Plant Used	Logged By	Co-Ordinates (NGR)	Ground Level (m AOD)
Dynamic Sampling		Ajq	E 0.000 N 0.000	

SAMPLES & TESTS							STRATA					Install / Backfill
Depth	Type	Test Result	PID (ppmV)	HSV (kN/m2)	P.Pen (kN/m2)	Water	Elev. (mAOD)	Depth (Thick-ness)	Description	Legend	Geology	Dia. 50 mm
								(0.20) 0.20	Soft grey brown slightly sandy slightly gravelly CLAY with rootlets. Gravel is subrounded fine to coarse. (TOPSOIL)		TS	
0.50-0.50 0.60-0.60	D ES	. .						(0.80)	Soft to firm grey brown mottled orange brown slightly sandy slightly gravelly CLAY with occasional orange brown sand partings. Gravel is fine to medium. (KELLAWAYS CLAY MEMBER)		KLB	
1.00	(S)	1,2,2 2,3,4 N=11.						1.00 (1.50)	Moderately weak to strong orange brown highly weathered LIMESTONE recovered as firm clayey sand and tabular fine occasionally coarse gravel. (CORNBRASH FORMATION)		CB	
2.00-2.00 2.00-2.00	D (S) ES (S)	1,1,2 2,2,3 N=9. 1,1,2 2,2,3 N=9.						2.50				
2.60-2.60	D (S)	7,15,34 26 N=60/ 0.115.										

Hole Diameter			Recovery			Water Strikes					
Depth	Diameter (mm)	Remarks	Core Top (m)	Core Base (m)	% Recovery	Date	Time	Strike	Minutes	Standing	Casing

General Remarks

Scale 1:25

Notes: All dimensions in metres. Logs should be read in accordance with the provided Key. Descriptions are based on visual and manual identification.

08 WSP WINDOW SAMPLE LOG 12370324-002 WHITELANDS FARM SW BICESTER.GPJ WSPETEMPLATE1.03.GDT 24/2/11

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WINDOW SAMPLE LOG

Hole No. **WS209**

Project: Whitelands Farm, South West Bicester, Oxford

Sheet: 1 of 1

Job No: 12370324-002

Client: Countryside Properties

Date: 15-11-10
15-11-10

Contractor / Driller	Method/Plant Used	Logged By	Co-Ordinates (NGR)	Ground Level (m AOD)
Dynamic Sampling		Ajq	E 0.000 N 0.000	

SAMPLES & TESTS							STRATA					Install / Backfill
Depth	Type	Test Result	PID (ppmV)	HSV (kN/m2)	P.Pen (kN/m2)	Water	Elev. (mAOD)	Depth (Thick-ness)	Description	Legend	Geology	Dia. 50 mm
								0.15	Soft grey brown slightly sandy slightly gravelly CLAY with rootlets. Gravel is subrounded fine to coarse. (TOPSOIL)		TS	
								(0.70)	Firm grey brown mottled orange brown slightly sandy slightly gravelly CLAY with occasional orange brown sand partings. Gravel is fine to medium. (KELLAWAYS CLAY MEMBER)		KLB	
0.60-0.60	D	.							0.60 Becoming stiff, grey with orange bands			
0.70-0.70	ES	.						0.85				
								1.00	Moderately weak to strong orange brown highly weathered LIMESTONE recovered as clayey subrounded tabular fine to coarse gravel and cobbles. (CORNBRASH FORMATION)		CB	
1.00-1.00	D (S)	8,10,60 N=60/ 0.04.										
1.00-1.00	ES (S)	8,10,60 N=60/ 0.04.										

Hole Diameter			Recovery			Water Strikes					
Depth	Diameter (mm)	Remarks	Core Top (m)	Core Base (m)	% Recovery	Date	Time	Strike	Minutes	Standing	Casing

General Remarks

Scale 1:25

Notes: All dimensions in metres. Logs should be read in accordance with the provided Key. Descriptions are based on visual and manual identification.

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WINDOW SAMPLE LOG

Hole No. **WS210**

Project: Whitelands Farm, South West Bicester, Oxford

Sheet: 1 of 1

Job No: 12370324-002

Client: Countryside Properties

Date: 15-11-10
15-11-10

Contractor / Driller	Method/Plant Used	Logged By	Co-Ordinates (NGR)	Ground Level (m AOD)
Dynamic Sampling		Ajq	E 0.000 N 0.000	

SAMPLES & TESTS							STRATA					Install / Backfill
Depth	Type	Test Result	PID (ppmV)	HSV (kN/m2)	P.Pen (kN/m2)	Water	Elev. (mAOD)	Depth (Thick-ness)	Description	Legend	Geology	Dia. 50 mm
								(0.25) 0.25	Soft grey brown slightly sandy slightly gravelly CLAY with rootlets. Gravel is subrounded fine to coarse. (TOPSOIL)		TS	
0.30-0.30	D	.							Stiff grey locally mottled orange brown CLAY. (KELLAWAYS CLAY MEMBER)			
0.40-0.50	ES	.						(0.75)			KLB	
0.70-0.80	ES	.										
0.90-1.00	D	.						1.00				
1.00	(S)	1,1,2 8,50 N=60/ 0.21.										

Hole Diameter			Recovery			Water Strikes					
Depth	Diameter (mm)	Remarks	Core Top (m)	Core Base (m)	% Recovery	Date	Time	Strike	Minutes	Standing	Casing

General Remarks

Scale 1:25

Notes: All dimensions in metres. Logs should be read in accordance with the provided Key. Descriptions are based on visual and manual identification.

08 WSP WINDOW SAMPLE LOG 12370324-002 WHITELANDS FARM SW BICESTER.GPJ WSPETEMPLATE1.03.GDT 24/2/11

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WINDOW SAMPLE LOG

Hole No. **WS211**

Project: Whitelands Farm, South West Bicester, Oxford

Sheet: 1 of 1

Job No: 12370324-002

Client: Countryside Properties

Date: 15-11-10
15-11-10

Contractor / Driller	Method/Plant Used	Logged By	Co-Ordinates (NGR)	Ground Level (m AOD)
Dynamic Sampling		Ajq	E 0.000 N 0.000	

SAMPLES & TESTS							STRATA					Install / Backfill
Depth	Type	Test Result	PID (ppmV)	HSV (kN/m2)	P.Pen (kN/m2)	Water	Elev. (mAOD)	Depth (Thick-ness)	Description	Legend	Geology	Dia. 50 mm
								0.05	Soft grey brown slightly sandy slightly gravelly CLAY with rootlets. Gravel is subrounded fine to coarse. (TOPSOIL)		TS	
								(0.40)	Firm grey brown mottled orange brown slightly sandy slightly gravelly CLAY with occasional orange brown sand partings. (KELLAWAYS CLAY MEMBER)		KLB	
0.40-0.40	D	.						0.45				
0.40-0.40	ES	.							Moderately weak to strong orange brown highly weathered LIMESTONE recovered as clayey tabular fine to coarse subrounded gravel and cobbles. (CORNBRASH FORMATION)			
								(0.55)			CB	
0.80-0.80	D	.						1.00				
1.00-1.00	ES (S)	6,18,17 12,14,17 N=60/ 0.295.										

Hole Diameter			Recovery			Water Strikes					
Depth	Diameter (mm)	Remarks	Core Top (m)	Core Base (m)	% Recovery	Date	Time	Strike	Minutes	Standing	Casing

General Remarks

Scale 1:25

Notes: All dimensions in metres. Logs should be read in accordance with the provided Key. Descriptions are based on visual and manual identification.

08 WSP WINDOW SAMPLE LOG 12370324-002 WHITELANDS FARM SW BICESTER.GPJ WSPETEMPLATE1.03.GDT 24/2/11

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WINDOW SAMPLE LOG

Hole No. **WS212**

Project: Whitelands Farm, South West Bicester, Oxford

Sheet: 1 of 1

Job No: 12370324-002

Client: Countryside Properties

Date: 16-11-10
16-11-10

Contractor / Driller	Method/Plant Used	Logged By	Co-Ordinates (NGR)	Ground Level (m AOD)
Dynamic Sampling		Ajq	E 0.000 N 0.000	

SAMPLES & TESTS								STRATA					Install / Backfill
Depth	Type	Test Result	PID (ppmV)	HSV (kN/m2)	P.Pen (kN/m2)	Water	Elev. (mAOD)	Depth (Thick-ness)	Description	Legend	Geology		Dia. 50 mm
								(0.25) 0.25	Soft grey brown slightly sandy slightly gravelly CLAY with rootlets. Gravel is subrounded fine to coarse. (TOPSOIL)		TS		
0.30-0.30	D	.						0.40	Firm to stiff grey brown mottled orange brown slightly sandy CLAY with occasional rootlets. (KELLWAYS CLAY MEMBER)		KLB		
0.60-0.60	ES	.						(0.35) 0.75	Moderately weak to strong orange brown highly weathered LIMESTONE recovered as clayey tabular fine to coarse subrounded gravel and cobbles. (CORNBRASH FORMATION)		CB		
0.70-0.70 0.75	D (S)	. 25,29 31 N=60/ 0.145.											

Hole Diameter			Recovery			Water Strikes					
Depth	Diameter (mm)	Remarks	Core Top (m)	Core Base (m)	% Recovery	Date	Time	Strike	Minutes	Standing	Casing

General Remarks

Scale 1:25

Notes: All dimensions in metres. Logs should be read in accordance with the provided Key. Descriptions are based on visual and manual identification.

08 WSP WINDOW SAMPLE LOG 12370324-002 WHITELANDS FARM SW BICESTER.GPJ WSPETEMPLATE1.03.GDT 24/2/11

APPENDIX C HISTORICAL MAPS

Historical Mapping Legends

Ordnance Survey County Series and Ordnance Survey Plan 1:10,560

Gravel Pit
Sand Pit
Other Pits
Quarry
Shingle
Orchard
Osiers
Reeds
Marsh
Mixed Wood
Deciduous
Brushwood
Fir
Furze
Rough Pasture
Arrow denotes flow of water
Trigonometrical Station
Site of Antiquities
Bench Mark
Pump, Guide Post, Signal Post
Well, Spring, Boundary Post
·285 Surface Level
Sketched Contour
Instrumental Contour
Main Roads
Fenced
Un-Fenced
Minor Roads
Fenced
Un-Fenced
Sunken Road
Raised Road
Road over Railway
Railway over River
Railway over Road
Level Crossing
Road over River or Canal
Road over Stream
Road over Stream
County Boundary (Geographical)
County & Civil Parish Boundary
Administrative County & Civil Parish Boundary
Co. Boro. Bdy. County Borough Boundary (England)
Co. Burgh Bdy. County Burgh Boundary (Scotland)
R.D. Bdy. Rural District Boundary
Civil Parish Boundary

Ordnance Survey Plan 1:10,000

Chalk Pit, Clay Pit or Quarry
Gravel Pit
Sand Pit
Disused Pit or Quarry
Refuse or Slag Heap
Lake, Loch or Pond
Dunes
Boulders
Coniferous Trees
Non-Coniferous Trees
Orchard
Scrub
Coppice
Bracken
Heath
Rough Grassland
Marsh
Reeds
Saltings
Building
Direction of Flow of Water
Shingle
Sand
Glasshouse
Pylon
Electricity Transmission Line
Sloping Masonry
Pylon
Pole
Cutting
Embankment
Standard Gauge Multiple Track
Road Under
Road Over
Level Crossing
Foot Bridge
Standard Gauge Single Track
Siding, Tramway or Mineral Line
Narrow Gauge
Geographical County
Administrative County, County Borough or County of City
Municipal Borough, Urban or Rural District, Burgh or District Council
Borough, Burgh or County Constituency
Shown only when not coincident with other boundaries
Civil Parish
Shown alternately when coincidence of boundaries occurs

BP, BS	Boundary Post or Stone	Pol Sta	Police Station
Ch	Church	PO	Post Office
CH	Club House	PC	Public Convenience
F E Sta	Fire Engine Station	PH	Public House
FB	Foot Bridge	SB	Signal Box
Fn	Fountain	Spr	Spring
GP	Guide Post	TCB	Telephone Call Box
MP	Mile Post	TCP	Telephone Call Post
MS	Mile Stone	W	Well

1:10,000 Raster Mapping

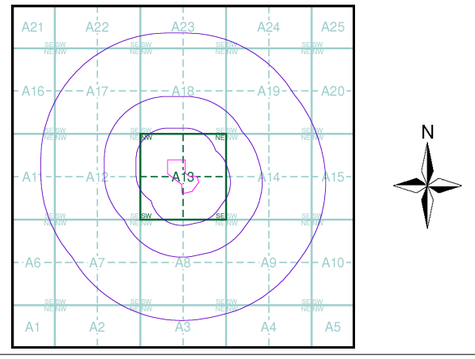
Gravel Pit
Refuse tip or slag heap
Rock
Rock (scattered)
Boulders
Boulders (scattered)
Shingle
Mud
Sand
Sand Pit
Slopes
Top of cliff
General detail
Underground detail
Overhead detail
Narrow gauge railway
Multi-track railway
Single track railway
County boundary (England only)
Civil, parish or community boundary
District, Unitary, Metropolitan, London Borough boundary
Constituency boundary
Area of wooded vegetation
Non-coniferous trees
Non-coniferous trees (scattered)
Coniferous trees
Coniferous trees (scattered)
Positioned tree
Orchard
Coppice or Osiers
Rough Grassland
Heath
Scrub
Marsh, Salt Marsh or Reeds
Water feature
Flow arrows
MHW(S) Mean high water (springs)
MLW(S) Mean low water (springs)
Telephone line (where shown)
Electricity transmission line (with poles)
BM 123.45 m Bench mark (where shown)
Triangulation station
Point feature (e.g. Guide Post or Mile Stone)
Pylon, flare stack or lighting tower
Site of (antiquity)
Glasshouse
General Building
Important Building

WSP

Ordnance Survey mapping included:

Mapping Type	Scale	Date	Pg
Oxfordshire	1:10,560	1885	2
Oxfordshire	1:10,560	1900	3
Oxfordshire	1:10,560	1923	4
Oxfordshire	1:10,560	1938 - 1952	5
Ordnance Survey Plan	1:10,560	1955	6
Ordnance Survey Plan	1:10,560	1970	7
Ordnance Survey Plan	1:10,000	1988	8
Ordnance Survey Plan	1:10,000	1996	9
10K Raster Mapping	1:10,000	1999	10
10K Raster Mapping	1:10,000	2008	11

Historical Map - Slice A



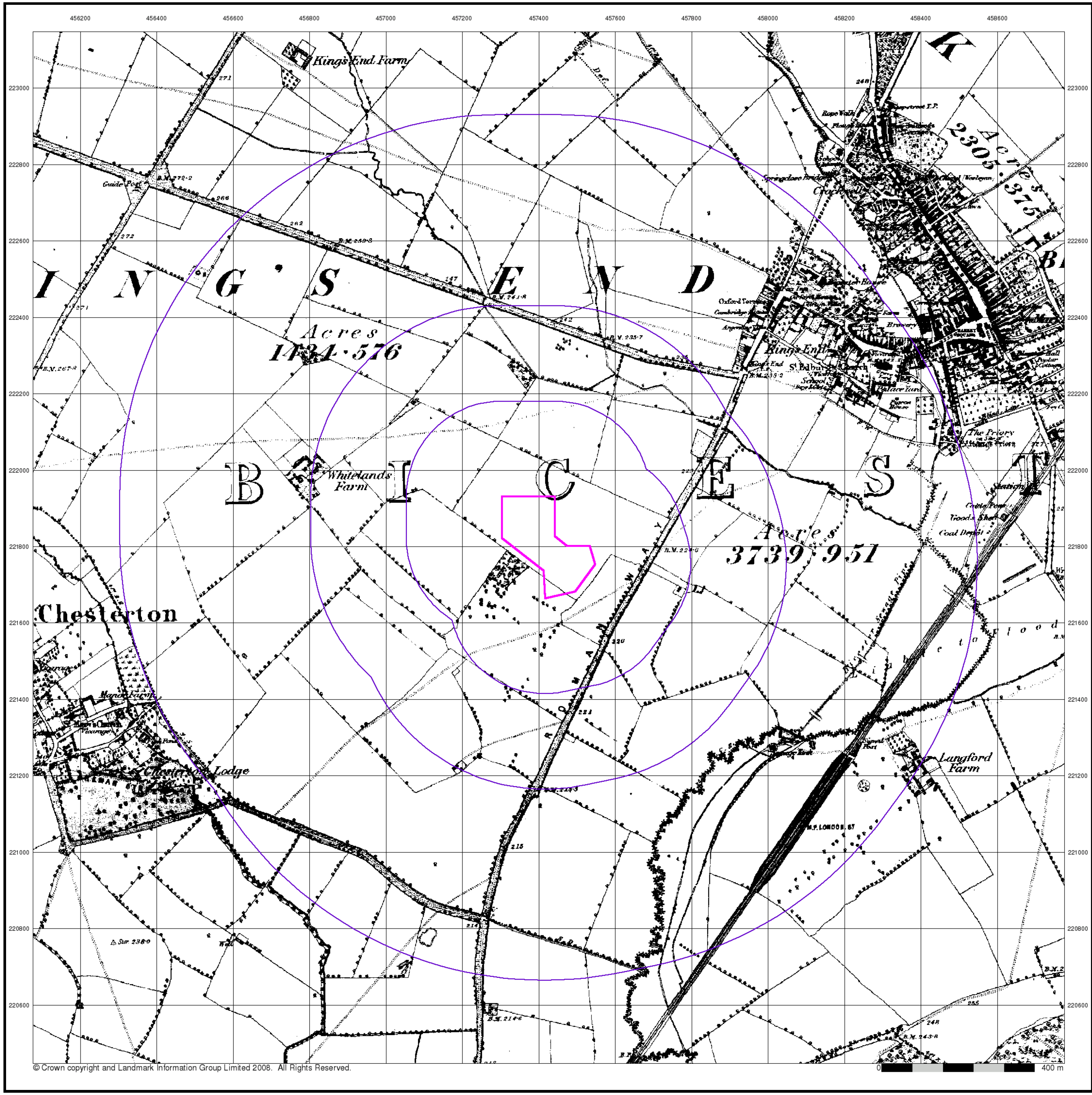
Order Details

Order Number: 26359764_1_1
Customer Ref: DC/1237/359
National Grid Reference: 457420, 221810
Slice: A
Site Area (Ha): 3.53
Search Buffer (m): 1000

Site Details

Site at 457400, 221800

LANDMARK Information Group
Tel: 0844 844 9952
Fax: 0844 844 9951
Web: www.envirocheck.co.uk



Oxfordshire

Published 1885

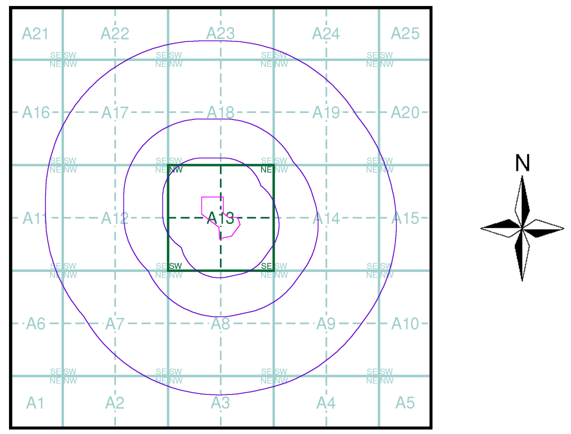
Source map scale - 1:10,560

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; these maps were used to update the 1:10,560 maps. The published date given therefore is often some years later than the surveyed date. Before 1938, all OS maps were based on the Cassini Projection, with independent surveys of a single county or group of counties, giving rise to significant inaccuracies in outlying areas. In the late 1940`s, a Provisional Edition was produced, which updated the 1:10,560 mapping from a number of sources. The maps appear unfinished - with all military camps and other strategic sites removed. These maps were initially overprinted with the National Grid. In 1970, the first 1:10,000 maps were produced using the Transverse Mercator Projection. The revision process continued until recently, with new editions appearing every 10 years or so for urban areas.

Map Name(s) and Date(s)

023_00
1885

Historical Map - Slice A

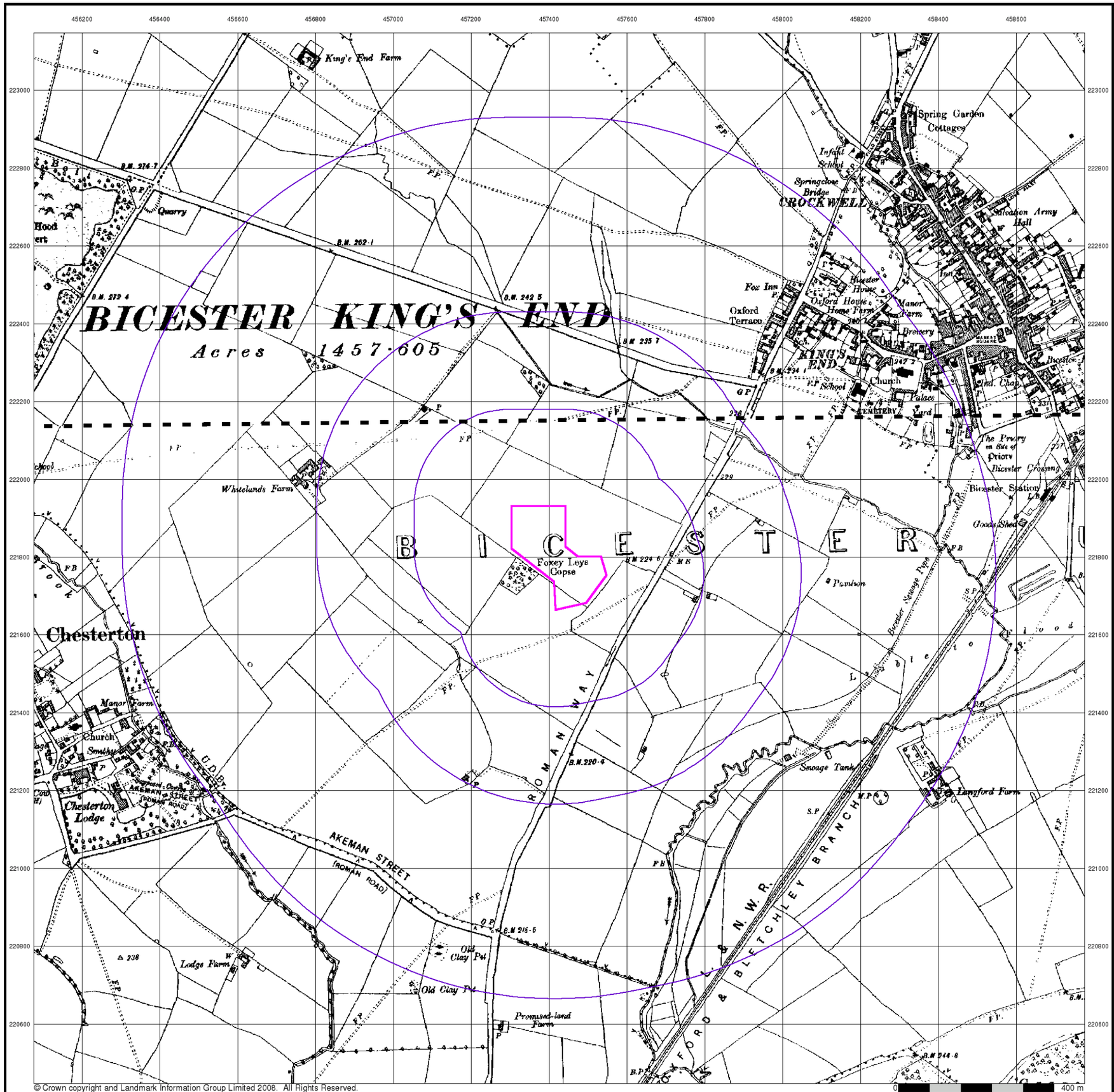


Order Details

Order Number:	26359764_1_1
Customer Ref:	DC/1237/359
National Grid Reference:	457420, 221810
Slice:	A
Site Area (Ha):	3.53
Search Buffer (m):	1000

Site Details

Site at 457400, 221800



WSP

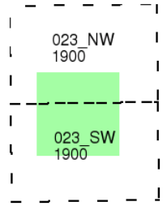
Oxfordshire

Published 1900

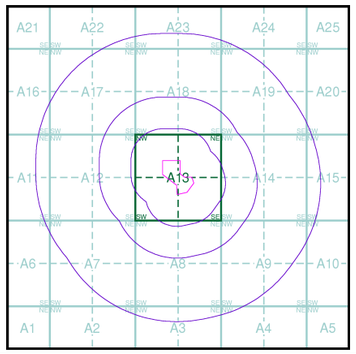
Source map scale - 1:10,560

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; these maps were used to update the 1:10,560 maps. The published date given therefore is often some years later than the surveyed date. Before 1938, all OS maps were based on the Cassini Projection, with independent surveys of a single county or group of counties, giving rise to significant inaccuracies in outlying areas. In the late 1940`s, a Provisional Edition was produced, which updated the 1:10,560 mapping from a number of sources. The maps appear unfinished - with all military camps and other strategic sites removed. These maps were initially overprinted with the National Grid. In 1970, the first 1:10,000 maps were produced using the Transverse Mercator Projection. The revision process continued until recently, with new editions appearing every 10 years or so for urban areas.

Map Name(s) and Date(s)



Historical Map - Slice A



Order Details

Order Number:	26359764_1_1
Customer Ref:	DC/1237/359
National Grid Reference:	457420, 221810
Slice:	A
Site Area (Ha):	3.53
Search Buffer (m):	1000

Site Details

Site at 457400, 221800

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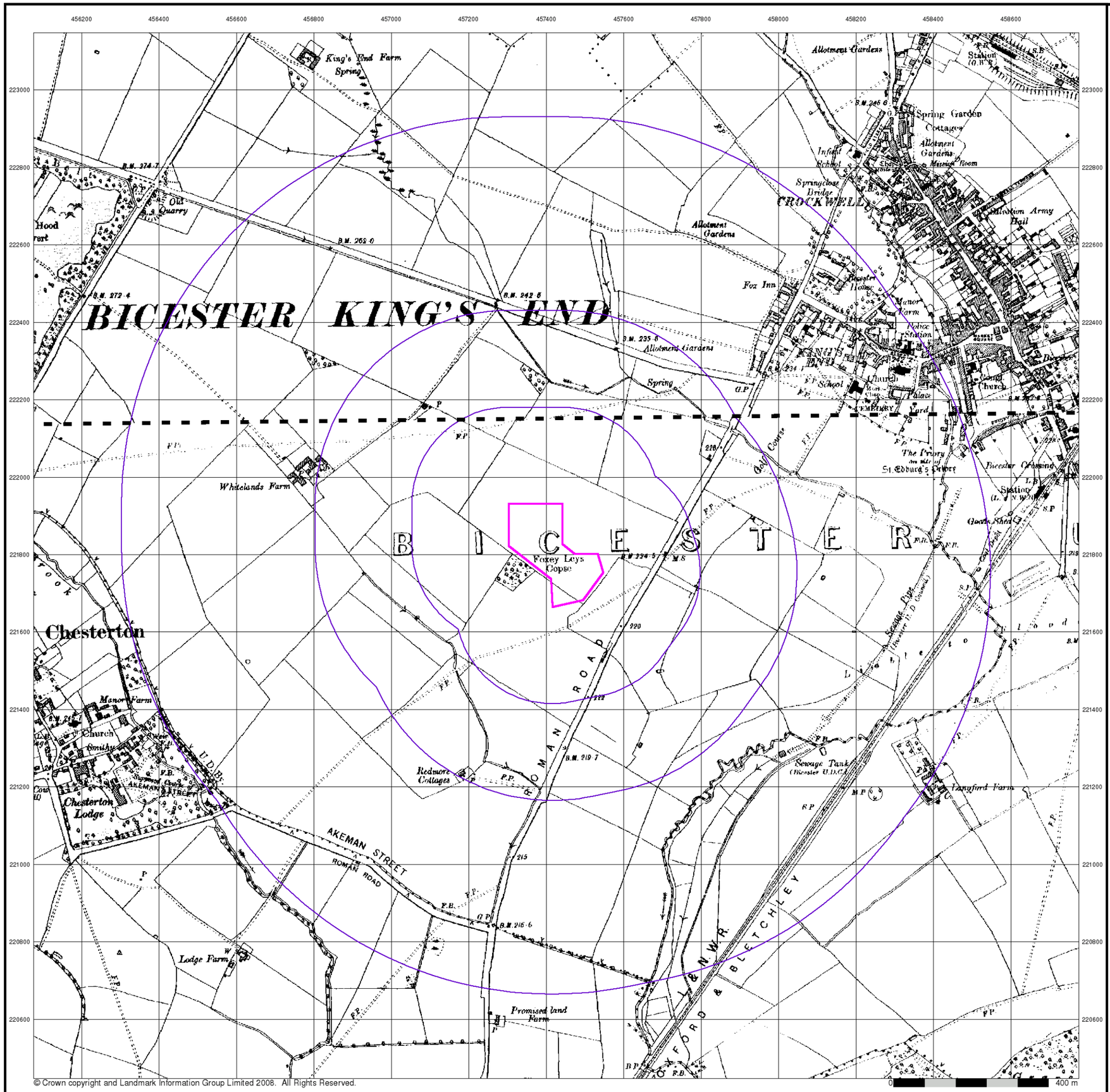


WSP

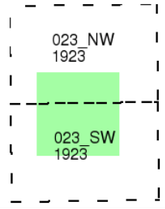
Oxfordshire

Published 1923

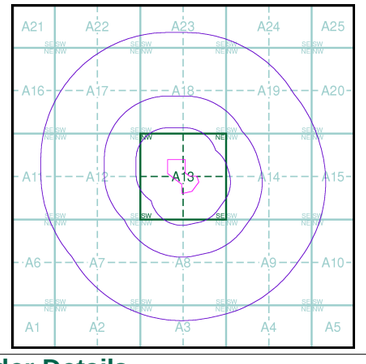
Source map scale - 1:10,560

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; these maps were used to update the 1:10,560 maps. The published date given therefore is often some years later than the surveyed date. Before 1938, all OS maps were based on the Cassini Projection, with independent surveys of a single county or group of counties, giving rise to significant inaccuracies in outlying areas. In the late 1940`s, a Provisional Edition was produced, which updated the 1:10,560 mapping from a number of sources. The maps appear unfinished - with all military camps and other strategic sites removed. These maps were initially overprinted with the National Grid. In 1970, the first 1:10,000 maps were produced using the Transverse Mercator Projection. The revision process continued until recently, with new editions appearing every 10 years or so for urban areas.

Map Name(s) and Date(s)



Historical Map - Slice A



Order Details

Order Number:	26359764_1_1
Customer Ref:	DC/1237/359
National Grid Reference:	457420, 221810
Slice:	A
Site Area (Ha):	3.53
Search Buffer (m):	1000

Site Details

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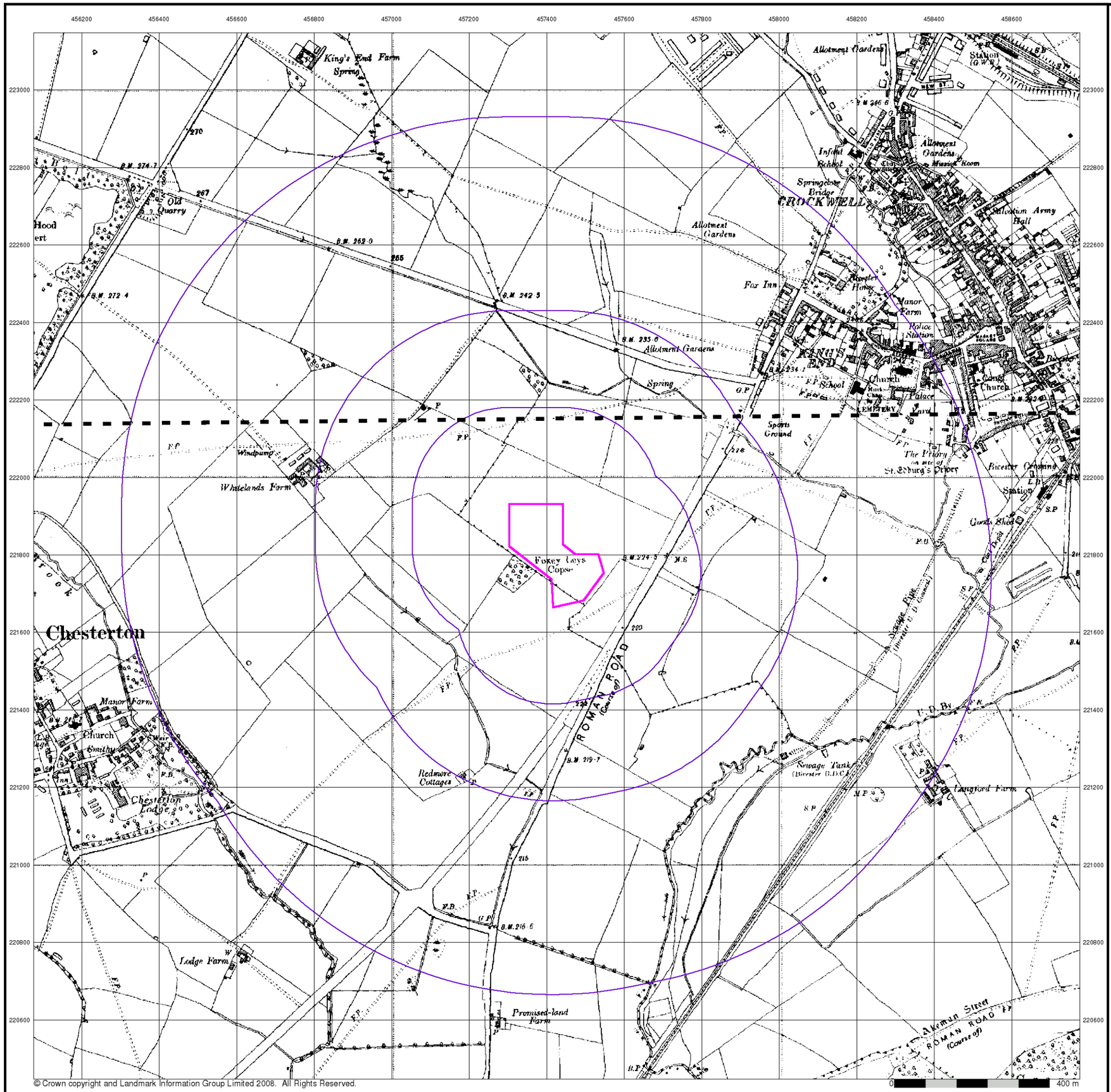

WSP

Oxfordshire

Published 1938 - 1952

Source map scale - 1:10,560

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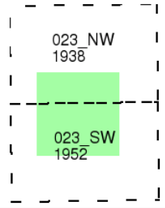
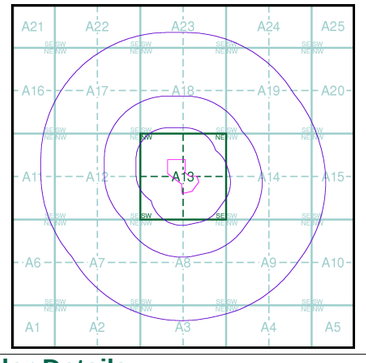
Map Name(s) and Date(s)



Historical Map - Slice A



Order Details

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Customer Ref:	DC/1237/359
National Grid Reference:	457420, 221810
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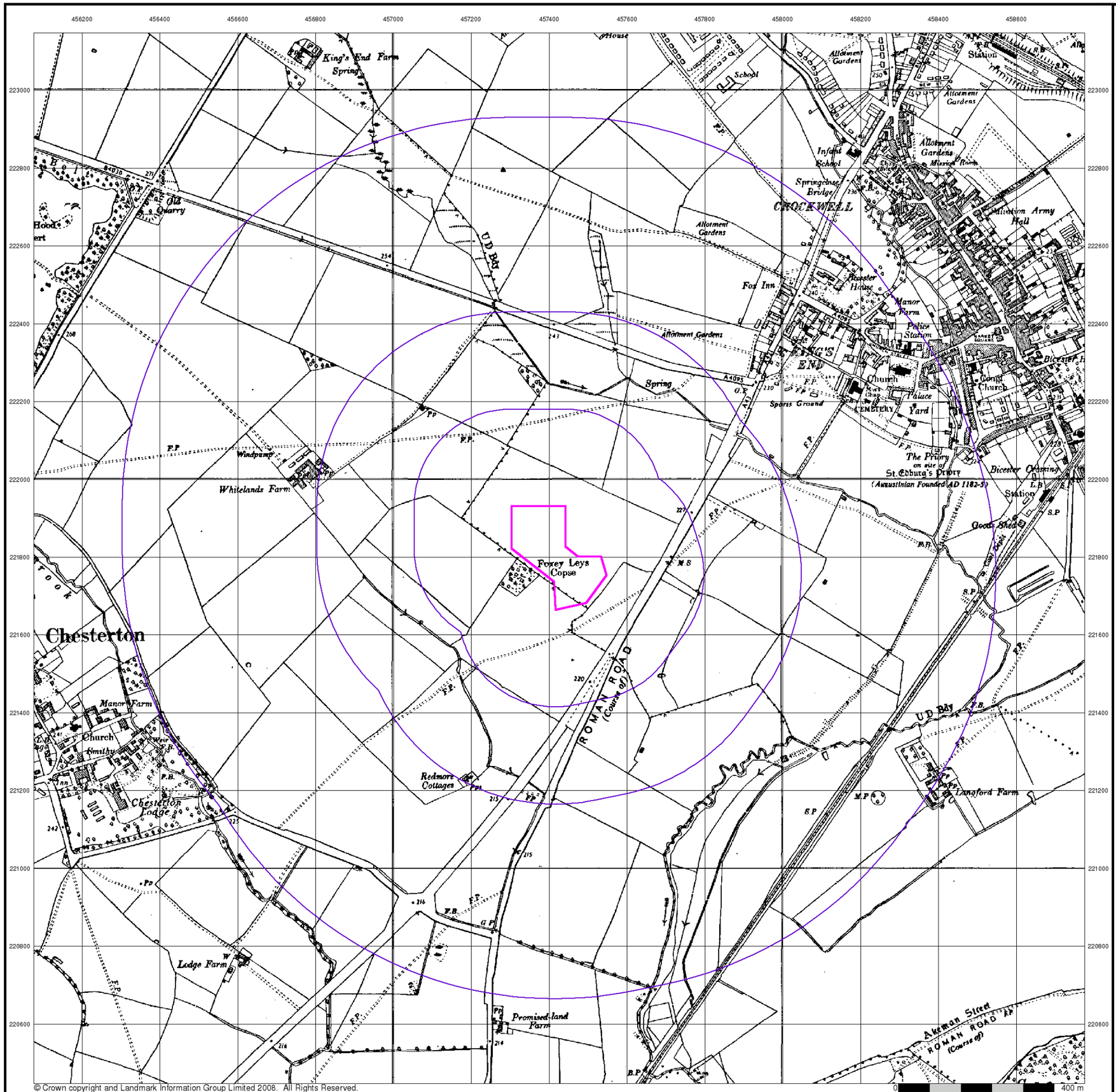

WSP

Ordnance Survey Plan

Published 1955

Source map scale - 1:10,560

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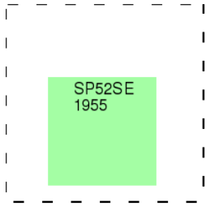
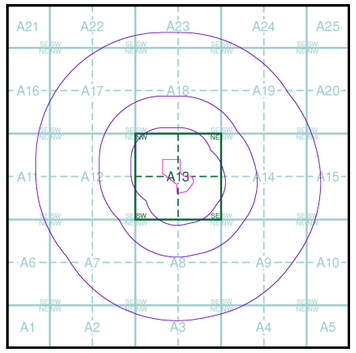
Map Name(s) and Date(s)



Historical Map - Slice A



Order Details

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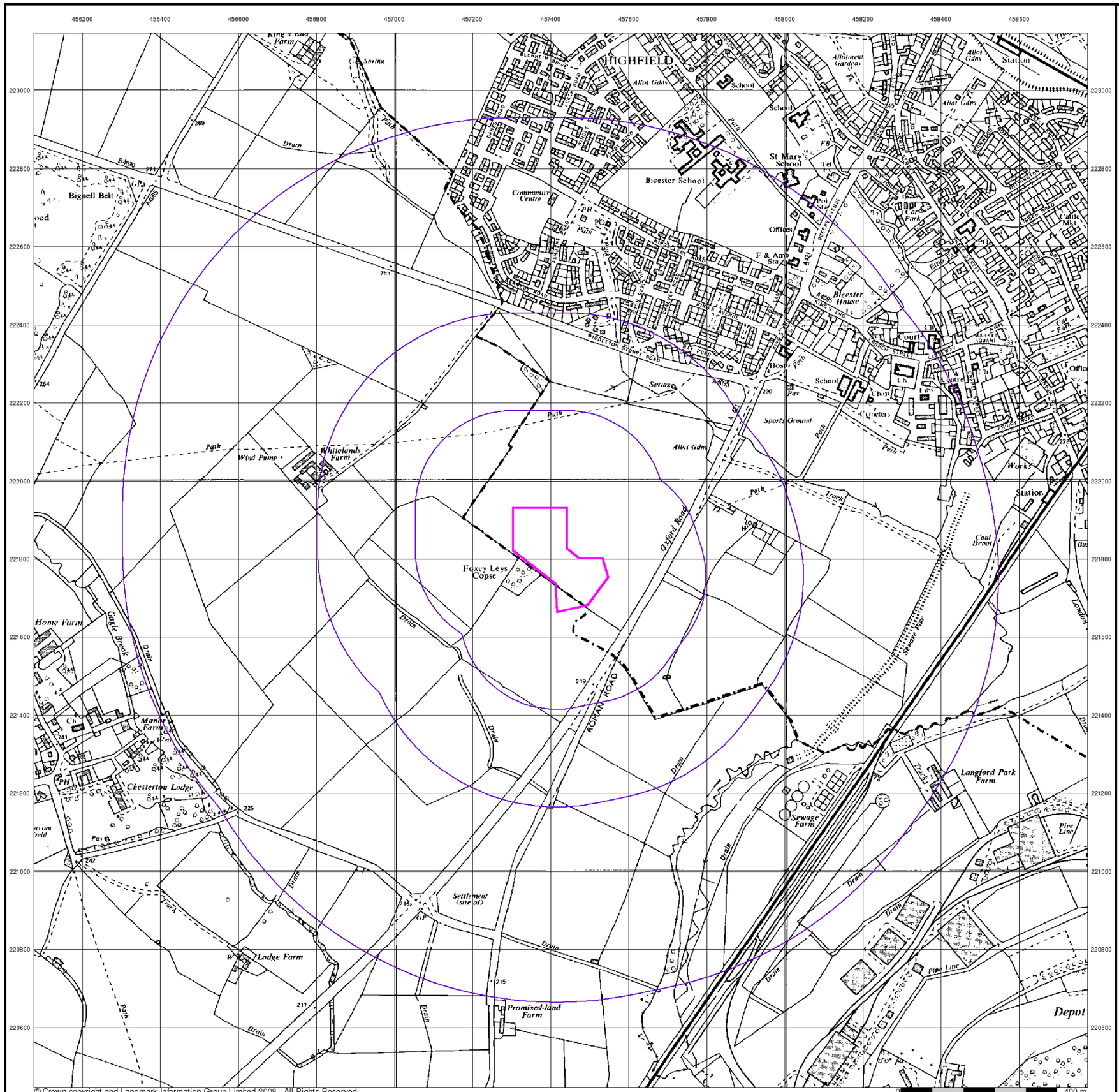


WSP

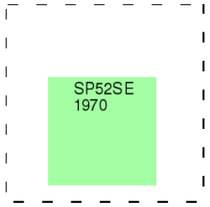
Ordnance Survey Plan

Published 1970

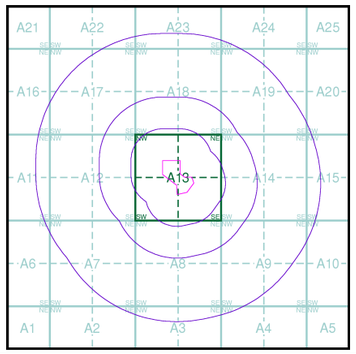
Source map scale - 1:10,560

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; these maps were used to update the 1:10,560 maps. The published date given therefore is often some years later than the surveyed date. Before 1938, all OS maps were based on the Cassini Projection, with independent surveys of a single county or group of counties, giving rise to significant inaccuracies in outlying areas. In the late 1940`s, a Provisional Edition was produced, which updated the 1:10,560 mapping from a number of sources. The maps appear unfinished - with all military camps and other strategic sites removed. These maps were initially overprinted with the National Grid. In 1970, the first 1:10,000 maps were produced using the Transverse Mercator Projection. The revision process continued until recently, with new editions appearing every 10 years or so for urban areas.

Map Name(s) and Date(s)



Historical Map - Slice A



Order Details

Order Number:	26359764_1_1
Customer Ref:	DC/1237/359
National Grid Reference:	457420, 221810
Slice:	A
Site Area (Ha):	3.53
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Site Details

Site at 457400, 221800

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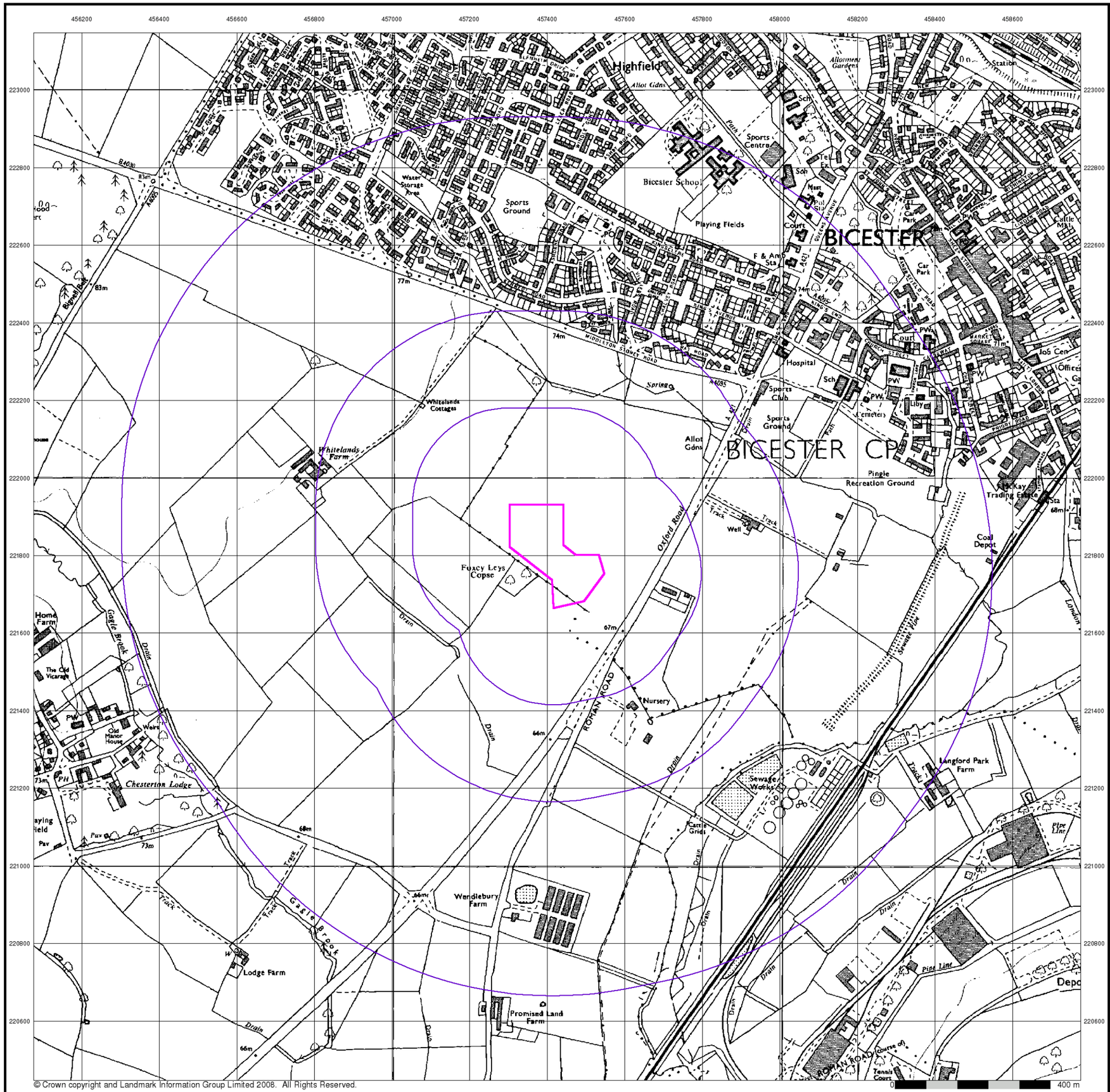


WSP

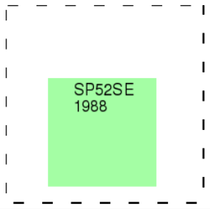
Ordnance Survey Plan

Published 1988

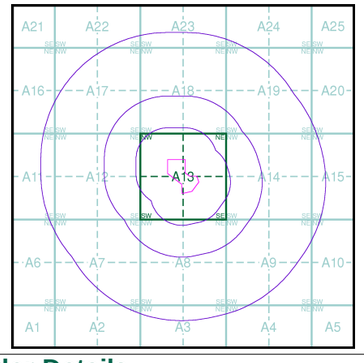
Source map scale - 1:10,000

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; these maps were used to update the 1:10,560 maps. The published date given therefore is often some years later than the surveyed date. Before 1938, all OS maps were based on the Cassini Projection, with independent surveys of a single county or group of counties, giving rise to significant inaccuracies in outlying areas. In the late 1940`s, a Provisional Edition was produced, which updated the 1:10,560 mapping from a number of sources. The maps appear unfinished - with all military camps and other strategic sites removed. These maps were initially overprinted with the National Grid. In 1970, the first 1:10,000 maps were produced using the Transverse Mercator Projection. The revision process continued until recently, with new editions appearing every 10 years or so for urban areas.

Map Name(s) and Date(s)



Historical Map - Slice A



Order Details

Order Number:	26359764_1_1
Customer Ref:	DC/1237/359
National Grid Reference:	457420, 221810
Slice:	A
Site Area (Ha):	3.53
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Site Details

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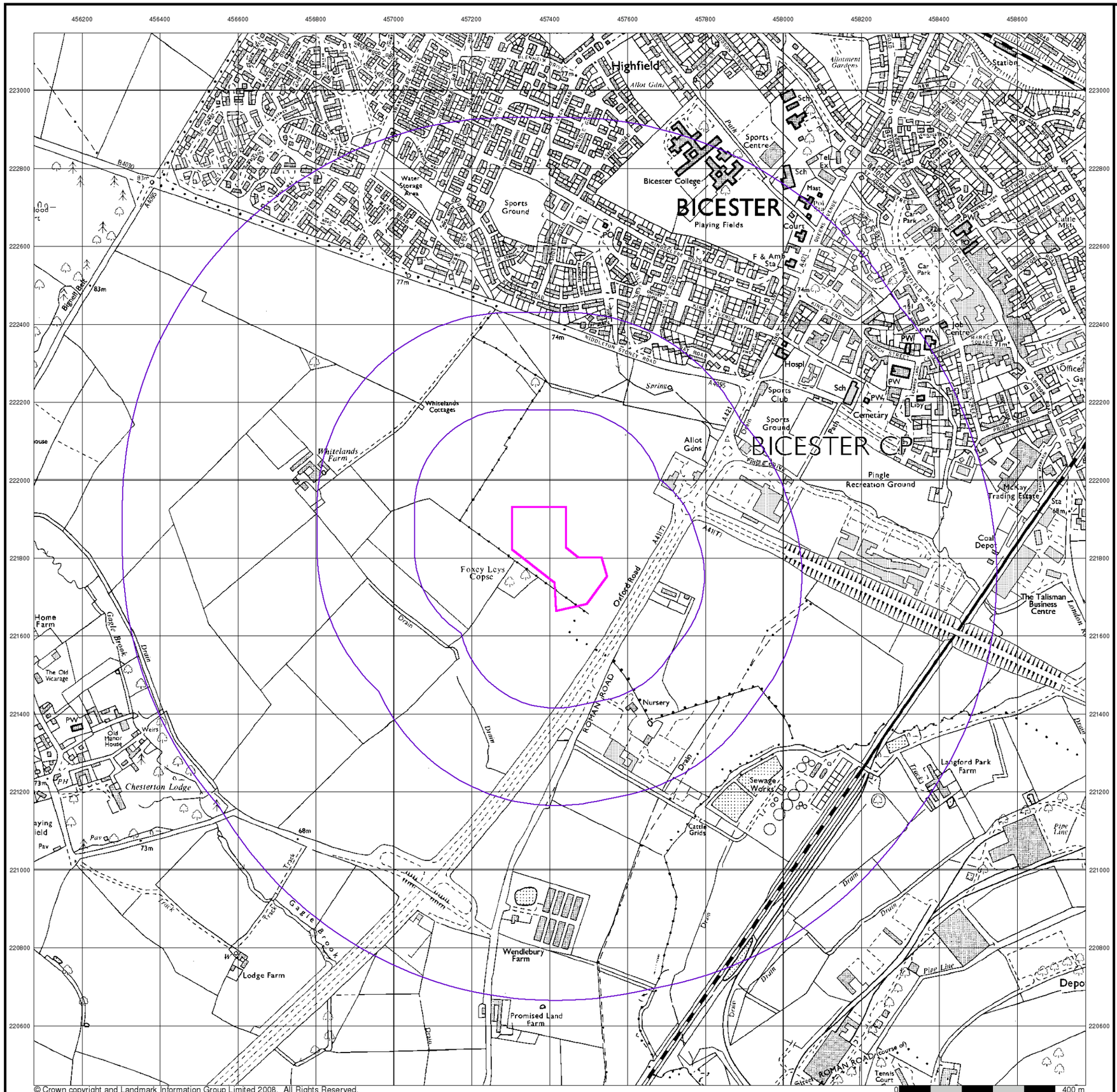


WSP

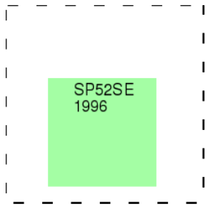
Ordnance Survey Plan

Published 1996

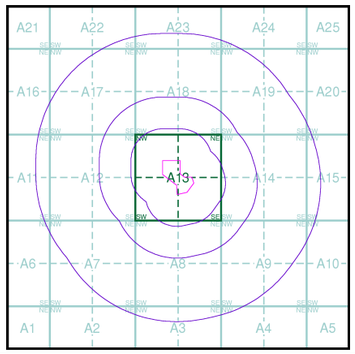
Source map scale - 1:10,000

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; these maps were used to update the 1:10,560 maps. The published date given therefore is often some years later than the surveyed date. Before 1938, all OS maps were based on the Cassini Projection, with independent surveys of a single county or group of counties, giving rise to significant inaccuracies in outlying areas. In the late 1940`s, a Provisional Edition was produced, which updated the 1:10,560 mapping from a number of sources. The maps appear unfinished - with all military camps and other strategic sites removed. These maps were initially overprinted with the National Grid. In 1970, the first 1:10,000 maps were produced using the Transverse Mercator Projection. The revision process continued until recently, with new editions appearing every 10 years or so for urban areas.

Map Name(s) and Date(s)



Historical Map - Slice A



Order Details

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Customer Ref:	DC/1237/359
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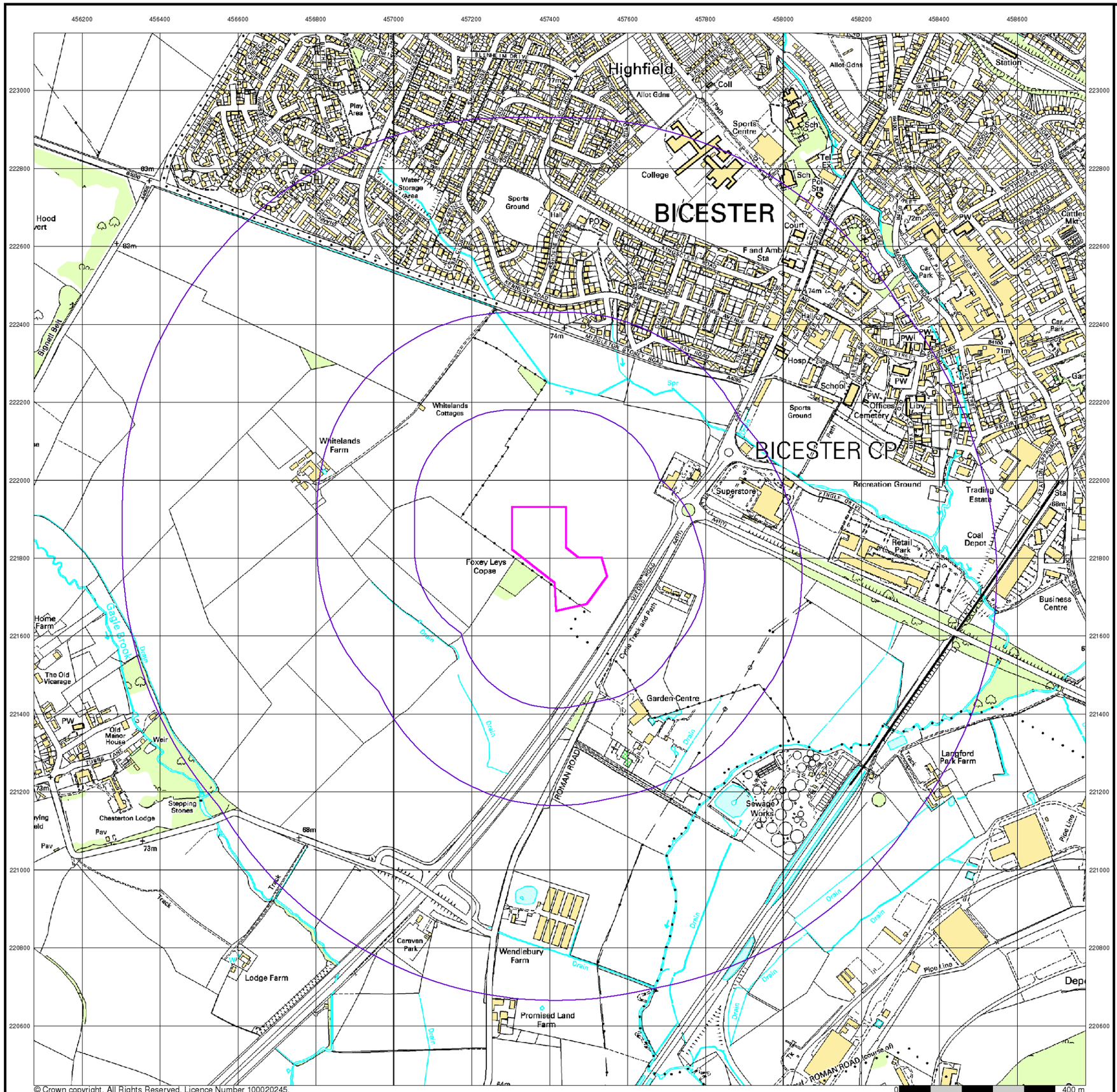


WSP

10K Raster Mapping

Published 1999

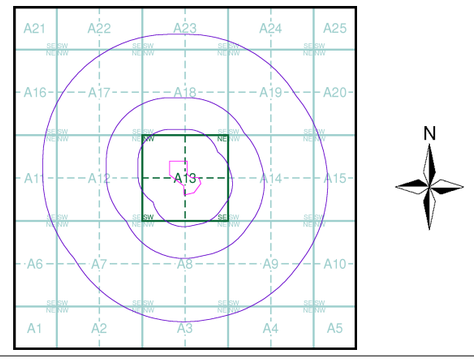
Source map scale - 1:10,000

The historical maps shown were produced from the Ordnance Survey`s 1:10,000 colour raster mapping. These maps are derived from Landplan which replaced the old 1:10,000 maps originally published in 1970. The data is highly detailed showing buildings, fences and field boundaries as well as all roads, tracks and paths. Road names are also included together with the relevant road number and classification. Boundary information depiction includes county, unitary authority, district, civil parish and constituency.

Map Name(s) and Date(s)

SP52SE
1999

Historical Map - Slice A



Order Details

Order Number:	26359764_1_1
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Site Details

Site at 457400, 221800

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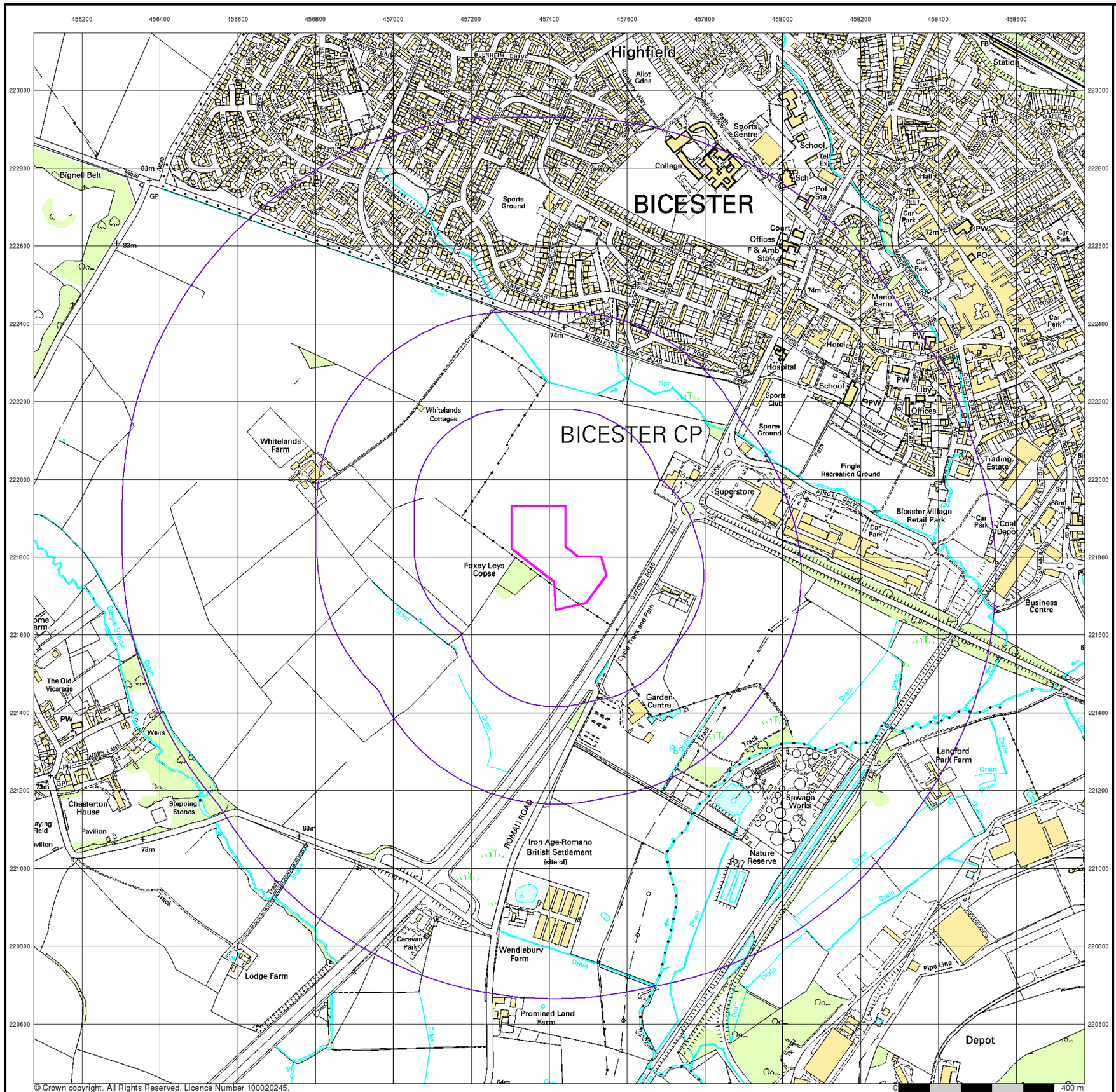


WSP

10K Raster Mapping

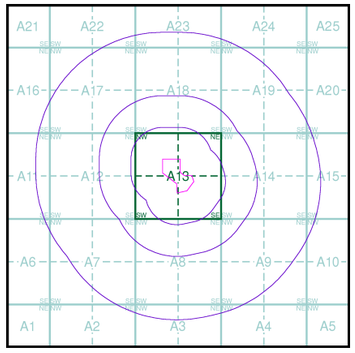
Published 2008

Source map scale - 1:10,000

The historical maps shown were produced from the Ordnance Survey`s 1:10,000 colour raster mapping. These maps are derived from Landplan which replaced the old 1:10,000 maps originally published in 1970. The data is highly detailed showing buildings, fences and field boundaries as well as all roads, tracks and paths. Road names are also included together with the relevant road number and classification. Boundary information depiction includes county, unitary authority, district, civil parish and constituency.

Map Name(s) and Date(s)

Historical Map - Slice A



Order Details

Order Number:	26359764_1_1
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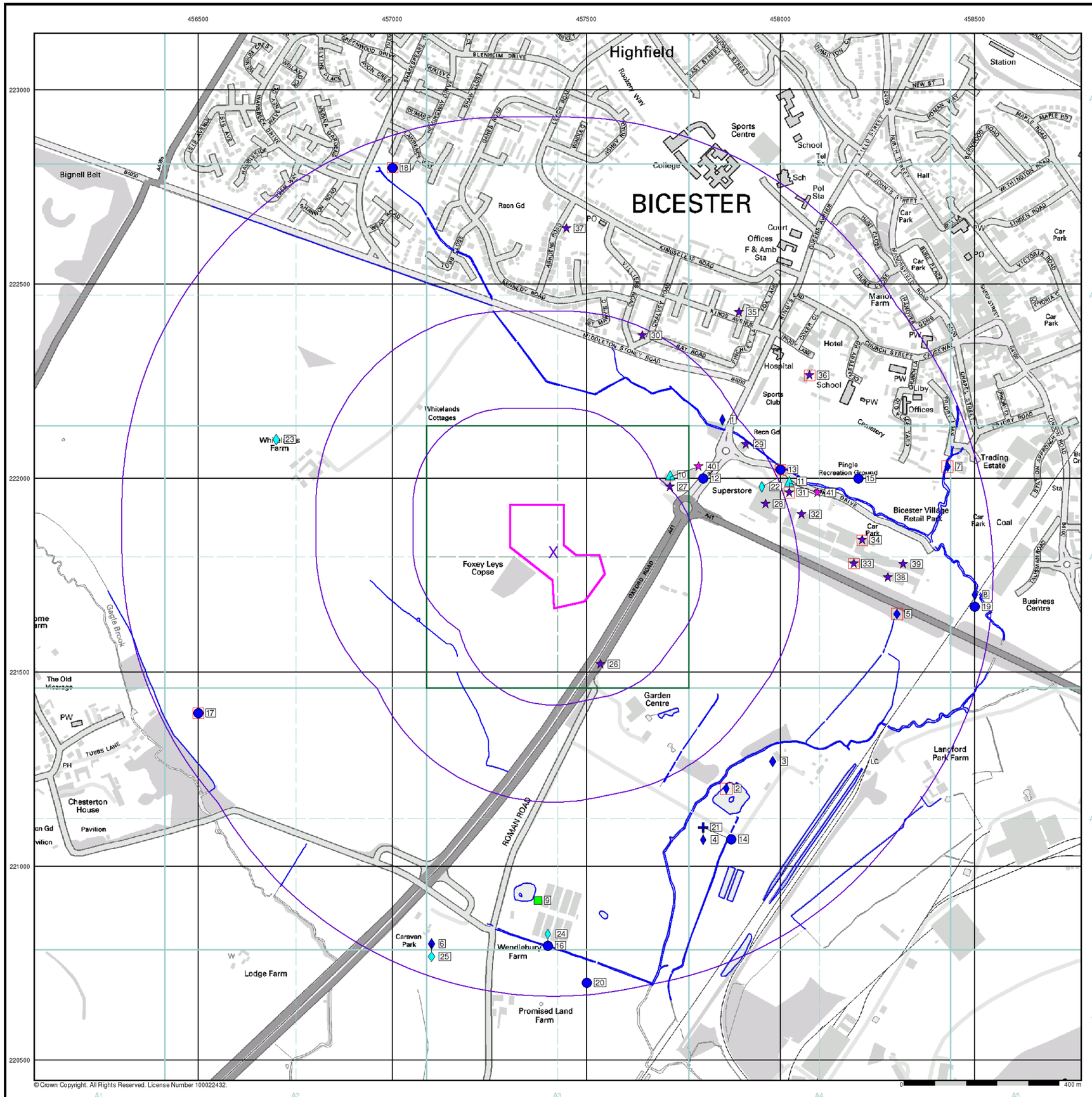


General

- Specified Site
- Specified Buffer(s)
- Bearing Reference Point
- Map ID
- Several of Type at Location

Agency and Hydrological

- Contaminated Land Register Entry or Notice (Location)
- Contaminated Land Register Entry or Notice
- Discharge Consent
- Enforcement or Prohibition Notice
- Integrated Pollution Control
- Integrated Pollution Prevention Control
- Local Authority Integrated Pollution Prevention and Control
- Local Authority Pollution Prevention and Control
- Local Authority Pollution Prevention and Control Enforcement
- Pollution Incident to Controlled Waters
- Prosecution Relating to Authorised Processes
- Prosecution Relating to Controlled Waters
- Registered Radioactive Substance
- River Network or Water Feature
- River Quality Sampling Point
- Substantiated Pollution Incident Register
- Water Abstraction
- Water Industry Act Referral

Geological

- BGS Recorded Mineral Site

Industrial Land Use

- Contemporary Trade Directory Entry
- Fuel Station Entry

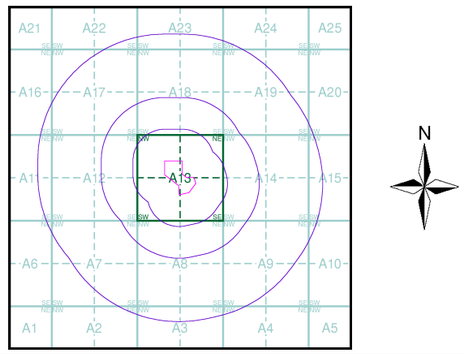
Waste

- BGS Recorded Landfill Site (Location)
- BGS Recorded Landfill Site
- EA Historic Landfill (Buffered Point)
- EA Historic Landfill (Polygon)
- Integrated Pollution Control Registered Waste Site
- Licensed Waste Management Facility (Landfill Boundary)
- Licensed Waste Management Facility (Location)
- Local Authority Recorded Landfill Site (Location)
- Local Authority Recorded Landfill Site
- Registered Landfill Site
- Registered Landfill Site (Location)
- Registered Landfill Site (Point Buffered to 100m)
- Registered Landfill Site (Point Buffered to 250m)
- Registered Waste Transfer Site (Location)
- Registered Waste Transfer Site
- Registered Waste Treatment or Disposal Site (Location)
- Registered Waste Treatment or Disposal Site

Hazardous Substances

- COMAH Site
- Explosive Site
- NIHHS Site
- Planning Hazardous Substance Consent
- Planning Hazardous Substance Enforcement

Site Sensitivity Map - Slice A



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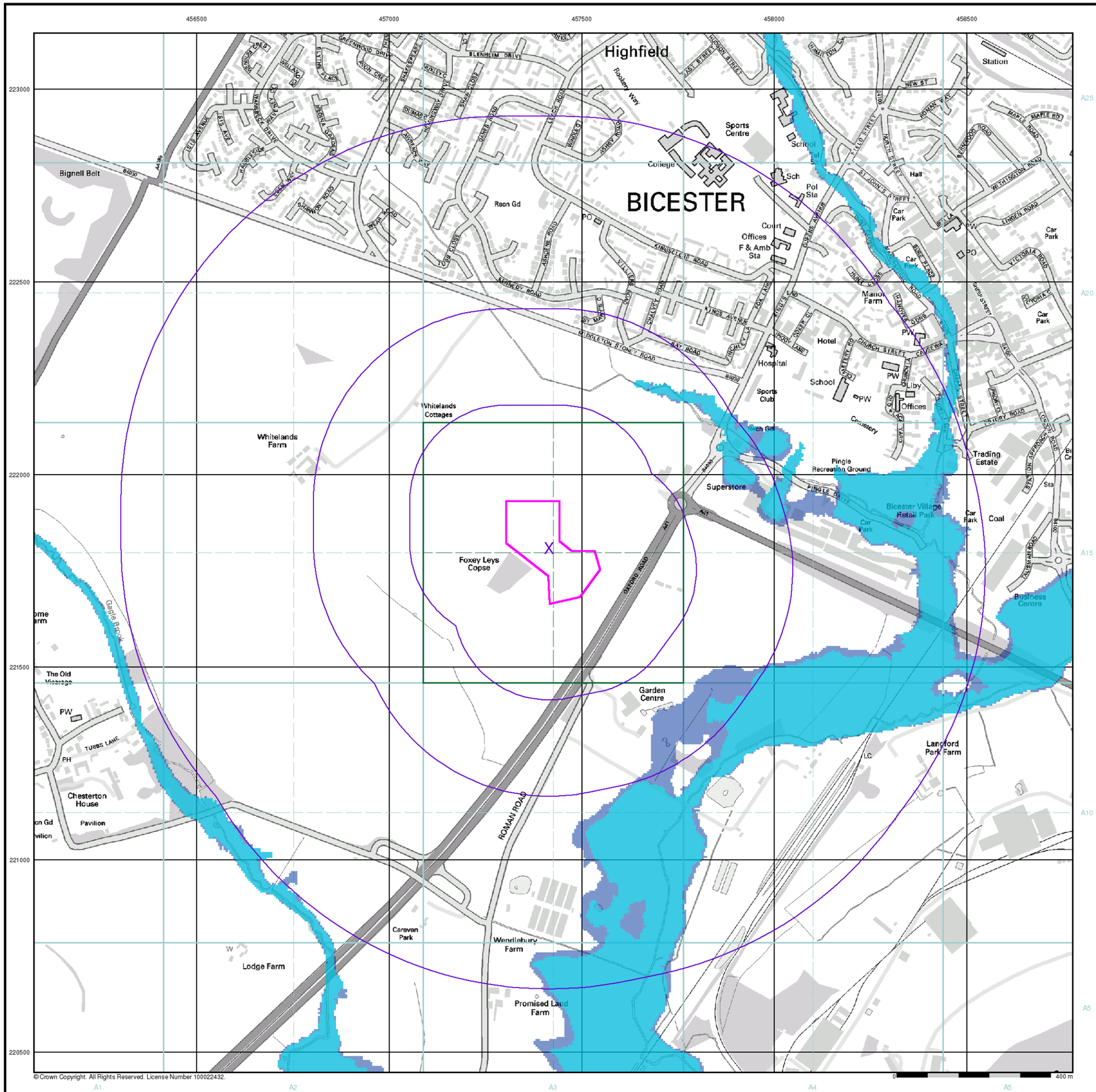
Fax: 0844 844 9951
Web: www.envirocheck.co.uk



WSP

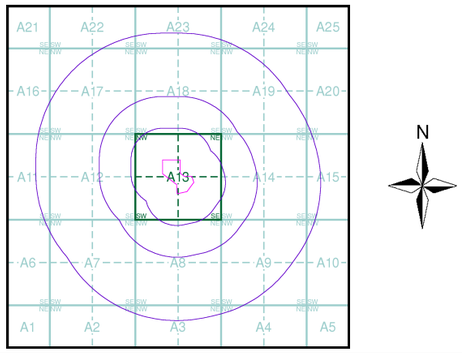
General

- Specified Site
- Specified Buffer(s)
- Bearing Reference Point

Agency and Hydrological (Flood)

- Extreme Flooding from Rivers or Sea without Defences (Zone 2)
- Flooding from Rivers or Sea without Defences (Zone 3)
- Area Benefiting from Flood Defence
- Flood Water Storage Areas
- Flood Defence

Flood Map - Slice A



Order Details

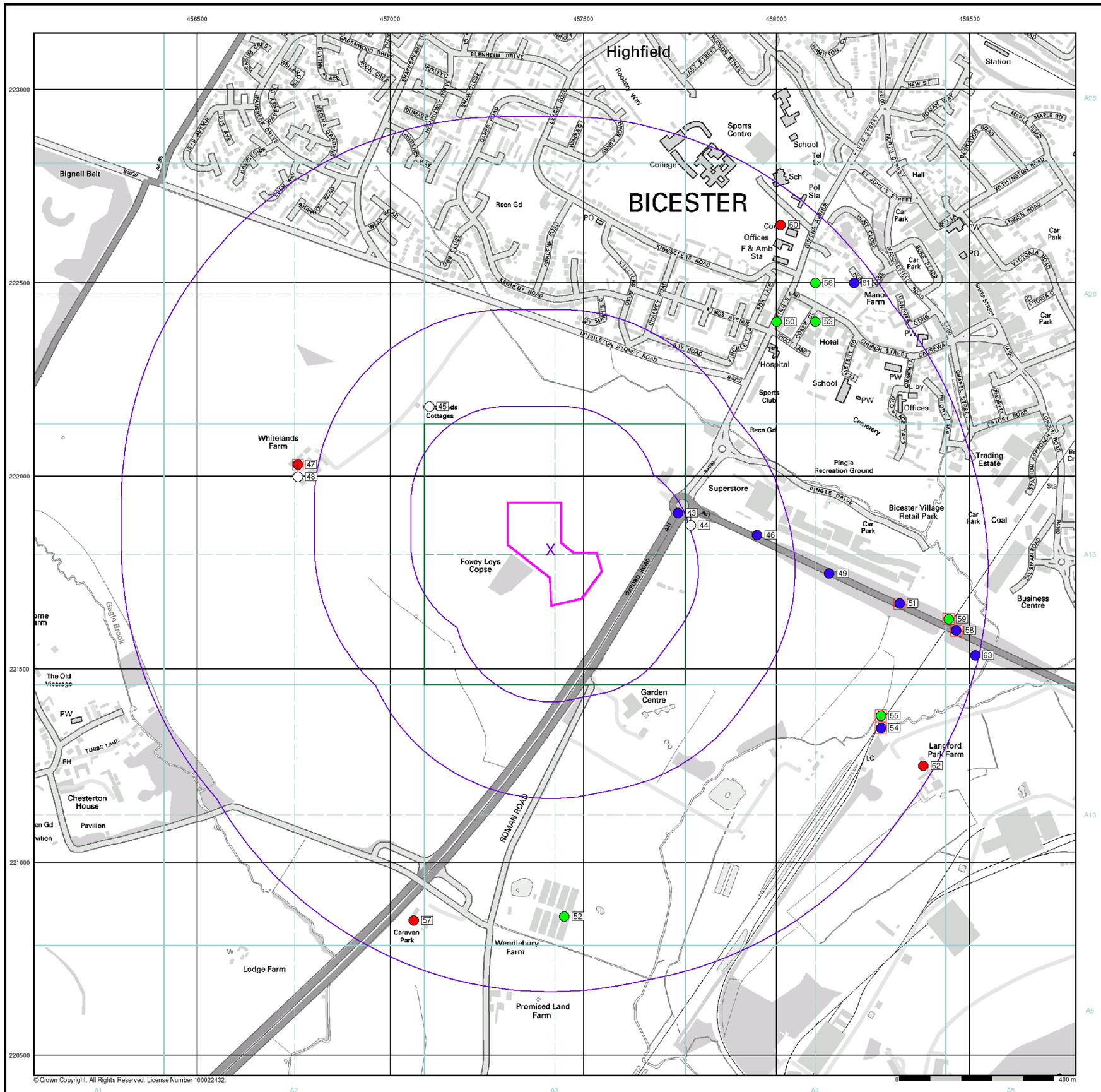
Order Number:	26359764_1_1
Customer Ref:	DC/1237/359
National Grid Reference:	457420, 221810
Slice:	A
Site Area (Ha):	3.53
Search Buffer (m):	1000

Site Details

Site at 457400, 221800

LANDMARK Information Group

Tel: 0844 844 9952
Fax: 0844 844 9951
Web: www.envirocheck.co.uk



WSP

General

- Specified Site
- Specified Buffer(s)
- X Bearing Reference Point
- Map ID
- Several of Type at Location

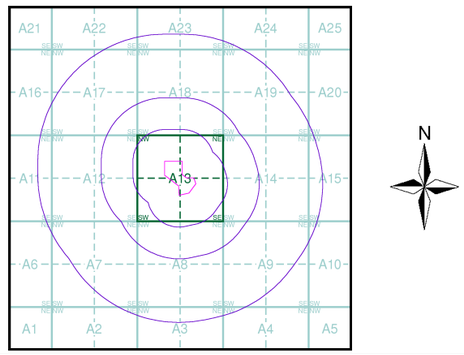
Agency and Hydrological (Boreholes)

- BGS Borehole Depth 0 - 10m
- BGS Borehole Depth 10 - 30m
- BGS Borehole Depth 30m +
- Confidential
- Other

For Borehole information please refer to the Borehole .csv file which accompanied this slice.

A copy of the BGS Borehole Ordering Form is available to download from the Support section of www.envirocheck.co.uk.

Borehole Map - Slice A



Order Details

Order Number:	26359764_1_1
Customer Ref:	DC/1237/359
National Grid Reference:	457420, 221810
Slice:	A
Site Area (Ha):	3.53
Search Buffer (m):	1000

Site Details

Site at 457400, 221800

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APPENDIX D CHEMICAL LABORATORY RESULTS

ALcontrol Laboratories

WSP Environmental Ltd
Mountbatten House
Basing View
Basingstoke
Hampshire
UK
RG21 4HJ

Certificate of Analysis

Job Number 10-19693
Re-Issue

Report Date	27 January 2011
Project Number	12370324 002
Customer	Countryside Properties Ltd
Site Address	C/o Whitelands Farm, Middleton Stoney Road, Bicester, Oxfordshire
Date of Sampling	Unspecified
Date of Analysis	14 December 2010 - 27 January 2011

Dear Helen Gardiner

Please find attached your results for the above project.
This report includes the samples we received at ALcontrol Laboratories on 14 December 2010.
Sample Ids changed as per client request.

Results authorised by

Paul Woodbridge
Chemistry Laboratory Manager

Chemical Analysis is undertaken in accordance with in-house technical procedures and is subject to quality control procedures.
Results are expressed on a dry weight basis (dried at below 30˚C) for all soil analyses.

Solid Samples

ALcontrol Laboratories

Job No. 10-19693
Site: C/o Whitelands Farm, Middleton Stoney Road, Bicester, Oxfordshire
Report Date: 27/01/2011

			Lab No.	213933	213934	213935	213936	213937	213938	213939	213940	213941	213942
			Sample Date	/ /	/ /	/ /	/ /	/ /	/ /	/ /	/ /	/ /	/ /
			Sample Id	TP201	TP202	TP203	TP203	TP204	TP205	TP206	TP206	TP207	TP207
			Other ID										
			Depth (m)	1	1	0.5	1	1	1	0.5	1	1	2
Determination	**LOD**	**Units**	**Method**										
Solid Description			101	---	---	---	---	---	---	---	---	---	---
Solid Description $			SUBCON $	M/S	Sandy Clay	Sandy Clay	Sandy Loam	Clay	Clay Loam	Sandy Clay	Clay	Clay	Clay
Moisture	0.1	%	101	---	---	---	---	---	---	---	---	---	---
Moisture $	0	%	SUBCON $	M/S	8.3	11	8.7	20	14	12	19	20	21
pH $		pH units	SUBCON $	M/S	---	8.89	8.9	8.1	---	8.67	7.94	7.7	7.72
Phenols, Monohydric, as PhOH $	0.025	mg/kg	SUBCON $	---	<0.025	<0.025	---	<0.025	<0.025	---	<0.025	<0.025	---
Selenium, total, as Se $	1	mg/kg	SUBCON $	M/S	<1	<1	<1	<1	<1	<10	<1	<1	<1
Mercury, total, as Hg $	0.14	mg/kg	SUBCON $	M/S	<0.14	<0.14	<0.14	<0.14	<0.14	<0.14	<0.14	<0.14	<0.14
Arsenic, total, as As $	0.6	mg/kg	SUBCON $	M/S	9.05	16.1	9.31	4.48	16.1	57.2	2.84	8.9	2.95
Cadmium, total, as Cd $	0.02	mg/kg	SUBCON $	M/S	<0.02	<0.02	<0.02	<0.02	<0.02	<0.2	<0.02	<0.02	<0.02
Chromium, total, as Cr $	0.9	mg/kg	SUBCON $	M/S	6.36	11	6.84	41	15.8	9.1	41	30	28.1
Copper, total, as Cu $	1.4	mg/kg	SUBCON $	M/S	7.47	3.97	5.57	21.7	9.43	<14	20	13.7	13.8
Nickel, total, as Ni $	0.2	mg/kg	SUBCON $	M/S	8.02	14.5	8.47	10.7	14.6	42	13.8	6.91	5.17
Lead, total, as Pb $	0.7	mg/kg	SUBCON $	M/S	15.5	5.94	6.63	18.1	12.6	13.7	17.6	12.6	10.5
Zinc, total, as Zn $	1.9	mg/kg	SUBCON $	M/S	32.7	10.7	8.49	55.6	35.4	93.9	62.7	40.5	39.4
Naphthalene $	0.009	mg/kg	SUBCON $	---	---	<0.009	---	<0.009	---	---	<0.009	<0.009	---
Acenaphthylene $	0.012	mg/kg	SUBCON $	---	---	<0.012	---	<0.012	---	---	0.0165	<0.012	---
Acenaphthene $	0.008	mg/kg	SUBCON $	---	---	<0.008	---	<0.008	---	---	<0.008	<0.008	---
Fluorene $	0.01	mg/kg	SUBCON $	---	---	<0.01	---	<0.01	---	---	<0.01	<0.01	---
Phenanthrene $	0.015	mg/kg	SUBCON $	---	---	<0.015	---	<0.015	---	---	<0.015	<0.015	---
Anthracene $	0.016	mg/kg	SUBCON $	---	---	<0.016	---	<0.016	---	---	<0.016	<0.016	---
Fluoranthene $	0.017	mg/kg	SUBCON $	---	---	<0.017	---	<0.017	---	---	0.0388	<0.017	---
Pyrene $	0.015	mg/kg	SUBCON $	---	---	<0.015	---	<0.015	---	---	0.0404	<0.015	---
Benzo(a)anthracene $	0.014	mg/kg	SUBCON $	---	---	<0.014	---	<0.014	---	---	0.0321	<0.014	---
Benzo(a)pyrene $	0.015	mg/kg	SUBCON $	---	---	<0.015	---	<0.015	---	---	<0.015	<0.015	---
Chrysene $	0.01	mg/kg	SUBCON $	---	---	<0.01	---	<0.01	---	---	0.023	<0.01	---

Solid Samples

Job No. 10-19693
Site: C/o Whitelands Farm, Middleton Stoney Road, Bicester, Oxfordshire
Report Date: 27/01/2011

			Lab No.	213933	213934	213935	213936	213937	213938	213939	213940	213941	213942
			Sample Date	/ /	/ /	/ /	/ /	/ /	/ /	/ /	/ /	/ /	/ /
			Sample Id	TP201	TP202	TP203	TP203	TP204	TP205	TP206	TP206	TP207	TP207
			Other ID										
			Depth (m)	1	1	0.5	1	1	1	0.5	1	1	2
Determination	**LOD**	**Units**	**Method**										
Benzo(k)fluoranthene $	0.014	mg/kg	SUBCON $	---	---	<0.014	---	<0.014	---	---	<0.014	<0.014	---
Benzo(b)fluoranthene $	0.015	mg/kg	SUBCON $	---	---	<0.015	---	<0.015	---	---	0.0266	<0.015	---
Indeno(1,2,3-c,d)pyrene $	0.018	mg/kg	SUBCON $	---	---	<0.018	---	<0.018	---	---	<0.018	<0.018	---
Dibenzo(a,h)anthracene $	0.023	mg/kg	SUBCON $	---	---	<0.023	---	<0.023	---	---	<0.023	<0.023	---
Benzo(g,h,i)perylene $	0.024	mg/kg	SUBCON $	---	---	<0.024	---	<0.024	---	---	<0.024	<0.024	---
PAH (EPA 16) $		mg/kg	SUBCON $	---	---	<0.118	---	<0.118	---	---	0.177	<0.118	---
Benzene $	0.01	mg/kg	SUBCON $	---	---	---	---	---	---	---	---	---	---
Ethylbenzene $	0.003	mg/kg	SUBCON $	---	---	---	---	---	---	---	---	---	---
o-Xylene $	0.003	mg/kg	SUBCON $	---	---	---	---	---	---	---	---	---	---
MTBE $	0.005	mg/kg	SUBCON $	---	---	---	---	---	---	---	---	---	---
m+p-Xylene $	0.006	mg/kg	SUBCON $	---	---	---	---	---	---	---	---	---	---
TAME $	0.003	mg/kg	SUBCON $	---	---	---	---	---	---	---	---	---	---
Toluene $	0.002	mg/kg	SUBCON $	---	---	---	---	---	---	---	---	---	---
PRO (>C5-C6) $	0.01	mg/kg	SUBCON $	---	---	---	---	---	---	---	---	---	---
PRO (>C6-C8) $	0.01	mg/kg	SUBCON $	---	---	---	---	---	---	---	---	---	---
PRO (>C8-C10) $	0.01	mg/kg	SUBCON $	---	---	---	---	---	---	---	---	---	---
PRO (>C5-C10) $	0.01	mg/kg	SUBCON $	---	---	---	---	---	---	---	---	---	---
PRO (>C6-C10) $	20	mg/kg	SUBCON $	---	---	---	---	---	---	---	---	---	---
EPH (>C6-C8) $	10	mg/kg	SUBCON $	---	---	---	---	---	---	---	---	---	---
EPH (>C8-C12) $	10	mg/kg	SUBCON $	---	---	---	---	---	---	---	---	---	---
EPH (>C12-C16) $	10	mg/kg	SUBCON $	---	---	---	---	---	---	---	---	---	---
EPH (>C16-C21) $	10	mg/kg	SUBCON $	---	---	---	---	---	---	---	---	---	---
EPH (>C21-C40)	10	mg/kg	SUBCON $	---	---	---	---	---	---	---	---	---	---
Total EPH (>C6-C40) $	10	mg/kg	SUBCON $	---	---	---	---	---	---	---	---	---	---
Aliphatic (>C5-C6) $	0.01	mg/kg	SUBCON $	---	---	---	---	---	---	---	---	---	---
Aliphatic (>C6-C8) $	0.01	mg/kg	SUBCON $	---	---	---	---	---	---	---	---	---	---

Solid Samples

ALcontrol Laboratories

Job No. 10-19693
Site: C/o Whitelands Farm, Middleton Stoney Road, Bicester, Oxfordshire
Report Date: 27/01/2011

			Lab No.	213933	213934	213935	213936	213937	213938	213939	213940	213941	213942
			Sample Date	/ /	/ /	/ /	/ /	/ /	/ /	/ /	/ /	/ /	/ /
			Sample Id	TP201	TP202	TP203	TP203	TP204	TP205	TP206	TP206	TP207	TP207
			Other ID										
			Depth (m)	1	1	0.5	1	1	1	0.5	1	1	2
Determination	**LOD**	**Units**	**Method**										
Aliphatic (>C8-C10) $	0.01	mg/kg	SUBCON $	---	---	---	---	---	---	---	---	---	---
Aliphatic (>C10-C12) $	0.01	mg/kg	SUBCON $	---	---	---	---	---	---	---	---	---	---
Aliphatic (>C12-C16) $	0.1	mg/kg	SUBCON $	---	---	---	---	---	---	---	---	---	---
Aliphatic (>C16-C21) $	0.1	mg/kg	SUBCON $	---	---	---	---	---	---	---	---	---	---
Aliphatic (>C21-C35) $	0.1	mg/kg	SUBCON $	---	---	---	---	---	---	---	---	---	---
Aliphatic (>C35-C40) $	0.1	mg/kg	SUBCON $	---	---	---	---	---	---	---	---	---	---
Aliphatic (>C40-C44) $	0.1	mg/kg	SUBCON $	---	---	---	---	---	---	---	---	---	---
Total Aliphatics (>C5-C44) $	0.1	mg/kg	SUBCON $	---	---	---	---	---	---	---	---	---	---
Aromatic (>C6-C7) $	0.01	mg/kg	SUBCON $	---	---	---	---	---	---	---	---	---	---
Aromatic (>C7-C8) $	0.01	mg/kg	SUBCON $	---	---	---	---	---	---	---	---	---	---
Aromatic (>C8-C10) $	0.01	mg/kg	SUBCON $	---	---	---	---	---	---	---	---	---	---
Aromatic (>C10-C12) $	0.01	mg/kg	SUBCON $	---	---	---	---	---	---	---	---	---	---
Aromatic (>C12-C16) $	0.1	mg/kg	SUBCON $	---	---	---	---	---	---	---	---	---	---
Aromatic (>C16-C21) $	0.1	mg/kg	SUBCON $	---	---	---	---	---	---	---	---	---	---
Aromatic (>C21-C35) $	0.1	mg/kg	SUBCON $	---	---	---	---	---	---	---	---	---	---
Aromatic (>C35-C40) $	0.1	mg/kg	SUBCON $	---	---	---	---	---	---	---	---	---	---
Aromatic (>C40-C44) $	0.1	mg/kg	SUBCON $	---	---	---	---	---	---	---	---	---	---
Total Aromatics (>C6-C44) $	0.1	mg/kg	SUBCON $	---	---	---	---	---	---	---	---	---	---
Total TPH (>C5-C44) $	0.1	mg/kg	SUBCON $	---	---	---	---	---	---	---	---	---	---
Dichlorodifluoromethane $	0.004	mg/kg	SUBCON $	---	---	---	---	---	---	---	---	---	---
Chloromethane $	0.007	mg/kg	SUBCON $	---	---	---	---	---	---	---	---	---	---
Chloroethane $	0.014	mg/kg	SUBCON $	---	---	---	---	---	---	---	---	---	---
Bromomethane $	0.013	mg/kg	SUBCON $	---	---	---	---	---	---	---	---	---	---
Trichlorofluoromethane $	0.006	mg/kg	SUBCON $	---	---	---	---	---	---	---	---	---	---
1,1-Dichloroethene $	0.01	mg/kg	SUBCON $	---	---	---	---	---	---	---	---	---	---
MTBE $	0.011	mg/kg	SUBCON $	---	---	---	---	---	---	---	---	---	---

Solid Samples

Job No. 10-19693
Site: C/o Whitelands Farm, Middleton Stoney Road, Bicester, Oxfordshire
Report Date: 27/01/2011

			Lab No.	213933	213934	213935	213936	213937	213938	213939	213940	213941	213942
			Sample Date	/ /	/ /	/ /	/ /	/ /	/ /	/ /	/ /	/ /	/ /
			Sample Id	TP201	TP202	TP203	TP203	TP204	TP205	TP206	TP206	TP207	TP207
			Other ID										
			Depth (m)	1	1	0.5	1	1	1	0.5	1	1	2
Determination	**LOD**	**Units**	**Method**										
Trans-1,2-Dichloroethene $	0.011	mg/kg	SUBCON $	---	---	---	---	---	---	---	---	---	---
1,1-Dichloroethane $	0.008	mg/kg	SUBCON $	---	---	---	---	---	---	---	---	---	---
Cis-1,2-Dichloroethene $	0.005	mg/kg	SUBCON $	---	---	---	---	---	---	---	---	---	---
2,2-Dichloropropane $	0.012	mg/kg	SUBCON $	---	---	---	---	---	---	---	---	---	---
Chloroform $	0.008	mg/kg	SUBCON $	---	---	---	---	---	---	---	---	---	---
Bromochloromethane $	0.014	mg/kg	SUBCON $	---	---	---	---	---	---	---	---	---	---
1,1,1-Trichloroethane $	0.007	mg/kg	SUBCON $	---	---	---	---	---	---	---	---	---	---
1,1-Dichloropropene $	0.011	mg/kg	SUBCON $	---	---	---	---	---	---	---	---	---	---
Benzene $	0.009	mg/kg	SUBCON $	---	---	---	---	---	---	---	---	---	---
1,2-Dichloropropane $	0.012	mg/kg	SUBCON $	---	---	---	---	---	---	---	---	---	---
Trichloroethene $	0.009	mg/kg	SUBCON $	---	---	---	---	---	---	---	---	---	---
Bromodichloromethane $	0.007	mg/kg	SUBCON $	---	---	---	---	---	---	---	---	---	---
Dibromomethane $	0.009	mg/kg	SUBCON $	---	---	---	---	---	---	---	---	---	---
TAME $	0.015	mg/kg	SUBCON $	---	---	---	---	---	---	---	---	---	---
Cis-1,3-Dichloropropene $	0.014	mg/kg	SUBCON $	---	---	---	---	---	---	---	---	---	---
Toluene $	0.005	mg/kg	SUBCON $	---	---	---	---	---	---	---	---	---	---
Trans-1,3-Dichloropropene $	0.011	mg/kg	SUBCON $	---	---	---	---	---	---	---	---	---	---
1,1,2-Trichloroethane $	0.01	mg/kg	SUBCON $	---	---	---	---	---	---	---	---	---	---
Carbon Tetrachloride $	0.014	mg/kg	SUBCON $	---	---	---	---	---	---	---	---	---	---
Vinyl Chloride $	0.01	mg/kg	SUBCON $	---	---	---	---	---	---	---	---	---	---
1,3-Dichloropropane $	0.007	mg/kg	SUBCON $	---	---	---	---	---	---	---	---	---	---
Tetrachloroethene $	0.005	mg/kg	SUBCON $	---	---	---	---	---	---	---	---	---	---
Dibromochloromethane $	0.013	mg/kg	SUBCON $	---	---	---	---	---	---	---	---	---	---
1,2-Dibromoethane $	0.012	mg/kg	SUBCON $	---	---	---	---	---	---	---	---	---	---
Chlorobenzene $	0.005	mg/kg	SUBCON $	---	---	---	---	---	---	---	---	---	---
1,1,1,2-Tetrachloroethane $	0.01	mg/kg	SUBCON $	---	---	---	---	---	---	---	---	---	---

Solid Samples

Job No. 10-19693
Site: C/o Whitelands Farm, Middleton Stoney Road, Bicester, Oxfordshire
Report Date: 27/01/2011

			Lab No.	213933	213934	213935	213936	213937	213938	213939	213940	213941	213942
			Sample Date	/ /	/ /	/ /	/ /	/ /	/ /	/ /	/ /	/ /	/ /
			Sample Id	TP201	TP202	TP203	TP203	TP204	TP205	TP206	TP206	TP207	TP207
			Other ID										
			Depth (m)	1	1	0.5	1	1	1	0.5	1	1	2
Determination	**LOD**	**Units**	**Method**										
Ethylbenzene $	0.003	mg/kg	SUBCON $	---	---	---	---	---	---	---	---	---	---
m,p-Xylene $	0.014	mg/kg	SUBCON $	---	---	---	---	---	---	---	---	---	---
o-Xylene $	0.01	mg/kg	SUBCON $	---	---	---	---	---	---	---	---	---	---
Styrene $	0.01	mg/kg	SUBCON $	---	---	---	---	---	---	---	---	---	---
Bromoform $	0.01	mg/kg	SUBCON $	---	---	---	---	---	---	---	---	---	---
Isopropylbenzene $	0.005	mg/kg	SUBCON $	---	---	---	---	---	---	---	---	---	---
1,1,2,2-Tetrachloroethane $	0.01	mg/kg	SUBCON $	---	---	---	---	---	---	---	---	---	---
1,2,3-Trichloropropane $	0.017	mg/kg	SUBCON $	---	---	---	---	---	---	---	---	---	---
n-Propylbenzene $	0.005	mg/kg	SUBCON $	---	---	---	---	---	---	---	---	---	---
Bromobenzene $	0.01	mg/kg	SUBCON $	---	---	---	---	---	---	---	---	---	---
2-Chlorotoluene $	0.009	mg/kg	SUBCON $	---	---	---	---	---	---	---	---	---	---
1,3,5-Trimethylbenzene $	0.008	mg/kg	SUBCON $	---	---	---	---	---	---	---	---	---	---
4-Chlorotoluene $	0.012	mg/kg	SUBCON $	---	---	---	---	---	---	---	---	---	---
Tert-Butylbenzene $	0.012	mg/kg	SUBCON $	---	---	---	---	---	---	---	---	---	---
1,2,4-Trimethylbenzene $	0.009	mg/kg	SUBCON $	---	---	---	---	---	---	---	---	---	---
sec-Butylbenzene $	0.01	mg/kg	SUBCON $	---	---	---	---	---	---	---	---	---	---
p-Isopropyltoluene $	0.011	mg/kg	SUBCON $	---	---	---	---	---	---	---	---	---	---
1,3-Dichlorobenzene $	0.006	mg/kg	SUBCON $	---	---	---	---	---	---	---	---	---	---
1,4-Dichlorobenzene $	0.005	mg/kg	SUBCON $	---	---	---	---	---	---	---	---	---	---
n-Butylbenzene $	0.01	mg/kg	SUBCON $	---	---	---	---	---	---	---	---	---	---
1,2-Dichlorobenzene $	0.012	mg/kg	SUBCON $	---	---	---	---	---	---	---	---	---	---
1,2-Dibromo-3-Chloropropane $	0.014	mg/kg	SUBCON $	---	---	---	---	---	---	---	---	---	---
1,2,4-Trichlorobenzene $	0.006	mg/kg	SUBCON $	---	---	---	---	---	---	---	---	---	---
Hexachlorobutadiene $	0.012	mg/kg	SUBCON $	---	---	---	---	---	---	---	---	---	---
Naphthalene $	0.013	mg/kg	SUBCON $	---	---	---	---	---	---	---	---	---	---
1,2,3-Trichlorobenzene $	0.006	mg/kg	SUBCON $	---	---	---	---	---	---	---	---	---	---

Solid Samples

Job No. 10-19693
Site: C/o Whitelands Farm, Middleton Stoney Road, Bicester, Oxfordshire
Report Date: 27/01/2011

			Lab No.	213933	213934	213935	213936	213937	213938	213939	213940	213941	213942
			Sample Date	/ /	/ /	/ /	/ /	/ /	/ /	/ /	/ /	/ /	/ /
			Sample Id	TP201	TP202	TP203	TP203	TP204	TP205	TP206	TP206	TP207	TP207
			Other ID										
			Depth (m)	1	1	0.5	1	1	1	0.5	1	1	2
Determination	**LOD**	**Units**	**Method**										
Dichloromethane $	0.01	mg/kg	SUBCON $	---	---	---	---	---	---	---	---	---	---
VOC TIC $			SUBCON $	---	---	---	---	---	---	---	---	---	---
Pyridine	1.3	mg/kg	208	---	---	---	---	---	---	---	---	---	---
N-Nitrosodimethylamine	1.3	mg/kg	208	---	---	---	---	---	---	---	---	---	---
2-Picoline	1.3	mg/kg	208	---	---	---	---	---	---	---	---	---	---
N-Nitrosomethylethylamine	1.3	mg/kg	208	---	---	---	---	---	---	---	---	---	---
N-Nitrosodiethylamine	1.3	mg/kg	208	---	---	---	---	---	---	---	---	---	---
Ethyl methanesulfonate	1.3	mg/kg	208	---	---	---	---	---	---	---	---	---	---
Phenol	1.3	mg/kg	208	---	---	---	---	---	---	---	---	---	---
Aniline	1.3	mg/kg	208	---	---	---	---	---	---	---	---	---	---
Bis(2-chloroethyl)ether	1.3	mg/kg	208	---	---	---	---	---	---	---	---	---	---
Pentachloroethane	1.3	mg/kg	208	---	---	---	---	---	---	---	---	---	---
2-Chlorophenol	1.3	mg/kg	208	---	---	---	---	---	---	---	---	---	---
1,3-Dichlorobenzene	1.3	mg/kg	208	---	---	---	---	---	---	---	---	---	---
1,4-Dichlorobenzene	1.3	mg/kg	208	---	---	---	---	---	---	---	---	---	---
Benzyl alcohol	1.3	mg/kg	208	---	---	---	---	---	---	---	---	---	---
1,2-Dichlorobenzene	1.3	mg/kg	208	---	---	---	---	---	---	---	---	---	---
2-Methylphenol	1.3	mg/kg	208	---	---	---	---	---	---	---	---	---	---
Bis(2-chloroisopropyl)ether	1.3	mg/kg	208	---	---	---	---	---	---	---	---	---	---
N-Nitrosopyrrolidine	1.3	mg/kg	208	---	---	---	---	---	---	---	---	---	---
3+4-methylphenol	1.3	mg/kg	208	---	---	---	---	---	---	---	---	---	---
Acetophenone	1.3	mg/kg	208	---	---	---	---	---	---	---	---	---	---
N-Nitroso-di-N-propylamine	1.3	mg/kg	208	---	---	---	---	---	---	---	---	---	---
o-toluidine	1.3	mg/kg	208	---	---	---	---	---	---	---	---	---	---
Hexachloroethane	1.3	mg/kg	208	---	---	---	---	---	---	---	---	---	---
Nitrobenzene	1.3	mg/kg	208	---	---	---	---	---	---	---	---	---	---

Solid Samples

Job No. 10-19693
Site: C/o Whitelands Farm, Middleton Stoney Road, Bicester, Oxfordshire
Report Date: 27/01/2011

			Lab No.	213933	213934	213935	213936	213937	213938	213939	213940	213941	213942
			Sample Date	/ /	/ /	/ /	/ /	/ /	/ /	/ /	/ /	/ /	/ /
			Sample Id	TP201	TP202	TP203	TP203	TP204	TP205	TP206	TP206	TP207	TP207
			Other ID										
			Depth (m)	1	1	0.5	1	1	1	0.5	1	1	2
Determination	**LOD**	**Units**	**Method**										
N-Nitrosopiperidine	1.3	mg/kg	208	---	---	---	---	---	---	---	---	---	---
Isophorone	1.3	mg/kg	208	---	---	---	---	---	---	---	---	---	---
2-Nitrophenol	1.3	mg/kg	208	---	---	---	---	---	---	---	---	---	---
2,4-Dimethylphenol	1.3	mg/kg	208	---	---	---	---	---	---	---	---	---	---
Bis(2-chloroethoxy)methane	1.3	mg/kg	208	---	---	---	---	---	---	---	---	---	---
2,4-Dichlorophenol	1.3	mg/kg	208	---	---	---	---	---	---	---	---	---	---
1,2,4-Trichlorobenzene	1.3	mg/kg	208	---	---	---	---	---	---	---	---	---	---
Naphthalene	1.3	mg/kg	208	---	---	---	---	---	---	---	---	---	---
2,6-Dichlorophenol	1.3	mg/kg	208	---	---	---	---	---	---	---	---	---	---
p-Chloroaniline	1.3	mg/kg	208	---	---	---	---	---	---	---	---	---	---
Hexachloropropene	1.3	mg/kg	208	---	---	---	---	---	---	---	---	---	---
Hexachlorobutadiene	1.3	mg/kg	208	---	---	---	---	---	---	---	---	---	---
N-Nitroso-di-N-butylamine	1.3	mg/kg	208	---	---	---	---	---	---	---	---	---	---
4-Chloro-3-methylphenol	1.3	mg/kg	208	---	---	---	---	---	---	---	---	---	---
Safrole	1.3	mg/kg	208	---	---	---	---	---	---	---	---	---	---
2-Methylnaphthalene	1.3	mg/kg	208	---	---	---	---	---	---	---	---	---	---
1,2,4,5-Tetrachlorobenzene	1.3	mg/kg	208	---	---	---	---	---	---	---	---	---	---
Hexachlorocyclopentadiene	1.3	mg/kg	208	---	---	---	---	---	---	---	---	---	---
2,4,5-Trichlorophenol	1.3	mg/kg	208	---	---	---	---	---	---	---	---	---	---
2,4,6-Trichlorophenol	1.3	mg/kg	208	---	---	---	---	---	---	---	---	---	---
Isosafrole	1.3	mg/kg	208	---	---	---	---	---	---	---	---	---	---
2-Chloronaphthalene	1.3	mg/kg	208	---	---	---	---	---	---	---	---	---	---
2-Nitroaniline	1.3	mg/kg	208	---	---	---	---	---	---	---	---	---	---
1,4-Naphthoquinone	1.3	mg/kg	208	---	---	---	---	---	---	---	---	---	---
Dimethyl phthalate	1.3	mg/kg	208	---	---	---	---	---	---	---	---	---	---
1,3-Dinitrobenzene	1.3	mg/kg	208	---	---	---	---	---	---	---	---	---	---

Solid Samples

Job No. 10-19693
Site: C/o Whitelands Farm, Middleton Stoney Road, Bicester, Oxfordshire
Report Date: 27/01/2011

			Lab No.	213933	213934	213935	213936	213937	213938	213939	213940	213941	213942
			Sample Date	/ /	/ /	/ /	/ /	/ /	/ /	/ /	/ /	/ /	/ /
			Sample Id	TP201	TP202	TP203	TP203	TP204	TP205	TP206	TP206	TP207	TP207
			Other ID										
			Depth (m)	1	1	0.5	1	1	1	0.5	1	1	2
Determination	**LOD**	**Units**	**Method**										
2,6-Dinitrotoluene	1.3	mg/kg	208	---	---	---	---	---	---	---	---	---	---
Acenaphthylene	1.3	mg/kg	208	---	---	---	---	---	---	---	---	---	---
3-Nitroaniline	1.3	mg/kg	208	---	---	---	---	---	---	---	---	---	---
Acenaphthene	1.3	mg/kg	208	---	---	---	---	---	---	---	---	---	---
4-Nitrophenol	1.3	mg/kg	208	---	---	---	---	---	---	---	---	---	---
Pentachlorobenzene	1.3	mg/kg	208	---	---	---	---	---	---	---	---	---	---
2,4-Dinitrotoluene	1.3	mg/kg	208	---	---	---	---	---	---	---	---	---	---
Dibenzofuran	1.3	mg/kg	208	---	---	---	---	---	---	---	---	---	---
1-Naphthylamine	1.3	mg/kg	208	---	---	---	---	---	---	---	---	---	---
2,3,4,6-Tetrachlorophenol	1.3	mg/kg	208	---	---	---	---	---	---	---	---	---	---
2-Naphthylamine	1.3	mg/kg	208	---	---	---	---	---	---	---	---	---	---
Diethyl Phthalate	1.3	mg/kg	208	---	---	---	---	---	---	---	---	---	---
4-Chlorophenyl phenyl ether	1.3	mg/kg	208	---	---	---	---	---	---	---	---	---	---
Fluorene	1.3	mg/kg	208	---	---	---	---	---	---	---	---	---	---
2-Methyl-4,6-dinitrophenol	1.3	mg/kg	208	---	---	---	---	---	---	---	---	---	---
Diphenylamine	1.3	mg/kg	208	---	---	---	---	---	---	---	---	---	---
Azobenzene	1.3	mg/kg	208	---	---	---	---	---	---	---	---	---	---
1,3,5-Trinitrobenzene	1.3	mg/kg	208	---	---	---	---	---	---	---	---	---	---
4-Bromophenyl phenyl ether	1.3	mg/kg	208	---	---	---	---	---	---	---	---	---	---
Diallate	1.3	mg/kg	208	---	---	---	---	---	---	---	---	---	---
Hexachlorobenzene	1.3	mg/kg	208	---	---	---	---	---	---	---	---	---	---
4-Aminobiphenyl	1.3	mg/kg	208	---	---	---	---	---	---	---	---	---	---
Pentachlorophenol	1.3	mg/kg	208	---	---	---	---	---	---	---	---	---	---
Pentachloronitrobenzene	1.3	mg/kg	208	---	---	---	---	---	---	---	---	---	---
Pronamide	1.3	mg/kg	208	---	---	---	---	---	---	---	---	---	---
Dinoseb	1.3	mg/kg	208	---	---	---	---	---	---	---	---	---	---

Solid Samples

Job No. 10-19693
Site: C/o Whitelands Farm, Middleton Stoney Road, Bicester, Oxfordshire
Report Date: 27/01/2011

			Lab No.	213933	213934	213935	213936	213937	213938	213939	213940	213941	213942
			Sample Date	/ /	/ /	/ /	/ /	/ /	/ /	/ /	/ /	/ /	/ /
			Sample Id	TP201	TP202	TP203	TP203	TP204	TP205	TP206	TP206	TP207	TP207
			Other ID										
			Depth (m)	1	1	0.5	1	1	1	0.5	1	1	2
Determination	**LOD**	**Units**	**Method**										
Phenanthrene	1.3	mg/kg	208	---	---	---	---	---	---	---	---	---	---
Anthracene	1.3	mg/kg	208	---	---	---	---	---	---	---	---	---	---
Carbazole	1.3	mg/kg	208	---	---	---	---	---	---	---	---	---	---
Di-N-butyl phthalate	1.3	mg/kg	208	---	---	---	---	---	---	---	---	---	---
Isodrin	1.3	mg/kg	208	---	---	---	---	---	---	---	---	---	---
Fluoranthene	1.3	mg/kg	208	---	---	---	---	---	---	---	---	---	---
Benzidine	1.3	mg/kg	208	---	---	---	---	---	---	---	---	---	---
Pyrene	1.3	mg/kg	208	---	---	---	---	---	---	---	---	---	---
p-Dimethylaminoazobenzene	1.3	mg/kg	208	---	---	---	---	---	---	---	---	---	---
Chlorobenzilate	1.3	mg/kg	208	---	---	---	---	---	---	---	---	---	---
3,3-Dimethylbenzidine	1.3	mg/kg	208	---	---	---	---	---	---	---	---	---	---
Butyl Benzyl Phthalate	1.3	mg/kg	208	---	---	---	---	---	---	---	---	---	---
Kepone	1.3	mg/kg	208	---	---	---	---	---	---	---	---	---	---
2-Acetylaminofluorene	1.3	mg/kg	208	---	---	---	---	---	---	---	---	---	---
3,3-Dichlorobenzidine	1.3	mg/kg	208	---	---	---	---	---	---	---	---	---	---
Chrysene	1.3	mg/kg	208	---	---	---	---	---	---	---	---	---	---
Benzo(a)anthracene	1.3	mg/kg	208	---	---	---	---	---	---	---	---	---	---
Bis(2-ethylhexyl)phthalate	1.3	mg/kg	208	---	---	---	---	---	---	---	---	---	---
Di-n-octylphthalate	1.3	mg/kg	208	---	---	---	---	---	---	---	---	---	---
7,12-Dimethylbenz(a)anthracene	1.3	mg/kg	208	---	---	---	---	---	---	---	---	---	---
Benzo(b)fluoranthene	1.3	mg/kg	208	---	---	---	---	---	---	---	---	---	---
Benzo(k)fluoranthene	1.3	mg/kg	208	---	---	---	---	---	---	---	---	---	---
Benzo(a)pyrene	1.3	mg/kg	208	---	---	---	---	---	---	---	---	---	---
3-Methylcholanthrene	1.3	mg/kg	208	---	---	---	---	---	---	---	---	---	---
Indeno(1,2,3-c,d)pyrene	1.3	mg/kg	208	---	---	---	---	---	---	---	---	---	---
Dibenzo(a,h)anthracene	1.3	mg/kg	208	---	---	---	---	---	---	---	---	---	---

Solid Samples

Job No. 10-19693
Site: C/o Whitelands Farm, Middleton Stoney Road, Bicester, Oxfordshire
Report Date: 27/01/2011

			Lab No.	213933	213934	213935	213936	213937	213938	213939	213940	213941	213942
			Sample Date	/ /	/ /	/ /	/ /	/ /	/ /	/ /	/ /	/ /	/ /
			Sample Id	TP201	TP202	TP203	TP203	TP204	TP205	TP206	TP206	TP207	TP207
			Other ID										
			Depth (m)	1	1	0.5	1	1	1	0.5	1	1	2
Determination	**LOD**	**Units**	**Method**										
Benzo(g,h,i)perylene	1.3	mg/kg	208	---	---	---	---	---	---	---	---	---	---
3+4-Chlorophenol	1.3	mg/kg	208	---	---	---	---	---	---	---	---	---	---
SVOC Tentatively Identifiable Compounds			208	---	---	---	---	---	---	---	---	---	---
1,2-Dichloroethane $	0.005	mg/kg	SUBCON $	---	---	---	---	---	---	---	---	---	---

Solid Samples

ALcontrol Laboratories

Job No. 10-19693
Site: C/o Whitelands Farm, Middleton Stoney Road, Bicester, Oxfordshire
Report Date: 27/01/2011

			Lab No.	213943	213944	213945	213946	213947	213948	213949	213950	213951	213952
			Sample Date	/ /	/ /	/ /	/ /	/ /	/ /	/ /	/ /	/ /	/ /
			Sample Id	TP208	TP208	TP209	TP210	TP220	TP212	TP213	TP214	TP215	TP216
			Other ID										
			Depth (m)	1	2	1	1	1	1	1	1	0.7	0.4
Determination	**LOD**	**Units**	**Method**										
Solid Description			101	---	---	---	---	---	---	---	---	---	---
Solid Description $			SUBCON $	Clay	Clay	Sandy Clay Loam	Clay	Clay	Silty Clay	Sandy Silt Loam	Sandy Loam	Sandy Loam	Sandy Clay
Moisture	0.1	%	101	---	---	---	---	---	---	---	---	---	---
Moisture $	0	%	SUBCON $	22	22	16	22	21	10	12	9.3	9.2	24
pH $		pH units	SUBCON $	7.87	8.14	8.66	5.29	7.8	8.79	8.54	8.64	8.75	8.34
Phenols, Monohydric, as PhOH $	0.025	mg/kg	SUBCON $	<0.025	---	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025
Selenium, total, as Se $	1	mg/kg	SUBCON $	<10	<1	<1	<1	<1	<1	<10	<1	<1	<10
Mercury, total, as Hg $	0.14	mg/kg	SUBCON $	<0.14	<0.14	<0.14	<0.14	<0.14	<0.14	<0.14	<0.14	<0.14	<0.14
Arsenic, total, as As $	0.6	mg/kg	SUBCON $	7.56	6.72	10.1	3.75	5.82	5.28	17.3	15	9.45	121
Cadmium, total, as Cd $	0.02	mg/kg	SUBCON $	<0.2	<0.02	<0.02	<0.02	<0.02	<0.02	<0.2	<0.02	<0.02	<0.2
Chromium, total, as Cr $	0.9	mg/kg	SUBCON $	44.1	28.7	10.6	30.3	27.6	9	12.6	7.79	6.61	56.8
Copper, total, as Cu $	1.4	mg/kg	SUBCON $	28	21.8	7.86	20.6	17.2	4.56	<14	10.1	4.86	26.8
Nickel, total, as Ni $	0.2	mg/kg	SUBCON $	23.8	7.89	12.1	7.17	5.87	5.86	19.9	19.9	11.2	104
Lead, total, as Pb $	0.7	mg/kg	SUBCON $	20	13.8	8.22	19.1	19.8	5.02	<7	10.8	7.71	20.7
Zinc, total, as Zn $	1.9	mg/kg	SUBCON $	60.8	63	12.4	53.4	50.5	8.64	55.1	33.7	19.1	118
Naphthalene $	0.009	mg/kg	SUBCON $	<0.009	---	0.0223	<0.009	<0.009	<0.009	<0.009	<0.009	<0.009	<0.009
Acenaphthylene $	0.012	mg/kg	SUBCON $	<0.012	---	<0.012	0.0223	<0.012	<0.012	<0.012	<0.012	<0.012	<0.012
Acenaphthene $	0.008	mg/kg	SUBCON $	<0.008	---	<0.008	<0.008	<0.008	<0.008	<0.008	<0.008	<0.008	<0.008
Fluorene $	0.01	mg/kg	SUBCON $	<0.01	---	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Phenanthrene $	0.015	mg/kg	SUBCON $	<0.015	---	<0.015	0.021	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015
Anthracene $	0.016	mg/kg	SUBCON $	<0.016	---	<0.016	<0.016	<0.016	<0.016	<0.016	<0.016	<0.016	<0.016
Fluoranthene $	0.017	mg/kg	SUBCON $	<0.017	---	<0.017	0.0453	<0.017	<0.017	<0.017	<0.017	<0.017	<0.017
Pyrene $	0.015	mg/kg	SUBCON $	<0.015	---	<0.015	0.0481	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015
Benzo(a)anthracene $	0.014	mg/kg	SUBCON $	<0.014	---	0.0193	0.0232	<0.014	<0.014	<0.014	<0.014	<0.014	<0.014
Benzo(a)pyrene $	0.015	mg/kg	SUBCON $	<0.015	---	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015
Chrysene $	0.01	mg/kg	SUBCON $	<0.01	---	0.0234	0.0305	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01

Solid Samples

Job No. 10-19693
Site: C/o Whitelands Farm, Middleton Stoney Road, Bicester, Oxfordshire
Report Date: 27/01/2011

			Lab No.	213943	213944	213945	213946	213947	213948	213949	213950	213951	213952
			Sample Date	/ /	/ /	/ /	/ /	/ /	/ /	/ /	/ /	/ /	/ /
			Sample Id	TP208	TP208	TP209	TP210	TP220	TP212	TP213	TP214	TP215	TP216
			Other ID										
			Depth (m)	1	2	1	1	1	1	1	1	0.7	0.4
Determination	**LOD**	**Units**	**Method**										
Benzo(k)fluoranthene $	0.014	mg/kg	SUBCON $	<0.014	---	<0.014	<0.014	<0.014	<0.014	<0.014	<0.014	<0.014	<0.014
Benzo(b)fluoranthene $	0.015	mg/kg	SUBCON $	<0.015	---	0.0345	0.0211	<0.015	0.0188	<0.015	<0.015	<0.015	<0.015
Indeno(1,2,3-c,d)pyrene $	0.018	mg/kg	SUBCON $	<0.018	---	<0.018	<0.018	<0.018	<0.018	<0.018	<0.018	<0.018	<0.018
Dibenzo(a,h)anthracene $	0.023	mg/kg	SUBCON $	<0.023	---	<0.023	<0.023	<0.023	<0.023	<0.023	<0.023	<0.023	<0.023
Benzo(g,h,i)perylene $	0.024	mg/kg	SUBCON $	<0.024	---	<0.024	<0.024	<0.024	<0.024	<0.024	<0.024	<0.024	<0.024
PAH (EPA 16) $		mg/kg	SUBCON $	<0.118	---	<0.118	0.211	<0.118	<0.118	<0.118	<0.118	<0.118	<0.118
Benzene $	0.01	mg/kg	SUBCON $	---	---	---	---	---	---	---	---	---	---
Ethylbenzene $	0.003	mg/kg	SUBCON $	---	---	---	---	---	---	---	---	---	---
o-Xylene $	0.003	mg/kg	SUBCON $	---	---	---	---	---	---	---	---	---	---
MTBE $	0.005	mg/kg	SUBCON $	---	---	---	---	---	---	---	---	---	---
m+p-Xylene $	0.006	mg/kg	SUBCON $	---	---	---	---	---	---	---	---	---	---
TAME $	0.003	mg/kg	SUBCON $	---	---	---	---	---	---	---	---	---	---
Toluene $	0.002	mg/kg	SUBCON $	---	---	---	---	---	---	---	---	---	---
PRO (>C5-C6) $	0.01	mg/kg	SUBCON $	---	---	---	---	---	---	---	---	---	---
PRO (>C6-C8) $	0.01	mg/kg	SUBCON $	---	---	---	---	---	---	---	---	---	---
PRO (>C8-C10) $	0.01	mg/kg	SUBCON $	---	---	---	---	---	---	---	---	---	---
PRO (>C5-C10) $	0.01	mg/kg	SUBCON $	---	---	---	---	---	---	---	---	---	---
PRO (>C6-C10) $	20	mg/kg	SUBCON $	---	---	---	---	---	---	---	---	---	---
EPH (>C6-C8) $	10	mg/kg	SUBCON $	---	---	---	---	---	---	---	---	---	---
EPH (>C8-C12) $	10	mg/kg	SUBCON $	---	---	---	---	---	---	---	---	---	---
EPH (>C12-C16) $	10	mg/kg	SUBCON $	---	---	---	---	---	---	---	---	---	---
EPH (>C16-C21) $	10	mg/kg	SUBCON $	---	---	---	---	---	---	---	---	---	---
EPH (>C21-C40)	10	mg/kg	SUBCON $	---	---	---	---	---	---	---	---	---	---
Total EPH (>C6-C40) $	10	mg/kg	SUBCON $	---	---	---	---	---	---	---	---	---	---
Aliphatic (>C5-C6) $	0.01	mg/kg	SUBCON $	---	---	---	---	---	---	---	---	---	---
Aliphatic (>C6-C8) $	0.01	mg/kg	SUBCON $	---	---	---	---	---	---	---	---	---	---

Solid Samples

Job No. 10-19693
Site: C/o Whitelands Farm, Middleton Stoney Road, Bicester, Oxfordshire
Report Date: 27/01/2011

			Lab No.	213943	213944	213945	213946	213947	213948	213949	213950	213951	213952
			Sample Date	/ /	/ /	/ /	/ /	/ /	/ /	/ /	/ /	/ /	/ /
			Sample Id	TP208	TP208	TP209	TP210	TP220	TP212	TP213	TP214	TP215	TP216
			Other ID										
			Depth (m)	1	2	1	1	1	1	1	1	0.7	0.4
Determination	**LOD**	**Units**	**Method**										
Aliphatic (>C8-C10) $	0.01	mg/kg	SUBCON $	---	---	---	---	---	---	---	---	---	---
Aliphatic (>C10-C12) $	0.01	mg/kg	SUBCON $	---	---	---	---	---	---	---	---	---	---
Aliphatic (>C12-C16) $	0.1	mg/kg	SUBCON $	---	---	---	---	---	---	---	---	---	---
Aliphatic (>C16-C21) $	0.1	mg/kg	SUBCON $	---	---	---	---	---	---	---	---	---	---
Aliphatic (>C21-C35) $	0.1	mg/kg	SUBCON $	---	---	---	---	---	---	---	---	---	---
Aliphatic (>C35-C40) $	0.1	mg/kg	SUBCON $	---	---	---	---	---	---	---	---	---	---
Aliphatic (>C40-C44) $	0.1	mg/kg	SUBCON $	---	---	---	---	---	---	---	---	---	---
Total Aliphatics (>C5-C44) $	0.1	mg/kg	SUBCON $	---	---	---	---	---	---	---	---	---	---
Aromatic (>C6-C7) $	0.01	mg/kg	SUBCON $	---	---	---	---	---	---	---	---	---	---
Aromatic (>C7-C8) $	0.01	mg/kg	SUBCON $	---	---	---	---	---	---	---	---	---	---
Aromatic (>C8-C10) $	0.01	mg/kg	SUBCON $	---	---	---	---	---	---	---	---	---	---
Aromatic (>C10-C12) $	0.01	mg/kg	SUBCON $	---	---	---	---	---	---	---	---	---	---
Aromatic (>C12-C16) $	0.1	mg/kg	SUBCON $	---	---	---	---	---	---	---	---	---	---
Aromatic (>C16-C21) $	0.1	mg/kg	SUBCON $	---	---	---	---	---	---	---	---	---	---
Aromatic (>C21-C35) $	0.1	mg/kg	SUBCON $	---	---	---	---	---	---	---	---	---	---
Aromatic (>C35-C40) $	0.1	mg/kg	SUBCON $	---	---	---	---	---	---	---	---	---	---
Aromatic (>C40-C44) $	0.1	mg/kg	SUBCON $	---	---	---	---	---	---	---	---	---	---
Total Aromatics (>C6-C44) $	0.1	mg/kg	SUBCON $	---	---	---	---	---	---	---	---	---	---
Total TPH (>C5-C44) $	0.1	mg/kg	SUBCON $	---	---	---	---	---	---	---	---	---	---
Dichlorodifluoromethane $	0.004	mg/kg	SUBCON $	---	---	---	---	---	---	---	---	---	---
Chloromethane $	0.007	mg/kg	SUBCON $	---	---	---	---	---	---	---	---	---	---
Chloroethane $	0.014	mg/kg	SUBCON $	---	---	---	---	---	---	---	---	---	---
Bromomethane $	0.013	mg/kg	SUBCON $	---	---	---	---	---	---	---	---	---	---
Trichlorofluoromethane $	0.006	mg/kg	SUBCON $	---	---	---	---	---	---	---	---	---	---
1,1-Dichloroethene $	0.01	mg/kg	SUBCON $	---	---	---	---	---	---	---	---	---	---
MTBE $	0.011	mg/kg	SUBCON $	---	---	---	---	---	---	---	---	---	---

Solid Samples

Job No. 10-19693
Site: C/o Whitelands Farm, Middleton Stoney Road, Bicester, Oxfordshire
Report Date: 27/01/2011

			Lab No.	213943	213944	213945	213946	213947	213948	213949	213950	213951	213952
			Sample Date	/ /	/ /	/ /	/ /	/ /	/ /	/ /	/ /	/ /	/ /
			Sample Id	TP208	TP208	TP209	TP210	TP220	TP212	TP213	TP214	TP215	TP216
			Other ID										
			Depth (m)	1	2	1	1	1	1	1	1	0.7	0.4
Determination	**LOD**	**Units**	**Method**										
Trans-1,2-Dichloroethene $	0.011	mg/kg	SUBCON $	---	---	---	---	---	---	---	---	---	---
1,1-Dichloroethane $	0.008	mg/kg	SUBCON $	---	---	---	---	---	---	---	---	---	---
Cis-1,2-Dichloroethene $	0.005	mg/kg	SUBCON $	---	---	---	---	---	---	---	---	---	---
2,2-Dichloropropane $	0.012	mg/kg	SUBCON $	---	---	---	---	---	---	---	---	---	---
Chloroform $	0.008	mg/kg	SUBCON $	---	---	---	---	---	---	---	---	---	---
Bromochloromethane $	0.014	mg/kg	SUBCON $	---	---	---	---	---	---	---	---	---	---
1,1,1-Trichloroethane $	0.007	mg/kg	SUBCON $	---	---	---	---	---	---	---	---	---	---
1,1-Dichloropropene $	0.011	mg/kg	SUBCON $	---	---	---	---	---	---	---	---	---	---
Benzene $	0.009	mg/kg	SUBCON $	---	---	---	---	---	---	---	---	---	---
1,2-Dichloropropane $	0.012	mg/kg	SUBCON $	---	---	---	---	---	---	---	---	---	---
Trichloroethene $	0.009	mg/kg	SUBCON $	---	---	---	---	---	---	---	---	---	---
Bromodichloromethane $	0.007	mg/kg	SUBCON $	---	---	---	---	---	---	---	---	---	---
Dibromomethane $	0.009	mg/kg	SUBCON $	---	---	---	---	---	---	---	---	---	---
TAME $	0.015	mg/kg	SUBCON $	---	---	---	---	---	---	---	---	---	---
Cis-1,3-Dichloropropene $	0.014	mg/kg	SUBCON $	---	---	---	---	---	---	---	---	---	---
Toluene $	0.005	mg/kg	SUBCON $	---	---	---	---	---	---	---	---	---	---
Trans-1,3-Dichloropropene $	0.011	mg/kg	SUBCON $	---	---	---	---	---	---	---	---	---	---
1,1,2-Trichloroethane $	0.01	mg/kg	SUBCON $	---	---	---	---	---	---	---	---	---	---
Carbon Tetrachloride $	0.014	mg/kg	SUBCON $	---	---	---	---	---	---	---	---	---	---
Vinyl Chloride $	0.01	mg/kg	SUBCON $	---	---	---	---	---	---	---	---	---	---
1,3-Dichloropropane $	0.007	mg/kg	SUBCON $	---	---	---	---	---	---	---	---	---	---
Tetrachloroethene $	0.005	mg/kg	SUBCON $	---	---	---	---	---	---	---	---	---	---
Dibromochloromethane $	0.013	mg/kg	SUBCON $	---	---	---	---	---	---	---	---	---	---
1,2-Dibromoethane $	0.012	mg/kg	SUBCON $	---	---	---	---	---	---	---	---	---	---
Chlorobenzene $	0.005	mg/kg	SUBCON $	---	---	---	---	---	---	---	---	---	---
1,1,1,2-Tetrachloroethane $	0.01	mg/kg	SUBCON $	---	---	---	---	---	---	---	---	---	---

Solid Samples

Job No. 10-19693
Site: C/o Whitelands Farm, Middleton Stoney Road, Bicester, Oxfordshire
Report Date: 27/01/2011

			Lab No.	213943	213944	213945	213946	213947	213948	213949	213950	213951	213952
			Sample Date	/ /	/ /	/ /	/ /	/ /	/ /	/ /	/ /	/ /	/ /
			Sample Id	TP208	TP208	TP209	TP210	TP220	TP212	TP213	TP214	TP215	TP216
			Other ID										
			Depth (m)	1	2	1	1	1	1	1	1	0.7	0.4
Determination	**LOD**	**Units**	**Method**										
Ethylbenzene $	0.003	mg/kg	SUBCON $	---	---	---	---	---	---	---	---	---	---
m,p-Xylene $	0.014	mg/kg	SUBCON $	---	---	---	---	---	---	---	---	---	---
o-Xylene $	0.01	mg/kg	SUBCON $	---	---	---	---	---	---	---	---	---	---
Styrene $	0.01	mg/kg	SUBCON $	---	---	---	---	---	---	---	---	---	---
Bromoform $	0.01	mg/kg	SUBCON $	---	---	---	---	---	---	---	---	---	---
Isopropylbenzene $	0.005	mg/kg	SUBCON $	---	---	---	---	---	---	---	---	---	---
1,1,2,2-Tetrachloroethane $	0.01	mg/kg	SUBCON $	---	---	---	---	---	---	---	---	---	---
1,2,3-Trichloropropane $	0.017	mg/kg	SUBCON $	---	---	---	---	---	---	---	---	---	---
n-Propylbenzene $	0.005	mg/kg	SUBCON $	---	---	---	---	---	---	---	---	---	---
Bromobenzene $	0.01	mg/kg	SUBCON $	---	---	---	---	---	---	---	---	---	---
2-Chlorotoluene $	0.009	mg/kg	SUBCON $	---	---	---	---	---	---	---	---	---	---
1,3,5-Trimethylbenzene $	0.008	mg/kg	SUBCON $	---	---	---	---	---	---	---	---	---	---
4-Chlorotoluene $	0.012	mg/kg	SUBCON $	---	---	---	---	---	---	---	---	---	---
Tert-Butylbenzene $	0.012	mg/kg	SUBCON $	---	---	---	---	---	---	---	---	---	---
1,2,4-Trimethylbenzene $	0.009	mg/kg	SUBCON $	---	---	---	---	---	---	---	---	---	---
sec-Butylbenzene $	0.01	mg/kg	SUBCON $	---	---	---	---	---	---	---	---	---	---
p-Isopropyltoluene $	0.011	mg/kg	SUBCON $	---	---	---	---	---	---	---	---	---	---
1,3-Dichlorobenzene $	0.006	mg/kg	SUBCON $	---	---	---	---	---	---	---	---	---	---
1,4-Dichlorobenzene $	0.005	mg/kg	SUBCON $	---	---	---	---	---	---	---	---	---	---
n-Butylbenzene $	0.01	mg/kg	SUBCON $	---	---	---	---	---	---	---	---	---	---
1,2-Dichlorobenzene $	0.012	mg/kg	SUBCON $	---	---	---	---	---	---	---	---	---	---
1,2-Dibromo-3-Chloropropane $	0.014	mg/kg	SUBCON $	---	---	---	---	---	---	---	---	---	---
1,2,4-Trichlorobenzene $	0.006	mg/kg	SUBCON $	---	---	---	---	---	---	---	---	---	---
Hexachlorobutadiene $	0.012	mg/kg	SUBCON $	---	---	---	---	---	---	---	---	---	---
Naphthalene $	0.013	mg/kg	SUBCON $	---	---	---	---	---	---	---	---	---	---
1,2,3-Trichlorobenzene $	0.006	mg/kg	SUBCON $	---	---	---	---	---	---	---	---	---	---

Solid Samples

Job No. 10-19693
Site: C/o Whitelands Farm, Middleton Stoney Road, Bicester, Oxfordshire
Report Date: 27/01/2011

			Lab No.	213943	213944	213945	213946	213947	213948	213949	213950	213951	213952
			Sample Date	/ /	/ /	/ /	/ /	/ /	/ /	/ /	/ /	/ /	/ /
			Sample Id	TP208	TP208	TP209	TP210	TP220	TP212	TP213	TP214	TP215	TP216
			Other ID										
			Depth (m)	1	2	1	1	1	1	1	1	0.7	0.4
Determination	**LOD**	**Units**	**Method**										
Dichloromethane $	0.01	mg/kg	SUBCON $	---	---	---	---	---	---	---	---	---	---
VOC TIC $			SUBCON $	---	---	---	---	---	---	---	---	---	---
Pyridine	1.3	mg/kg	208	---	---	---	---	---	---	---	---	---	---
N-Nitrosodimethylamine	1.3	mg/kg	208	---	---	---	---	---	---	---	---	---	---
2-Picoline	1.3	mg/kg	208	---	---	---	---	---	---	---	---	---	---
N-Nitrosomethylethylamine	1.3	mg/kg	208	---	---	---	---	---	---	---	---	---	---
N-Nitrosodiethylamine	1.3	mg/kg	208	---	---	---	---	---	---	---	---	---	---
Ethyl methanesulfonate	1.3	mg/kg	208	---	---	---	---	---	---	---	---	---	---
Phenol	1.3	mg/kg	208	---	---	---	---	---	---	---	---	---	---
Aniline	1.3	mg/kg	208	---	---	---	---	---	---	---	---	---	---
Bis(2-chloroethyl)ether	1.3	mg/kg	208	---	---	---	---	---	---	---	---	---	---
Pentachloroethane	1.3	mg/kg	208	---	---	---	---	---	---	---	---	---	---
2-Chlorophenol	1.3	mg/kg	208	---	---	---	---	---	---	---	---	---	---
1,3-Dichlorobenzene	1.3	mg/kg	208	---	---	---	---	---	---	---	---	---	---
1,4-Dichlorobenzene	1.3	mg/kg	208	---	---	---	---	---	---	---	---	---	---
Benzyl alcohol	1.3	mg/kg	208	---	---	---	---	---	---	---	---	---	---
1,2-Dichlorobenzene	1.3	mg/kg	208	---	---	---	---	---	---	---	---	---	---
2-Methylphenol	1.3	mg/kg	208	---	---	---	---	---	---	---	---	---	---
Bis(2-chloroisopropyl)ether	1.3	mg/kg	208	---	---	---	---	---	---	---	---	---	---
N-Nitrosopyrrolidine	1.3	mg/kg	208	---	---	---	---	---	---	---	---	---	---
3+4-methylphenol	1.3	mg/kg	208	---	---	---	---	---	---	---	---	---	---
Acetophenone	1.3	mg/kg	208	---	---	---	---	---	---	---	---	---	---
N-Nitroso-di-N-propylamine	1.3	mg/kg	208	---	---	---	---	---	---	---	---	---	---
o-toluidine	1.3	mg/kg	208	---	---	---	---	---	---	---	---	---	---
Hexachloroethane	1.3	mg/kg	208	---	---	---	---	---	---	---	---	---	---
Nitrobenzene	1.3	mg/kg	208	---	---	---	---	---	---	---	---	---	---

Solid Samples

Job No. 10-19693
Site: C/o Whitelands Farm, Middleton Stoney Road, Bicester, Oxfordshire
Report Date: 27/01/2011

			Lab No.	213943	213944	213945	213946	213947	213948	213949	213950	213951	213952
			Sample Date	/ /	/ /	/ /	/ /	/ /	/ /	/ /	/ /	/ /	/ /
			Sample Id	TP208	TP208	TP209	TP210	TP220	TP212	TP213	TP214	TP215	TP216
			Other ID										
			Depth (m)	1	2	1	1	1	1	1	1	0.7	0.4
Determination	**LOD**	**Units**	**Method**										
N-Nitrosopiperidine	1.3	mg/kg	208	---	---	---	---	---	---	---	---	---	---
Isophorone	1.3	mg/kg	208	---	---	---	---	---	---	---	---	---	---
2-Nitrophenol	1.3	mg/kg	208	---	---	---	---	---	---	---	---	---	---
2,4-Dimethylphenol	1.3	mg/kg	208	---	---	---	---	---	---	---	---	---	---
Bis(2-chloroethoxy)methane	1.3	mg/kg	208	---	---	---	---	---	---	---	---	---	---
2,4-Dichlorophenol	1.3	mg/kg	208	---	---	---	---	---	---	---	---	---	---
1,2,4-Trichlorobenzene	1.3	mg/kg	208	---	---	---	---	---	---	---	---	---	---
Naphthalene	1.3	mg/kg	208	---	---	---	---	---	---	---	---	---	---
2,6-Dichlorophenol	1.3	mg/kg	208	---	---	---	---	---	---	---	---	---	---
p-Chloroaniline	1.3	mg/kg	208	---	---	---	---	---	---	---	---	---	---
Hexachloropropene	1.3	mg/kg	208	---	---	---	---	---	---	---	---	---	---
Hexachlorobutadiene	1.3	mg/kg	208	---	---	---	---	---	---	---	---	---	---
N-Nitroso-di-N-butylamine	1.3	mg/kg	208	---	---	---	---	---	---	---	---	---	---
4-Chloro-3-methylphenol	1.3	mg/kg	208	---	---	---	---	---	---	---	---	---	---
Safrole	1.3	mg/kg	208	---	---	---	---	---	---	---	---	---	---
2-Methylnaphthalene	1.3	mg/kg	208	---	---	---	---	---	---	---	---	---	---
1,2,4,5-Tetrachlorobenzene	1.3	mg/kg	208	---	---	---	---	---	---	---	---	---	---
Hexachlorocyclopentadiene	1.3	mg/kg	208	---	---	---	---	---	---	---	---	---	---
2,4,5-Trichlorophenol	1.3	mg/kg	208	---	---	---	---	---	---	---	---	---	---
2,4,6-Trichlorophenol	1.3	mg/kg	208	---	---	---	---	---	---	---	---	---	---
Isosafrole	1.3	mg/kg	208	---	---	---	---	---	---	---	---	---	---
2-Chloronaphthalene	1.3	mg/kg	208	---	---	---	---	---	---	---	---	---	---
2-Nitroaniline	1.3	mg/kg	208	---	---	---	---	---	---	---	---	---	---
1,4-Naphthoquinone	1.3	mg/kg	208	---	---	---	---	---	---	---	---	---	---
Dimethyl phthalate	1.3	mg/kg	208	---	---	---	---	---	---	---	---	---	---
1,3-Dinitrobenzene	1.3	mg/kg	208	---	---	---	---	---	---	---	---	---	---

Solid Samples

Job No. 10-19693
Site: C/o Whitelands Farm, Middleton Stoney Road, Bicester, Oxfordshire
Report Date: 27/01/2011

			Lab No.	213943	213944	213945	213946	213947	213948	213949	213950	213951	213952
			Sample Date	/ /	/ /	/ /	/ /	/ /	/ /	/ /	/ /	/ /	/ /
			Sample Id	TP208	TP208	TP209	TP210	TP220	TP212	TP213	TP214	TP215	TP216
			Other ID										
			Depth (m)	1	2	1	1	1	1	1	1	0.7	0.4
Determination	**LOD**	**Units**	**Method**										
2,6-Dinitrotoluene	1.3	mg/kg	208	---	---	---	---	---	---	---	---	---	---
Acenaphthylene	1.3	mg/kg	208	---	---	---	---	---	---	---	---	---	---
3-Nitroaniline	1.3	mg/kg	208	---	---	---	---	---	---	---	---	---	---
Acenaphthene	1.3	mg/kg	208	---	---	---	---	---	---	---	---	---	---
4-Nitrophenol	1.3	mg/kg	208	---	---	---	---	---	---	---	---	---	---
Pentachlorobenzene	1.3	mg/kg	208	---	---	---	---	---	---	---	---	---	---
2,4-Dinitrotoluene	1.3	mg/kg	208	---	---	---	---	---	---	---	---	---	---
Dibenzofuran	1.3	mg/kg	208	---	---	---	---	---	---	---	---	---	---
1-Naphthylamine	1.3	mg/kg	208	---	---	---	---	---	---	---	---	---	---
2,3,4,6-Tetrachlorophenol	1.3	mg/kg	208	---	---	---	---	---	---	---	---	---	---
2-Naphthylamine	1.3	mg/kg	208	---	---	---	---	---	---	---	---	---	---
Diethyl Phthalate	1.3	mg/kg	208	---	---	---	---	---	---	---	---	---	---
4-Chlorophenyl phenyl ether	1.3	mg/kg	208	---	---	---	---	---	---	---	---	---	---
Fluorene	1.3	mg/kg	208	---	---	---	---	---	---	---	---	---	---
2-Methyl-4,6-dinitrophenol	1.3	mg/kg	208	---	---	---	---	---	---	---	---	---	---
Diphenylamine	1.3	mg/kg	208	---	---	---	---	---	---	---	---	---	---
Azobenzene	1.3	mg/kg	208	---	---	---	---	---	---	---	---	---	---
1,3,5-Trinitrobenzene	1.3	mg/kg	208	---	---	---	---	---	---	---	---	---	---
4-Bromophenyl phenyl ether	1.3	mg/kg	208	---	---	---	---	---	---	---	---	---	---
Diallate	1.3	mg/kg	208	---	---	---	---	---	---	---	---	---	---
Hexachlorobenzene	1.3	mg/kg	208	---	---	---	---	---	---	---	---	---	---
4-Aminobiphenyl	1.3	mg/kg	208	---	---	---	---	---	---	---	---	---	---
Pentachlorophenol	1.3	mg/kg	208	---	---	---	---	---	---	---	---	---	---
Pentachloronitrobenzene	1.3	mg/kg	208	---	---	---	---	---	---	---	---	---	---
Pronamide	1.3	mg/kg	208	---	---	---	---	---	---	---	---	---	---
Dinoseb	1.3	mg/kg	208	---	---	---	---	---	---	---	---	---	---

Solid Samples

Job No. 10-19693
Site: C/o Whitelands Farm, Middleton Stoney Road, Bicester, Oxfordshire
Report Date: 27/01/2011

			Lab No.	213943	213944	213945	213946	213947	213948	213949	213950	213951	213952
			Sample Date	/ /	/ /	/ /	/ /	/ /	/ /	/ /	/ /	/ /	/ /
			Sample Id	TP208	TP208	TP209	TP210	TP220	TP212	TP213	TP214	TP215	TP216
			Other ID										
			Depth (m)	1	2	1	1	1	1	1	1	0.7	0.4
Determination	**LOD**	**Units**	**Method**										
Phenanthrene	1.3	mg/kg	208	---	---	---	---	---	---	---	---	---	---
Anthracene	1.3	mg/kg	208	---	---	---	---	---	---	---	---	---	---
Carbazole	1.3	mg/kg	208	---	---	---	---	---	---	---	---	---	---
Di-N-butyl phthalate	1.3	mg/kg	208	---	---	---	---	---	---	---	---	---	---
Isodrin	1.3	mg/kg	208	---	---	---	---	---	---	---	---	---	---
Fluoranthene	1.3	mg/kg	208	---	---	---	---	---	---	---	---	---	---
Benzidine	1.3	mg/kg	208	---	---	---	---	---	---	---	---	---	---
Pyrene	1.3	mg/kg	208	---	---	---	---	---	---	---	---	---	---
p-Dimethylaminoazobenzene	1.3	mg/kg	208	---	---	---	---	---	---	---	---	---	---
Chlorobenzilate	1.3	mg/kg	208	---	---	---	---	---	---	---	---	---	---
3,3-Dimethylbenzidine	1.3	mg/kg	208	---	---	---	---	---	---	---	---	---	---
Butyl Benzyl Phthalate	1.3	mg/kg	208	---	---	---	---	---	---	---	---	---	---
Kepone	1.3	mg/kg	208	---	---	---	---	---	---	---	---	---	---
2-Acetylaminofluorene	1.3	mg/kg	208	---	---	---	---	---	---	---	---	---	---
3,3-Dichlorobenzidine	1.3	mg/kg	208	---	---	---	---	---	---	---	---	---	---
Chrysene	1.3	mg/kg	208	---	---	---	---	---	---	---	---	---	---
Benzo(a)anthracene	1.3	mg/kg	208	---	---	---	---	---	---	---	---	---	---
Bis(2-ethylhexyl)phthalate	1.3	mg/kg	208	---	---	---	---	---	---	---	---	---	---
Di-n-octylphthalate	1.3	mg/kg	208	---	---	---	---	---	---	---	---	---	---
7,12-Dimethylbenz(a)anthracene	1.3	mg/kg	208	---	---	---	---	---	---	---	---	---	---
Benzo(b)fluoranthene	1.3	mg/kg	208	---	---	---	---	---	---	---	---	---	---
Benzo(k)fluoranthene	1.3	mg/kg	208	---	---	---	---	---	---	---	---	---	---
Benzo(a)pyrene	1.3	mg/kg	208	---	---	---	---	---	---	---	---	---	---
3-Methylcholanthrene	1.3	mg/kg	208	---	---	---	---	---	---	---	---	---	---
Indeno(1,2,3-c,d)pyrene	1.3	mg/kg	208	---	---	---	---	---	---	---	---	---	---
Dibenzo(a,h)anthracene	1.3	mg/kg	208	---	---	---	---	---	---	---	---	---	---

Solid Samples

Job No. 10-19693
Site: C/o Whitelands Farm, Middleton Stoney Road, Bicester, Oxfordshire
Report Date: 27/01/2011

			Lab No.	213943	213944	213945	213946	213947	213948	213949	213950	213951	213952
			Sample Date	/ /	/ /	/ /	/ /	/ /	/ /	/ /	/ /	/ /	/ /
			Sample Id	TP208	TP208	TP209	TP210	TP220	TP212	TP213	TP214	TP215	TP216
			Other ID										
			Depth (m)	1	2	1	1	1	1	1	1	0.7	0.4
Determination	**LOD**	**Units**	**Method**										
Benzo(g,h,i)perylene	1.3	mg/kg	208	---	---	---	---	---	---	---	---	---	---
3+4-Chlorophenol	1.3	mg/kg	208	---	---	---	---	---	---	---	---	---	---
SVOC Tentatively Identifiable Compounds			208	---	---	---	---	---	---	---	---	---	---
1,2-Dichloroethane $	0.005	mg/kg	SUBCON $	---	---	---	---	---	---	---	---	---	---

Solid Samples

Job No. 10-19693
Site: C/o Whitelands Farm, Middleton Stoney Road, Bicester, Oxfordshire
Report Date: 27/01/2011

			Lab No.	213953	213954	213955	213956	213957	213958	213959	213960	213961	213962
			Sample Date	/ /	/ /	/ /	/ /	/ /	/ /	/ /	/ /	/ /	/ /
			Sample Id	TP217	TP218	TP219	TP220	TP221	TP222	TP223	TP224	WS201	WS201
			Other ID										
			Depth (m)	0.4	0.6	0.6	0.8	1	0.8	0.6	0.2	0.7	1.7
Determination	**LOD**	**Units**	**Method**										
Solid Description			101	---	---	---	---	---	---	---	---	---	Clay
Solid Description $			SUBCON $	Clay	Clay	Clay	Clay	Clay	Clay	Clay	Clay	Silty Clay	Silty Clay
Moisture	0.1	%	101	---	---	---	---	---	---	---	---	---	15
Moisture $	0	%	SUBCON $	22	21	21	20	21	22	18	17	18	9.9
pH $		pH units	SUBCON $	8.14	8.4	8.18	8.45	8.14	8.28	8.31	8.41	8.26	8.68
Phenols, Monohydric, as PhOH $	0.025	mg/kg	SUBCON $	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025
Selenium, total, as Se $	1	mg/kg	SUBCON $	<10	<1	<1	<1	<1	<1	<1	<10	<1	<1
Mercury, total, as Hg $	0.14	mg/kg	SUBCON $	<0.14	<0.14	<0.14	<0.14	<0.14	<0.14	<0.14	<0.14	<0.14	<0.14
Arsenic, total, as As $	0.6	mg/kg	SUBCON $	58.9	13.9	16.1	13.8	6.37	8.72	18.9	35.6	21	7.79
Cadmium, total, as Cd $	0.02	mg/kg	SUBCON $	<0.2	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.203	<0.02	<0.02
Chromium, total, as Cr $	0.9	mg/kg	SUBCON $	49.5	42.2	37.7	37.2	35.5	39.4	32.9	37.1	34.8	5.99
Copper, total, as Cu $	1.4	mg/kg	SUBCON $	25.6	18.4	15.4	18.7	17.8	20.4	12.5	29.8	16.7	4.01
Nickel, total, as Ni $	0.2	mg/kg	SUBCON $	61.3	26.1	18.5	27.7	11.1	15.9	14.3	38.3	25.2	6.57
Lead, total, as Pb $	0.7	mg/kg	SUBCON $	18.8	15.7	27.4	18.4	20.6	18.4	16.1	39.1	17.9	4.49
Zinc, total, as Zn $	1.9	mg/kg	SUBCON $	104	92.1	53	75.1	39.9	48.8	36.6	88.5	82.3	12.9
Naphthalene $	0.009	mg/kg	SUBCON $	<0.009	<0.009	0.0193	0.02	<0.009	<0.009	<0.009	0.0226	<0.009	<0.009
Acenaphthylene $	0.012	mg/kg	SUBCON $	<0.012	<0.012	<0.012	<0.012	<0.012	<0.012	<0.012	<0.012	<0.012	<0.012
Acenaphthene $	0.008	mg/kg	SUBCON $	<0.008	<0.008	<0.008	<0.008	<0.008	<0.008	<0.008	<0.008	<0.008	<0.008
Fluorene $	0.01	mg/kg	SUBCON $	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Phenanthrene $	0.015	mg/kg	SUBCON $	<0.015	0.0379	<0.015	<0.015	<0.015	<0.015	<0.015	0.0252	<0.015	<0.015
Anthracene $	0.016	mg/kg	SUBCON $	<0.016	<0.016	<0.016	<0.016	<0.016	<0.016	<0.016	<0.016	<0.016	<0.016
Fluoranthene $	0.017	mg/kg	SUBCON $	<0.017	0.0342	0.0216	<0.017	<0.017	<0.017	<0.017	0.0683	<0.017	<0.017
Pyrene $	0.015	mg/kg	SUBCON $	<0.015	0.0265	<0.015	<0.015	<0.015	<0.015	<0.015	0.0509	<0.015	<0.015
Benzo(a)anthracene $	0.014	mg/kg	SUBCON $	<0.014	0.0201	<0.014	<0.014	<0.014	<0.014	<0.014	0.0363	<0.014	<0.014
Benzo(a)pyrene $	0.015	mg/kg	SUBCON $	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015	0.0514	<0.015	<0.015
Chrysene $	0.01	mg/kg	SUBCON $	<0.01	0.0196	<0.01	<0.01	<0.01	<0.01	<0.01	0.0369	<0.01	<0.01

Solid Samples

Job No. 10-19693
Site: C/o Whitelands Farm, Middleton Stoney Road, Bicester, Oxfordshire
Report Date: 27/01/2011

			Lab No.	213953	213954	213955	213956	213957	213958	213959	213960	213961	213962
			Sample Date	/ /	/ /	/ /	/ /	/ /	/ /	/ /	/ /	/ /	/ /
			Sample Id	TP217	TP218	TP219	TP220	TP221	TP222	TP223	TP224	WS201	WS201
			Other ID										
			Depth (m)	0.4	0.6	0.6	0.8	1	0.8	0.6	0.2	0.7	1.7
Determination	LOD	Units	Method										
Benzo(k)fluoranthene $	0.014	mg/kg	SUBCON $	<0.014	<0.014	<0.014	<0.014	<0.014	<0.014	<0.014	0.0215	<0.014	<0.014
Benzo(b)fluoranthene $	0.015	mg/kg	SUBCON $	<0.015	0.0254	<0.015	<0.015	<0.015	0.0297	<0.015	0.06	<0.015	<0.015
Indeno(1,2,3-c,d)pyrene $	0.018	mg/kg	SUBCON $	<0.018	<0.018	<0.018	<0.018	<0.018	<0.018	<0.018	0.0468	<0.018	<0.018
Dibenzo(a,h)anthracene $	0.023	mg/kg	SUBCON $	<0.023	<0.023	<0.023	<0.023	<0.023	<0.023	<0.023	<0.023	<0.023	<0.023
Benzo(g,h,i)perylene $	0.024	mg/kg	SUBCON $	<0.024	<0.024	<0.024	<0.024	<0.024	<0.024	<0.024	0.0642	<0.024	<0.024
PAH (EPA 16) $		mg/kg	SUBCON $	<0.118	0.164	<0.118	<0.118	<0.118	<0.118	<0.118	0.484	<0.118	<0.118
Benzene $	0.01	mg/kg	SUBCON $	---	---	---	---	---	---	---	< 0.010	---	---
Ethylbenzene $	0.003	mg/kg	SUBCON $	---	---	---	---	---	---	---	< 0.003	---	---
o-Xylene $	0.003	mg/kg	SUBCON $	---	---	---	---	---	---	---	< 0.003	---	---
MTBE $	0.005	mg/kg	SUBCON $	---	---	---	---	---	---	---	< 0.005	---	---
m+p-Xylene $	0.006	mg/kg	SUBCON $	---	---	---	---	---	---	---	< 0.006	---	---
TAME $	0.003	mg/kg	SUBCON $	---	---	---	---	---	---	---	< 0.003	---	---
Toluene $	0.002	mg/kg	SUBCON $	---	---	---	---	---	---	---	< 0.002	---	---
PRO (>C5-C6) $	0.01	mg/kg	SUBCON $	---	---	---	---	---	---	---	< 0.01	---	---
PRO (>C6-C8) $	0.01	mg/kg	SUBCON $	---	---	---	---	---	---	---	< 0.01	---	---
PRO (>C8-C10) $	0.01	mg/kg	SUBCON $	---	---	---	---	---	---	---	< 0.01	---	---
PRO (>C5-C10) $	0.01	mg/kg	SUBCON $	---	---	---	---	---	---	---	< 0.01	---	---
PRO (>C6-C10) $	20	mg/kg	SUBCON $	---	---	---	---	---	---	---	< 20	---	---
EPH (>C6-C8) $	10	mg/kg	SUBCON $	---	---	---	---	---	---	---	---	<10	---
EPH (>C8-C12) $	10	mg/kg	SUBCON $	---	---	---	---	---	---	---	---	<10	---
EPH (>C12-C16) $	10	mg/kg	SUBCON $	---	---	---	---	---	---	---	---	<10	---
EPH (>C16-C21) $	10	mg/kg	SUBCON $	---	---	---	---	---	---	---	---	<10	---
EPH (>C21-C40)	10	mg/kg	SUBCON $	---	---	---	---	---	---	---	---	<10	---
Total EPH (>C6-C40) $	10	mg/kg	SUBCON $	---	---	---	---	---	---	---	---	<10	---
Aliphatic (>C5-C6) $	0.01	mg/kg	SUBCON $	---	---	---	---	---	---	---	< 0.01	---	---
Aliphatic (>C6-C8) $	0.01	mg/kg	SUBCON $	---	---	---	---	---	---	---	< 0.01	---	---

Solid Samples

Job No. 10-19693
Site: C/o Whitelands Farm, Middleton Stoney Road, Bicester, Oxfordshire
Report Date: 27/01/2011

			Lab No.	213953	213954	213955	213956	213957	213958	213959	213960	213961	213962
			Sample Date	/ /	/ /	/ /	/ /	/ /	/ /	/ /	/ /	/ /	/ /
			Sample Id	TP217	TP218	TP219	TP220	TP221	TP222	TP223	TP224	WS201	WS201
			Other ID										
			Depth (m)	0.4	0.6	0.6	0.8	1	0.8	0.6	0.2	0.7	1.7
Determination	**LOD**	**Units**	**Method**										
Aliphatic (>C8-C10) $	0.01	mg/kg	SUBCON $	---	---	---	---	---	---	---	< 0.01	---	---
Aliphatic (>C10-C12) $	0.01	mg/kg	SUBCON $	---	---	---	---	---	---	---	< 0.01	---	---
Aliphatic (>C12-C16) $	0.1	mg/kg	SUBCON $	---	---	---	---	---	---	---	44.6	---	---
Aliphatic (>C16-C21) $	0.1	mg/kg	SUBCON $	---	---	---	---	---	---	---	18.8	---	---
Aliphatic (>C21-C35) $	0.1	mg/kg	SUBCON $	---	---	---	---	---	---	---	6.61	---	---
Aliphatic (>C35-C40) $	0.1	mg/kg	SUBCON $	---	---	---	---	---	---	---	<0.1	---	---
Aliphatic (>C40-C44) $	0.1	mg/kg	SUBCON $	---	---	---	---	---	---	---	<0.1	---	---
Total Aliphatics (>C5-C44) $	0.1	mg/kg	SUBCON $	---	---	---	---	---	---	---	70	---	---
Aromatic (>C6-C7) $	0.01	mg/kg	SUBCON $	---	---	---	---	---	---	---	< 0.01	---	---
Aromatic (>C7-C8) $	0.01	mg/kg	SUBCON $	---	---	---	---	---	---	---	< 0.01	---	---
Aromatic (>C8-C10) $	0.01	mg/kg	SUBCON $	---	---	---	---	---	---	---	< 0.01	---	---
Aromatic (>C10-C12) $	0.01	mg/kg	SUBCON $	---	---	---	---	---	---	---	< 0.01	---	---
Aromatic (>C12-C16) $	0.1	mg/kg	SUBCON $	---	---	---	---	---	---	---	20.3	---	---
Aromatic (>C16-C21) $	0.1	mg/kg	SUBCON $	---	---	---	---	---	---	---	10.2	---	---
Aromatic (>C21-C35) $	0.1	mg/kg	SUBCON $	---	---	---	---	---	---	---	12.9	---	---
Aromatic (>C35-C40) $	0.1	mg/kg	SUBCON $	---	---	---	---	---	---	---	4.92	---	---
Aromatic (>C40-C44) $	0.1	mg/kg	SUBCON $	---	---	---	---	---	---	---	4.16	---	---
Total Aromatics (>C6-C44) $	0.1	mg/kg	SUBCON $	---	---	---	---	---	---	---	52	---	---
Total TPH (>C5-C44) $	0.1	mg/kg	SUBCON $	---	---	---	---	---	---	---	120	---	---
Dichlorodifluoromethane $	0.004	mg/kg	SUBCON $	---	---	---	---	---	---	---	---	---	<0.004
Chloromethane $	0.007	mg/kg	SUBCON $	---	---	---	---	---	---	---	---	---	<0.007
Chloroethane $	0.014	mg/kg	SUBCON $	---	---	---	---	---	---	---	---	---	<0.014
Bromomethane $	0.013	mg/kg	SUBCON $	---	---	---	---	---	---	---	---	---	<0.013
Trichlorofluoromethane $	0.006	mg/kg	SUBCON $	---	---	---	---	---	---	---	---	---	<0.006
1,1-Dichloroethene $	0.01	mg/kg	SUBCON $	---	---	---	---	---	---	---	---	---	<0.01
MTBE $	0.011	mg/kg	SUBCON $	---	---	---	---	---	---	---	---	---	<0.011

Solid Samples

Job No. 10-19693
Site: C/o Whitelands Farm, Middleton Stoney Road, Bicester, Oxfordshire
Report Date: 27/01/2011

			Lab No.	213953	213954	213955	213956	213957	213958	213959	213960	213961	213962
			Sample Date	/ /	/ /	/ /	/ /	/ /	/ /	/ /	/ /	/ /	/ /
			Sample Id	TP217	TP218	TP219	TP220	TP221	TP222	TP223	TP224	WS201	WS201
			Other ID										
			Depth (m)	0.4	0.6	0.6	0.8	1	0.8	0.6	0.2	0.7	1.7
Determination	**LOD**	**Units**	**Method**										
Trans-1,2-Dichloroethene $	0.011	mg/kg	SUBCON $	---	---	---	---	---	---	---	---	---	<0.011
1,1-Dichloroethane $	0.008	mg/kg	SUBCON $	---	---	---	---	---	---	---	---	---	<0.008
Cis-1,2-Dichloroethene $	0.005	mg/kg	SUBCON $	---	---	---	---	---	---	---	---	---	<0.005
2,2-Dichloropropane $	0.012	mg/kg	SUBCON $	---	---	---	---	---	---	---	---	---	<0.012
Chloroform $	0.008	mg/kg	SUBCON $	---	---	---	---	---	---	---	---	---	<0.008
Bromochloromethane $	0.014	mg/kg	SUBCON $	---	---	---	---	---	---	---	---	---	<0.014
1,1,1-Trichloroethane $	0.007	mg/kg	SUBCON $	---	---	---	---	---	---	---	---	---	<0.007
1,1-Dichloropropene $	0.011	mg/kg	SUBCON $	---	---	---	---	---	---	---	---	---	<0.011
Benzene $	0.009	mg/kg	SUBCON $	---	---	---	---	---	---	---	---	---	<0.009
1,2-Dichloropropane $	0.012	mg/kg	SUBCON $	---	---	---	---	---	---	---	---	---	<0.012
Trichloroethene $	0.009	mg/kg	SUBCON $	---	---	---	---	---	---	---	---	---	<0.009
Bromodichloromethane $	0.007	mg/kg	SUBCON $	---	---	---	---	---	---	---	---	---	<0.007
Dibromomethane $	0.009	mg/kg	SUBCON $	---	---	---	---	---	---	---	---	---	<0.009
TAME $	0.015	mg/kg	SUBCON $	---	---	---	---	---	---	---	---	---	<0.015
Cis-1,3-Dichloropropene $	0.014	mg/kg	SUBCON $	---	---	---	---	---	---	---	---	---	<0.014
Toluene $	0.005	mg/kg	SUBCON $	---	---	---	---	---	---	---	---	---	<0.005
Trans-1,3-Dichloropropene $	0.011	mg/kg	SUBCON $	---	---	---	---	---	---	---	---	---	<0.011
1,1,2-Trichloroethane $	0.01	mg/kg	SUBCON $	---	---	---	---	---	---	---	---	---	<0.01
Carbon Tetrachloride $	0.014	mg/kg	SUBCON $	---	---	---	---	---	---	---	---	---	<0.014
Vinyl Chloride $	0.01	mg/kg	SUBCON $	---	---	---	---	---	---	---	---	---	<0.01
1,3-Dichloropropane $	0.007	mg/kg	SUBCON $	---	---	---	---	---	---	---	---	---	<0.007
Tetrachloroethene $	0.005	mg/kg	SUBCON $	---	---	---	---	---	---	---	---	---	<0.005
Dibromochloromethane $	0.013	mg/kg	SUBCON $	---	---	---	---	---	---	---	---	---	<0.013
1,2-Dibromoethane $	0.012	mg/kg	SUBCON $	---	---	---	---	---	---	---	---	---	<0.012
Chlorobenzene $	0.005	mg/kg	SUBCON $	---	---	---	---	---	---	---	---	---	<0.005
1,1,1,2-Tetrachloroethane $	0.01	mg/kg	SUBCON $	---	---	---	---	---	---	---	---	---	<0.01

Solid Samples

Job No. 10-19693
Site: C/o Whitelands Farm, Middleton Stoney Road, Bicester, Oxfordshire
Report Date: 27/01/2011

			Lab No.	213953	213954	213955	213956	213957	213958	213959	213960	213961	213962
			Sample Date	/ /	/ /	/ /	/ /	/ /	/ /	/ /	/ /	/ /	/ /
			Sample Id	TP217	TP218	TP219	TP220	TP221	TP222	TP223	TP224	WS201	WS201
			Other ID										
			Depth (m)	0.4	0.6	0.6	0.8	1	0.8	0.6	0.2	0.7	1.7
Determination	**LOD**	**Units**	**Method**										
Ethylbenzene $	0.003	mg/kg	SUBCON $	---	---	---	---	---	---	---	---	---	<0.004
m,p-Xylene $	0.014	mg/kg	SUBCON $	---	---	---	---	---	---	---	---	---	<0.014
o-Xylene $	0.01	mg/kg	SUBCON $	---	---	---	---	---	---	---	---	---	<0.01
Styrene $	0.01	mg/kg	SUBCON $	---	---	---	---	---	---	---	---	---	<0.01
Bromoform $	0.01	mg/kg	SUBCON $	---	---	---	---	---	---	---	---	---	<0.01
Isopropylbenzene $	0.005	mg/kg	SUBCON $	---	---	---	---	---	---	---	---	---	<0.005
1,1,2,2-Tetrachloroethane $	0.01	mg/kg	SUBCON $	---	---	---	---	---	---	---	---	---	<0.01
1,2,3-Trichloropropane $	0.017	mg/kg	SUBCON $	---	---	---	---	---	---	---	---	---	<0.017
n-Propylbenzene $	0.005	mg/kg	SUBCON $	---	---	---	---	---	---	---	---	---	<0.005
Bromobenzene $	0.01	mg/kg	SUBCON $	---	---	---	---	---	---	---	---	---	<0.01
2-Chlorotoluene $	0.009	mg/kg	SUBCON $	---	---	---	---	---	---	---	---	---	<0.009
1,3,5-Trimethylbenzene $	0.008	mg/kg	SUBCON $	---	---	---	---	---	---	---	---	---	<0.008
4-Chlorotoluene $	0.012	mg/kg	SUBCON $	---	---	---	---	---	---	---	---	---	<0.012
Tert-Butylbenzene $	0.012	mg/kg	SUBCON $	---	---	---	---	---	---	---	---	---	<0.012
1,2,4-Trimethylbenzene $	0.009	mg/kg	SUBCON $	---	---	---	---	---	---	---	---	---	<0.009
sec-Butylbenzene $	0.01	mg/kg	SUBCON $	---	---	---	---	---	---	---	---	---	<0.01
p-Isopropyltoluene $	0.011	mg/kg	SUBCON $	---	---	---	---	---	---	---	---	---	<0.011
1,3-Dichlorobenzene $	0.006	mg/kg	SUBCON $	---	---	---	---	---	---	---	---	---	<0.006
1,4-Dichlorobenzene $	0.005	mg/kg	SUBCON $	---	---	---	---	---	---	---	---	---	<0.005
n-Butylbenzene $	0.01	mg/kg	SUBCON $	---	---	---	---	---	---	---	---	---	<0.01
1,2-Dichlorobenzene $	0.012	mg/kg	SUBCON $	---	---	---	---	---	---	---	---	---	<0.012
1,2-Dibromo-3-Chloropropane $	0.014	mg/kg	SUBCON $	---	---	---	---	---	---	---	---	---	<0.014
1,2,4-Trichlorobenzene $	0.006	mg/kg	SUBCON $	---	---	---	---	---	---	---	---	---	<0.006
Hexachlorobutadiene $	0.012	mg/kg	SUBCON $	---	---	---	---	---	---	---	---	---	<0.012
Naphthalene $	0.013	mg/kg	SUBCON $	---	---	---	---	---	---	---	---	---	<0.013
1,2,3-Trichlorobenzene $	0.006	mg/kg	SUBCON $	---	---	---	---	---	---	---	---	---	<0.006

Solid Samples

Job No. 10-19693
Site: C/o Whitelands Farm, Middleton Stoney Road, Bicester, Oxfordshire
Report Date: 27/01/2011

			Lab No.	213953	213954	213955	213956	213957	213958	213959	213960	213961	213962
			Sample Date	/ /	/ /	/ /	/ /	/ /	/ /	/ /	/ /	/ /	/ /
			Sample Id	TP217	TP218	TP219	TP220	TP221	TP222	TP223	TP224	WS201	WS201
			Other ID										
			Depth (m)	0.4	0.6	0.6	0.8	1	0.8	0.6	0.2	0.7	1.7
Determination	**LOD**	**Units**	**Method**										
Dichloromethane $	0.01	mg/kg	SUBCON $	---	---	---	---	---	---	---	---	---	<0.01
VOC TIC $			SUBCON $	---	---	---	---	---	---	---	---	---	No TICS found
Pyridine	1.3	mg/kg	208	---	---	---	---	---	---	---	---	---	< 1.3
N-Nitrosodimethylamine	1.3	mg/kg	208	---	---	---	---	---	---	---	---	---	< 1.3
2-Picoline	1.3	mg/kg	208	---	---	---	---	---	---	---	---	---	< 1.3
N-Nitrosomethylethylamine	1.3	mg/kg	208	---	---	---	---	---	---	---	---	---	< 1.3
N-Nitrosodiethylamine	1.3	mg/kg	208	---	---	---	---	---	---	---	---	---	< 1.3
Ethyl methanesulfonate	1.3	mg/kg	208	---	---	---	---	---	---	---	---	---	< 1.3
Phenol	1.3	mg/kg	208	---	---	---	---	---	---	---	---	---	< 1.3
Aniline	1.3	mg/kg	208	---	---	---	---	---	---	---	---	---	< 1.3
Bis(2-chloroethyl)ether	1.3	mg/kg	208	---	---	---	---	---	---	---	---	---	< 1.3
Pentachloroethane	1.3	mg/kg	208	---	---	---	---	---	---	---	---	---	< 1.3
2-Chlorophenol	1.3	mg/kg	208	---	---	---	---	---	---	---	---	---	< 1.3
1,3-Dichlorobenzene	1.3	mg/kg	208	---	---	---	---	---	---	---	---	---	< 1.3
1,4-Dichlorobenzene	1.3	mg/kg	208	---	---	---	---	---	---	---	---	---	< 1.3
Benzyl alcohol	1.3	mg/kg	208	---	---	---	---	---	---	---	---	---	< 1.3
1,2-Dichlorobenzene	1.3	mg/kg	208	---	---	---	---	---	---	---	---	---	< 1.3
2-Methylphenol	1.3	mg/kg	208	---	---	---	---	---	---	---	---	---	< 1.3
Bis(2-chloroisopropyl)ether	1.3	mg/kg	208	---	---	---	---	---	---	---	---	---	< 1.3
N-Nitrosopyrrolidine	1.3	mg/kg	208	---	---	---	---	---	---	---	---	---	< 1.3
3+4-methylphenol	1.3	mg/kg	208	---	---	---	---	---	---	---	---	---	< 1.3
Acetophenone	1.3	mg/kg	208	---	---	---	---	---	---	---	---	---	< 1.3
N-Nitroso-di-N-propylamine	1.3	mg/kg	208	---	---	---	---	---	---	---	---	---	< 1.3
o-toluidine	1.3	mg/kg	208	---	---	---	---	---	---	---	---	---	< 1.3
Hexachloroethane	1.3	mg/kg	208	---	---	---	---	---	---	---	---	---	< 1.3
Nitrobenzene	1.3	mg/kg	208	---	---	---	---	---	---	---	---	---	< 1.3

Solid Samples

Job No. 10-19693
Site: C/o Whitelands Farm, Middleton Stoney Road, Bicester, Oxfordshire
Report Date: 27/01/2011

			Lab No.	213953	213954	213955	213956	213957	213958	213959	213960	213961	213962
			Sample Date	/ /	/ /	/ /	/ /	/ /	/ /	/ /	/ /	/ /	/ /
			Sample Id	TP217	TP218	TP219	TP220	TP221	TP222	TP223	TP224	WS201	WS201
			Other ID										
			Depth (m)	0.4	0.6	0.6	0.8	1	0.8	0.6	0.2	0.7	1.7
Determination	**LOD**	**Units**	**Method**										
N-Nitrosopiperidine	1.3	mg/kg	208	---	---	---	---	---	---	---	---	---	< 1.3
Isophorone	1.3	mg/kg	208	---	---	---	---	---	---	---	---	---	< 1.3
2-Nitrophenol	1.3	mg/kg	208	---	---	---	---	---	---	---	---	---	< 1.3
2,4-Dimethylphenol	1.3	mg/kg	208	---	---	---	---	---	---	---	---	---	< 1.3
Bis(2-chloroethoxy)methane	1.3	mg/kg	208	---	---	---	---	---	---	---	---	---	< 1.3
2,4-Dichlorophenol	1.3	mg/kg	208	---	---	---	---	---	---	---	---	---	< 1.3
1,2,4-Trichlorobenzene	1.3	mg/kg	208	---	---	---	---	---	---	---	---	---	< 1.3
Naphthalene	1.3	mg/kg	208	---	---	---	---	---	---	---	---	---	< 1.3
2,6-Dichlorophenol	1.3	mg/kg	208	---	---	---	---	---	---	---	---	---	< 1.3
p-Chloroaniline	1.3	mg/kg	208	---	---	---	---	---	---	---	---	---	< 1.3
Hexachloropropene	1.3	mg/kg	208	---	---	---	---	---	---	---	---	---	< 1.3
Hexachlorobutadiene	1.3	mg/kg	208	---	---	---	---	---	---	---	---	---	< 1.3
N-Nitroso-di-N-butylamine	1.3	mg/kg	208	---	---	---	---	---	---	---	---	---	< 1.3
4-Chloro-3-methylphenol	1.3	mg/kg	208	---	---	---	---	---	---	---	---	---	< 1.3
Safrole	1.3	mg/kg	208	---	---	---	---	---	---	---	---	---	< 1.3
2-Methylnaphthalene	1.3	mg/kg	208	---	---	---	---	---	---	---	---	---	< 1.3
1,2,4,5-Tetrachlorobenzene	1.3	mg/kg	208	---	---	---	---	---	---	---	---	---	< 1.3
Hexachlorocyclopentadiene	1.3	mg/kg	208	---	---	---	---	---	---	---	---	---	< 1.3
2,4,5-Trichlorophenol	1.3	mg/kg	208	---	---	---	---	---	---	---	---	---	< 1.3
2,4,6-Trichlorophenol	1.3	mg/kg	208	---	---	---	---	---	---	---	---	---	< 1.3
Isosafrole	1.3	mg/kg	208	---	---	---	---	---	---	---	---	---	< 1.3
2-Chloronaphthalene	1.3	mg/kg	208	---	---	---	---	---	---	---	---	---	< 1.3
2-Nitroaniline	1.3	mg/kg	208	---	---	---	---	---	---	---	---	---	< 1.3
1,4-Naphthoquinone	1.3	mg/kg	208	---	---	---	---	---	---	---	---	---	< 1.3
Dimethyl phthalate	1.3	mg/kg	208	---	---	---	---	---	---	---	---	---	< 1.3
1,3-Dinitrobenzene	1.3	mg/kg	208	---	---	---	---	---	---	---	---	---	< 1.3

Solid Samples

Job No. 10-19693
Site: C/o Whitelands Farm, Middleton Stoney Road, Bicester, Oxfordshire
Report Date: 27/01/2011

			Lab No.	213953	213954	213955	213956	213957	213958	213959	213960	213961	213962
			Sample Date	/ /	/ /	/ /	/ /	/ /	/ /	/ /	/ /	/ /	/ /
			Sample Id	TP217	TP218	TP219	TP220	TP221	TP222	TP223	TP224	WS201	WS201
			Other ID										
			Depth (m)	0.4	0.6	0.6	0.8	1	0.8	0.6	0.2	0.7	1.7
Determination	**LOD**	**Units**	**Method**										
2,6-Dinitrotoluene	1.3	mg/kg	208	---	---	---	---	---	---	---	---	---	< 1.3
Acenaphthylene	1.3	mg/kg	208	---	---	---	---	---	---	---	---	---	< 1.3
3-Nitroaniline	1.3	mg/kg	208	---	---	---	---	---	---	---	---	---	< 1.3
Acenaphthene	1.3	mg/kg	208	---	---	---	---	---	---	---	---	---	< 1.3
4-Nitrophenol	1.3	mg/kg	208	---	---	---	---	---	---	---	---	---	< 1.3
Pentachlorobenzene	1.3	mg/kg	208	---	---	---	---	---	---	---	---	---	< 1.3
2,4-Dinitrotoluene	1.3	mg/kg	208	---	---	---	---	---	---	---	---	---	< 1.3
Dibenzofuran	1.3	mg/kg	208	---	---	---	---	---	---	---	---	---	< 1.3
1-Naphthylamine	1.3	mg/kg	208	---	---	---	---	---	---	---	---	---	< 1.3
2,3,4,6-Tetrachlorophenol	1.3	mg/kg	208	---	---	---	---	---	---	---	---	---	< 1.3
2-Naphthylamine	1.3	mg/kg	208	---	---	---	---	---	---	---	---	---	< 1.3
Diethyl Phthalate	1.3	mg/kg	208	---	---	---	---	---	---	---	---	---	< 1.3
4-Chlorophenyl phenyl ether	1.3	mg/kg	208	---	---	---	---	---	---	---	---	---	< 1.3
Fluorene	1.3	mg/kg	208	---	---	---	---	---	---	---	---	---	< 1.3
2-Methyl-4,6-dinitrophenol	1.3	mg/kg	208	---	---	---	---	---	---	---	---	---	< 1.3
Diphenylamine	1.3	mg/kg	208	---	---	---	---	---	---	---	---	---	< 1.3
Azobenzene	1.3	mg/kg	208	---	---	---	---	---	---	---	---	---	< 1.3
1,3,5-Trinitrobenzene	1.3	mg/kg	208	---	---	---	---	---	---	---	---	---	< 1.3
4-Bromophenyl phenyl ether	1.3	mg/kg	208	---	---	---	---	---	---	---	---	---	< 1.3
Diallate	1.3	mg/kg	208	---	---	---	---	---	---	---	---	---	< 1.3
Hexachlorobenzene	1.3	mg/kg	208	---	---	---	---	---	---	---	---	---	< 1.3
4-Aminobiphenyl	1.3	mg/kg	208	---	---	---	---	---	---	---	---	---	< 1.3
Pentachlorophenol	1.3	mg/kg	208	---	---	---	---	---	---	---	---	---	< 1.3
Pentachloronitrobenzene	1.3	mg/kg	208	---	---	---	---	---	---	---	---	---	< 1.3
Pronamide	1.3	mg/kg	208	---	---	---	---	---	---	---	---	---	< 1.3
Dinoseb	1.3	mg/kg	208	---	---	---	---	---	---	---	---	---	< 1.3

Solid Samples

Job No. 10-19693
Site: C/o Whitelands Farm, Middleton Stoney Road, Bicester, Oxfordshire
Report Date: 27/01/2011

			Lab No.	213953	213954	213955	213956	213957	213958	213959	213960	213961	213962
			Sample Date	/ /	/ /	/ /	/ /	/ /	/ /	/ /	/ /	/ /	/ /
			Sample Id	TP217	TP218	TP219	TP220	TP221	TP222	TP223	TP224	WS201	WS201
			Other ID										
			Depth (m)	0.4	0.6	0.6	0.8	1	0.8	0.6	0.2	0.7	1.7
Determination	**LOD**	**Units**	**Method**										
Phenanthrene	1.3	mg/kg	208	---	---	---	---	---	---	---	---	---	< 1.3
Anthracene	1.3	mg/kg	208	---	---	---	---	---	---	---	---	---	< 1.3
Carbazole	1.3	mg/kg	208	---	---	---	---	---	---	---	---	---	< 1.3
Di-N-butyl phthalate	1.3	mg/kg	208	---	---	---	---	---	---	---	---	---	< 1.3
Isodrin	1.3	mg/kg	208	---	---	---	---	---	---	---	---	---	< 1.3
Fluoranthene	1.3	mg/kg	208	---	---	---	---	---	---	---	---	---	< 1.3
Benzidine	1.3	mg/kg	208	---	---	---	---	---	---	---	---	---	< 1.3
Pyrene	1.3	mg/kg	208	---	---	---	---	---	---	---	---	---	< 1.3
p-Dimethylaminoazobenzene	1.3	mg/kg	208	---	---	---	---	---	---	---	---	---	< 1.3
Chlorobenzilate	1.3	mg/kg	208	---	---	---	---	---	---	---	---	---	< 1.3
3,3-Dimethylbenzidine	1.3	mg/kg	208	---	---	---	---	---	---	---	---	---	< 1.3
Butyl Benzyl Phthalate	1.3	mg/kg	208	---	---	---	---	---	---	---	---	---	< 1.3
Kepone	1.3	mg/kg	208	---	---	---	---	---	---	---	---	---	< 1.3
2-Acetylaminofluorene	1.3	mg/kg	208	---	---	---	---	---	---	---	---	---	< 1.3
3,3-Dichlorobenzidine	1.3	mg/kg	208	---	---	---	---	---	---	---	---	---	< 1.3
Chrysene	1.3	mg/kg	208	---	---	---	---	---	---	---	---	---	< 1.3
Benzo(a)anthracene	1.3	mg/kg	208	---	---	---	---	---	---	---	---	---	< 1.3
Bis(2-ethylhexyl)phthalate	1.3	mg/kg	208	---	---	---	---	---	---	---	---	---	< 1.3
Di-n-octylphthalate	1.3	mg/kg	208	---	---	---	---	---	---	---	---	---	< 1.3
7,12-Dimethylbenz(a)anthracene	1.3	mg/kg	208	---	---	---	---	---	---	---	---	---	< 1.3
Benzo(b)fluoranthene	1.3	mg/kg	208	---	---	---	---	---	---	---	---	---	< 1.3
Benzo(k)fluoranthene	1.3	mg/kg	208	---	---	---	---	---	---	---	---	---	< 1.3
Benzo(a)pyrene	1.3	mg/kg	208	---	---	---	---	---	---	---	---	---	< 1.3
3-Methylcholanthrene	1.3	mg/kg	208	---	---	---	---	---	---	---	---	---	< 1.3
Indeno(1,2,3-c,d)pyrene	1.3	mg/kg	208	---	---	---	---	---	---	---	---	---	< 1.3
Dibenzo(a,h)anthracene	1.3	mg/kg	208	---	---	---	---	---	---	---	---	---	< 1.3

Solid Samples

Job No. 10-19693
Site: C/o Whitelands Farm, Middleton Stoney Road, Bicester, Oxfordshire
Report Date: 27/01/2011

			Lab No.	213953	213954	213955	213956	213957	213958	213959	213960	213961	213962
			Sample Date	/ /	/ /	/ /	/ /	/ /	/ /	/ /	/ /	/ /	/ /
			Sample Id	TP217	TP218	TP219	TP220	TP221	TP222	TP223	TP224	WS201	WS201
			Other ID										
			Depth (m)	0.4	0.6	0.6	0.8	1	0.8	0.6	0.2	0.7	1.7
Determination	**LOD**	**Units**	**Method**										
Benzo(g,h,i)perylene	1.3	mg/kg	208	---	---	---	---	---	---	---	---	---	< 1.3
3+4-Chlorophenol	1.3	mg/kg	208	---	---	---	---	---	---	---	---	---	< 1.3
SVOC Tentatively Identifiable Compounds			208	---	---	---	---	---	---	---	---	---	No TICS found
1,2-Dichloroethane $	0.005	mg/kg	SUBCON $	---	---	---	---	---	---	---	---	---	<0.005

Solid Samples

ALcontrol Laboratories

Job No. 10-19693
Site: C/o Whitelands Farm, Middleton Stoney Road, Bicester, Oxfordshire
Report Date: 27/01/2011

			Lab No.	213963	213964	213966	213967	213968	213969	213970	213971	213972	213973
			Sample Date	/ /	/ /	/ /	/ /	/ /	/ /	/ /	/ /	/ /	/ /
			Sample Id	WS202	WS202	WS203	WS203	WS204	WS204	WS205	WS205	WS206	WS207
			Other ID										
			Depth (m)	0.5	1.5	0.6	1.6	0.7	1.5	0.6	1.5	0.1	0.6
Determination	LOD	Units	Method										
Solid Description			101	Clay	---	Clay	---	Clay	---	Clay	---	Clay	Clay
Solid Description $			SUBCON $	Sandy Clay Loam	Sandy Clay	Clay	Silt Loam	Sandy Clay	Sandy Clay	Clay	Sandy Clay Loam	Sandy Clay	Clay
Moisture	0.1	%	101	17	---	22	---	20	---	15	---	19	22
Moisture $	0	%	SUBCON $	17	8.4	22	8.7	22	19	14	15	20	22
pH $		pH units	SUBCON $	8.37	8.77	8.3	8.84	8.45	8.71	8.61	8.77	8.37	8.39
Phenols, Monohydric, as PhOH $	0.025	mg/kg	SUBCON $	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025
Selenium, total, as Se $	1	mg/kg	SUBCON $	<10	<1	1.04	<1	<1	<1	<1	<1	<1	<1
Mercury, total, as Hg $	0.14	mg/kg	SUBCON $	<0.14	<0.14	<0.14	<0.14	<0.14	<0.14	<0.14	<0.14	<0.14	<0.14
Arsenic, total, as As $	0.6	mg/kg	SUBCON $	20.5	33.6	10.7	8.93	32.5	10.4	12.5	16.3	38.7	12.7
Cadmium, total, as Cd $	0.02	mg/kg	SUBCON $	<0.2	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Chromium, total, as Cr $	0.9	mg/kg	SUBCON $	38.6	6.11	47.7	5.31	21.4	14.4	25.2	20.5	39.8	53.9
Copper, total, as Cu $	1.4	mg/kg	SUBCON $	21.7	17.7	21.6	3.13	15.2	10	11.3	11.8	15.9	16.9
Nickel, total, as Ni $	0.2	mg/kg	SUBCON $	50.9	36.7	18.9	9.03	33.5	17.5	27.6	29	33.5	14.8
Lead, total, as Pb $	0.7	mg/kg	SUBCON $	14.6	11.3	18.3	4.14	10.5	10.4	12.1	11.9	17.4	22.2
Zinc, total, as Zn $	1.9	mg/kg	SUBCON $	98.6	103	73.8	9.83	36.2	15.5	43.5	43.9	86.2	37
Naphthalene $	0.009	mg/kg	SUBCON $	<0.009	<0.009	<0.009	<0.009	<0.009	<0.009	0.0107	<0.009	<0.009	<0.009
Acenaphthylene $	0.012	mg/kg	SUBCON $	<0.012	<0.012	<0.012	<0.012	<0.012	<0.012	<0.012	0.0236	<0.012	<0.012
Acenaphthene $	0.008	mg/kg	SUBCON $	<0.008	<0.008	<0.008	<0.008	<0.008	<0.008	<0.008	<0.008	<0.008	<0.008
Fluorene $	0.01	mg/kg	SUBCON $	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Phenanthrene $	0.015	mg/kg	SUBCON $	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015
Anthracene $	0.016	mg/kg	SUBCON $	<0.016	<0.016	<0.016	<0.016	<0.016	<0.016	<0.016	<0.016	<0.016	<0.016
Fluoranthene $	0.017	mg/kg	SUBCON $	<0.017	0.0191	<0.017	<0.017	<0.017	<0.017	<0.017	<0.017	<0.017	<0.017
Pyrene $	0.015	mg/kg	SUBCON $	<0.015	0.0172	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015
Benzo(a)anthracene $	0.014	mg/kg	SUBCON $	0.0197	<0.014	<0.014	<0.014	<0.014	<0.014	<0.014	0.0496	<0.014	<0.014
Benzo(a)pyrene $	0.015	mg/kg	SUBCON $	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015	0.0466	<0.015	<0.015
Chrysene $	0.01	mg/kg	SUBCON $	0.0197	0.0155	<0.01	<0.01	<0.01	<0.01	<0.01	0.0454	<0.01	<0.01

Solid Samples

Job No. 10-19693
Site: C/o Whitelands Farm, Middleton Stoney Road, Bicester, Oxfordshire
Report Date: 27/01/2011

			Lab No.	213963	213964	213966	213967	213968	213969	213970	213971	213972	213973
			Sample Date	/ /	/ /	/ /	/ /	/ /	/ /	/ /	/ /	/ /	/ /
			Sample Id	WS202	WS202	WS203	WS203	WS204	WS204	WS205	WS205	WS206	WS207
			Other ID										
			Depth (m)	0.5	1.5	0.6	1.6	0.7	1.5	0.6	1.5	0.1	0.6
Determination	**LOD**	**Units**	**Method**										
Benzo(k)fluoranthene $	0.014	mg/kg	SUBCON $	0.0209	<0.014	<0.014	<0.014	<0.014	<0.014	<0.014	0.0533	<0.014	<0.014
Benzo(b)fluoranthene $	0.015	mg/kg	SUBCON $	0.0433	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015	0.153	0.0204	<0.015
Indeno(1,2,3-c,d)pyrene $	0.018	mg/kg	SUBCON $	<0.018	<0.018	<0.018	<0.018	<0.018	<0.018	<0.018	0.109	<0.018	<0.018
Dibenzo(a,h)anthracene $	0.023	mg/kg	SUBCON $	<0.023	<0.023	<0.023	<0.023	<0.023	<0.023	<0.023	0.0336	<0.023	<0.023
Benzo(g,h,i)perylene $	0.024	mg/kg	SUBCON $	<0.024	<0.024	<0.024	<0.024	<0.024	<0.024	<0.024	0.153	<0.024	<0.024
PAH (EPA 16) $		mg/kg	SUBCON $	<0.118	<0.118	<0.118	<0.118	<0.118	<0.118	<0.118	0.668	<0.118	<0.118
Benzene $	0.01	mg/kg	SUBCON $	---	---	---	---	---	---	---	---	---	---
Ethylbenzene $	0.003	mg/kg	SUBCON $	---	---	---	---	---	---	---	---	---	---
o-Xylene $	0.003	mg/kg	SUBCON $	---	---	---	---	---	---	---	---	---	---
MTBE $	0.005	mg/kg	SUBCON $	---	---	---	---	---	---	---	---	---	---
m+p-Xylene $	0.006	mg/kg	SUBCON $	---	---	---	---	---	---	---	---	---	---
TAME $	0.003	mg/kg	SUBCON $	---	---	---	---	---	---	---	---	---	---
Toluene $	0.002	mg/kg	SUBCON $	---	---	---	---	---	---	---	---	---	---
PRO (>C5-C6) $	0.01	mg/kg	SUBCON $	---	---	---	---	---	---	---	---	---	---
PRO (>C6-C8) $	0.01	mg/kg	SUBCON $	---	---	---	---	---	---	---	---	---	---
PRO (>C8-C10) $	0.01	mg/kg	SUBCON $	---	---	---	---	---	---	---	---	---	---
PRO (>C5-C10) $	0.01	mg/kg	SUBCON $	---	---	---	---	---	---	---	---	---	---
PRO (>C6-C10) $	20	mg/kg	SUBCON $	---	---	---	---	---	---	---	---	---	---
EPH (>C6-C8) $	10	mg/kg	SUBCON $	---	<10	<10	---	---	<10	<10	---	<10	<10
EPH (>C8-C12) $	10	mg/kg	SUBCON $	---	<10	<10	---	---	<10	<10	---	<10	<10
EPH (>C12-C16) $	10	mg/kg	SUBCON $	---	<10	<10	---	---	<10	<10	---	<10	<10
EPH (>C16-C21) $	10	mg/kg	SUBCON $	---	<10	<10	---	---	<10	<10	---	<10	<10
EPH (>C21-C40)	10	mg/kg	SUBCON $	---	<10	<10	---	---	<10	<10	---	<10	248
Total EPH (>C6-C40) $	10	mg/kg	SUBCON $	---	<10	<10	---	---	<10	<10	---	<10	254
Aliphatic (>C5-C6) $	0.01	mg/kg	SUBCON $	---	---	---	---	---	---	---	---	---	---
Aliphatic (>C6-C8) $	0.01	mg/kg	SUBCON $	---	---	---	---	---	---	---	---	---	---

Solid Samples

Job No. 10-19693
Site: C/o Whitelands Farm, Middleton Stoney Road, Bicester, Oxfordshire
Report Date: 27/01/2011

			Lab No.	213963	213964	213966	213967	213968	213969	213970	213971	213972	213973
			Sample Date	/ /	/ /	/ /	/ /	/ /	/ /	/ /	/ /	/ /	/ /
			Sample Id	WS202	WS202	WS203	WS203	WS204	WS204	WS205	WS205	WS206	WS207
			Other ID										
			Depth (m)	0.5	1.5	0.6	1.6	0.7	1.5	0.6	1.5	0.1	0.6
Determination	**LOD**	**Units**	**Method**										
Aliphatic (>C8-C10) $	0.01	mg/kg	SUBCON $	---	---	---	---	---	---	---	---	---	---
Aliphatic (>C10-C12) $	0.01	mg/kg	SUBCON $	---	---	---	---	---	---	---	---	---	---
Aliphatic (>C12-C16) $	0.1	mg/kg	SUBCON $	---	---	---	---	---	---	---	---	---	---
Aliphatic (>C16-C21) $	0.1	mg/kg	SUBCON $	---	---	---	---	---	---	---	---	---	---
Aliphatic (>C21-C35) $	0.1	mg/kg	SUBCON $	---	---	---	---	---	---	---	---	---	---
Aliphatic (>C35-C40) $	0.1	mg/kg	SUBCON $	---	---	---	---	---	---	---	---	---	---
Aliphatic (>C40-C44) $	0.1	mg/kg	SUBCON $	---	---	---	---	---	---	---	---	---	---
Total Aliphatics (>C5-C44) $	0.1	mg/kg	SUBCON $	---	---	---	---	---	---	---	---	---	---
Aromatic (>C6-C7) $	0.01	mg/kg	SUBCON $	---	---	---	---	---	---	---	---	---	---
Aromatic (>C7-C8) $	0.01	mg/kg	SUBCON $	---	---	---	---	---	---	---	---	---	---
Aromatic (>C8-C10) $	0.01	mg/kg	SUBCON $	---	---	---	---	---	---	---	---	---	---
Aromatic (>C10-C12) $	0.01	mg/kg	SUBCON $	---	---	---	---	---	---	---	---	---	---
Aromatic (>C12-C16) $	0.1	mg/kg	SUBCON $	---	---	---	---	---	---	---	---	---	---
Aromatic (>C16-C21) $	0.1	mg/kg	SUBCON $	---	---	---	---	---	---	---	---	---	---
Aromatic (>C21-C35) $	0.1	mg/kg	SUBCON $	---	---	---	---	---	---	---	---	---	---
Aromatic (>C35-C40) $	0.1	mg/kg	SUBCON $	---	---	---	---	---	---	---	---	---	---
Aromatic (>C40-C44) $	0.1	mg/kg	SUBCON $	---	---	---	---	---	---	---	---	---	---
Total Aromatics (>C6-C44) $	0.1	mg/kg	SUBCON $	---	---	---	---	---	---	---	---	---	---
Total TPH (>C5-C44) $	0.1	mg/kg	SUBCON $	---	---	---	---	---	---	---	---	---	---
Dichlorodifluoromethane $	0.004	mg/kg	SUBCON $	<0.004	---	<0.004	---	<0.004	---	<0.004	---	<0.004	<0.004
Chloromethane $	0.007	mg/kg	SUBCON $	<0.007	---	<0.007	---	<0.007	---	<0.007	---	<0.007	<0.007
Chloroethane $	0.014	mg/kg	SUBCON $	<0.014	---	<0.014	---	<0.014	---	<0.014	---	<0.014	<0.014
Bromomethane $	0.013	mg/kg	SUBCON $	<0.013	---	<0.013	---	<0.013	---	<0.013	---	<0.013	<0.013
Trichlorofluoromethane $	0.006	mg/kg	SUBCON $	<0.006	---	<0.006	---	<0.006	---	<0.006	---	<0.006	<0.006
1,1-Dichloroethene $	0.01	mg/kg	SUBCON $	<0.01	---	<0.01	---	<0.01	---	<0.01	---	<0.01	<0.01
MTBE $	0.011	mg/kg	SUBCON $	<0.011	---	<0.011	---	<0.011	---	<0.011	---	<0.011	<0.011

Solid Samples

Job No. 10-19693
Site: C/o Whitelands Farm, Middleton Stoney Road, Bicester, Oxfordshire
Report Date: 27/01/2011

			Lab No.	213963	213964	213966	213967	213968	213969	213970	213971	213972	213973
			Sample Date	/ /	/ /	/ /	/ /	/ /	/ /	/ /	/ /	/ /	/ /
			Sample Id	WS202	WS202	WS203	WS203	WS204	WS204	WS205	WS205	WS206	WS207
			Other ID										
			Depth (m)	0.5	1.5	0.6	1.6	0.7	1.5	0.6	1.5	0.1	0.6
Determination	**LOD**	**Units**	**Method**										
Trans-1,2-Dichloroethene $	0.011	mg/kg	SUBCON $	<0.011	---	<0.011	---	<0.011	---	<0.011	---	<0.011	<0.011
1,1-Dichloroethane $	0.008	mg/kg	SUBCON $	<0.008	---	<0.008	---	<0.008	---	<0.008	---	<0.008	<0.008
Cis-1,2-Dichloroethene $	0.005	mg/kg	SUBCON $	<0.005	---	<0.005	---	<0.005	---	<0.005	---	<0.005	<0.005
2,2-Dichloropropane $	0.012	mg/kg	SUBCON $	<0.012	---	<0.012	---	<0.012	---	<0.012	---	<0.012	<0.012
Chloroform $	0.008	mg/kg	SUBCON $	<0.008	---	<0.008	---	<0.008	---	<0.008	---	<0.008	<0.008
Bromochloromethane $	0.014	mg/kg	SUBCON $	<0.014	---	<0.014	---	<0.014	---	<0.014	---	<0.014	<0.014
1,1,1-Trichloroethane $	0.007	mg/kg	SUBCON $	<0.007	---	<0.007	---	<0.007	---	<0.007	---	<0.007	<0.007
1,1-Dichloropropene $	0.011	mg/kg	SUBCON $	<0.011	---	<0.011	---	<0.011	---	<0.011	---	<0.011	<0.011
Benzene $	0.009	mg/kg	SUBCON $	<0.009	---	<0.009	---	<0.009	---	<0.009	---	<0.009	<0.009
1,2-Dichloropropane $	0.012	mg/kg	SUBCON $	<0.012	---	<0.012	---	<0.012	---	<0.012	---	<0.012	<0.012
Trichloroethene $	0.009	mg/kg	SUBCON $	<0.009	---	<0.009	---	<0.009	---	<0.009	---	<0.009	<0.009
Bromodichloromethane $	0.007	mg/kg	SUBCON $	<0.007	---	<0.007	---	<0.007	---	<0.007	---	<0.007	<0.007
Dibromomethane $	0.009	mg/kg	SUBCON $	<0.009	---	<0.009	---	<0.009	---	<0.009	---	<0.009	<0.009
TAME $	0.015	mg/kg	SUBCON $	<0.015	---	<0.015	---	<0.015	---	<0.015	---	<0.015	<0.015
Cis-1,3-Dichloropropene $	0.014	mg/kg	SUBCON $	<0.014	---	<0.014	---	<0.014	---	<0.014	---	<0.014	<0.014
Toluene $	0.005	mg/kg	SUBCON $	<0.005	---	<0.005	---	<0.005	---	<0.005	---	<0.005	<0.005
Trans-1,3-Dichloropropene $	0.011	mg/kg	SUBCON $	<0.011	---	<0.011	---	<0.011	---	<0.011	---	<0.011	<0.011
1,1,2-Trichloroethane $	0.01	mg/kg	SUBCON $	<0.01	---	<0.01	---	<0.01	---	<0.01	---	<0.01	<0.01
Carbon Tetrachloride $	0.014	mg/kg	SUBCON $	<0.014	---	<0.014	---	<0.014	---	<0.014	---	<0.014	<0.014
Vinyl Chloride $	0.01	mg/kg	SUBCON $	<0.01	---	<0.01	---	<0.01	---	<0.01	---	<0.01	<0.01
1,3-Dichloropropane $	0.007	mg/kg	SUBCON $	<0.007	---	<0.007	---	<0.007	---	<0.007	---	<0.007	<0.007
Tetrachloroethene $	0.005	mg/kg	SUBCON $	<0.005	---	<0.005	---	<0.005	---	<0.005	---	<0.005	<0.005
Dibromochloromethane $	0.013	mg/kg	SUBCON $	<0.013	---	<0.013	---	<0.013	---	<0.013	---	<0.013	<0.013
1,2-Dibromoethane $	0.012	mg/kg	SUBCON $	<0.012	---	<0.012	---	<0.012	---	<0.012	---	<0.012	<0.012
Chlorobenzene $	0.005	mg/kg	SUBCON $	<0.005	---	<0.005	---	<0.005	---	<0.005	---	<0.005	<0.005
1,1,1,2-Tetrachloroethane $	0.01	mg/kg	SUBCON $	<0.01	---	<0.01	---	<0.01	---	<0.01	---	<0.01	<0.01

Solid Samples

Job No. 10-19693
Site: C/o Whitelands Farm, Middleton Stoney Road, Bicester, Oxfordshire
Report Date: 27/01/2011

			Lab No.	213963	213964	213966	213967	213968	213969	213970	213971	213972	213973
			Sample Date	/ /	/ /	/ /	/ /	/ /	/ /	/ /	/ /	/ /	/ /
			Sample Id	WS202	WS202	WS203	WS203	WS204	WS204	WS205	WS205	WS206	WS207
			Other ID										
			Depth (m)	0.5	1.5	0.6	1.6	0.7	1.5	0.6	1.5	0.1	0.6
Determination	**LOD**	**Units**	**Method**										
Ethylbenzene $	0.003	mg/kg	SUBCON $	<0.004	---	<0.004	---	<0.004	---	<0.004	---	<0.004	<0.004
m,p-Xylene $	0.014	mg/kg	SUBCON $	<0.014	---	<0.014	---	<0.014	---	<0.014	---	<0.014	<0.014
o-Xylene $	0.01	mg/kg	SUBCON $	<0.01	---	<0.01	---	<0.01	---	<0.01	---	<0.01	<0.01
Styrene $	0.01	mg/kg	SUBCON $	<0.01	---	<0.01	---	<0.01	---	<0.01	---	<0.01	<0.01
Bromoform $	0.01	mg/kg	SUBCON $	<0.01	---	<0.01	---	<0.01	---	<0.01	---	<0.01	<0.01
Isopropylbenzene $	0.005	mg/kg	SUBCON $	<0.005	---	<0.005	---	<0.005	---	<0.005	---	<0.005	<0.005
1,1,2,2-Tetrachloroethane $	0.01	mg/kg	SUBCON $	<0.01	---	<0.01	---	<0.01	---	<0.01	---	<0.01	<0.01
1,2,3-Trichloropropane $	0.017	mg/kg	SUBCON $	<0.017	---	<0.017	---	<0.017	---	<0.017	---	<0.017	<0.017
n-Propylbenzene $	0.005	mg/kg	SUBCON $	<0.005	---	<0.005	---	<0.005	---	<0.005	---	<0.005	<0.005
Bromobenzene $	0.01	mg/kg	SUBCON $	<0.01	---	<0.01	---	<0.01	---	<0.01	---	<0.01	<0.01
2-Chlorotoluene $	0.009	mg/kg	SUBCON $	<0.009	---	<0.009	---	<0.009	---	<0.009	---	<0.009	<0.009
1,3,5-Trimethylbenzene $	0.008	mg/kg	SUBCON $	<0.008	---	<0.008	---	<0.008	---	<0.008	---	<0.008	<0.008
4-Chlorotoluene $	0.012	mg/kg	SUBCON $	<0.012	---	<0.012	---	<0.012	---	<0.012	---	<0.012	<0.012
Tert-Butylbenzene $	0.012	mg/kg	SUBCON $	<0.012	---	<0.012	---	<0.012	---	<0.012	---	<0.012	<0.012
1,2,4-Trimethylbenzene $	0.009	mg/kg	SUBCON $	<0.009	---	<0.009	---	<0.009	---	<0.009	---	<0.009	<0.009
sec-Butylbenzene $	0.01	mg/kg	SUBCON $	<0.01	---	<0.01	---	<0.01	---	<0.01	---	<0.01	<0.01
p-Isopropyltoluene $	0.011	mg/kg	SUBCON $	<0.011	---	<0.011	---	<0.011	---	<0.011	---	<0.011	<0.011
1,3-Dichlorobenzene $	0.006	mg/kg	SUBCON $	<0.006	---	<0.006	---	<0.006	---	<0.006	---	<0.006	<0.006
1,4-Dichlorobenzene $	0.005	mg/kg	SUBCON $	<0.005	---	<0.005	---	<0.005	---	<0.005	---	<0.005	<0.005
n-Butylbenzene $	0.01	mg/kg	SUBCON $	<0.01	---	<0.01	---	<0.01	---	<0.01	---	<0.01	<0.01
1,2-Dichlorobenzene $	0.012	mg/kg	SUBCON $	<0.012	---	<0.012	---	<0.012	---	<0.012	---	<0.012	<0.012
1,2-Dibromo-3-Chloropropane $	0.014	mg/kg	SUBCON $	<0.014	---	<0.014	---	<0.014	---	<0.014	---	<0.014	<0.014
1,2,4-Trichlorobenzene $	0.006	mg/kg	SUBCON $	<0.006	---	<0.006	---	<0.006	---	<0.006	---	<0.006	<0.006
Hexachlorobutadiene $	0.012	mg/kg	SUBCON $	<0.012	---	<0.012	---	<0.012	---	<0.012	---	<0.012	<0.012
Naphthalene $	0.013	mg/kg	SUBCON $	<0.013	---	<0.013	---	<0.013	---	<0.013	---	<0.013	<0.013
1,2,3-Trichlorobenzene $	0.006	mg/kg	SUBCON $	<0.006	---	<0.006	---	<0.006	---	<0.006	---	<0.006	<0.006

Solid Samples

Job No. 10-19693
Site: C/o Whitelands Farm, Middleton Stoney Road, Bicester, Oxfordshire
Report Date: 27/01/2011

			Lab No.	213963	213964	213966	213967	213968	213969	213970	213971	213972	213973
			Sample Date	/ /	/ /	/ /	/ /	/ /	/ /	/ /	/ /	/ /	/ /
			Sample Id	WS202	WS202	WS203	WS203	WS204	WS204	WS205	WS205	WS206	WS207
			Other ID										
			Depth (m)	0.5	1.5	0.6	1.6	0.7	1.5	0.6	1.5	0.1	0.6
Determination	**LOD**	**Units**	**Method**										
Dichloromethane $	0.01	mg/kg	SUBCON $	<0.01	---	<0.01	---	<0.01	---	<0.01	---	<0.01	<0.01
VOC TIC $			SUBCON $	No TICS found	---	No TICS found	---	No TICS found	---	No TICS found	---	No TICS found	No TICS found
Pyridine	1.3	mg/kg	208	< 1.3	---	< 1.3	---	< 1.3	---	< 1.3	---	< 1.3	< 1.3
N-Nitrosodimethylamine	1.3	mg/kg	208	< 1.3	---	< 1.3	---	< 1.3	---	< 1.3	---	< 1.3	< 1.3
2-Picoline	1.3	mg/kg	208	< 1.3	---	< 1.3	---	< 1.3	---	< 1.3	---	< 1.3	< 1.3
N-Nitrosomethylethylamine	1.3	mg/kg	208	< 1.3	---	< 1.3	---	< 1.3	---	< 1.3	---	< 1.3	< 1.3
N-Nitrosodiethylamine	1.3	mg/kg	208	< 1.3	---	< 1.3	---	< 1.3	---	< 1.3	---	< 1.3	< 1.3
Ethyl methanesulfonate	1.3	mg/kg	208	< 1.3	---	< 1.3	---	< 1.3	---	< 1.3	---	< 1.3	< 1.3
Phenol	1.3	mg/kg	208	< 1.3	---	< 1.3	---	< 1.3	---	< 1.3	---	< 1.3	< 1.3
Aniline	1.3	mg/kg	208	< 1.3	---	< 1.3	---	< 1.3	---	< 1.3	---	< 1.3	< 1.3
Bis(2-chloroethyl)ether	1.3	mg/kg	208	< 1.3	---	< 1.3	---	< 1.3	---	< 1.3	---	< 1.3	< 1.3
Pentachloroethane	1.3	mg/kg	208	< 1.3	---	< 1.3	---	< 1.3	---	< 1.3	---	< 1.3	< 1.3
2-Chlorophenol	1.3	mg/kg	208	< 1.3	---	< 1.3	---	< 1.3	---	< 1.3	---	< 1.3	< 1.3
1,3-Dichlorobenzene	1.3	mg/kg	208	< 1.3	---	< 1.3	---	< 1.3	---	< 1.3	---	< 1.3	< 1.3
1,4-Dichlorobenzene	1.3	mg/kg	208	< 1.3	---	< 1.3	---	< 1.3	---	< 1.3	---	< 1.3	< 1.3
Benzyl alcohol	1.3	mg/kg	208	< 1.3	---	< 1.3	---	< 1.3	---	< 1.3	---	< 1.3	< 1.3
1,2-Dichlorobenzene	1.3	mg/kg	208	< 1.3	---	< 1.3	---	< 1.3	---	< 1.3	---	< 1.3	< 1.3
2-Methylphenol	1.3	mg/kg	208	< 1.3	---	< 1.3	---	< 1.3	---	< 1.3	---	< 1.3	< 1.3
Bis(2-chloroisopropyl)ether	1.3	mg/kg	208	< 1.3	---	< 1.3	---	< 1.3	---	< 1.3	---	< 1.3	< 1.3
N-Nitrosopyrrolidine	1.3	mg/kg	208	< 1.3	---	< 1.3	---	< 1.3	---	< 1.3	---	< 1.3	< 1.3
3+4-methylphenol	1.3	mg/kg	208	< 1.3	---	< 1.3	---	< 1.3	---	< 1.3	---	< 1.3	< 1.3
Acetophenone	1.3	mg/kg	208	< 1.3	---	< 1.3	---	< 1.3	---	< 1.3	---	< 1.3	< 1.3
N-Nitroso-di-N-propylamine	1.3	mg/kg	208	< 1.3	---	< 1.3	---	< 1.3	---	< 1.3	---	< 1.3	< 1.3
o-toluidine	1.3	mg/kg	208	< 1.3	---	< 1.3	---	< 1.3	---	< 1.3	---	< 1.3	< 1.3
Hexachloroethane	1.3	mg/kg	208	< 1.3	---	< 1.3	---	< 1.3	---	< 1.3	---	< 1.3	< 1.3
Nitrobenzene	1.3	mg/kg	208	< 1.3	---	< 1.3	---	< 1.3	---	< 1.3	---	< 1.3	< 1.3

ALcontrol Laboratories

Job No. 10-19693
Site: C/o Whitelands Farm, Middleton Stoney Road, Bicester, Oxfordshire
Report Date: 27/01/2011

			Lab No.	213963	213964	213966	213967	213968	213969	213970	213971	213972	213973
			Sample Date	/ /	/ /	/ /	/ /	/ /	/ /	/ /	/ /	/ /	/ /
			Sample Id	WS202	WS202	WS203	WS203	WS204	WS204	WS205	WS205	WS206	WS207
			Other ID										
			Depth (m)	0.5	1.5	0.6	1.6	0.7	1.5	0.6	1.5	0.1	0.6
Determination	**LOD**	**Units**	**Method**										
N-Nitrosopiperidine	1.3	mg/kg	208	< 1.3	---	< 1.3	---	< 1.3	---	< 1.3	---	< 1.3	< 1.3
Isophorone	1.3	mg/kg	208	< 1.3	---	< 1.3	---	< 1.3	---	< 1.3	---	< 1.3	< 1.3
2-Nitrophenol	1.3	mg/kg	208	< 1.3	---	< 1.3	---	< 1.3	---	< 1.3	---	< 1.3	< 1.3
2,4-Dimethylphenol	1.3	mg/kg	208	< 1.3	---	< 1.3	---	< 1.3	---	< 1.3	---	< 1.3	< 1.3
Bis(2-chloroethoxy)methane	1.3	mg/kg	208	< 1.3	---	< 1.3	---	< 1.3	---	< 1.3	---	< 1.3	< 1.3
2,4-Dichlorophenol	1.3	mg/kg	208	< 1.3	---	< 1.3	---	< 1.3	---	< 1.3	---	< 1.3	< 1.3
1,2,4-Trichlorobenzene	1.3	mg/kg	208	< 1.3	---	< 1.3	---	< 1.3	---	< 1.3	---	< 1.3	< 1.3
Naphthalene	1.3	mg/kg	208	< 1.3	---	< 1.3	---	< 1.3	---	< 1.3	---	< 1.3	< 1.3
2,6-Dichlorophenol	1.3	mg/kg	208	< 1.3	---	< 1.3	---	< 1.3	---	< 1.3	---	< 1.3	< 1.3
p-Chloroaniline	1.3	mg/kg	208	< 1.3	---	< 1.3	---	< 1.3	---	< 1.3	---	< 1.3	< 1.3
Hexachloropropene	1.3	mg/kg	208	< 1.3	---	< 1.3	---	< 1.3	---	< 1.3	---	< 1.3	< 1.3
Hexachlorobutadiene	1.3	mg/kg	208	< 1.3	---	< 1.3	---	< 1.3	---	< 1.3	---	< 1.3	< 1.3
N-Nitroso-di-N-butylamine	1.3	mg/kg	208	< 1.3	---	< 1.3	---	< 1.3	---	< 1.3	---	< 1.3	< 1.3
4-Chloro-3-methylphenol	1.3	mg/kg	208	< 1.3	---	< 1.3	---	< 1.3	---	< 1.3	---	< 1.3	< 1.3
Safrole	1.3	mg/kg	208	< 1.3	---	< 1.3	---	< 1.3	---	< 1.3	---	< 1.3	< 1.3
2-Methylnaphthalene	1.3	mg/kg	208	< 1.3	---	< 1.3	---	< 1.3	---	< 1.3	---	< 1.3	< 1.3
1,2,4,5-Tetrachlorobenzene	1.3	mg/kg	208	< 1.3	---	< 1.3	---	< 1.3	---	< 1.3	---	< 1.3	< 1.3
Hexachlorocyclopentadiene	1.3	mg/kg	208	< 1.3	---	< 1.3	---	< 1.3	---	< 1.3	---	< 1.3	< 1.3
2,4,5-Trichlorophenol	1.3	mg/kg	208	< 1.3	---	< 1.3	---	< 1.3	---	< 1.3	---	< 1.3	< 1.3
2,4,6-Trichlorophenol	1.3	mg/kg	208	< 1.3	---	< 1.3	---	< 1.3	---	< 1.3	---	< 1.3	< 1.3
Isosafrole	1.3	mg/kg	208	< 1.3	---	< 1.3	---	< 1.3	---	< 1.3	---	< 1.3	< 1.3
2-Chloronaphthalene	1.3	mg/kg	208	< 1.3	---	< 1.3	---	< 1.3	---	< 1.3	---	< 1.3	< 1.3
2-Nitroaniline	1.3	mg/kg	208	< 1.3	---	< 1.3	---	< 1.3	---	< 1.3	---	< 1.3	< 1.3
1,4-Naphthoquinone	1.3	mg/kg	208	< 1.3	---	< 1.3	---	< 1.3	---	< 1.3	---	< 1.3	< 1.3
Dimethyl phthalate	1.3	mg/kg	208	< 1.3	---	< 1.3	---	< 1.3	---	< 1.3	---	< 1.3	< 1.3
1,3-Dinitrobenzene	1.3	mg/kg	208	< 1.3	---	< 1.3	---	< 1.3	---	< 1.3	---	< 1.3	< 1.3

Solid Samples

Job No. 10-19693
Site: C/o Whitelands Farm, Middleton Stoney Road, Bicester, Oxfordshire
Report Date: 27/01/2011

			Lab No.	213963	213964	213966	213967	213968	213969	213970	213971	213972	213973
			Sample Date	/ /	/ /	/ /	/ /	/ /	/ /	/ /	/ /	/ /	/ /
			Sample Id	WS202	WS202	WS203	WS203	WS204	WS204	WS205	WS205	WS206	WS207
			Other ID										
			Depth (m)	0.5	1.5	0.6	1.6	0.7	1.5	0.6	1.5	0.1	0.6
Determination	**LOD**	**Units**	**Method**										
2,6-Dinitrotoluene	1.3	mg/kg	208	< 1.3	---	< 1.3	---	< 1.3	---	< 1.3	---	< 1.3	< 1.3
Acenaphthylene	1.3	mg/kg	208	< 1.3	---	< 1.3	---	< 1.3	---	< 1.3	---	< 1.3	< 1.3
3-Nitroaniline	1.3	mg/kg	208	< 1.3	---	< 1.3	---	< 1.3	---	< 1.3	---	< 1.3	< 1.3
Acenaphthene	1.3	mg/kg	208	< 1.3	---	< 1.3	---	< 1.3	---	< 1.3	---	< 1.3	< 1.3
4-Nitrophenol	1.3	mg/kg	208	< 1.3	---	< 1.3	---	< 1.3	---	< 1.3	---	< 1.3	< 1.3
Pentachlorobenzene	1.3	mg/kg	208	< 1.3	---	< 1.3	---	< 1.3	---	< 1.3	---	< 1.3	< 1.3
2,4-Dinitrotoluene	1.3	mg/kg	208	< 1.3	---	< 1.3	---	< 1.3	---	< 1.3	---	< 1.3	< 1.3
Dibenzofuran	1.3	mg/kg	208	< 1.3	---	< 1.3	---	< 1.3	---	< 1.3	---	< 1.3	< 1.3
1-Naphthylamine	1.3	mg/kg	208	< 1.3	---	< 1.3	---	< 1.3	---	< 1.3	---	< 1.3	< 1.3
2,3,4,6-Tetrachlorophenol	1.3	mg/kg	208	< 1.3	---	< 1.3	---	< 1.3	---	< 1.3	---	< 1.3	< 1.3
2-Naphthylamine	1.3	mg/kg	208	< 1.3	---	< 1.3	---	< 1.3	---	< 1.3	---	< 1.3	< 1.3
Diethyl Phthalate	1.3	mg/kg	208	< 1.3	---	< 1.3	---	< 1.3	---	< 1.3	---	< 1.3	< 1.3
4-Chlorophenyl phenyl ether	1.3	mg/kg	208	< 1.3	---	< 1.3	---	< 1.3	---	< 1.3	---	< 1.3	< 1.3
Fluorene	1.3	mg/kg	208	< 1.3	---	< 1.3	---	< 1.3	---	< 1.3	---	< 1.3	< 1.3
2-Methyl-4,6-dinitrophenol	1.3	mg/kg	208	< 1.3	---	< 1.3	---	< 1.3	---	< 1.3	---	< 1.3	< 1.3
Diphenylamine	1.3	mg/kg	208	< 1.3	---	< 1.3	---	< 1.3	---	< 1.3	---	< 1.3	< 1.3
Azobenzene	1.3	mg/kg	208	< 1.3	---	< 1.3	---	< 1.3	---	< 1.3	---	< 1.3	< 1.3
1,3,5-Trinitrobenzene	1.3	mg/kg	208	< 1.3	---	< 1.3	---	< 1.3	---	< 1.3	---	< 1.3	< 1.3
4-Bromophenyl phenyl ether	1.3	mg/kg	208	< 1.3	---	< 1.3	---	< 1.3	---	< 1.3	---	< 1.3	< 1.3
Diallate	1.3	mg/kg	208	< 1.3	---	< 1.3	---	< 1.3	---	< 1.3	---	< 1.3	< 1.3
Hexachlorobenzene	1.3	mg/kg	208	< 1.3	---	< 1.3	---	< 1.3	---	< 1.3	---	< 1.3	< 1.3
4-Aminobiphenyl	1.3	mg/kg	208	< 1.3	---	< 1.3	---	< 1.3	---	< 1.3	---	< 1.3	< 1.3
Pentachlorophenol	1.3	mg/kg	208	< 1.3	---	< 1.3	---	< 1.3	---	< 1.3	---	< 1.3	< 1.3
Pentachloronitrobenzene	1.3	mg/kg	208	< 1.3	---	< 1.3	---	< 1.3	---	< 1.3	---	< 1.3	< 1.3
Pronamide	1.3	mg/kg	208	< 1.3	---	< 1.3	---	< 1.3	---	< 1.3	---	< 1.3	< 1.3
Dinoseb	1.3	mg/kg	208	< 1.3	---	< 1.3	---	< 1.3	---	< 1.3	---	< 1.3	< 1.3

Solid Samples

Job No. 10-19693
Site: C/o Whitelands Farm, Middleton Stoney Road, Bicester, Oxfordshire
Report Date: 27/01/2011

			Lab No.	213963	213964	213966	213967	213968	213969	213970	213971	213972	213973
			Sample Date	/ /	/ /	/ /	/ /	/ /	/ /	/ /	/ /	/ /	/ /
			Sample Id	WS202	WS202	WS203	WS203	WS204	WS204	WS205	WS205	WS206	WS207
			Other ID										
			Depth (m)	0.5	1.5	0.6	1.6	0.7	1.5	0.6	1.5	0.1	0.6
Determination	**LOD**	**Units**	**Method**										
Phenanthrene	1.3	mg/kg	208	< 1.3	---	< 1.3	---	< 1.3	---	< 1.3	---	< 1.3	< 1.3
Anthracene	1.3	mg/kg	208	< 1.3	---	< 1.3	---	< 1.3	---	< 1.3	---	< 1.3	< 1.3
Carbazole	1.3	mg/kg	208	< 1.3	---	< 1.3	---	< 1.3	---	< 1.3	---	< 1.3	< 1.3
Di-N-butyl phthalate	1.3	mg/kg	208	< 1.3	---	< 1.3	---	< 1.3	---	< 1.3	---	< 1.3	< 1.3
Isodrin	1.3	mg/kg	208	< 1.3	---	< 1.3	---	< 1.3	---	< 1.3	---	< 1.3	< 1.3
Fluoranthene	1.3	mg/kg	208	< 1.3	---	< 1.3	---	< 1.3	---	< 1.3	---	< 1.3	< 1.3
Benzidine	1.3	mg/kg	208	< 1.3	---	< 1.3	---	< 1.3	---	< 1.3	---	< 1.3	< 1.3
Pyrene	1.3	mg/kg	208	< 1.3	---	< 1.3	---	< 1.3	---	< 1.3	---	< 1.3	< 1.3
p-Dimethylaminoazobenzene	1.3	mg/kg	208	< 1.3	---	< 1.3	---	< 1.3	---	< 1.3	---	< 1.3	< 1.3
Chlorobenzilate	1.3	mg/kg	208	< 1.3	---	< 1.3	---	< 1.3	---	< 1.3	---	< 1.3	< 1.3
3,3-Dimethylbenzidine	1.3	mg/kg	208	< 1.3	---	< 1.3	---	< 1.3	---	< 1.3	---	< 1.3	< 1.3
Butyl Benzyl Phthalate	1.3	mg/kg	208	< 1.3	---	< 1.3	---	< 1.3	---	< 1.3	---	< 1.3	< 1.3
Kepone	1.3	mg/kg	208	< 1.3	---	< 1.3	---	< 1.3	---	< 1.3	---	< 1.3	< 1.3
2-Acetylaminofluorene	1.3	mg/kg	208	< 1.3	---	< 1.3	---	< 1.3	---	< 1.3	---	< 1.3	< 1.3
3,3-Dichlorobenzidine	1.3	mg/kg	208	< 1.3	---	< 1.3	---	< 1.3	---	< 1.3	---	< 1.3	< 1.3
Chrysene	1.3	mg/kg	208	< 1.3	---	< 1.3	---	< 1.3	---	< 1.3	---	< 1.3	< 1.3
Benzo(a)anthracene	1.3	mg/kg	208	< 1.3	---	< 1.3	---	< 1.3	---	< 1.3	---	< 1.3	< 1.3
Bis(2-ethylhexyl)phthalate	1.3	mg/kg	208	< 1.3	---	< 1.3	---	< 1.3	---	< 1.3	---	< 1.3	< 1.3
Di-n-octylphthalate	1.3	mg/kg	208	< 1.3	---	< 1.3	---	< 1.3	---	< 1.3	---	< 1.3	< 1.3
7,12-Dimethylbenz(a)anthracene	1.3	mg/kg	208	< 1.3	---	< 1.3	---	< 1.3	---	< 1.3	---	< 1.3	< 1.3
Benzo(b)fluoranthene	1.3	mg/kg	208	< 1.3	---	< 1.3	---	< 1.3	---	< 1.3	---	< 1.3	< 1.3
Benzo(k)fluoranthene	1.3	mg/kg	208	< 1.3	---	< 1.3	---	< 1.3	---	< 1.3	---	< 1.3	< 1.3
Benzo(a)pyrene	1.3	mg/kg	208	< 1.3	---	< 1.3	---	< 1.3	---	< 1.3	---	< 1.3	< 1.3
3-Methylcholanthrene	1.3	mg/kg	208	< 1.3	---	< 1.3	---	< 1.3	---	< 1.3	---	< 1.3	< 1.3
Indeno(1,2,3-c,d)pyrene	1.3	mg/kg	208	< 1.3	---	< 1.3	---	< 1.3	---	< 1.3	---	< 1.3	< 1.3
Dibenzo(a,h)anthracene	1.3	mg/kg	208	< 1.3	---	< 1.3	---	< 1.3	---	< 1.3	---	< 1.3	< 1.3

Solid Samples

Job No. 10-19693
Site: C/o Whitelands Farm, Middleton Stoney Road, Bicester, Oxfordshire
Report Date: 27/01/2011

			Lab No.	213963	213964	213966	213967	213968	213969	213970	213971	213972	213973
			Sample Date	/ /	/ /	/ /	/ /	/ /	/ /	/ /	/ /	/ /	/ /
			Sample Id	WS202	WS202	WS203	WS203	WS204	WS204	WS205	WS205	WS206	WS207
			Other ID										
			Depth (m)	0.5	1.5	0.6	1.6	0.7	1.5	0.6	1.5	0.1	0.6
Determination	**LOD**	**Units**	**Method**										
Benzo(g,h,i)perylene	1.3	mg/kg	208	< 1.3	---	< 1.3	---	< 1.3	---	< 1.3	---	< 1.3	< 1.3
3+4-Chlorophenol	1.3	mg/kg	208	< 1.3	---	< 1.3	---	< 1.3	---	< 1.3	---	< 1.3	< 1.3
SVOC Tentatively Identifiable Compounds			208	See Appendix	---	See Appendix	---	See Appendix	---	See Appendix	---	See Appendix	See Appendix
1,2-Dichloroethane $	0.005	mg/kg	SUBCON $	<0.005	---	<0.005	---	<0.005	---	<0.005	---	<0.005	<0.005

Solid Samples

Job No. 10-19693
Site: C/o Whitelands Farm, Middleton Stoney Road, Bicester, Oxfordshire
Report Date: 27/01/2011

			Lab No.	213974	213975	213976	213977	213978	213979	213980	213981
			Sample Date	/ /	/ /	/ /	/ /	/ /	/ /	/ /	/ /
			Sample Id	WS208	WS208	WS209	WS210	WS210	WS211	WS211	WS212
			Other ID								
			Depth (m)	0.6	2	0.7	0.4	0.7	0.4	0.8	0.6
Determination	LOD	Units	Method								
Solid Description			101	Clay	---	Clay	Clay	---	Loam and Clay	---	Granular
Solid Description $			SUBCON $	Clay	Silty Clay	Clay	Clay	Clay	Silty Clay	Sandy Clay	Sandy Clay
Moisture	0.1	%	101	20	---	21	17	---	19	---	6.6
Moisture $	0	%	SUBCON $	22	21	19	17	20	22	6.6	7.7
pH $		pH units	SUBCON $	8.43	7.98	7.97	8.12	8.23	8.34	8.73	8.56
Phenols, Monohydric, as PhOH $	0.025	mg/kg	SUBCON $	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025
Selenium, total, as Se $	1	mg/kg	SUBCON $	<1	<1	<1	<1	<1	<1	<1	<1
Mercury, total, as Hg $	0.14	mg/kg	SUBCON $	<0.14	<0.14	<0.14	<0.14	<0.14	<0.14	<0.14	<0.14
Arsenic, total, as As $	0.6	mg/kg	SUBCON $	9.26	13.8	23.8	19	21.1	18.7	8.63	11.8
Cadmium, total, as Cd $	0.02	mg/kg	SUBCON $	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Chromium, total, as Cr $	0.9	mg/kg	SUBCON $	40.8	25.9	38.3	30.5	39.6	19.5	6.4	6.45
Copper, total, as Cu $	1.4	mg/kg	SUBCON $	18.9	21.9	15.1	13.4	12.6	16.1	3.49	2.37
Nickel, total, as Ni $	0.2	mg/kg	SUBCON $	27.2	5.86	10.8	19	11.5	18.9	9.05	8.81
Lead, total, as Pb $	0.7	mg/kg	SUBCON $	17	17.3	15.6	16.6	18	36.8	5.27	4.09
Zinc, total, as Zn $	1.9	mg/kg	SUBCON $	77.8	45.5	38.6	65.3	34.8	53.2	17.9	10.2
Naphthalene $	0.009	mg/kg	SUBCON $	<0.009	<0.009	<0.009	0.0202	<0.009	<0.009	<0.009	<0.009
Acenaphthylene $	0.012	mg/kg	SUBCON $	<0.012	<0.012	<0.012	<0.012	<0.012	<0.012	<0.012	<0.012
Acenaphthene $	0.008	mg/kg	SUBCON $	<0.008	<0.008	<0.008	<0.008	<0.008	<0.008	<0.008	<0.008
Fluorene $	0.01	mg/kg	SUBCON $	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Phenanthrene $	0.015	mg/kg	SUBCON $	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015	0.0195	<0.015
Anthracene $	0.016	mg/kg	SUBCON $	<0.016	<0.016	<0.016	<0.016	<0.016	<0.016	<0.016	<0.016
Fluoranthene $	0.017	mg/kg	SUBCON $	<0.017	<0.017	<0.017	<0.017	<0.017	0.0316	0.128	<0.017
Pyrene $	0.015	mg/kg	SUBCON $	<0.015	<0.015	<0.015	<0.015	<0.015	0.0267	0.11	<0.015
Benzo(a)anthracene $	0.014	mg/kg	SUBCON $	<0.014	<0.014	<0.014	<0.014	<0.014	<0.014	0.122	<0.014
Benzo(a)pyrene $	0.015	mg/kg	SUBCON $	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015	0.115	<0.015
Chrysene $	0.01	mg/kg	SUBCON $	<0.01	<0.01	<0.01	<0.01	<0.01	0.0185	0.138	<0.01

Solid Samples

Job No. 10-19693
Site: C/o Whitelands Farm, Middleton Stoney Road, Bicester, Oxfordshire
Report Date: 27/01/2011

			Lab No.	213974	213975	213976	213977	213978	213979	213980	213981
			Sample Date	/ /	/ /	/ /	/ /	/ /	/ /	/ /	/ /
			Sample Id	WS208	WS208	WS209	WS210	WS210	WS211	WS211	WS212
			Other ID								
			Depth (m)	0.6	2	0.7	0.4	0.7	0.4	0.8	0.6
Determination	LOD	Units	Method								
Benzo(k)fluoranthene $	0.014	mg/kg	SUBCON $	<0.014	<0.014	<0.014	<0.014	<0.014	<0.014	0.0843	<0.014
Benzo(b)fluoranthene $	0.015	mg/kg	SUBCON $	<0.015	<0.015	<0.015	<0.015	<0.015	0.0289	0.152	<0.015
Indeno(1,2,3-c,d)pyrene $	0.018	mg/kg	SUBCON $	<0.018	<0.018	<0.018	<0.018	<0.018	<0.018	0.0606	<0.018
Dibenzo(a,h)anthracene $	0.023	mg/kg	SUBCON $	<0.023	<0.023	<0.023	<0.023	<0.023	<0.023	<0.023	<0.023
Benzo(g,h,i)perylene $	0.024	mg/kg	SUBCON $	<0.024	<0.024	<0.024	<0.024	<0.024	<0.024	0.0904	<0.024
PAH (EPA 16) $		mg/kg	SUBCON $	<0.118	<0.118	<0.118	<0.118	<0.118	<0.118	1.02	<0.118
Benzene $	0.01	mg/kg	SUBCON $	---	---	<0.009	<0.009	<0.01	<0.009	<0.01	---
Ethylbenzene $	0.003	mg/kg	SUBCON $	---	---	< 0.003	< 0.003	<0.003	< 0.003	<0.003	---
o-Xylene $	0.003	mg/kg	SUBCON $	---	---	< 0.003	< 0.003	<0.003	< 0.003	<0.003	---
MTBE $	0.005	mg/kg	SUBCON $	---	---	< 0.005	< 0.005	<0.005	< 0.005	<0.005	---
m+p-Xylene $	0.006	mg/kg	SUBCON $	---	---	< 0.006	< 0.006	<0.006	< 0.006	<0.006	---
TAME $	0.003	mg/kg	SUBCON $	---	---	< 0.003	< 0.003	<0.003	< 0.003	<0.003	---
Toluene $	0.002	mg/kg	SUBCON $	---	---	< 0.002	< 0.002	<0.002	< 0.002	<0.002	---
PRO (>C5-C6) $	0.01	mg/kg	SUBCON $	---	---	< 0.01	< 0.01	<0.01	< 0.01	<0.01	---
PRO (>C6-C8) $	0.01	mg/kg	SUBCON $	---	---	< 0.01	< 0.01	<0.01	< 0.01	<0.01	---
PRO (>C8-C10) $	0.01	mg/kg	SUBCON $	---	---	< 0.01	< 0.01	<0.01	< 0.01	<0.01	---
PRO (>C5-C10) $	0.01	mg/kg	SUBCON $	---	---	< 0.01	< 0.01	0.01	< 0.01	<0.01	---
PRO (>C6-C10) $	20	mg/kg	SUBCON $	---	---	< 20	< 20	< 20	< 20	< 20	---
EPH (>C6-C8) $	10	mg/kg	SUBCON $	<10	---	<10	<10	---	<10	---	<10
EPH (>C8-C12) $	10	mg/kg	SUBCON $	<10	---	<10	<10	---	<10	---	<10
EPH (>C12-C16) $	10	mg/kg	SUBCON $	<10	---	<10	<10	---	<10	---	<10
EPH (>C16-C21) $	10	mg/kg	SUBCON $	<10	---	<10	<10	---	22.7	---	<10
EPH (>C21-C40)	10	mg/kg	SUBCON $	134	---	<10	<10	---	164	---	<10
Total EPH (>C6-C40) $	10	mg/kg	SUBCON $	146	---	<10	<10	---	187	---	<10
Aliphatic (>C5-C6) $	0.01	mg/kg	SUBCON $	---	---	< 0.01	< 0.01	<0.01	< 0.01	<0.01	---
Aliphatic (>C6-C8) $	0.01	mg/kg	SUBCON $	---	---	< 0.01	< 0.01	<0.01	< 0.01	<0.01	---

Solid Samples

Job No. 10-19693
Site: C/o Whitelands Farm, Middleton Stoney Road, Bicester, Oxfordshire
Report Date: 27/01/2011

			Lab No.	213974	213975	213976	213977	213978	213979	213980	213981
			Sample Date	/ /	/ /	/ /	/ /	/ /	/ /	/ /	/ /
			Sample Id	WS208	WS208	WS209	WS210	WS210	WS211	WS211	WS212
			Other ID								
			Depth (m)	0.6	2	0.7	0.4	0.7	0.4	0.8	0.6
Determination	LOD	Units	Method								
Aliphatic (>C8-C10) $	0.01	mg/kg	SUBCON $	---	---	< 0.01	< 0.01	<0.01	< 0.01	<0.01	---
Aliphatic (>C10-C12) $	0.01	mg/kg	SUBCON $	---	---	< 0.01	< 0.01	<0.01	< 0.01	<0.01	---
Aliphatic (>C12-C16) $	0.1	mg/kg	SUBCON $	---	---	<0.1	8.12	10.1	8.06	8.1	---
Aliphatic (>C16-C21) $	0.1	mg/kg	SUBCON $	---	---	<0.1	2.79	2.15	1.58	3.73	---
Aliphatic (>C21-C35) $	0.1	mg/kg	SUBCON $	---	---	<0.1	3.87	<0.1	8.09	5.88	---
Aliphatic (>C35-C40) $	0.1	mg/kg	SUBCON $	---	---	<0.1	<0.1	<0.1	0.522	1.64	---
Aliphatic (>C40-C44) $	0.1	mg/kg	SUBCON $	---	---	<0.1	<0.1	<0.1	<0.1	1.26	---
Total Aliphatics (>C5-C44) $	0.1	mg/kg	SUBCON $	---	---	< 0.1	15	12.3	18	20.6	---
Aromatic (>C6-C7) $	0.01	mg/kg	SUBCON $	---	---	< 0.01	< 0.01	<0.01	< 0.01	<0.01	---
Aromatic (>C7-C8) $	0.01	mg/kg	SUBCON $	---	---	< 0.01	< 0.01	<0.01	< 0.01	<0.01	---
Aromatic (>C8-C10) $	0.01	mg/kg	SUBCON $	---	---	< 0.01	< 0.01	<0.01	< 0.01	<0.01	---
Aromatic (>C10-C12) $	0.01	mg/kg	SUBCON $	---	---	< 0.01	< 0.01	<0.01	< 0.01	<0.01	---
Aromatic (>C12-C16) $	0.1	mg/kg	SUBCON $	---	---	<0.1	14.5	10.5	16.3	4.65	---
Aromatic (>C16-C21) $	0.1	mg/kg	SUBCON $	---	---	<0.1	3.06	2.56	4.6	3.75	---
Aromatic (>C21-C35) $	0.1	mg/kg	SUBCON $	---	---	<0.1	1.51	<0.1	21.8	10.9	---
Aromatic (>C35-C40) $	0.1	mg/kg	SUBCON $	---	---	<0.1	<0.1	<0.1	4.84	6.53	---
Aromatic (>C40-C44) $	0.1	mg/kg	SUBCON $	---	---	<0.1	<0.1	<0.1	2.73	6.47	---
Total Aromatics (>C6-C44) $	0.1	mg/kg	SUBCON $	---	---	< 0.1	19	13	50	32.3	---
Total TPH (>C5-C44) $	0.1	mg/kg	SUBCON $	---	---	< 0.1	34	25.3	69	52.9	---
Dichlorodifluoromethane $	0.004	mg/kg	SUBCON $	<0.004	---	<0.004	<0.004	---	<0.004	---	<0.004
Chloromethane $	0.007	mg/kg	SUBCON $	<0.007	---	<0.007	<0.007	---	<0.007	---	<0.007
Chloroethane $	0.014	mg/kg	SUBCON $	<0.014	---	<0.014	<0.014	---	<0.014	---	<0.014
Bromomethane $	0.013	mg/kg	SUBCON $	<0.013	---	<0.013	<0.013	---	<0.013	---	<0.013
Trichlorofluoromethane $	0.006	mg/kg	SUBCON $	<0.006	---	<0.006	<0.006	---	<0.006	---	<0.006
1,1-Dichloroethene $	0.01	mg/kg	SUBCON $	<0.01	---	<0.01	<0.01	---	<0.01	---	<0.01
MTBE $	0.011	mg/kg	SUBCON $	<0.011	---	<0.011	<0.011	---	<0.011	---	<0.011

Solid Samples

Job No. 10-19693
Site: C/o Whitelands Farm, Middleton Stoney Road, Bicester, Oxfordshire
Report Date: 27/01/2011

			Lab No.	213974	213975	213976	213977	213978	213979	213980	213981
			Sample Date	/ /	/ /	/ /	/ /	/ /	/ /	/ /	/ /
			Sample Id	WS208	WS208	WS209	WS210	WS210	WS211	WS211	WS212
			Other ID								
			Depth (m)	0.6	2	0.7	0.4	0.7	0.4	0.8	0.6
Determination	**LOD**	**Units**	**Method**								
Trans-1,2-Dichloroethene $	0.011	mg/kg	SUBCON $	<0.011	---	<0.011	<0.011	---	<0.011	---	<0.011
1,1-Dichloroethane $	0.008	mg/kg	SUBCON $	<0.008	---	<0.008	<0.008	---	<0.008	---	<0.008
Cis-1,2-Dichloroethene $	0.005	mg/kg	SUBCON $	<0.005	---	<0.005	<0.005	---	<0.005	---	<0.005
2,2-Dichloropropane $	0.012	mg/kg	SUBCON $	<0.012	---	<0.012	<0.012	---	<0.012	---	<0.012
Chloroform $	0.008	mg/kg	SUBCON $	<0.008	---	<0.008	<0.008	---	<0.008	---	<0.008
Bromochloromethane $	0.014	mg/kg	SUBCON $	<0.014	---	<0.014	<0.014	---	<0.014	---	<0.014
1,1,1-Trichloroethane $	0.007	mg/kg	SUBCON $	<0.007	---	<0.007	<0.007	---	<0.007	---	<0.007
1,1-Dichloropropene $	0.011	mg/kg	SUBCON $	<0.011	---	<0.011	<0.011	---	<0.011	---	<0.011
Benzene $	0.009	mg/kg	SUBCON $	<0.009	---	<0.009	<0.009	---	<0.009	---	<0.009
1,2-Dichloropropane $	0.012	mg/kg	SUBCON $	<0.012	---	<0.012	<0.012	---	<0.012	---	<0.012
Trichloroethene $	0.009	mg/kg	SUBCON $	<0.009	---	<0.009	<0.009	---	<0.009	---	<0.009
Bromodichloromethane $	0.007	mg/kg	SUBCON $	<0.007	---	<0.007	<0.007	---	<0.007	---	<0.007
Dibromomethane $	0.009	mg/kg	SUBCON $	<0.009	---	<0.009	<0.009	---	<0.009	---	<0.009
TAME $	0.015	mg/kg	SUBCON $	<0.015	---	<0.015	<0.015	---	<0.015	---	<0.015
Cis-1,3-Dichloropropene $	0.014	mg/kg	SUBCON $	<0.014	---	<0.014	<0.014	---	<0.014	---	<0.014
Toluene $	0.005	mg/kg	SUBCON $	<0.005	---	<0.005	<0.005	---	<0.005	---	<0.005
Trans-1,3-Dichloropropene $	0.011	mg/kg	SUBCON $	<0.011	---	<0.011	<0.011	---	<0.011	---	<0.011
1,1,2-Trichloroethane $	0.01	mg/kg	SUBCON $	<0.01	---	<0.01	<0.01	---	<0.01	---	<0.01
Carbon Tetrachloride $	0.014	mg/kg	SUBCON $	<0.014	---	<0.014	<0.014	---	<0.014	---	<0.014
Vinyl Chloride $	0.01	mg/kg	SUBCON $	<0.01	---	<0.01	<0.01	---	<0.01	---	<0.01
1,3-Dichloropropane $	0.007	mg/kg	SUBCON $	<0.007	---	<0.007	<0.007	---	<0.007	---	<0.007
Tetrachloroethene $	0.005	mg/kg	SUBCON $	<0.005	---	<0.005	<0.005	---	<0.005	---	<0.005
Dibromochloromethane $	0.013	mg/kg	SUBCON $	<0.013	---	<0.013	<0.013	---	<0.013	---	<0.013
1,2-Dibromoethane $	0.012	mg/kg	SUBCON $	<0.012	---	<0.012	<0.012	---	<0.012	---	<0.012
Chlorobenzene $	0.005	mg/kg	SUBCON $	<0.005	---	<0.005	<0.005	---	<0.005	---	<0.005
1,1,1,2-Tetrachloroethane $	0.01	mg/kg	SUBCON $	<0.01	---	<0.01	<0.01	---	<0.01	---	<0.01

Solid Samples

Job No. 10-19693
Site: C/o Whitelands Farm, Middleton Stoney Road, Bicester, Oxfordshire
Report Date: 27/01/2011

			Lab No.	213974	213975	213976	213977	213978	213979	213980	213981
			Sample Date	/ /	/ /	/ /	/ /	/ /	/ /	/ /	/ /
			Sample Id	WS208	WS208	WS209	WS210	WS210	WS211	WS211	WS212
			Other ID								
			Depth (m)	0.6	2	0.7	0.4	0.7	0.4	0.8	0.6
Determination	LOD	Units	Method								
Ethylbenzene $	0.003	mg/kg	SUBCON $	<0.004	---	<0.004	<0.004	---	<0.004	---	<0.004
m,p-Xylene $	0.014	mg/kg	SUBCON $	<0.014	---	<0.014	<0.014	---	<0.014	---	<0.014
o-Xylene $	0.01	mg/kg	SUBCON $	<0.01	---	<0.01	<0.01	---	<0.01	---	<0.01
Styrene $	0.01	mg/kg	SUBCON $	<0.01	---	<0.01	<0.01	---	<0.01	---	<0.01
Bromoform $	0.01	mg/kg	SUBCON $	<0.01	---	<0.01	<0.01	---	<0.01	---	<0.01
Isopropylbenzene $	0.005	mg/kg	SUBCON $	<0.005	---	<0.005	<0.005	---	<0.005	---	<0.005
1,1,2,2-Tetrachloroethane $	0.01	mg/kg	SUBCON $	<0.01	---	<0.01	<0.01	---	<0.01	---	<0.01
1,2,3-Trichloropropane $	0.017	mg/kg	SUBCON $	<0.017	---	<0.017	<0.017	---	<0.017	---	<0.017
n-Propylbenzene $	0.005	mg/kg	SUBCON $	<0.005	---	<0.005	<0.005	---	<0.005	---	<0.005
Bromobenzene $	0.01	mg/kg	SUBCON $	<0.01	---	<0.01	<0.01	---	<0.01	---	<0.01
2-Chlorotoluene $	0.009	mg/kg	SUBCON $	<0.009	---	<0.009	<0.009	---	<0.009	---	<0.009
1,3,5-Trimethylbenzene $	0.008	mg/kg	SUBCON $	<0.008	---	<0.008	<0.008	---	<0.008	---	<0.008
4-Chlorotoluene $	0.012	mg/kg	SUBCON $	<0.012	---	<0.012	<0.012	---	<0.012	---	<0.012
Tert-Butylbenzene $	0.012	mg/kg	SUBCON $	<0.012	---	<0.012	<0.012	---	<0.012	---	<0.012
1,2,4-Trimethylbenzene $	0.009	mg/kg	SUBCON $	<0.009	---	<0.009	<0.009	---	<0.009	---	<0.009
sec-Butylbenzene $	0.01	mg/kg	SUBCON $	<0.01	---	<0.01	<0.01	---	<0.01	---	<0.01
p-Isopropyltoluene $	0.011	mg/kg	SUBCON $	<0.011	---	<0.011	<0.011	---	<0.011	---	<0.011
1,3-Dichlorobenzene $	0.006	mg/kg	SUBCON $	<0.006	---	<0.006	<0.006	---	<0.006	---	<0.006
1,4-Dichlorobenzene $	0.005	mg/kg	SUBCON $	<0.005	---	<0.005	<0.005	---	<0.005	---	<0.005
n-Butylbenzene $	0.01	mg/kg	SUBCON $	<0.01	---	<0.01	<0.01	---	<0.01	---	<0.01
1,2-Dichlorobenzene $	0.012	mg/kg	SUBCON $	<0.012	---	<0.012	<0.012	---	<0.012	---	<0.012
1,2-Dibromo-3-Chloropropane $	0.014	mg/kg	SUBCON $	<0.014	---	<0.014	<0.014	---	<0.014	---	<0.014
1,2,4-Trichlorobenzene $	0.006	mg/kg	SUBCON $	<0.006	---	<0.006	<0.006	---	<0.006	---	<0.006
Hexachlorobutadiene $	0.012	mg/kg	SUBCON $	<0.012	---	<0.012	<0.012	---	<0.012	---	<0.012
Naphthalene $	0.013	mg/kg	SUBCON $	<0.013	---	0.137	<0.013	---	<0.013	---	<0.013
1,2,3-Trichlorobenzene $	0.006	mg/kg	SUBCON $	<0.006	---	<0.006	<0.006	---	<0.006	---	<0.006

Solid Samples

Job No. 10-19693
Site: C/o Whitelands Farm, Middleton Stoney Road, Bicester, Oxfordshire
Report Date: 27/01/2011

			Lab No.	213974	213975	213976	213977	213978	213979	213980	213981
			Sample Date	/ /	/ /	/ /	/ /	/ /	/ /	/ /	/ /
			Sample Id	WS208	WS208	WS209	WS210	WS210	WS211	WS211	WS212
			Other ID								
			Depth (m)	0.6	2	0.7	0.4	0.7	0.4	0.8	0.6
Determination	**LOD**	**Units**	**Method**								
Dichloromethane $	0.01	mg/kg	SUBCON $	<0.01	---	<0.01	<0.01	---	<0.01	---	<0.01
VOC TIC $			SUBCON $	No TICS found	---	See Appendix	No TICS found	---	No TICS found	---	No TICS found
Pyridine	1.3	mg/kg	208	< 1.3	---	< 1.3	< 1.3	---	< 1.3	---	< 1.3
N-Nitrosodimethylamine	1.3	mg/kg	208	< 1.3	---	< 1.3	< 1.3	---	< 1.3	---	< 1.3
2-Picoline	1.3	mg/kg	208	< 1.3	---	< 1.3	< 1.3	---	< 1.3	---	< 1.3
N-Nitrosomethylethylamine	1.3	mg/kg	208	< 1.3	---	< 1.3	< 1.3	---	< 1.3	---	< 1.3
N-Nitrosodiethylamine	1.3	mg/kg	208	< 1.3	---	< 1.3	< 1.3	---	< 1.3	---	< 1.3
Ethyl methanesulfonate	1.3	mg/kg	208	< 1.3	---	< 1.3	< 1.3	---	< 1.3	---	< 1.3
Phenol	1.3	mg/kg	208	< 1.3	---	< 1.3	< 1.3	---	< 1.3	---	< 1.3
Aniline	1.3	mg/kg	208	< 1.3	---	< 1.3	< 1.3	---	< 1.3	---	< 1.3
Bis(2-chloroethyl)ether	1.3	mg/kg	208	< 1.3	---	< 1.3	< 1.3	---	< 1.3	---	< 1.3
Pentachloroethane	1.3	mg/kg	208	< 1.3	---	< 1.3	< 1.3	---	< 1.3	---	< 1.3
2-Chlorophenol	1.3	mg/kg	208	< 1.3	---	< 1.3	< 1.3	---	< 1.3	---	< 1.3
1,3-Dichlorobenzene	1.3	mg/kg	208	< 1.3	---	< 1.3	< 1.3	---	< 1.3	---	< 1.3
1,4-Dichlorobenzene	1.3	mg/kg	208	< 1.3	---	< 1.3	< 1.3	---	< 1.3	---	< 1.3
Benzyl alcohol	1.3	mg/kg	208	< 1.3	---	< 1.3	< 1.3	---	< 1.3	---	< 1.3
1,2-Dichlorobenzene	1.3	mg/kg	208	< 1.3	---	< 1.3	< 1.3	---	< 1.3	---	< 1.3
2-Methylphenol	1.3	mg/kg	208	< 1.3	---	< 1.3	< 1.3	---	< 1.3	---	< 1.3
Bis(2-chloroisopropyl)ether	1.3	mg/kg	208	< 1.3	---	< 1.3	< 1.3	---	< 1.3	---	< 1.3
N-Nitrosopyrrolidine	1.3	mg/kg	208	< 1.3	---	< 1.3	< 1.3	---	< 1.3	---	< 1.3
3+4-methylphenol	1.3	mg/kg	208	< 1.3	---	< 1.3	< 1.3	---	< 1.3	---	< 1.3
Acetophenone	1.3	mg/kg	208	< 1.3	---	< 1.3	< 1.3	---	< 1.3	---	< 1.3
N-Nitroso-di-N-propylamine	1.3	mg/kg	208	< 1.3	---	< 1.3	< 1.3	---	< 1.3	---	< 1.3
o-toluidine	1.3	mg/kg	208	< 1.3	---	< 1.3	< 1.3	---	< 1.3	---	< 1.3
Hexachloroethane	1.3	mg/kg	208	< 1.3	---	< 1.3	< 1.3	---	< 1.3	---	< 1.3
Nitrobenzene	1.3	mg/kg	208	< 1.3	---	< 1.3	< 1.3	---	< 1.3	---	< 1.3

Job No. 10-19693
Site: C/o Whitelands Farm, Middleton Stoney Road, Bicester, Oxfordshire
Report Date: 27/01/2011

			Lab No.	213974	213975	213976	213977	213978	213979	213980	213981
			Sample Date	/ /	/ /	/ /	/ /	/ /	/ /	/ /	/ /
			Sample Id	WS208	WS208	WS209	WS210	WS210	WS211	WS211	WS212
			Other ID								
			Depth (m)	0.6	2	0.7	0.4	0.7	0.4	0.8	0.6
Determination	**LOD**	**Units**	**Method**								
N-Nitrosopiperidine	1.3	mg/kg	208	< 1.3	---	< 1.3	< 1.3	---	< 1.3	---	< 1.3
Isophorone	1.3	mg/kg	208	< 1.3	---	< 1.3	< 1.3	---	< 1.3	---	< 1.3
2-Nitrophenol	1.3	mg/kg	208	< 1.3	---	< 1.3	< 1.3	---	< 1.3	---	< 1.3
2,4-Dimethylphenol	1.3	mg/kg	208	< 1.3	---	< 1.3	< 1.3	---	< 1.3	---	< 1.3
Bis(2-chloroethoxy)methane	1.3	mg/kg	208	< 1.3	---	< 1.3	< 1.3	---	< 1.3	---	< 1.3
2,4-Dichlorophenol	1.3	mg/kg	208	< 1.3	---	< 1.3	< 1.3	---	< 1.3	---	< 1.3
1,2,4-Trichlorobenzene	1.3	mg/kg	208	< 1.3	---	< 1.3	< 1.3	---	< 1.3	---	< 1.3
Naphthalene	1.3	mg/kg	208	< 1.3	---	< 1.3	< 1.3	---	< 1.3	---	< 1.3
2,6-Dichlorophenol	1.3	mg/kg	208	< 1.3	---	< 1.3	< 1.3	---	< 1.3	---	< 1.3
p-Chloroaniline	1.3	mg/kg	208	< 1.3	---	< 1.3	< 1.3	---	< 1.3	---	< 1.3
Hexachloropropene	1.3	mg/kg	208	< 1.3	---	< 1.3	< 1.3	---	< 1.3	---	< 1.3
Hexachlorobutadiene	1.3	mg/kg	208	< 1.3	---	< 1.3	< 1.3	---	< 1.3	---	< 1.3
N-Nitroso-di-N-butylamine	1.3	mg/kg	208	< 1.3	---	< 1.3	< 1.3	---	< 1.3	---	< 1.3
4-Chloro-3-methylphenol	1.3	mg/kg	208	< 1.3	---	< 1.3	< 1.3	---	< 1.3	---	< 1.3
Safrole	1.3	mg/kg	208	< 1.3	---	< 1.3	< 1.3	---	< 1.3	---	< 1.3
2-Methylnaphthalene	1.3	mg/kg	208	< 1.3	---	< 1.3	< 1.3	---	< 1.3	---	< 1.3
1,2,4,5-Tetrachlorobenzene	1.3	mg/kg	208	< 1.3	---	< 1.3	< 1.3	---	< 1.3	---	< 1.3
Hexachlorocyclopentadiene	1.3	mg/kg	208	< 1.3	---	< 1.3	< 1.3	---	< 1.3	---	< 1.3
2,4,5-Trichlorophenol	1.3	mg/kg	208	< 1.3	---	< 1.3	< 1.3	---	< 1.3	---	< 1.3
2,4,6-Trichlorophenol	1.3	mg/kg	208	< 1.3	---	< 1.3	< 1.3	---	< 1.3	---	< 1.3
Isosafrole	1.3	mg/kg	208	< 1.3	---	< 1.3	< 1.3	---	< 1.3	---	< 1.3
2-Chloronaphthalene	1.3	mg/kg	208	< 1.3	---	< 1.3	< 1.3	---	< 1.3	---	< 1.3
2-Nitroaniline	1.3	mg/kg	208	< 1.3	---	< 1.3	< 1.3	---	< 1.3	---	< 1.3
1,4-Naphthoquinone	1.3	mg/kg	208	< 1.3	---	< 1.3	< 1.3	---	< 1.3	---	< 1.3
Dimethyl phthalate	1.3	mg/kg	208	< 1.3	---	< 1.3	< 1.3	---	< 1.3	---	< 1.3
1,3-Dinitrobenzene	1.3	mg/kg	208	< 1.3	---	< 1.3	< 1.3	---	< 1.3	---	< 1.3

Solid Samples

Job No. 10-19693
Site: C/o Whitelands Farm, Middleton Stoney Road, Bicester, Oxfordshire
Report Date: 27/01/2011

			Lab No.	213974	213975	213976	213977	213978	213979	213980	213981
			Sample Date	/ /	/ /	/ /	/ /	/ /	/ /	/ /	/ /
			Sample Id	WS208	WS208	WS209	WS210	WS210	WS211	WS211	WS212
			Other ID								
			Depth (m)	0.6	2	0.7	0.4	0.7	0.4	0.8	0.6
Determination	**LOD**	**Units**	**Method**								
2,6-Dinitrotoluene	1.3	mg/kg	208	< 1.3	---	< 1.3	< 1.3	---	< 1.3	---	< 1.3
Acenaphthylene	1.3	mg/kg	208	< 1.3	---	< 1.3	< 1.3	---	< 1.3	---	< 1.3
3-Nitroaniline	1.3	mg/kg	208	< 1.3	---	< 1.3	< 1.3	---	< 1.3	---	< 1.3
Acenaphthene	1.3	mg/kg	208	< 1.3	---	< 1.3	< 1.3	---	< 1.3	---	< 1.3
4-Nitrophenol	1.3	mg/kg	208	< 1.3	---	< 1.3	< 1.3	---	< 1.3	---	< 1.3
Pentachlorobenzene	1.3	mg/kg	208	< 1.3	---	< 1.3	< 1.3	---	< 1.3	---	< 1.3
2,4-Dinitrotoluene	1.3	mg/kg	208	< 1.3	---	< 1.3	< 1.3	---	< 1.3	---	< 1.3
Dibenzofuran	1.3	mg/kg	208	< 1.3	---	< 1.3	< 1.3	---	< 1.3	---	< 1.3
1-Naphthylamine	1.3	mg/kg	208	< 1.3	---	< 1.3	< 1.3	---	< 1.3	---	< 1.3
2,3,4,6-Tetrachlorophenol	1.3	mg/kg	208	< 1.3	---	< 1.3	< 1.3	---	< 1.3	---	< 1.3
2-Naphthylamine	1.3	mg/kg	208	< 1.3	---	< 1.3	< 1.3	---	< 1.3	---	< 1.3
Diethyl Phthalate	1.3	mg/kg	208	< 1.3	---	< 1.3	< 1.3	---	< 1.3	---	< 1.3
4-Chlorophenyl phenyl ether	1.3	mg/kg	208	< 1.3	---	< 1.3	< 1.3	---	< 1.3	---	< 1.3
Fluorene	1.3	mg/kg	208	< 1.3	---	< 1.3	< 1.3	---	< 1.3	---	< 1.3
2-Methyl-4,6-dinitrophenol	1.3	mg/kg	208	< 1.3	---	< 1.3	< 1.3	---	< 1.3	---	< 1.3
Diphenylamine	1.3	mg/kg	208	< 1.3	---	< 1.3	< 1.3	---	< 1.3	---	< 1.3
Azobenzene	1.3	mg/kg	208	< 1.3	---	< 1.3	< 1.3	---	< 1.3	---	< 1.3
1,3,5-Trinitrobenzene	1.3	mg/kg	208	< 1.3	---	< 1.3	< 1.3	---	< 1.3	---	< 1.3
4-Bromophenyl phenyl ether	1.3	mg/kg	208	< 1.3	---	< 1.3	< 1.3	---	< 1.3	---	< 1.3
Diallate	1.3	mg/kg	208	< 1.3	---	< 1.3	< 1.3	---	< 1.3	---	< 1.3
Hexachlorobenzene	1.3	mg/kg	208	< 1.3	---	< 1.3	< 1.3	---	< 1.3	---	< 1.3
4-Aminobiphenyl	1.3	mg/kg	208	< 1.3	---	< 1.3	< 1.3	---	< 1.3	---	< 1.3
Pentachlorophenol	1.3	mg/kg	208	< 1.3	---	< 1.3	< 1.3	---	< 1.3	---	< 1.3
Pentachloronitrobenzene	1.3	mg/kg	208	< 1.3	---	< 1.3	< 1.3	---	< 1.3	---	< 1.3
Pronamide	1.3	mg/kg	208	< 1.3	---	< 1.3	< 1.3	---	< 1.3	---	< 1.3
Dinoseb	1.3	mg/kg	208	< 1.3	---	< 1.3	< 1.3	---	< 1.3	---	< 1.3

Solid Samples

Job No. 10-19693
Site: C/o Whitelands Farm, Middleton Stoney Road, Bicester, Oxfordshire
Report Date: 27/01/2011

			Lab No.	213974	213975	213976	213977	213978	213979	213980	213981
			Sample Date	/ /	/ /	/ /	/ /	/ /	/ /	/ /	/ /
			Sample Id	WS208	WS208	WS209	WS210	WS210	WS211	WS211	WS212
			Other ID								
			Depth (m)	0.6	2	0.7	0.4	0.7	0.4	0.8	0.6
Determination	**LOD**	**Units**	**Method**								
Phenanthrene	1.3	mg/kg	208	< 1.3	---	< 1.3	< 1.3	---	< 1.3	---	< 1.3
Anthracene	1.3	mg/kg	208	< 1.3	---	< 1.3	< 1.3	---	< 1.3	---	< 1.3
Carbazole	1.3	mg/kg	208	< 1.3	---	< 1.3	< 1.3	---	< 1.3	---	< 1.3
Di-N-butyl phthalate	1.3	mg/kg	208	< 1.3	---	< 1.3	< 1.3	---	< 1.3	---	< 1.3
Isodrin	1.3	mg/kg	208	< 1.3	---	< 1.3	< 1.3	---	< 1.3	---	< 1.3
Fluoranthene	1.3	mg/kg	208	< 1.3	---	< 1.3	< 1.3	---	< 1.3	---	< 1.3
Benzidine	1.3	mg/kg	208	< 1.3	---	< 1.3	< 1.3	---	< 1.3	---	< 1.3
Pyrene	1.3	mg/kg	208	< 1.3	---	< 1.3	< 1.3	---	< 1.3	---	< 1.3
p-Dimethylaminoazobenzene	1.3	mg/kg	208	< 1.3	---	< 1.3	< 1.3	---	< 1.3	---	< 1.3
Chlorobenzilate	1.3	mg/kg	208	< 1.3	---	< 1.3	< 1.3	---	< 1.3	---	< 1.3
3,3-Dimethylbenzidine	1.3	mg/kg	208	< 1.3	---	< 1.3	< 1.3	---	< 1.3	---	< 1.3
Butyl Benzyl Phthalate	1.3	mg/kg	208	< 1.3	---	< 1.3	< 1.3	---	< 1.3	---	< 1.3
Kepone	1.3	mg/kg	208	< 1.3	---	< 1.3	< 1.3	---	< 1.3	---	< 1.3
2-Acetylaminofluorene	1.3	mg/kg	208	< 1.3	---	< 1.3	< 1.3	---	< 1.3	---	< 1.3
3,3-Dichlorobenzidine	1.3	mg/kg	208	< 1.3	---	< 1.3	< 1.3	---	< 1.3	---	< 1.3
Chrysene	1.3	mg/kg	208	< 1.3	---	< 1.3	< 1.3	---	< 1.3	---	< 1.3
Benzo(a)anthracene	1.3	mg/kg	208	< 1.3	---	< 1.3	< 1.3	---	< 1.3	---	< 1.3
Bis(2-ethylhexyl)phthalate	1.3	mg/kg	208	< 1.3	---	< 1.3	< 1.3	---	< 1.3	---	< 1.3
Di-n-octylphthalate	1.3	mg/kg	208	< 1.3	---	< 1.3	< 1.3	---	< 1.3	---	< 1.3
7,12-Dimethylbenz(a)anthracene	1.3	mg/kg	208	< 1.3	---	< 1.3	< 1.3	---	< 1.3	---	< 1.3
Benzo(b)fluoranthene	1.3	mg/kg	208	< 1.3	---	< 1.3	< 1.3	---	< 1.3	---	< 1.3
Benzo(k)fluoranthene	1.3	mg/kg	208	< 1.3	---	< 1.3	< 1.3	---	< 1.3	---	< 1.3
Benzo(a)pyrene	1.3	mg/kg	208	< 1.3	---	< 1.3	< 1.3	---	< 1.3	---	< 1.3
3-Methylcholanthrene	1.3	mg/kg	208	< 1.3	---	< 1.3	< 1.3	---	< 1.3	---	< 1.3
Indeno(1,2,3-c,d)pyrene	1.3	mg/kg	208	< 1.3	---	< 1.3	< 1.3	---	< 1.3	---	< 1.3
Dibenzo(a,h)anthracene	1.3	mg/kg	208	< 1.3	---	< 1.3	< 1.3	---	< 1.3	---	< 1.3

Solid Samples

Job No. 10-19693
Site: C/o Whitelands Farm, Middleton Stoney Road, Bicester, Oxfordshire
Report Date: 27/01/2011

			Lab No.	213974	213975	213976	213977	213978	213979	213980	213981
			Sample Date	/ /	/ /	/ /	/ /	/ /	/ /	/ /	/ /
			Sample Id	WS208	WS208	WS209	WS210	WS210	WS211	WS211	WS212
			Other ID								
			Depth (m)	0.6	2	0.7	0.4	0.7	0.4	0.8	0.6
Determination	**LOD**	**Units**	**Method**								
Benzo(g,h,i)perylene	1.3	mg/kg	208	< 1.3	---	< 1.3	< 1.3	---	< 1.3	---	< 1.3
3+4-Chlorophenol	1.3	mg/kg	208	< 1.3	---	< 1.3	< 1.3	---	< 1.3	---	< 1.3
SVOC Tentatively Identifiable Compounds			208	No TICS found	---	See Appendix	See Appendix	---	See Appendix	---	No TICS found
1,2-Dichloroethane $	0.005	mg/kg	SUBCON $	<0.005	---	<0.005	<0.005	---	<0.005	---	<0.005

Leachate Samples

Job No. 10-19693
Site: C/o Whitelands Farm, Middleton Stoney Road, Bicester, Oxfordshire
Report Date: 27/01/2011

			Lab No.	213961	213964	213966	213969	213970	213972	213973	213974	213976	213977
			Sample Date	/ /	/ /	/ /	/ /	/ /	/ /	/ /	/ /	/ /	/ /
			Sample Id	WS201	WS202	WS203	WS204	WS205	WS206	WS207	WS208	WS209	WS210
			Other ID										
			Depth (m)	0.7	1.5	0.6	1.5	0.6	0.1	0.6	0.6	0.7	0.4
Determination	**LOD**	**Units**	**Method**										
pH $		pH units	SUBCON $	7.4	7.91	7.79	7.74	7.94	7.91	7.41	7.9	7.86	7.5
Sulphate, soluble, as SO4 $	3000	µg/l	SUBCON $	<3000	<3000	<3000	<3000	<3000	<3000	<3000	<3000	3800	<3000
Arsenic $	0.12	µg/l	SUBCON $	0.431	0.152	<0.12	0.211	<0.12	0.667	0.263	0.153	0.306	0.351
Cadmium $	0.1	µg/l	SUBCON $	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Chromium $	0.22	µg/l	SUBCON $	1.46	1.12	1.95	1.79	1.68	2.18	2.38	1.89	1.99	2.39
Copper $	0.85	µg/l	SUBCON $	1.15	<0.85	0.924	<0.85	<0.85	1.68	1.65	<0.85	<0.85	1.23
Lead $	0.02	µg/l	SUBCON $	0.716	0.044	0.257	0.099	<0.02	0.248	0.46	0.166	0.227	0.798
Mercury $	0.01	µg/l	SUBCON $	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Nickel $	0.15	µg/l	SUBCON $	<0.15	<0.15	<0.15	<0.15	<0.15	<0.15	0.22	<0.15	<0.15	0.207
Selenium $	0.39	µg/l	SUBCON $	<0.39	<0.39	<0.39	<0.39	<0.39	<0.39	<0.39	<0.39	0.453	<0.39
Zinc $	0.41	µg/l	SUBCON $	6.25	<0.41	1.31	0.41	0.461	1.67	9.52	0.714	1.23	1.84

Leachate Samples

Job No. 10-19693
Site: C/o Whitelands Farm, Middleton Stoney Road, Bicester, Oxfordshire
Report Date: 27/01/2011

			Lab No.	213979	213981
			Sample Date	/ /	/ /
			Sample Id	WS211	WS212
			Other ID		
			Depth (m)	0.4	0.6
Determination	**LOD**	**Units**	**Method**		
pH $		pH units	SUBCON $	7.9	7.67
Sulphate, soluble, as SO4 $	3000	µg/l	SUBCON $	<3000	<3000
Arsenic $	0.12	µg/l	SUBCON $	0.282	0.313
Cadmium $	0.1	µg/l	SUBCON $	<0.1	<0.1
Chromium $	0.22	µg/l	SUBCON $	2.23	2.13
Copper $	0.85	µg/l	SUBCON $	2.77	1.56
Lead $	0.02	µg/l	SUBCON $	1.13	3.49
Mercury $	0.01	µg/l	SUBCON $	<0.01	<0.01
Nickel $	0.15	µg/l	SUBCON $	0.553	0.617
Selenium $	0.39	µg/l	SUBCON $	<0.39	0.527
Zinc $	0.41	µg/l	SUBCON $	1.3	1.46

SVOC Solid: Tentatively Identifiable Compounds

The following Tentatively Identified Compounds have been identified with a confidence of greater than 75% using the SVOC in Solid method against NIST Mass Spectral Search Program for the NIST/EPA/NIH Mass Spectral Library Version 2.0 d, build Apr 26 2005

The chemical names listed in this report follow the IUPAC naming convention. The parent group is identified first, followed by the functional groups. For example 4-Methyl phenol will be listed as Phenol, 4-methyl. Common and alternative names can be found by searching http://webbook.nist.gov/chemistry/ using the CAS number.

Lab Sample ID: 213963
Sample ID: WS202
Sample Depth: 0.5

CAS ID	Compound Name
123-42-2	4-Hydroxy-4-methylpentan-2-one

Lab Sample ID: 213966
Sample ID: WS203
Sample Depth: 0.6

CAS ID	Compound Name
123-42-2	4-Hydroxy-4-methylpentan-2-one

Lab Sample ID: 213968
Sample ID: WS204
Sample Depth: 0.7

CAS ID	Compound Name
123-42-2	4-Hydroxy-4-methylpentan-2-one

Lab Sample ID: 213970
Sample ID: WS205
Sample Depth: 0.6

CAS ID	Compound Name
4161-60-8	2-Pentanone, 4-hydroxy-

Lab Sample ID: 213972
Sample ID: WS206
Sample Depth: 0.1

CAS ID	Compound Name
123-42-2	4-Hydroxy-4-methylpentan-2-one

Lab Sample ID: 213973
Sample ID: WS207
Sample Depth: 0.6

CAS ID	Compound Name
123-42-2	4-Hydroxy-4-methylpentan-2-one

Lab Sample ID: 213976
Sample ID: WS209
Sample Depth: 0.7

CAS ID	Compound Name
123-42-2	4-Hydroxy-4-methylpentan-2-one

Lab Sample ID: 213977

Sample ID: WS210
Sample Depth: 0.4

CAS ID	Compound Name
123-42-2	4-Hydroxy-4-methylpentan-2-one

Lab Sample ID: 213979
Sample ID: WS211
Sample Depth: 0.4

CAS ID	Compound Name
123-42-2	4-Hydroxy-4-methylpentan-2-one

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CERTIFICATE OF ANALYSIS

Date:	07/02/2011 16:55		
Customer:	H_WSP_BAS		
Sample Delivery Group (SDG):	110126-69	**Report No.:**	114629
Your Reference:	12370324/002		
Location:	Bicester Central Eastern Land Parcels		

This report directly supersedes report 114332 in its entirety.

We received 9 samples on Wednesday January 26, 2011 and 8 of these samples were scheduled for analysis which was then completed on Monday February 07, 2011. Accredited laboratory tests are defined in the report, but opinions, interpretations and on-site data expressed herein are outside the scope of ISO 17025 accreditation.

Should this report require incorporation into client reports, it must be used in its entirety and not simply with with data sections alone.

All chemical testing (unless subcontracting) is performed at ALcontrol Hawarden Laboratories.

Asbestos testing - we are not accredited for screening soil samples for asbestos fibres. We are only accredited to identify asbestos fibres in bulk material (ACM).

Approved By:

Iain Swinton
Business Director - Land UK & Ireland

LIQUID											
		Customer Sample Ref.	CP202	CP203	CP204	WS201	WS203	WS204	WS205	WS209	
		Depth (m)									
		Sample Type	LIQUID	LIQUID	LIQUID	LIQUID	LIQUID	LIQUID	LIQUID	LIQUID	
		Date Sampled	21/01/2011	21/01/2011	21/01/2011	21/01/2011	21/01/2011	21/01/2011	21/01/2011	21/01/2011	
		Date Received	26/01/2011 06:00	26/01/2011 06:00	26/01/2011 06:00	26/01/2011 06:00	26/01/2011 06:00	26/01/2011 06:00	26/01/2011 06:00	26/01/2011 06:00	
		SDG Ref	110126-69	110126-69	110126-69	110126-69	110126-69	110126-69	110126-69	110126-69	
		Lab Sample No.(s)	2751257	2751256	2751255	2751254	2751253	2751252	2751249	2751247	
		AGS Reference									
Component	LOD/Units	Method									
MISC											
Arsenic (diss.filt)	<0.12 µg/l	TM152 *	<0.12	<0.12	0.71	1.01	0.967	<0.12	<0.12	1.37	
Cadmium (diss.filt)	<0.1 µg/l	TM152 *	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	
Chromium (diss.filt)	<0.22 µg/l	TM152 *	5.53	5.31	12.9	16.8	12.1	9.53	4.52	7.5	
Copper (diss.filt)	<0.85 µg/l	TM152 *	4.86	3.06	3.99	3.54	3.63	6.03	3.78	5.25	
Lead (diss.filt)	<0.02 µg/l	TM152 *	0.03	0.032	<0.02	0.074	<0.02	0.052	<0.02	0.172	
Nickel (diss.filt)	<0.15 µg/l	TM152 *	5.15	1.78	5.18	2.92	3.24	5.17	1.15	3.13	
Selenium (diss.filt)	<0.39 µg/l	TM152 *	3.11	<0.39	6.13	10.4	11.9	8.7	<0.39	1.81	
Zinc (diss.filt)	<0.41 µg/l	TM152 *	<0.41	<0.41	1.44	2.51	2.1	<0.41	<0.41	<0.41	
EPH Range >C10 - C40 (aq)	<46 µg/l	TM172 *	<46	56.8	-	124	-	-	<46	-	
EPH Band >C10-C12 (aq)	<10 µg/l	TM172	<10	<10	-	10.6	-	-	<10	-	
EPH Band >C12-C16 (aq)	<10 µg/l	TM172	<10	<10	-	34.1	-	-	<10	-	
EPH Band >C16-C21 (aq)	<10 µg/l	TM172	<10	<10	-	44.9	-	-	<10	-	
EPH Band >C21-C28 (aq)	<10 µg/l	TM172	<10	<10	-	18.9	-	-	<10	-	
EPH Band >C35-C40 (aq)	<10 µg/l	TM172	<10	17.2	-	<10	-	-	<10	-	
EPH Band >C28-C35 (aq)	<10 µg/l	TM172	<10	31.8	-	11	-	-	<10	-	
Mercury (diss.filt)	<0.01 µg/l	TM183 *	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	
Sulphate (soluble) as S	<1000 µg/l	TM184 *	82000	16400	233000	16600	19800	120000	26000	7570	
Hardness, Total as CaCO3	<1000 µg/l	TM228	563000	273000	835000	309000	332000	433000	163000	97900	
pH	<1 pH Units	TM256 *	7.93	8	7.88	8.26	8.27	8.15	8.09	7.98	
Phenols, Total monohydric (low level)	<0.5 µg/l	TM259	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	

LIQUID											
		Customer Sample Ref.	CP202	CP203	WS201	WS205					
		Depth (m)									
		Sample Type	LIQUID	LIQUID	LIQUID	LIQUID					
		Date Sampled	21/01/2011	21/01/2011	21/01/2011	21/01/2011					
		Date Received	26/01/2011 06:00	26/01/2011 06:00	26/01/2011 06:00	26/01/2011 06:00					
		SDG Ref	110126-69	110126-69	110126-69	110126-69					
		Lab Sample No.(s)	2751257	2751256	2751254	2751249					
		AGS Reference									
Component	LOD/Units	Method									
GRO by GC-FID (W)											
Methyl tertiary butyl ether (MTBE)	<3 µg/l	TM245 *	<3	<3	<3	<3					
Benzene	<7 µg/l	TM245 *	<7	<7	<7	<7					
Toluene	<4 µg/l	TM245 *	<4	<4	<4	<4					
Ethylbenzene	<5 µg/l	TM245 *	<5	<5	<5	<5					
m,p-Xylene	<8 µg/l	TM245 *	<8	<8	<8	<8					
o-Xylene	<3 µg/l	TM245 *	<3	<3	<3	<3					
m,p,o-Xylene	<10 µg/l	TM245	<10	<10	<10	<10					
BTEX, Total	<10 µg/l	TM245	<10	<10	<10	<10					
GRO >C5-C12	<50 µg/l	TM245 *	<50	<50	<50	<50					

LIQUID											
		Customer Sample Ref.	CP202	CP203	CP204	WS201	WS203	WS204	WS205	WS209	
		Depth (m)									
		Sample Type	LIQUID	LIQUID	LIQUID	LIQUID	LIQUID	LIQUID	LIQUID	LIQUID	
		Date Sampled	21/01/2011	21/01/2011	21/01/2011	21/01/2011	21/01/2011	21/01/2011	21/01/2011	21/01/2011	
		Date Received	26/01/2011 06:00	26/01/2011 06:00	26/01/2011 06:00	26/01/2011 06:00	26/01/2011 06:00	26/01/2011 06:00	26/01/2011 06:00	26/01/2011 06:00	
		SDG Ref	110126-69	110126-69	110126-69	110126-69	110126-69	110126-69	110126-69	110126-69	
		Lab Sample No.(s)	2751257	2751256	2751255	2751254	2751253	2751252	2751249	2751247	
		AGS Reference									
Component	LOD/Units	Method									
PAH Spec MS - Aqueous (W)											
Naphthalene (aq)	<0.1 µg/l	TM178 *	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	
Acenaphthene (aq)	<0.015 µg/l	TM178 *	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015	
Acenaphthylene (aq)	<0.011 µg/l	TM178 *	<0.011	<0.011	<0.011	<0.011	<0.011	<0.011	<0.011	<0.011	
Fluoranthene (aq)	<0.017 µg/l	TM178 *	0.0798	0.0327	0.287	0.0724	0.0212	0.0573	0.0371	0.0816	
Anthracene (aq)	<0.015 µg/l	TM178 *	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015	
Phenanthrene (aq)	<0.022 µg/l	TM178 *	0.039	<0.022	0.0766	0.0361	<0.022	<0.022	<0.022	0.0969	

Fluorene (aq)	<0.014 µg/l	TM178 *	<0.014	<0.014	0.0185	<0.014	<0.014	<0.014	<0.014	0.0191	
LIQUID											
		Customer Sample Ref.	CP202	CP203	CP204	WS201	WS203	WS204	WS205	WS209	
		Depth (m)									
		Sample Type	LIQUID	LIQUID	LIQUID	LIQUID	LIQUID	LIQUID	LIQUID	LIQUID	
		Date Sampled	21/01/2011	21/01/2011	21/01/2011	21/01/2011	21/01/2011	21/01/2011	21/01/2011	21/01/2011	
		Date Received	26/01/2011 06:00	26/01/2011 06:00	26/01/2011 06:00	26/01/2011 06:00	26/01/2011 06:00	26/01/2011 06:00	26/01/2011 06:00	26/01/2011 06:00	
		SDG Ref	110126-69	110126-69	110126-69	110126-69	110126-69	110126-69	110126-69	110126-69	
		Lab Sample No.(s)	2751257	2751256	2751255	2751254	2751253	2751252	2751249	2751247	
		AGS Reference									
Component	LOD/Units	Method									
PAH Spec MS - Aqueous (W)											
Chrysene (aq)	<0.013 µg/l	TM178 *	0.0169	0.0237	<0.013	<0.013	<0.013	0.0265	<0.013	0.0136	
Pyrene (aq)	<0.015 µg/l	TM178 *	0.0744	0.0452	1.32	0.352	0.0392	0.0676	0.137	0.324	
Benzo(a)anthracene (aq)	<0.017 µg/l	TM178 *	0.0373	0.0241	<0.017	<0.017	0.0193	0.0369	0.028	0.0266	
Benzo(b)fluoranthene (aq)	<0.023 µg/l	TM178 *	0.029	<0.023	<0.023	<0.023	<0.023	0.0358	0.0379	<0.023	
Benzo(k)fluoranthene (aq)	<0.027 µg/l	TM178 *	0.0374	<0.027	<0.027	<0.027	<0.027	0.0347	0.039	<0.027	
Benzo(a)pyrene (aq)	<0.009 µg/l	TM178 *	0.0369	0.0254	<0.009	<0.009	0.0171	0.0407	0.0418	0.0185	
Dibenzo(a,h)anthracene (aq)	<0.016 µg/l	TM178 *	<0.016	<0.016	<0.016	<0.016	<0.016	<0.016	<0.016	<0.016	
Benzo(g,h,i)perylene (aq)	<0.016 µg/l	TM178 *	0.0346	0.0272	0.0392	<0.016	0.0173	0.0335	0.0494	0.0232	
Indeno(1,2,3-cd)pyrene (aq)	<0.014 µg/l	TM178 *	0.0247	0.0211	<0.014	<0.014	<0.014	0.0224	0.0296	0.014	
Polyaromatic hydrocarbons, Total USEPA 16 (aq)	<0.1 µg/l	TM178 *	0.373	0.199	1.75	0.46	0.114	0.321	0.361	0.625	
LIQUID											
		Customer Sample Ref.	CP202	CP203	CP204	WS201	WS203	WS204	WS205	WS209	
		Depth (m)									
		Sample Type	LIQUID	LIQUID	LIQUID	LIQUID	LIQUID	LIQUID	LIQUID	LIQUID	
		Date Sampled	21/01/2011	21/01/2011	21/01/2011	21/01/2011	21/01/2011	21/01/2011	21/01/2011	21/01/2011	
		Date Received	26/01/2011 06:00	26/01/2011 06:00	26/01/2011 06:00	26/01/2011 06:00	26/01/2011 06:00	26/01/2011 06:00	26/01/2011 06:00	26/01/2011 06:00	
		SDG Ref	110126-69	110126-69	110126-69	110126-69	110126-69	110126-69	110126-69	110126-69	
		Lab Sample No.(s)	2751257	2751256	2751255	2751254	2751253	2751252	2751249	2751247	
		AGS Reference									
Component	LOD/Units	Method									
SVOC MS (W) - Aqueous											
1,2,4-Trichlorobenzene (aq)	<1 µg/l	TM176	<1	<1	<1	<1	<1	<1	<1	<1	
1,2-Dichlorobenzene (aq)	<1 µg/l	TM176	<1	<1	<1	<1	<1	<1	<1	<1	
1,3-Dichlorobenzene (aq)	<1 µg/l	TM176	<1	<1	<1	<1	<1	<1	<1	<1	
1,4-Dichlorobenzene (aq)	<1 µg/l	TM176	<1	<1	<1	<1	<1	<1	<1	<1	
2,4,5-Trichlorophenol (aq)	<1 µg/l	TM176	<1	<1	<1	<1	<1	<1	<1	<1	
2,4,6-Trichlorophenol (aq)	<1 µg/l	TM176	<1	<1	<1	<1	<1	<1	<1	<1	
2,4-Dichlorophenol (aq)	<1 µg/l	TM176	<1	<1	<1	<1	<1	<1	<1	<1	
2,4-Dimethylphenol (aq)	<1 µg/l	TM176	<1	<1	<1	<1	<1	<1	<1	<1	
2,4-Dinitrotoluene (aq)	<1 µg/l	TM176	<1	<1	<1	<1	<1	<1	<1	<1	
2,6-Dinitrotoluene (aq)	<1 µg/l	TM176	<1	<1	<1	<1	<1	<1	<1	<1	
2-Chloronaphthalene (aq)	<1 µg/l	TM176	<1	<1	<1	<1	<1	<1	<1	<1	
2-Chlorophenol (aq)	<1 µg/l	TM176	<1	<1	<1	<1	<1	<1	<1	<1	
2-Methylnaphthalene (aq)	<1 µg/l	TM176	<1	<1	<1	<1	<1	<1	<1	<1	
2-Methylphenol (aq)	<1 µg/l	TM176	<1	<1	<1	<1	<1	<1	<1	<1	
2-Nitroaniline (aq)	<1 µg/l	TM176	<1	<1	<1	<1	<1	<1	<1	<1	
2-Nitrophenol (aq)	<1 µg/l	TM176	<1	<1	<1	<1	<1	<1	<1	<1	
3-Nitroaniline (aq)	<1 µg/l	TM176	<1	<1	<1	<1	<1	<1	<1	<1	
4-Bromophenylphenylether (aq)	<1 µg/l	TM176	<1	<1	<1	<1	<1	<1	<1	<1	
4-Chloro-3-methylphenol (aq)	<1 µg/l	TM176	<1	<1	<1	<1	<1	<1	<1	<1	
4-Chloroaniline (aq)	<1 µg/l	TM176	<1	<1	<1	<1	<1	<1	<1	<1	
4-Chlorophenylphenylether (aq)	<1 µg/l	TM176	<1	<1	<1	<1	<1	<1	<1	<1	
4-Methylphenol (aq)	<1 µg/l	TM176	<1	<1	<1	<1	<1	<1	<1	<1	
4-Nitrophenol (aq)	<1 µg/l	TM176	<1	<1	<1	<1	<1	<1	<1	<1	
4-Nitroaniline (aq)	<1 µg/l	TM176	<1	<1	<1	<1	<1	<1	<1	<1	
Azobenzene (aq)	<1 µg/l	TM176	<1	<1	<1	<1	<1	<1	<1	<1	
bis(2-Chloroethyl)ether (aq)	<1 µg/l	TM176	<1	<1	<1	<1	<1	<1	<1	<1	
bis(2-Chloroethoxy)methane (aq)	<1 µg/l	TM176	<1	<1	<1	<1	<1	<1	<1	<1	
bis(2-Ethylhexyl) phthalate (aq)	<2 µg/l	TM176	<2	<2	<2	<2	<2	<2	2.29	23.6	
Butylbenzyl phthalate (aq)	<1 µg/l	TM176	<1	<1	<1	<1	<1	<1	<1	<1	
Carbazole (aq)	<1 µg/l	TM176	<1	<1	<1	<1	<1	<1	<1	<1	
Dibenzofuran (aq)	<1 µg/l	TM176	<1	<1	<1	<1	<1	<1	<1	<1	
n-Dibutyl phthalate (aq)	<1 µg/l	TM176	<1	<1	<1	<1	<1	<1	<1	<1	
Diethyl phthalate (aq)	<1 µg/l	TM176	<1	<1	<1	<1	<1	<1	<1	<1	
Dimethyl phthalate (aq)	<1 µg/l	TM176	<1	<1	<1	<1	<1	<1	<1	<1	
n-Dioctyl phthalate (aq)	<5 µg/l	TM176	<5	<5	<5	<5	<5	<5	<5	<5	

Hexachlorobenzene (aq)	<1 µg/l	TM176	<1	<1	<1	<1	<1	<1	<1	<1	
Hexachlorobutadiene (aq)	<1 µg/l	TM176	<1	<1	<1	<1	<1	<1	<1	<1	
LIQUID											
		Customer Sample Ref.	CP202	CP203	CP204	WS201	WS203	WS204	WS205	WS209	
		Depth (m)									
		Sample Type	LIQUID	LIQUID	LIQUID	LIQUID	LIQUID	LIQUID	LIQUID	LIQUID	
		Date Sampled	21/01/2011	21/01/2011	21/01/2011	21/01/2011	21/01/2011	21/01/2011	21/01/2011	21/01/2011	
		Date Received	26/01/2011 06:00	26/01/2011 06:00	26/01/2011 06:00	26/01/2011 06:00	26/01/2011 06:00	26/01/2011 06:00	26/01/2011 06:00	26/01/2011 06:00	
		SDG Ref	110126-69	110126-69	110126-69	110126-69	110126-69	110126-69	110126-69	110126-69	
		Lab Sample No.(s)	2751257	2751256	2751255	2751254	2751253	2751252	2751249	2751247	
		AGS Reference									
Component	LOD/Units	Method									
SVOC MS (W) - Aqueous											
Pentachlorophenol (aq)	<1 µg/l	TM176	<1	<1	<1	<1	<1	<1	<1	<1	
Phenol (aq)	<1 µg/l	TM176	<1	<1	<1	<1	<1	<1	<1	<1	
n-Nitroso-n-dipropylamine (aq)	<1 µg/l	TM176	<1	<1	<1	<1	<1	<1	<1	<1	
Hexachloroethane (aq)	<1 µg/l	TM176	<1	<1	<1	<1	<1	<1	<1	<1	
Nitrobenzene (aq)	<1 µg/l	TM176	<1	<1	<1	<1	<1	<1	<1	<1	
Isophorone (aq)	<1 µg/l	TM176	<1	<1	<1	<1	<1	<1	<1	<1	
Hexachlorocyclopentadiene (aq)	<1 µg/l	TM176	<1	<1	<1	<1	<1	<1	<1	<1	
Indeno(1,2,3-cd)pyrene (aq)	<1 µg/l	TM176	<1	<1	<1	<1	<1	<1	<1	<1	
LIQUID											
		Customer Sample Ref.	CP204	WS203	WS204	WS209					
		Depth (m)									
		Sample Type	LIQUID	LIQUID	LIQUID	LIQUID					
		Date Sampled	21/01/2011	21/01/2011	21/01/2011	21/01/2011					
		Date Received	26/01/2011 06:00	26/01/2011 06:00	26/01/2011 06:00	26/01/2011 06:00					
		SDG Ref	110126-69	110126-69	110126-69	110126-69					
		Lab Sample No.(s)	2751255	2751253	2751252	2751247					
		AGS Reference									
Component	LOD/Units	Method									
TPH CWG (W)											
Total Aliphatics & Aromatics >C5-35 (aq)	<10 µg/l	TM174	<10	<10	<10	211					
Aliphatics >C12-C16 (aq)	<10 µg/l	TM174	<10	<10	<10	18					
Aromatics >EC12-EC16 (aq)	<10 µg/l	TM174	<10	<10	<10	<10					
Aromatics >EC16-EC21 (aq)	<10 µg/l	TM174	<10	<10	<10	<10					
Aliphatics >C16-C21 (aq)	<10 µg/l	TM174	<10	<10	<10	59					
Aliphatics >C21-C35 (aq)	<10 µg/l	TM174	<10	<10	<10	134					
Aromatics >EC21-EC35 (aq)	<10 µg/l	TM174	<10	<10	<10	<10					
Total Aromatics >EC12-EC35 (aq)	<10 µg/l	TM174	<10	<10	<10	<10					
Total Aliphatics >C12-C35 (aq)	<10 µg/l	TM174	<10	<10	<10	211					
GRO Surrogate % recovery**	%	TM245	97	92	95	95					
Methyl tertiary butyl ether (MTBE)	<3 µg/l	TM245 *	<3	<3	<3	<3					
Benzene	<7 µg/l	TM245 *	<7	<7	<7	<7					
Toluene	<4 µg/l	TM245 *	<4	<4	<4	<4					
Ethylbenzene	<5 µg/l	TM245 *	<5	<5	<5	<5					
m,p-Xylene	<8 µg/l	TM245 *	<8	<8	<8	<8					
o-Xylene	<3 µg/l	TM245 *	<3	<3	<3	<3					
Aliphatics >C5-C6	<10 µg/l	TM245	<10	<10	<10	<10					
Aliphatics >C6-C8	<10 µg/l	TM245	<10	<10	<10	<10					
Aliphatics >C8-C10	<10 µg/l	TM245	<10	<10	<10	<10					
Aliphatics >C10-C12	<10 µg/l	TM245	<10	<10	<10	<10					
Aromatics >EC5-EC7	<10 µg/l	TM245	<10	<10	<10	<10					
Aromatics >EC7-EC8	<10 µg/l	TM245	<10	<10	<10	<10					
Aromatics >EC8-EC10	<10 µg/l	TM245	<10	<10	<10	<10					
Aromatics >EC10-EC12	<10 µg/l	TM245	<10	<10	<10	<10					
m,p,o-Xylene	<10 µg/l	TM245	<10	<10	<10	<10					
BTEX, Total	<10 µg/l	TM245	<10	<10	<10	<10					
GRO >C5-C12	<50 µg/l	TM245 *	<50	<50	<50	<50					
LIQUID											
		Customer Sample Ref.	CP202	CP203	CP204	WS201	WS203	WS204	WS205	WS209	
		Depth (m)									
		Sample Type	LIQUID	LIQUID	LIQUID	LIQUID	LIQUID	LIQUID	LIQUID	LIQUID	
		Date Sampled	21/01/2011	21/01/2011	21/01/2011	21/01/2011	21/01/2011	21/01/2011	21/01/2011	21/01/2011	
		Date Received	26/01/2011 06:00	26/01/2011 06:00	26/01/2011 06:00	26/01/2011 06:00	26/01/2011 06:00	26/01/2011 06:00	26/01/2011 06:00	26/01/2011 06:00	
		SDG Ref	110126-69	110126-69	110126-69	110126-69	110126-69	110126-69	110126-69	110126-69	
		Lab Sample No.(s)	2751257	2751256	2751255	2751254	2751253	2751252	2751249	2751247	
		AGS Reference									

Component	LOD/Units	Method									
VOC MS (W)											
Dibromofluoromethane**	%	TM208	120	116	113	114	113	114	111	113	
LIQUID											
		Customer Sample Ref.	CP202	CP203	CP204	WS201	WS203	WS204	WS205	WS209	
		Depth (m)									
		Sample Type	LIQUID	LIQUID	LIQUID	LIQUID	LIQUID	LIQUID	LIQUID	LIQUID	
		Date Sampled	21/01/2011	21/01/2011	21/01/2011	21/01/2011	21/01/2011	21/01/2011	21/01/2011	21/01/2011	
		Date Received	26/01/2011 06:00	26/01/2011 06:00	26/01/2011 06:00	26/01/2011 06:00	26/01/2011 06:00	26/01/2011 06:00	26/01/2011 06:00	26/01/2011 06:00	
		SDG Ref	110126-69	110126-69	110126-69	110126-69	110126-69	110126-69	110126-69	110126-69	
		Lab Sample No.(s)	2751257	2751256	2751255	2751254	2751253	2751252	2751249	2751247	
		AGS Reference									
Component	LOD/Units	Method									
VOC MS (W)											
Toluene-d8**	%	TM208	97.5	98.2	98.2	98.4	98.5	97.5	98.3	98.6	
4-Bromofluorobenzene**	%	TM208	93.2	94.8	95.5	93.6	94.1	95.2	96.1	95	
Dichlorodifluoromethane	<7 µg/l	TM208 *	<7	<7	<7	<7	<7	<7	<7	<7	
Chloromethane	<9 µg/l	TM208 *	<9	<9	<9	<9	<9	<9	<9	<9	
Vinyl chloride	<1.2 µg/l	TM208 *	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2	
Bromomethane	<2 µg/l	TM208 *	<2	<2	<2	<2	<2	<2	<2	<2	
Chloroethane	<2.5 µg/l	TM208 *	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	
Trichlorofluoromethane	<1.3 µg/l	TM208 *	<1.3	<1.3	<1.3	<1.3	<1.3	<1.3	<1.3	<1.3	
1,1-Dichloroethene	<1.2 µg/l	TM208 *	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2	
Carbon disulphide	<1.3 µg/l	TM208 *	<1.3	<1.3	<1.3	<1.3	<1.3	<1.3	<1.3	<1.3	
Dichloromethane	<3.7 µg/l	TM208 *	<3.7	<3.7	<3.7	<3.7	<3.7	<3.7	<3.7	<3.7	
Methyl tertiary butyl ether (MTBE)	<1.6 µg/l	TM208 *	<1.6	<1.6	<1.6	<1.6	<1.6	<1.6	<1.6	<1.6	
trans-1,2-Dichloroethene	<1.9 µg/l	TM208 *	<1.9	<1.9	<1.9	<1.9	<1.9	<1.9	<1.9	<1.9	
1,1-Dichloroethane	<1.2 µg/l	TM208 *	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2	
cis-1,2-Dichloroethene	<2.3 µg/l	TM208 *	<2.3	<2.3	<2.3	<2.3	<2.3	<2.3	<2.3	<2.3	
2,2-Dichloropropane	<3.8 µg/l	TM208 *	<3.8	<3.8	<3.8	<3.8	<3.8	<3.8	<3.8	<3.8	
Bromochloromethane	<1.9 µg/l	TM208 *	<1.9	<1.9	<1.9	<1.9	<1.9	<1.9	<1.9	<1.9	
Chloroform	<1.8 µg/l	TM208 *	<1.8	<1.8	<1.8	<1.8	<1.8	<1.8	<1.8	<1.8	
1,1,1-Trichloroethane	<1.3 µg/l	TM208 *	<1.3	<1.3	<1.3	<1.3	<1.3	<1.3	<1.3	<1.3	
1,1-Dichloropropene	<1.3 µg/l	TM208 *	<1.3	<1.3	<1.3	<1.3	<1.3	<1.3	<1.3	<1.3	
Carbontetrachloride	<1.4 µg/l	TM208 *	<1.4	<1.4	<1.4	<1.4	<1.4	<1.4	<1.4	<1.4	
1,2-Dichloroethane	<3.3 µg/l	TM208	<3.3	<3.3	<3.3	<3.3	<3.3	<3.3	<3.3	<3.3	
Benzene	<1.3 µg/l	TM208 *	<1.3	<1.3	<1.3	<1.3	<1.3	<1.3	<1.3	<1.3	
Trichloroethene	<2.5 µg/l	TM208 *	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	
1,2-Dichloropropane	<3 µg/l	TM208 *	<3	<3	<3	<3	<3	<3	<3	<3	
Dibromomethane	<2.7 µg/l	TM208 *	<2.7	<2.7	<2.7	<2.7	<2.7	<2.7	<2.7	<2.7	
Bromodichloromethane	<0.9 µg/l	TM208 *	<0.9	<0.9	<0.9	<0.9	<0.9	<0.9	<0.9	<0.9	
cis-1,3-Dichloropropene	<1.9 µg/l	TM208 *	<1.9	<1.9	<1.9	<1.9	<1.9	<1.9	<1.9	<1.9	
Toluene	<1.4 µg/l	TM208 *	<1.4	<1.4	<1.4	<1.4	<1.4	<1.4	<1.4	<1.4	
trans-1,3-Dichloropropene	<3.5 µg/l	TM208 *	<3.5	<3.5	<3.5	<3.5	<3.5	<3.5	<3.5	<3.5	
1,1,2-Trichloroethane	<2.2 µg/l	TM208 *	<2.2	<2.2	<2.2	<2.2	<2.2	<2.2	<2.2	<2.2	
1,3-Dichloropropane	<2.2 µg/l	TM208 *	<2.2	<2.2	<2.2	<2.2	<2.2	<2.2	<2.2	<2.2	
Tetrachloroethene	<1.5 µg/l	TM208 *	<1.5	<1.5	<1.5	<1.5	<1.5	<1.5	<1.5	<1.5	
Dibromochloromethane	<1.7 µg/l	TM208 *	<1.7	<1.7	<1.7	<1.7	<1.7	<1.7	<1.7	<1.7	
1,2-Dibromoethane	<2.3 µg/l	TM208 *	<2.3	<2.3	<2.3	<2.3	<2.3	<2.3	<2.3	<2.3	
Chlorobenzene	<3.5 µg/l	TM208 *	<3.5	<3.5	<3.5	<3.5	<3.5	<3.5	<3.5	<3.5	
1,1,1,2-Tetrachloroethane	<1.3 µg/l	TM208 *	<1.3	<1.3	<1.3	<1.3	<1.3	<1.3	<1.3	<1.3	
Ethylbenzene	<2.5 µg/l	TM208 *	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	
m,p-Xylene	<2.5 µg/l	TM208 *	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	
o-Xylene	<1.7 µg/l	TM208 *	<1.7	<1.7	<1.7	<1.7	<1.7	<1.7	<1.7	<1.7	
Styrene	<1.2 µg/l	TM208 *	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2	
Bromoform	<3 µg/l	TM208 *	<3	<3	<3	<3	<3	<3	<3	<3	
Isopropylbenzene	<1.4 µg/l	TM208 *	<1.4	<1.4	<1.4	<1.4	<1.4	<1.4	<1.4	<1.4	
1,1,2,2-Tetrachloroethane	<5.2 µg/l	TM208	<5.2	<5.2	<5.2	<5.2	<5.2	<5.2	<5.2	<5.2	
1,2,3-Trichloropropane	<7.8 µg/l	TM208 *	<7.8	<7.8	<7.8	<7.8	<7.8	<7.8	<7.8	<7.8	
Bromobenzene	<2 µg/l	TM208 *	<2	<2	<2	<2	<2	<2	<2	<2	
Propylbenzene	<2.6 µg/l	TM208 *	<2.6	<2.6	<2.6	<2.6	<2.6	<2.6	<2.6	<2.6	
2-Chlorotoluene	<1.9 µg/l	TM208 *	<1.9	<1.9	<1.9	<1.9	<1.9	<1.9	<1.9	<1.9	
1,3,5-Trimethylbenzene	<1.8 µg/l	TM208 *	<1.8	<1.8	<1.8	<1.8	<1.8	<1.8	<1.8	<1.8	
4-Chlorotoluene	<1.9 µg/l	TM208 *	<1.9	<1.9	<1.9	<1.9	<1.9	<1.9	<1.9	<1.9	
tert-Butylbenzene	<2 µg/l	TM208 *	<2	<2	<2	<2	<2	<2	<2	<2	
1,2,4-Trimethylbenzene	<1.7 µg/l	TM208 *	<1.7	<1.7	<1.7	<1.7	<1.7	<1.7	<1.7	<1.7	
sec-Butylbenzene	<1.7 µg/l	TM208 *	<1.7	<1.7	<1.7	<1.7	<1.7	<1.7	<1.7	<1.7	
4-iso-Propyltoluene	<2.6 µg/l	TM208 *	<2.6	<2.6	<2.6	<2.6	<2.6	<2.6	<2.6	<2.6	

1,3-Dichlorobenzene	<2.2 µg/l	TM208 *	<2.2	<2.2	<2.2	<2.2	<2.2	<2.2	<2.2	<2.2	
1,4-Dichlorobenzene	<2.7 µg/l	TM208 *	<2.7	<2.7	<2.7	<2.7	<2.7	<2.7	<2.7	<2.7	
n-Butylbenzene	<2 µg/l	TM208 *	<2	<2	<2	<2	<2	<2	<2	<2	
1,2-Dichlorobenzene	<3.7 µg/l	TM208	<3.7	<3.7	<3.7	<3.7	<3.7	<3.7	<3.7	<3.7	
1,2-Dibromo-3-chloropropane	<9.8 µg/l	TM208	<9.8	<9.8	<9.8	<9.8	<9.8	<9.8	<9.8	<9.8	
1,2,4-Trichlorobenzene	<2.3 µg/l	TM208 *	<2.3	<2.3	<2.3	<2.3	<2.3	<2.3	<2.3	<2.3	
Hexachlorobutadiene	<2.5 µg/l	TM208 *	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	
tert-Amyl methyl ether (TAME)	<1 µg/l	TM208 *	<1	<1	<1	<1	<1	<1	<1	<1	
Naphthalene	<3.5 µg/l	TM208 *	<3.5	<3.5	<3.5	<3.5	<3.5	<3.5	<3.5	<3.5	
1,2,3-Trichlorobenzene	<3.1 µg/l	TM208 *	<3.1	<3.1	<3.1	<3.1	<3.1	<3.1	<3.1	<3.1	
1,3,5-Trichlorobenzene	<10 µg/l	TM208	<10	<10	<10	<10	<10	<10	<10	<10	
VOC TIC	-	TM208	No TIC's identified	No TIC's identified	No TIC's identified	No TIC's identified	No TIC's identified	No TIC's identified	No TIC's identified	No TIC's identified	

APPENDIX E GEOTECHNICAL LABORATORY RESULTS

ALcontrol Laboratories

Hampshire
UK
RG21 4HJ

Test Report

Order Number	
Job Number	10-19593
Report date	11 January 2011
Project number	12370324 002
Customer	Countryside Properties Ltd
Site address	c/o Whitelands Farm,Middleton Stoney Road,Bicester,Oxfordshire
Date of sampling	Unspecified
Date of analysis	14/12/2010 - 11/01/2011

Dear

Please find attached your results for the above project.

The samples from this job are due for disposal on 08/02/2011

Results authorised by

Stewart Robinson, Geotechnical Supervisor.

Unaccredited Tests are marked with an asterix (**). Testing marked with (*) - in house method based on BS1377 method.
Testing carried out at "As received / Natural State" unless otherwise stated. All other tests are UKAS accredited.
Testing marked "X" - see attached reports for results.

Abbreviations

NP = Non plastic
U/S = Unsuitable
M/S = Missing sample
I/S = Insufficient sample to carry out scheduled test
S/C = See comments
UUS = Unconsolidated Undrained single stage
UUM = Unconsolidated Undrained Multi stage
$ = Subcontracted
AD = Asbestos detected. NAD = No Asbestos detected

Summary of Laboratory Sample Descriptions

Hole Number	Sample Number	Type	Depth (m)	Description of Sample*
CP201			0.20	Brown silty CLAY.
CP201			0.50	Brown gravelly silty CLAY.
CP201			1.50	Brown silty CLAY.
CP201			0.90-1.10	Brown gravelly silty CLAY.
CP201			1.60-2.00	Brown silty clayey sandy (fine to coarse) GRAVEL.
CP202			0.20	Brown gravelly silty CLAY.
CP202			0.50	Brown gravelly silty CLAY.
CP202			1.00	Brown gravelly silty CLAY.
CP202			1.70	Brown gravelly silty CLAY.
CP202			2.30	Brown gravelly silty CLAY.
CP202			1.00-1.50	Brown silty clayey sandy (fine to coarse) GRAVEL.
CP202			2.30-2.5	Brown silty clayey sandy (fine to coarse) GRAVEL with many cobbles.
CP203			2.40	Greyish brown sandy GRAVEL.
CP203			0.70-1.00	Brown silty clayey sandy (fine to coarse) GRAVEL.
CP203			1.00-1.50	Brown gravelly silty CLAY.
CP203			1.60-2.10	Brown silty clayey sandy (fine to coarse) GRAVEL.
CP204			0.50	Brown silty CLAY.
CP204			1.00	Brown silty CLAY.
CP204			1.90	Brown silty CLAY.
CP204			2.50	Brown gravelly silty CLAY.
CP204			2.60	Brown gravelly silty CLAY.
CP204			2.00-2.50	Brown sandy (fine to coarse) silty CLAY.
CP204			2.50-2.70	Brown silty clayey sandy (fine to coarse) GRAVEL.
CP204			2.00-2.45	Brown gravelly silty CLAY.

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

23/12/10

Checked by **Date**

23/12/10

Approved by **Date**

LABORATORY TESTING SERVICES LIMITED

c/o Whitelands Farm, Middleton Stoney Road
Bicester, Oxfordshire

Contract No.:
11628-141210
Client ref:
10-19593

Summary of Laboratory Sample Descriptions

Hole Number	Sample Number	Type	Depth (m)	Description of Sample*
TP201			0.40	Brown silty CLAY.
TP201			1.00	Brown gravelly clayey SILT.
TP202			0.60	Brown gravelly silty CLAY.
TP202			1.00	Ligfht brown SANDSTONE
TP202			1.80	Greyish brown sandy GRAVEL.
TP203			0.50	Brown clayey silty sandy (fine to coarse) GRAVEL.
TP203			1.00	Brown gravelly silty CLAY.
TP203			1.00	Brown silty clayey sandy (fine to coarse) GRAVEL.
TP204			0.40	Brown gravelly silty CLAY.
TP204			1.00	Brown gravelly silty CLAY.
TP204			1.80	Greyish brown sandy GRAVEL.
TP205			1.00	Brown gravelly silty CLAY.
TP205			1.00	Brown silty clayey sandy (fine to coarse) GRAVEL with a few cobbles.
TP205			1.40	Greyish brown sandy GRAVEL.
TP206			0.50	Brown gravelly silty CLAY.
TP206			1.00	Brown gravelly silty CLAY.
TP206			2.00	Brown gravelly clayey SILT.
TP207			1.00	Brown gravelly silty CLAY.
TP207			1.00	Brown gravelly silty CLAY.
TP207			2.00	Brown sandy (fine to coarse) silty CLAY.
TP207			2.30	Brown gravelly silty CLAY.
TP208			1.00	Brown gravelly silty CLAY.
TP208			2.00	Brown silty CLAY.
TP208			2.80	Brown silty CLAY.
TP209			1.00	Brown gravelly silty CLAY.
TP209			1.00	Brown silty CLAY.
TP209			1.80	Brown gravelly silty CLAY.
TP210			1.00	Brown sandy (fine to coarse) clayey SILT.
TP210			1.00	Brown gravelly silty CLAY.
TP210			1.85	Ligfht brown SANDSTONE
TP211			1.00	Brown gravelly silty CLAY.
TP211			1.00	Brown silty clayey sandy (fine to coarse) GRAVEL.
TP212			1.00	Brown gravelly silty CLAY.
TP212			1.00	Brown clayey silty sandy (fine to coarse) GRAVEL.

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

5/1/11 — Checked by — Date

5/1/11 — Approved by — Date

LABORATORY TESTING SERVICES LIMITED

c/o Whitelands Farm, Middleton Stoney Road
Bicester, Oxfordshire

Contract No.: 11628-141210
Client ref: 10-19593

Summary of Laboratory Sample Descriptions

Hole Number	Sample Number	Type	Depth (m)	Description of Sample*
TP213			0.50	Brown silty CLAY.
TP213			1.00	Brown gravelly silty CLAY.
TP213			1.00	Brown clayey silty sandy (fine to coarse) GRAVEL.
TP214			1.00	Brown gravelly SAND.
TP214			1.00	Brown silty clayey sandy (fine to coarse) GRAVEL.
TP215			0.70	Brown gravelly silty CLAY.
TP216			0.40	Brown gravelly silty CLAY.
TP216			0.70	Brown gravelly clayey SILT.
TP217			0.40	Brown gravelly clayey SILT.
TP217			1.40	Brown gravelly silty CLAY.
TP218			0.60	Brown silty CLAY.
TP218			1.30	Brown gravelly silty CLAY.
TP219			0.60	Brown gravelly silty CLAY.
TP219			1.40	Greyish brown sandy GRAVEL.
TP220			0.80	Brown gravelly silty CLAY.
TP220			0.80	Brown gravelly silty CLAY.
TP220			1.10	Brown gravelly silty CLAY.
TP221			0.50	Brown silty CLAY.
TP221			1.00	Brown silty CLAY.
TP221			1.00	Brown gravelly silty CLAY.
TP221			1.90	Brown gravelly silty CLAY.
TP222			0.80	Brown gravelly silty CLAY.
TP222			0.80	Brown sandy (fine to coarse) clayey SILT.
TP222			1.10	Light brown SANDSTONE
TP223			0.60	Brown gravelly silty CLAY.
TP223			1.10	Brown gravelly silty CLAY.
TP223			1.40	Brown silty CLAY.
TP224			1.00	Brown gravelly silty CLAY.
TP224			1.50	Brown silty clayey sandy (fine to coarse) GRAVEL with many cobbles.

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

5/1/11 — Checked by — Date

5/1/11 — Approved by — Date

ABORATORY TESTING SERVICES LIMITED

c/o Whitelands Farm, Middleton Stoney Road
Bicester, Oxfordshire

Contract No.: 11628-141210
Client ref: 10-19593

Summary of Laboratory Sample Descriptions

Hole Number	Sample Number	Type	Depth (m)	Description of Sample*
WS201			1.90	Brown gravelly silty CLAY.
WS202			0.60	Brown silty CLAY.
WS203			0.90	Brown gravelly silty CLAY.
WS204			0.90	Brown gravelly clayey SILT.
WS205			2.00	Brown gravelly silty CLAY.
WS206			0.75	Brown silty CLAY.
WS207			0.50	Brown gravelly silty CLAY.
WS208			0.50	Brown silty CLAY.
WS209			0.60	Brown gravelly silty CLAY.
WS210			0.90	Brown gravelly silty CLAY.
WS211			0.80	Greyish brown sandy GRAVEL.
WS212			0.70	Brown gravelly silty CLAY.

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

23/12/10

Checked by **Date**

23/12/10

Approved by **Date**

LABORATORY TESTING SERVICES LIMITED

c/o Whitelands Farm, Middleton Stoney Road
Bicester, Oxfordshire

Contract No.: 11628-141210

Client ref: 10-19593

SUMMARY OF POINT LOAD TESTS.

Int. J. Rock Mech. Sci. & Geomech. Abstr. Vol. 22, No. 2, pp. 51 - 60, 1985.

Borehole Number	Depth (m)	Type of Test d a b/i	Type of Test I //	Width (W) (mm)	Platen Separation (D) (mm)	Failure Load (P) (kN)	Equivalent Diameter (D_e) (mm)	Point Load (I_s) (MPa)	Size Factor (F)	Point Load Index ($I_{s(50)}$) (MPa)	Angle between plane of anisotropy & core axis.	Type of anisotropy (Bedding or Cleavage).	Remarks.
TP202	1.00	i		64	25	1.25	45	0.61	0.95	0.58			
		i		57	22	0.85	40	0.53	0.90	0.48			
TP210	1.85	i		24	15	0.09	21	0.20	0.68	0.14			
		i		21	10	0.10	16	0.37	0.60	0.22			
TP222	1.10	i		62	34	4.59	52	1.71	1.02	1.74			
		i		53	34	2.80	48	1.22	0.98	1.20			
CP204	1.90	d			76	0.17		0.03	1.21	0.03			
		a		76	40	0.14	62	0.04	1.10	0.04			

Key : d = diametral; a = axial; b = block; i = irregular lump test; I = perpendicular; // = parallel to planes of weakness.

Checked By **Date** 22/12/10 **Approved By** Alan Walters **Date** 22/12/10

LABORATORY TESTING SERVICES LIMITED

c/o Whitelands Farm, Middleton Stoney Road Bicester, Oxfordshire

Contract No.
11628-141210
Client Ref No.
10-19593

page of

Summary of Soil Classification Tests

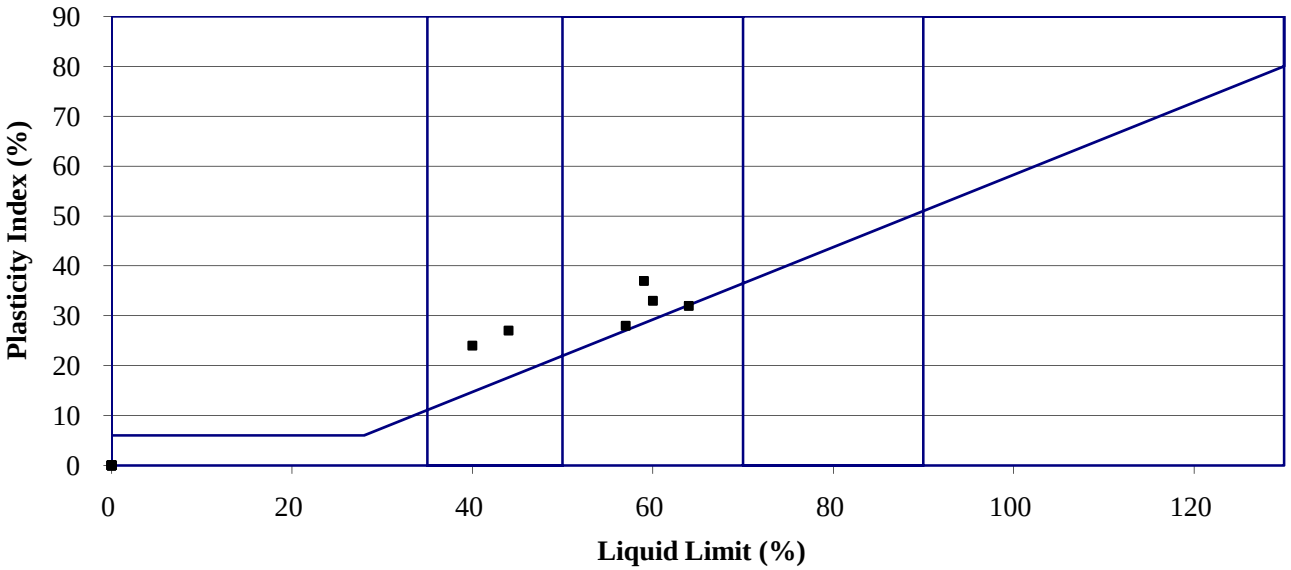
BS 1377:Part 2:1990

Hole/ Sample Number	Sample Type		Moisture Content % Cl. 3.2	Liquid Limit % Cl. 4.3/4.4	Plastic Limit % Cl. 5.	Plasticity Index % Cl. 6.	% Passing .425mm	Remarks
CP201		0.20	26					
CP201		0.50	14	40	16	24	84	CI Intermediate Plasticity
CP201		1.50	13					
CP202		0.20	25	59	22	37	90	CH High Plasticity
CP202		0.50	13					
CP202		1.00	15	44	17	27	83	CI Intermediate Plasticity
CP202		1.70	14					
CP202		2.30	10					
CP203		2.40	10		NP		35	
CP204		0.50	29	60	27	33	97	CH High Plasticity
CP204		1.00	34	64	32	32	100	MH High Plasticity
CP204		1.90	34					
CP204		2.50	31	57	29	28	85	CH High Plasticity
CP204		2.60	17					

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

PLASTICITY CHART FOR CASAGRANDE CLASSIFICATION.

BS 5930:1999



Alan Walters 23/12/10

Checked by **Date**

Alan Walters 23/12/10

Approved by **Date**

LABORATORY TESTING SERVICES LIMITED

c/o Whitelands Farm, Middleton Stoney Road
Bicester, Oxfordshire

Contract No.:
11628/141210
Client Ref No:
10-19593

UKAS TESTING
2788

Summary of Soil Classification Tests

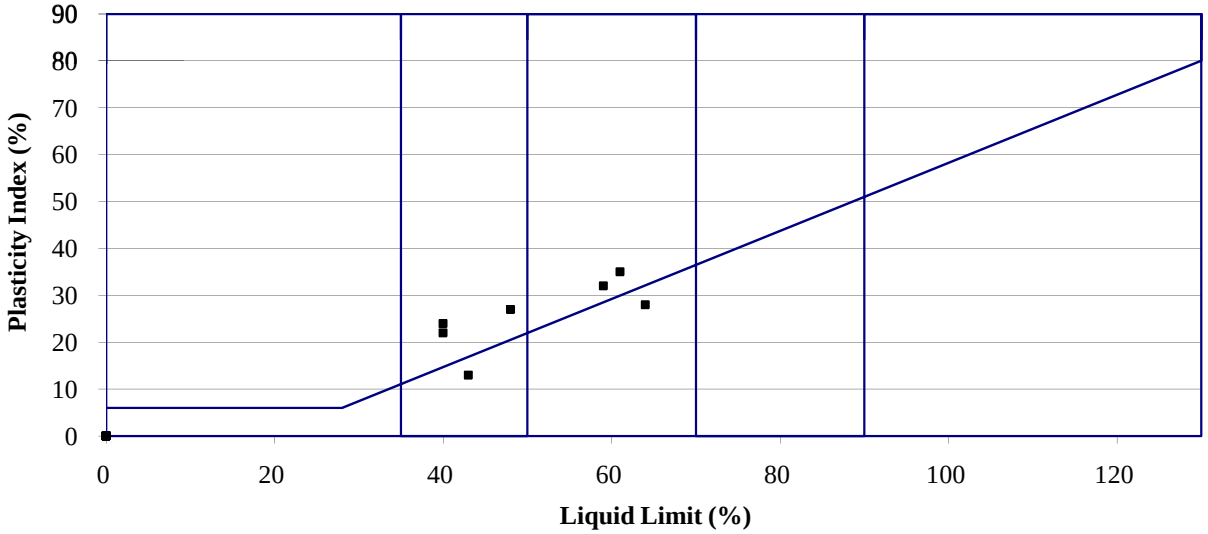
BS 1377:Part 2:1990

Hole/ Sample Number	Sample Type		Moisture Content % Cl. 3.2	Liquid Limit % Cl. 4.3/4.4	Plastic Limit % Cl. 5.	Plasticity Index % Cl. 6.	% Passing .425mm	Remarks
TP201		0.40	20					
TP201		1.00	24	61	26	35	90	CH High Plasticity
TP202		0.60	31					
TP202		1.00	10	59	27	32	90	CH High Plasticity
TP202		1.80	8		NP		70	
TP202		0.50	15					
TP203		1.00	17	43	30	13	93	MI Intermediate Plasticity
TP204		0.40	19	48	21	27	84	CI Intermediate Plasticity
TP204		1.00	24					
TP204		1.80	10		NP		90	
TP205		1.00	13	40	16	24	83	CI Intermediate Plasticity
TP205		1.40	7		NP		20	
TP206		0.50	12	40	18	22	90	CI Intermediate Plasticity
TP206		1.00	26					
TP206		2.00	37	64	36	28	87	MH High Plasticity

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

PLASTICITY CHART FOR CASAGRANDE CLASSIFICATION.

BS 5930:1999



Alan Walters 10/01/11

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Alan Walters 10/01/11

Approved by **Date**

LABORATORY TESTING SERVICES LIMITED

c/o Whitelands Farm, Middleton Stoney Road
Bicester, Oxfordshire

Contract No.:
11628/141210
Client Ref No:
10-19593

UKAS TESTING
2788

Summary of Soil Classification Tests

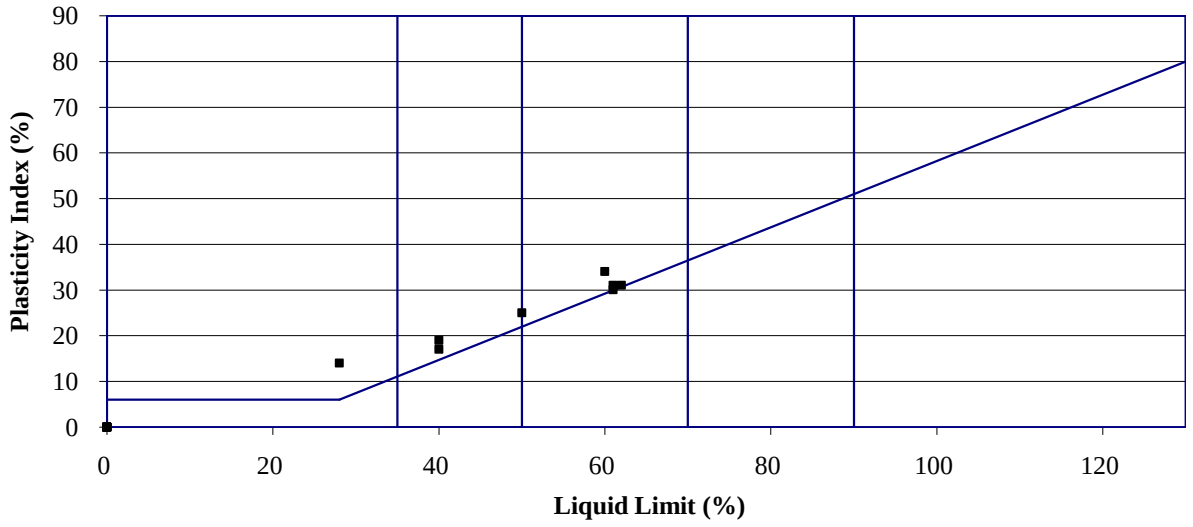
BS 1377:Part 2:1990

Hole/ Sample Number	Sample Type		Moisture Content % Cl. 3.2	Liquid Limit % Cl. 4.3/4.4	Plastic Limit % Cl. 5.	Plasticity Index % Cl. 6.	% Passing .425mm	Remarks
TP207		1.00	29					
TP207		2.30	38	61	31	30	86	CH High Plasticity
TP208		1.00	35	60	26	34	100	CH High Plasticity
TP208		2.00	29					
TP208		2.80	31	50	25	25	100	CI/H Inter/High Plasticity
TP209		1.00	13					
TP209		1.80	15					
TP210		1.00	34	61	30	31	100	CH High Plasticity
TP210		1.85	35	62	31	31	90	CH High Plasticity
TP211		1.00	16	40	21	19	95	CI Intermediate Plasticity
TP212		1.00	11	28	14	14	91	CL Low Plasticity
TP213		0.50	26	40	23	17	91	CI Intermediate Plasticity
TP213		1.00	15					
TP213		1.60	12					
TP214		1.00	12		NP		89	
TP215		0.70	10					

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

PLASTICITY CHART FOR CASAGRANDE CLASSIFICATION.

BS 5930:1999



Alan Walters 06/01/11
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Alan Walters 06/01/11
Approved by Date

LABORATORY TESTING SERVICES LIMITED

c/o Whitelands Farm, Middleton Stoney Road
Bicester, Oxfordshire

Contract No.:
11628/141210
Client Ref No:
10-19593

UKAS TESTING 2788

Summary of Soil Classification Tests

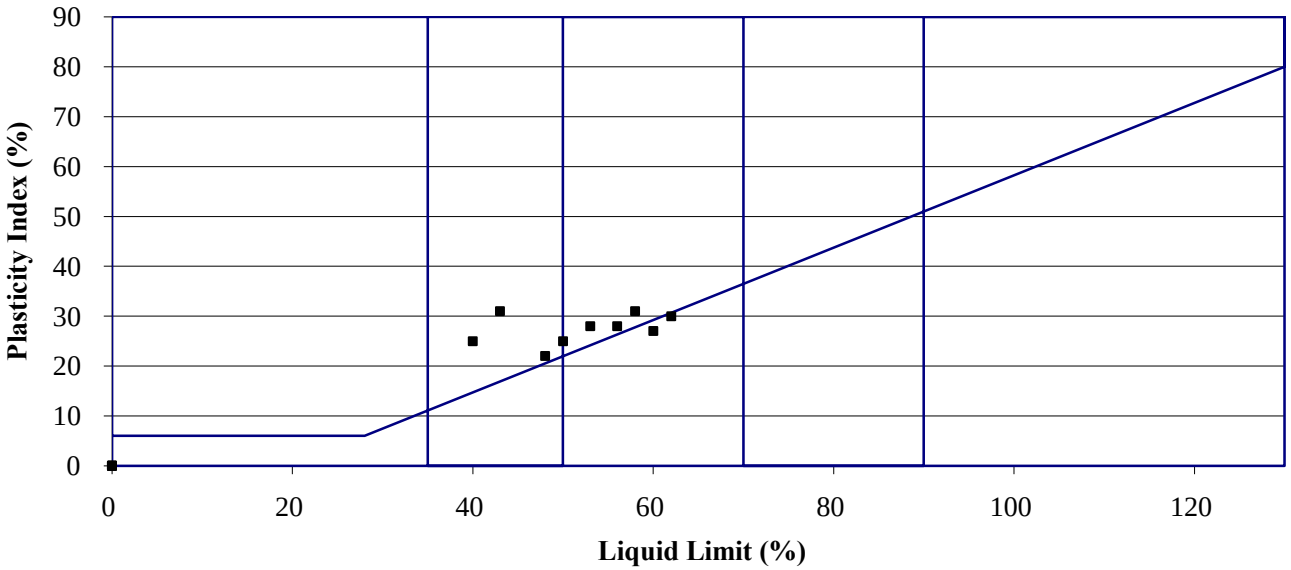
BS 1377:Part 2:1990

Hole/ Sample Number	Sample Type		Moisture Content % Cl. 3.2	Liquid Limit % Cl. 4.3/4.4	Plastic Limit % Cl. 5.	Plasticity Index % Cl. 6.	% Passing .425mm	Remarks
TP216		0.40	33	56	28	28	100	CH High Plasticity
TP216		0.70	37	62	32	30	95	MH High Plasticity
TP217		0.40	38	60	33	27	90	MH High Plasticity
TP217		1.40	13	48	26	22	60	CI Intermediate Plasticity
TP218		0.60	29					
TP218		1.30	22	50	25	25	40	CI/H Inter/High Plasticity
TP219		0.60	34					
TP219		1.40	6		NP		11	
TP220		0.80	12					
TP220		1.10	33	58	27	31	90	CH High Plasticity
TP221		0.50	34	53	25	28	96	CH High Plasticity
TP221		1.00	29					
TP221		1.90	16	40	15	25	85	CI Intermediate Plasticity

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

PLASTICITY CHART FOR CASAGRANDE CLASSIFICATION.

BS 5930:1999



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Alan Walters 07/01/11

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LABORATORY TESTING SERVICES LIMITED

c/o Whitelands Farm, Middleton Stoney Road
Bicester, Oxfordshire

Contract No.: 11628/141210

Client Ref No: 10-19593

UKAS TESTING 2788

Summary of Soil Classification Tests

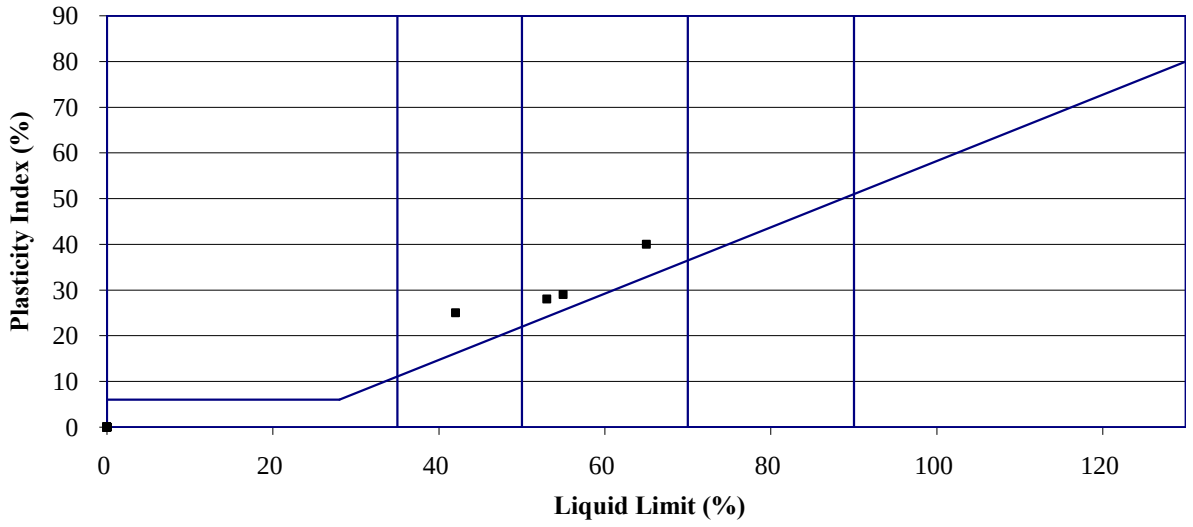
BS 1377:Part 2:1990

Hole/ Sample Number	Sample Type		Moisture Content % Cl. 3.2	Liquid Limit % Cl. 4.3/4.4	Plastic Limit % Cl. 5.	Plasticity Index % Cl. 6.	% Passing .425mm	Remarks
TP222		0.80	30	55	26	29	100	CH High Plasticity
TP222		1.10	6					
TP223		0.60	24	53	25	28	100	CH High Plasticity
TP223		1.10	25	65	25	40	95	CH High Plasticity
TP223		1.40	21					
TP224		1.00	18	42	17	25	80	CI Intermediate Plasticity

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

PLASTICITY CHART FOR CASAGRANDE CLASSIFICATION.

BS 5930:1999



Alan Walters 06/01/11
Checked by Date

Alan Walters 06/01/11
Approved by Date

LABORATORY TESTING SERVICES LIMITED

c/o Whitelands Farm, Middleton Stoney Road
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UKAS TESTING 2788

Summary of Soil Classification Tests

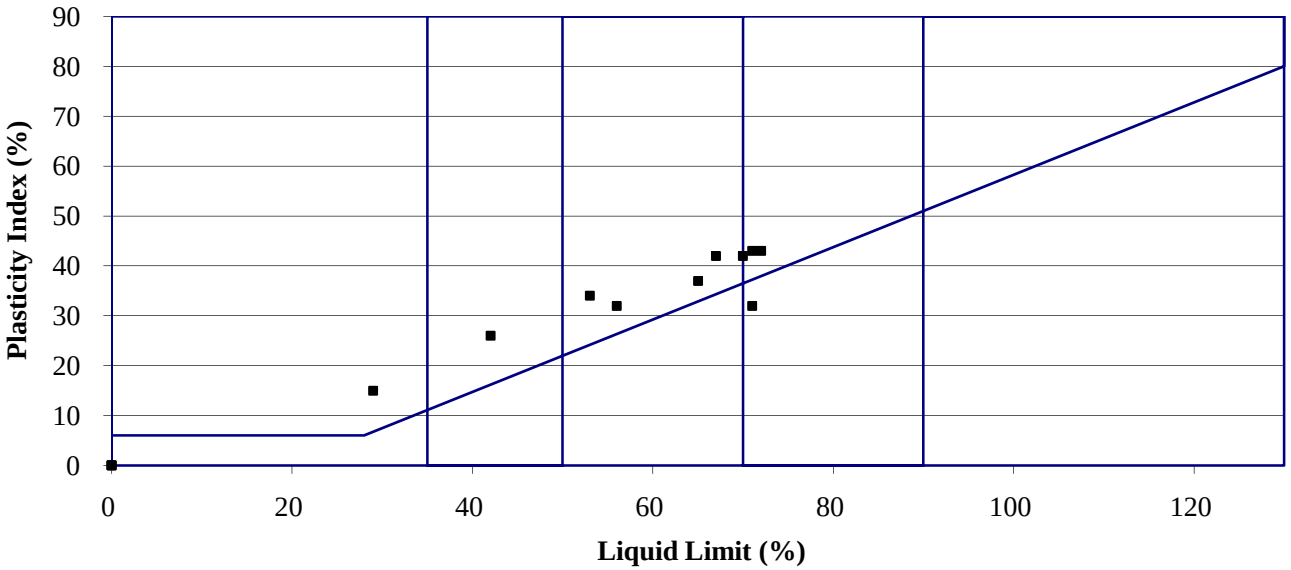
BS 1377:Part 2:1990

Hole/ Sample Number	Sample Type		Moisture Content % Cl. 3.2	Liquid Limit % Cl. 4.3/4.4	Plastic Limit % Cl. 5.	Plasticity Index % Cl. 6.	% Passing .425mm	Remarks
WS201		1.90	13					
WS202		0.60	22	56	24	32	100	CH High Plasticity
WS203		0.90	36	72	29	43	100	CV Very High Plasticity
WS204		0.90	49	71	39	32	95	MV Very High Plasticity
WS205		2.00	14	53	19	34	100	CH High Plasticity
WS206		0.75	7	29	14	15	83	CL Low Plasticity
WS207		0.50	36	67	25	42	100	CH High Plasticity
WS208		0.50	31	65	28	37	100	CH High Plasticity
WS209		0.60	26	70	28	42	100	CH/V High/Very Plasticity
WS210		0.90	30	71	28	43	100	CV Very High Plasticity
WS211		0.80	9		NP		90	
WS212		0.70	14	42	16	26	88	CI Intermediate Plasticity

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

PLASTICITY CHART FOR CASAGRANDE CLASSIFICATION.

BS 5930:1999



Alan Walters 23/12/10

Checked by **Date**

Alan Walters 23/12/10

Approved by **Date**

LABORATORY TESTING SERVICES LIMITED

c/o Whitelands Farm, Middleton Stoney Road
Bicester, Oxfordshire

Contract No.:
11628/141210
Client Ref No:
10-19593

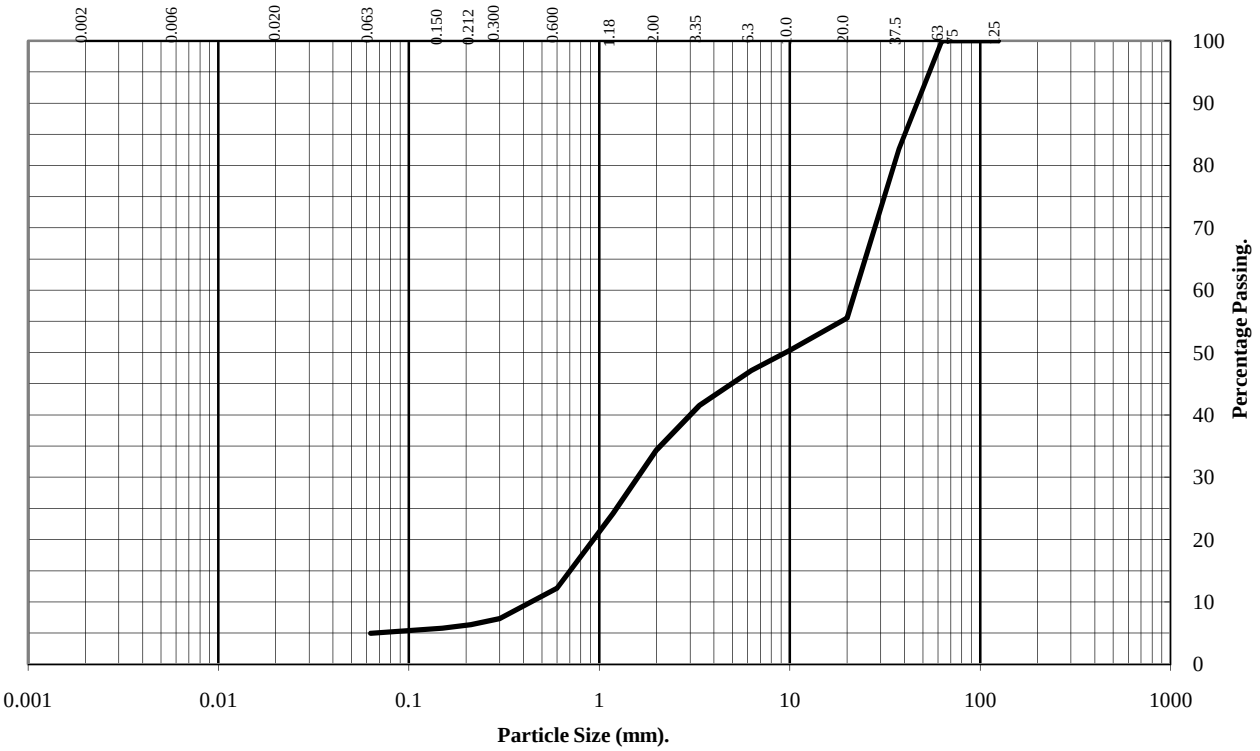
UKAS TESTING
2788

PARTICLE SIZE DISTRIBUTION TEST

BS 1377 Part 2:1990.

Wet Sieve, Clause 9.2

Hole Number: **CP201** Depth (m): **1.60** to **2.00**



BS Test Sieve	Percentage Passing
125	100
75	100
63	100
37.5	83
20	56
10	50
6.3	47
3.35	41
2.00	34
1.18	24
0.60	12
0.300	7
0.212	6
0.150	6
0.063	5

Particle Diameter	Percentage Passing
0.02	#
0.006	#
0.002	#

Soil Fraction	Total Percentage
Cobbles	0
Gravel	66
Sand	29
Silt and Clay	5

Remarks:

#- not determined

23/12/2010

Checked by **Date**

23/12/2010

Approved by **Date**

LABORATORY TESTING SERVICES LIMITED

c/o Whitelands Farm, Middleton Stoney Road Bicester, Oxfordshire

Contract No.: **11628-141210**

Client Ref No: **10-19593**

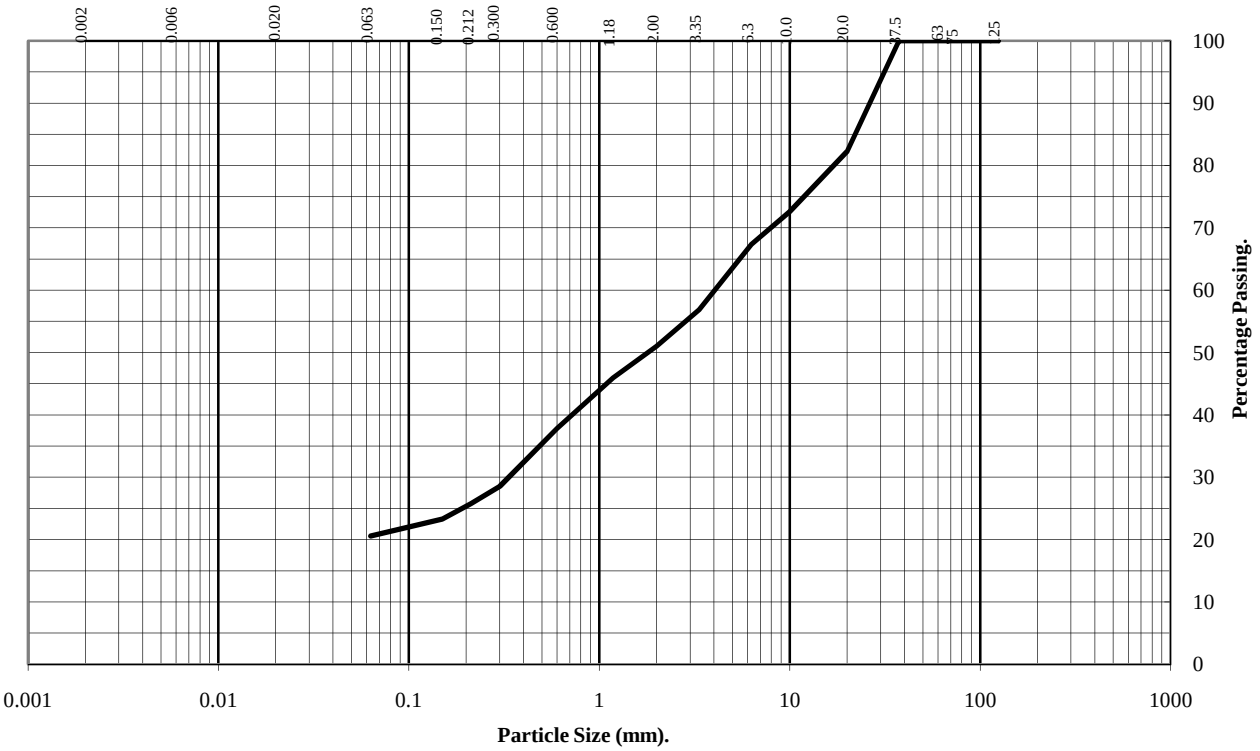
UKAS TESTING 2788

PARTICLE SIZE DISTRIBUTION TEST

BS 1377 Part 2:1990.

Wet Sieve, Clause 9.2

Hole Number: **CP202** Depth (m): **1.00** to **1.50**



BS Test Sieve	Percentage Passing
125	100
75	100
63	100
37.5	100
20	82
10	73
6.3	67
3.35	57
2.00	51
1.18	46
0.60	38
0.300	29
0.212	26
0.150	23
0.063	21

Particle Diameter	Percentage Passing
0.02	#
0.006	#
0.002	#

Soil Fraction	Total Percentage
Cobbles	0
Gravel	49
Sand	30
Silt and Clay	21

Remarks:

#- not determined

23/12/2010

Checked by **Date**

23/12/2010

Approved by **Date**

LABORATORY TESTING SERVICES LIMITED

c/o Whitelands Farm, Middleton Stoney Road Bicester, Oxfordshire

Contract No.: **11628-141210**

Client Ref No: **10-19593**

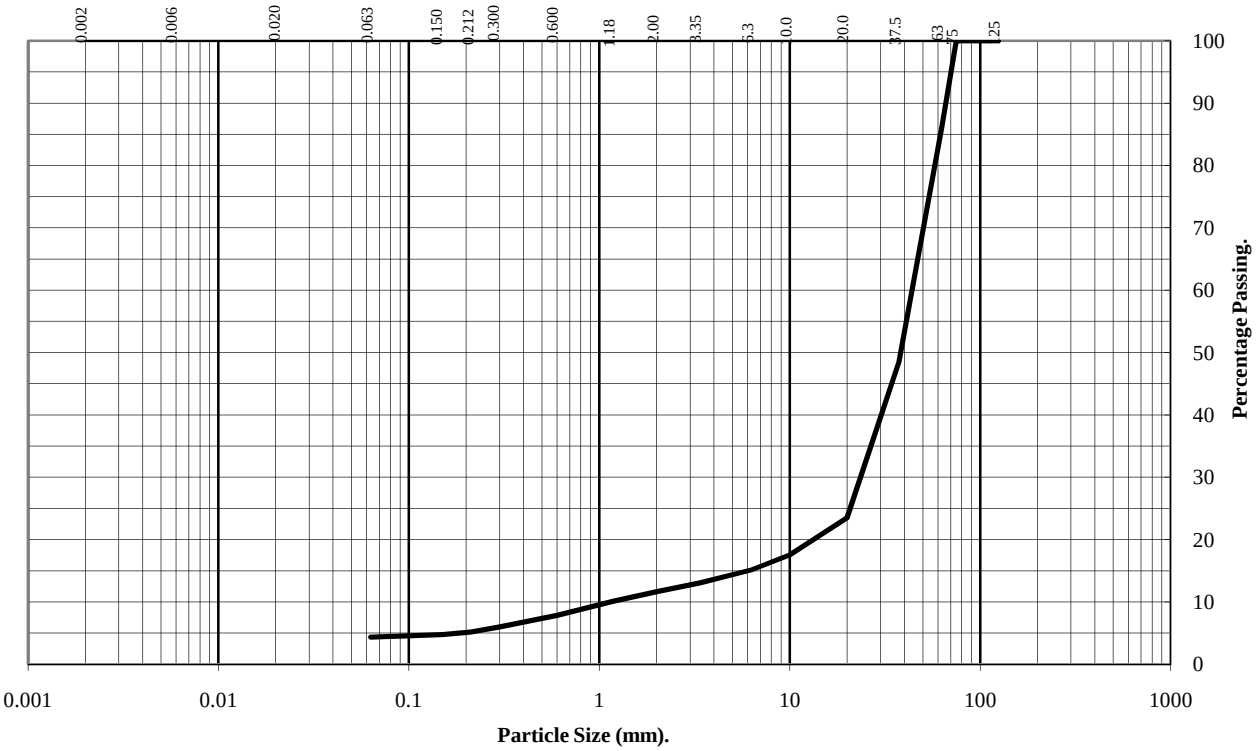
UKAS TESTING 2788

PARTICLE SIZE DISTRIBUTION TEST

BS 1377 Part 2:1990.

Wet Sieve, Clause 9.2

Hole Number: **CP202** Depth (m): **2.30** to **2.50**



BS Test Sieve	Percentage Passing
125	100
75	100
63	86
37.5	48
20	23
10	18
6.3	15
3.35	13
2.00	12
1.18	10
0.60	8
0.300	6
0.212	5
0.150	5
0.063	4

Particle Diameter	Percentage Passing
0.02	#
0.006	#
0.002	#

Soil Fraction	Total Percentage
Cobbles	14
Gravel	74
Sand	8
Silt and Clay	4

Remarks:

#- not determined

23/12/2010

Checked by **Date**

23/12/2010

Approved by **Date**

LABORATORY TESTING SERVICES LIMITED

c/o Whitelands Farm, Middleton Stoney Road Bicester, Oxfordshire

Contract No.: **11628-141210**

Client Ref No: **10-19593**

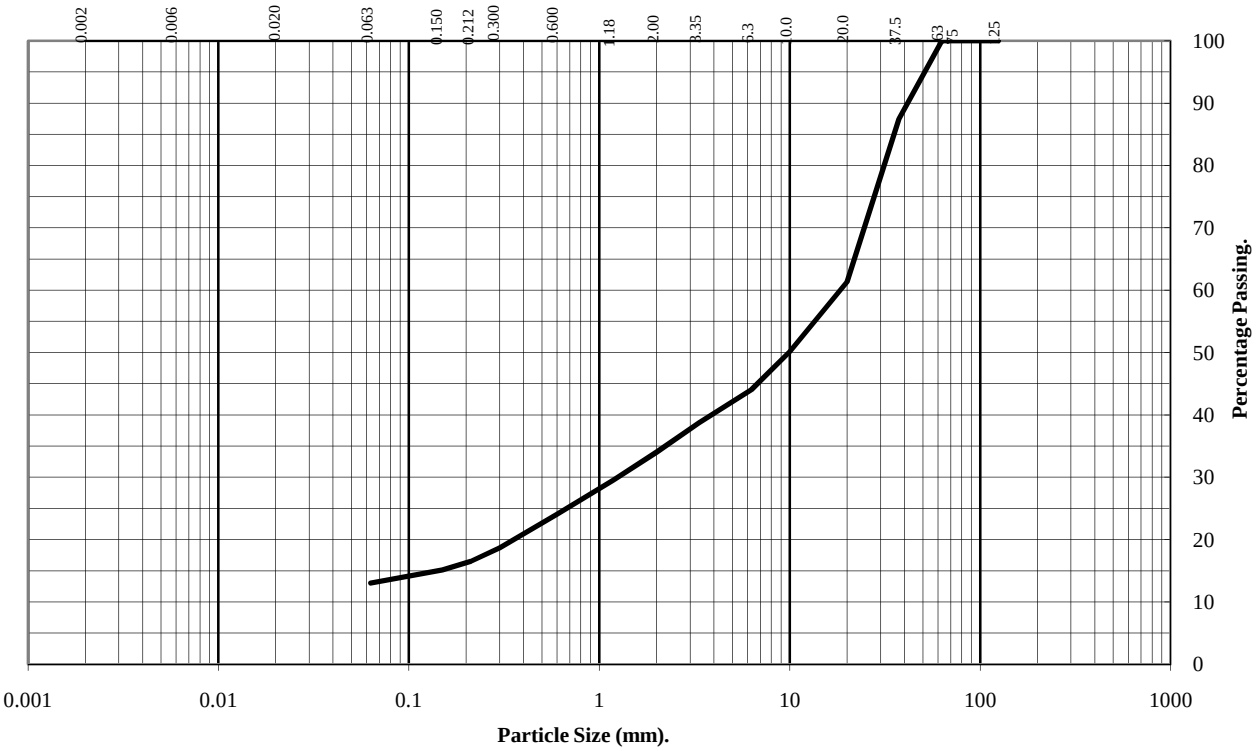
UKAS TESTING 2788

PARTICLE SIZE DISTRIBUTION TEST

BS 1377 Part 2:1990.

Wet Sieve, Clause 9.2

Hole Number: **CP203** Depth (m): **0.70** to **1.00**



BS Test Sieve	Percentage Passing
125	100
75	100
63	100
37.5	87
20	61
10	50
6.3	44
3.35	39
2.00	34
1.18	30
0.60	24
0.300	19
0.212	17
0.150	15
0.063	13

Particle Diameter	Percentage Passing
0.02	#
0.006	#
0.002	#

Soil Fraction	Total Percentage
Cobbles	0
Gravel	66
Sand	21
Silt and Clay	13

Remarks:

#- not determined

23/12/2010

Checked by **Date**

23/12/2010

Approved by **Date**

LABORATORY TESTING SERVICES LIMITED

c/o Whitelands Farm, Middleton Stoney Road Bicester, Oxfordshire

Contract No.: **11628-141210**

Client Ref No: **10-19593**

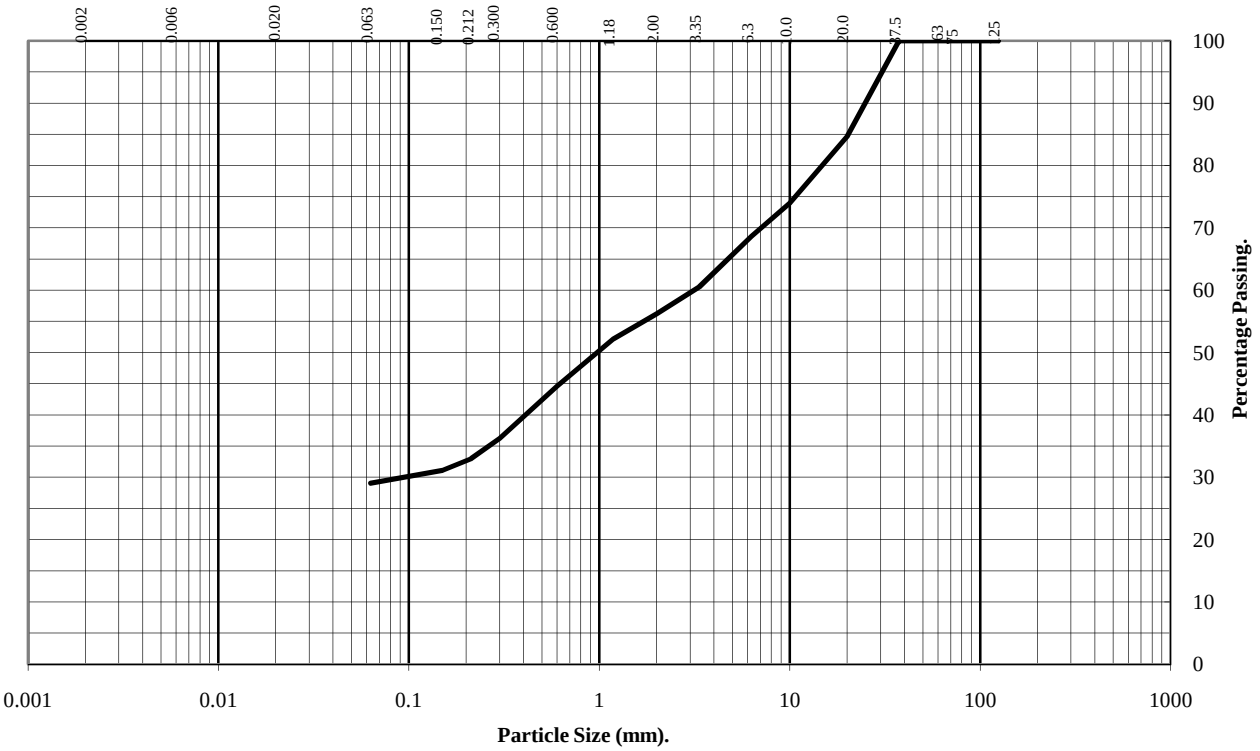
UKAS TESTING 2788

PARTICLE SIZE DISTRIBUTION TEST

BS 1377 Part 2:1990.

Wet Sieve, Clause 9.2

Hole Number: **CP203** Depth (m): **1.60** to **2.10**



BS Test Sieve	Percentage Passing
125	100
75	100
63	100
37.5	100
20	85
10	74
6.3	69
3.35	61
2.00	56
1.18	52
0.60	45
0.300	36
0.212	33
0.150	31
0.063	29

Particle Diameter	Percentage Passing
0.02	#
0.006	#
0.002	#

Soil Fraction	Total Percentage
Cobbles	0
Gravel	44
Sand	27
Silt and Clay	29

Remarks:

#- not determined

23/12/2010

Checked by **Date**

23/12/2010

Approved by **Date**

LABORATORY TESTING SERVICES LIMITED

c/o Whitelands Farm, Middleton Stoney Road Bicester, Oxfordshire

Contract No.: **11628-141210**

Client Ref No: **10-19593**

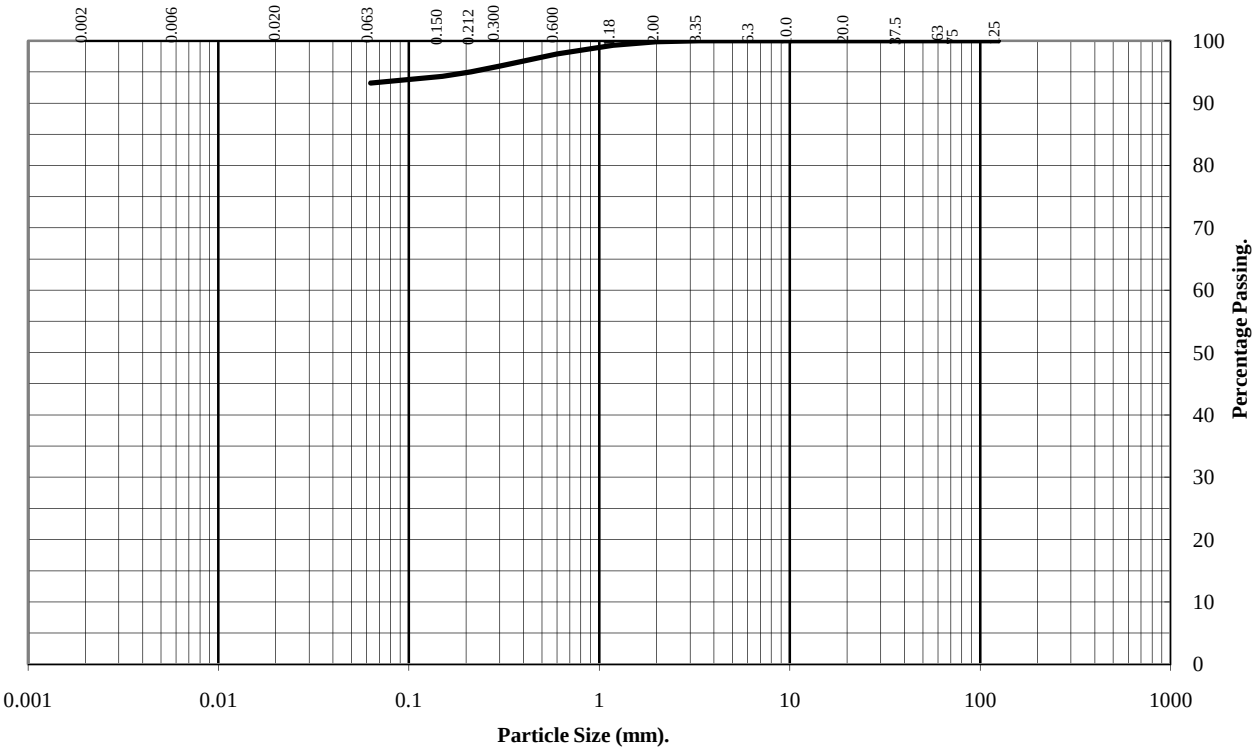
UKAS TESTING 2788

PARTICLE SIZE DISTRIBUTION TEST

BS 1377 Part 2:1990.

Wet Sieve, Clause 9.2

Hole Number: **CP204** Depth (m): **2.00** to **2.50**



BS Test Sieve	Percentage Passing
125	100
75	100
63	100
37.5	100
20	100
10	100
6.3	100
3.35	100
2.00	100
1.18	99
0.60	98
0.300	96
0.212	95
0.150	94
0.063	93

Particle Diameter	Percentage Passing
0.02	#
0.006	#
0.002	#

Soil Fraction	Total Percentage
Cobbles	0
Gravel	0
Sand	7
Silt and Clay	93

Remarks:

#- not determined

23/12/2010

Checked by **Date**

23/12/2010

Approved by **Date**

LABORATORY TESTING SERVICES LIMITED

c/o Whitelands Farm, Middleton Stoney Road Bicester, Oxfordshire

Contract No.: **11628-141210**

Client Ref No: **10-19593**

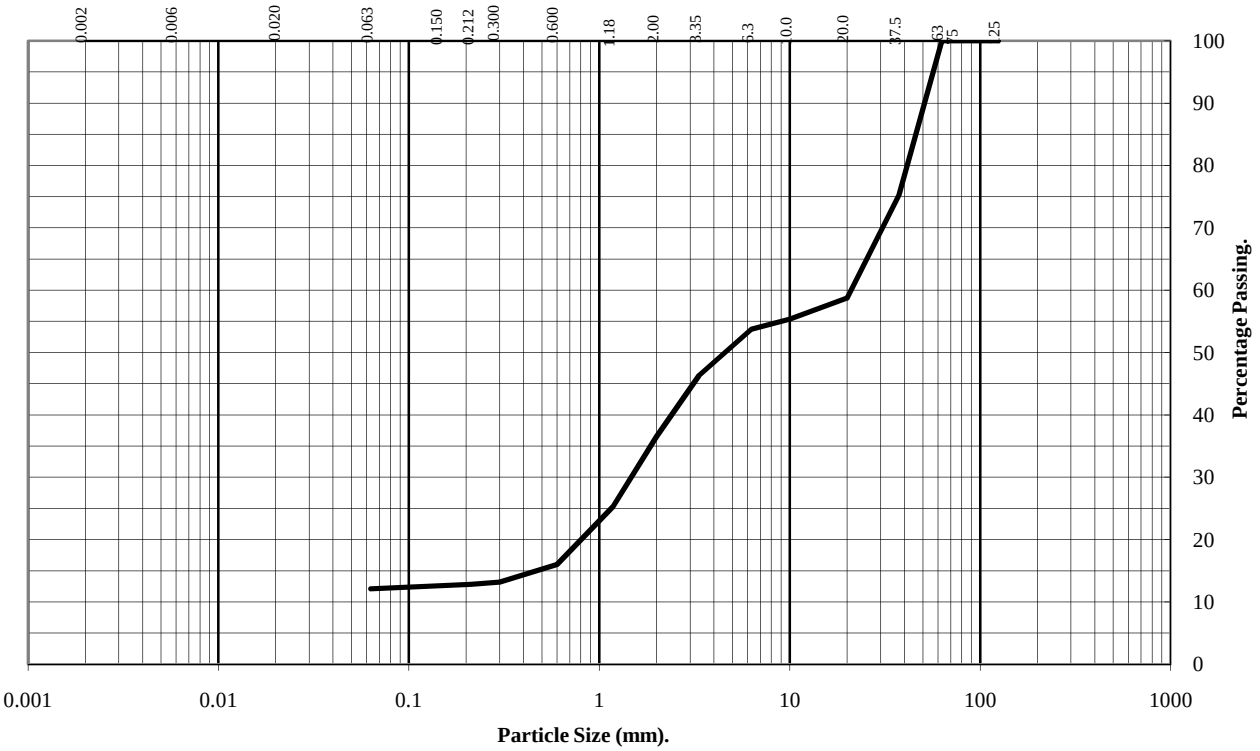
UKAS TESTING 2788

PARTICLE SIZE DISTRIBUTION TEST

BS 1377 Part 2:1990.

Wet Sieve, Clause 9.2

Hole Number: **CP204** Depth (m): **2.50** to **2.70**



BS Test Sieve	Percentage Passing
125	100
75	100
63	100
37.5	75
20	59
10	55
6.3	54
3.35	46
2.00	37
1.18	25
0.60	16
0.300	13
0.212	13
0.150	13
0.063	12

Particle Diameter	Percentage Passing
0.02	#
0.006	#
0.002	#

Soil Fraction	Total Percentage
Cobbles	0
Gravel	63
Sand	25
Silt and Clay	12

Remarks:

#- not determined

23/12/2010

Checked by **Date**

23/12/2010

Approved by **Date**

LABORATORY TESTING SERVICES LIMITED

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Contract No.: **11628-141210**

Client Ref No: **10-19593**

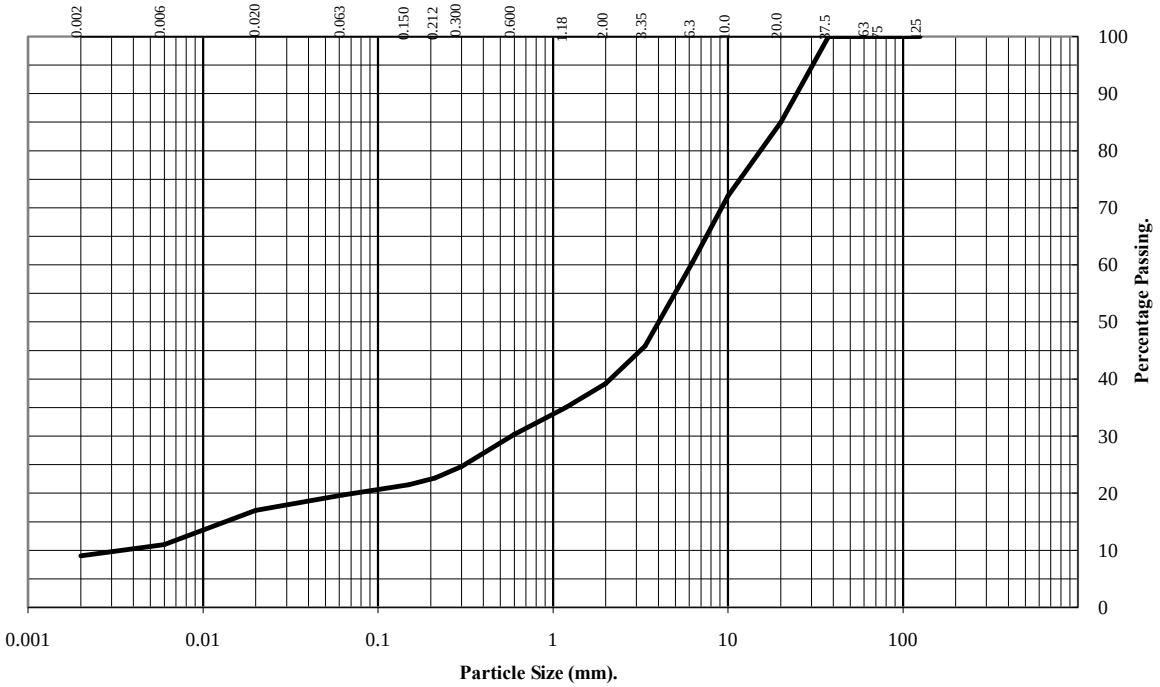
UKAS TESTING 2788

PARTICLE SIZE DISTRIBUTION TEST

BS 1377 Part 2:1990.

Wet Sieve & Pipette Analysis, Clause 9.2 & 9.4

Hole Number: **TP203** Depth (m): **0.50**



BS Test Sieve	Percentage Passing
125	100
75	100
63	100
37.5	100
20	85
10	72
6.3	60
3.35	46
2.00	39
1.18	35
0.60	30
0.300	25
0.212	23
0.150	21
0.063	20

Particle Diameter	Percentage Passing
0.02	17
0.006	11
0.002	9

Soil Fraction	Total Percentage
Cobbles	0
Gravel	61
Sand	19
Silt	11
Clay	9

Remarks:

Cl 9.4.8 - Sample has not been pretreated

04/01/2011
Checked by **Date**

04/01/2011
Approved by **Date**

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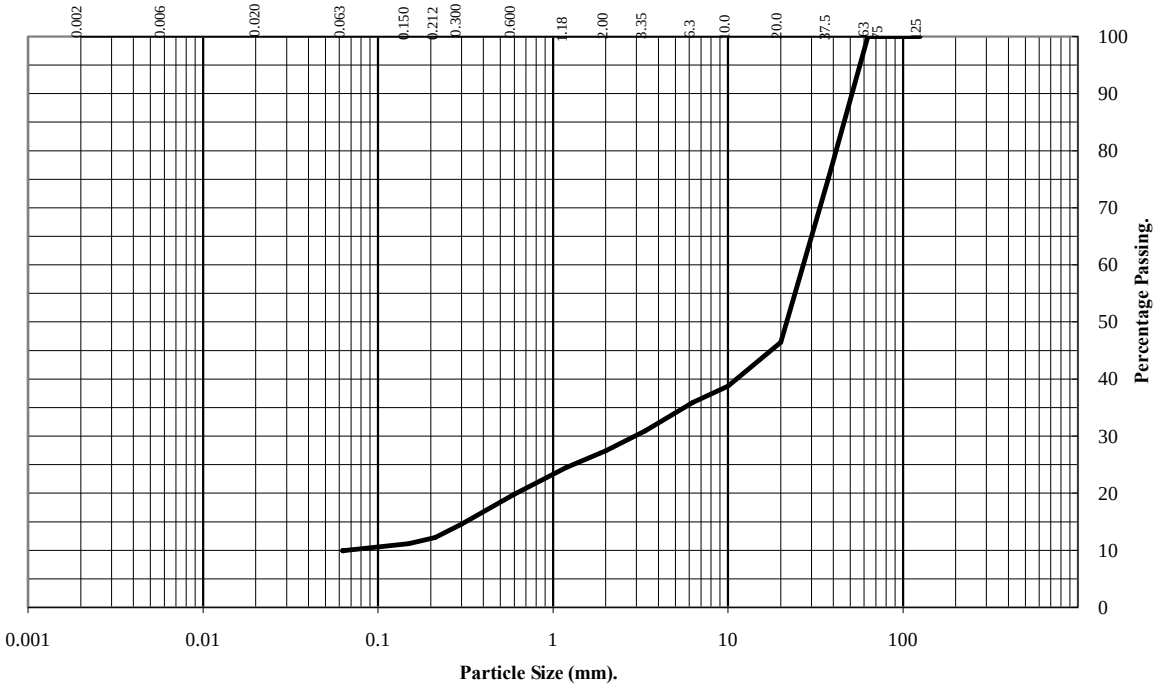
UKAS TESTING 2788

PARTICLE SIZE DISTRIBUTION TEST

BS 1377 Part 2:1990.

Wet Sieve, Clause 9.2

Hole Number: **TP203** Depth (m): **1.00**



BS Test Sieve	Percentage Passing
125	100
75	100
63	100
37.5	75
20	46
10	39
6.3	36
3.35	31
2.00	27
1.18	24
0.60	20
0.300	15
0.212	12
0.150	11
0.063	10

Particle Diameter	Percentage Passing
0.02	#
0.006	#
0.002	#

Soil Fraction	Total Percentage
Cobbles	0
Gravel	73
Sand	17
Silt and Clay	10

Remarks:

#- not determined

Sedimentation not performed due to less than 10% passing (9.8% passing figure rounded up)

06/01/2011

Checked by **Date**

06/01/2011

Approved by **Date**

LABORATORY TESTING SERVICES LIMITED

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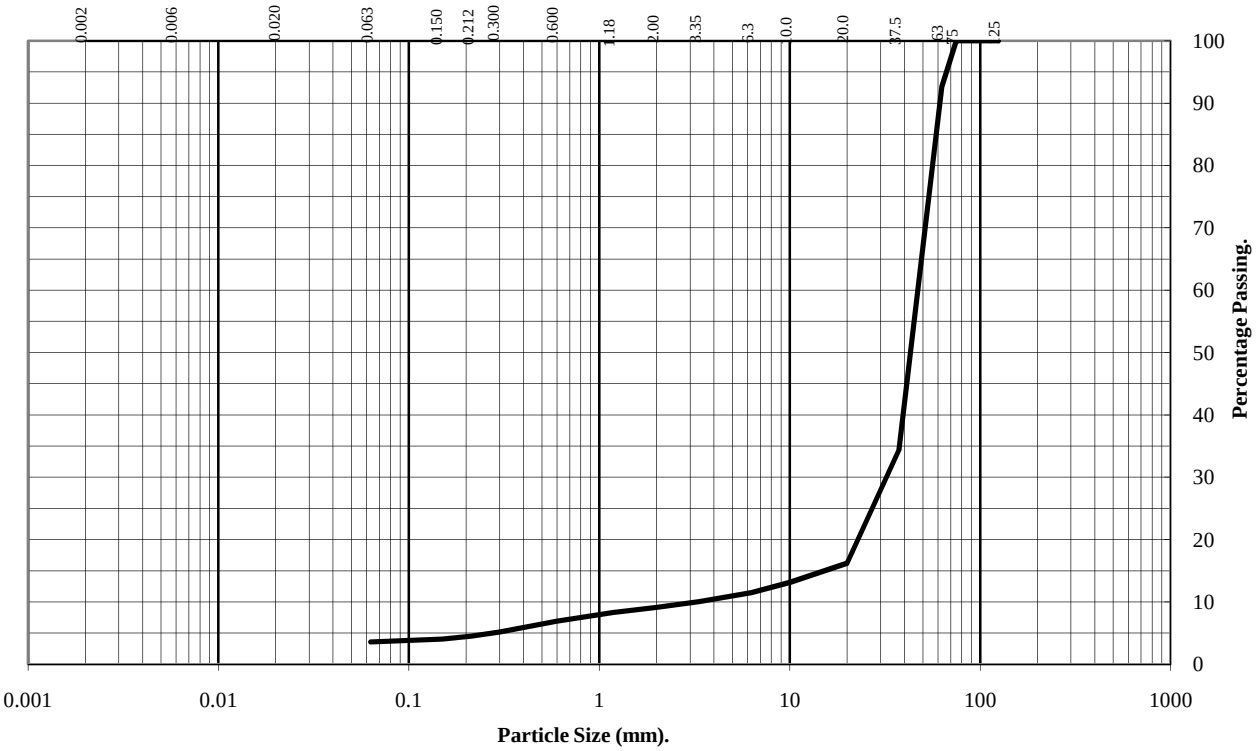
UKAS TESTING 2788

PARTICLE SIZE DISTRIBUTION TEST

BS 1377 Part 2:1990.

Wet Sieve, Clause 9.2

Hole Number: **TP205** Depth (m): **1.00**



BS Test Sieve	Percentage Passing
125	100
75	100
63	93
37.5	34
20	16
10	13
6.3	12
3.35	10
2.00	9
1.18	8
0.60	7
0.300	5
0.212	5
0.150	4
0.063	4

Particle Diameter	Percentage Passing
0.02	#
0.006	#
0.002	#

Soil Fraction	Total Percentage
Cobbles	7
Gravel	84
Sand	5
Silt and Clay	4

Remarks:

#- not determined

23/12/2010

Checked by **Date**

23/12/2010

Approved by **Date**

LABORATORY TESTING SERVICES LIMITED

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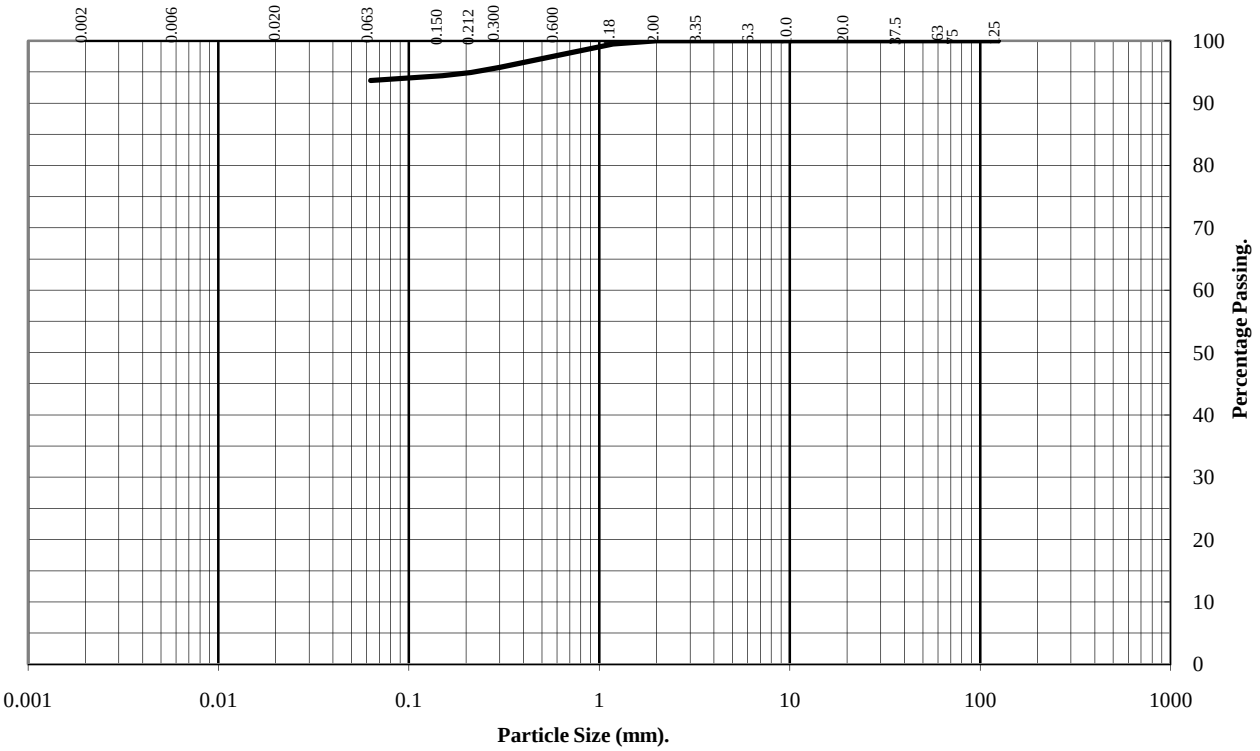
UKAS TESTING 2788

PARTICLE SIZE DISTRIBUTION TEST

BS 1377 Part 2:1990.

Wet Sieve, Clause 9.2

Hole Number: **TP207** Depth (m): **2.00**



BS Test Sieve	Percentage Passing
125	100
75	100
63	100
37.5	100
20	100
10	100
6.3	100
3.35	100
2.00	100
1.18	99
0.60	98
0.300	96
0.212	95
0.150	94
0.063	94

Particle Diameter	Percentage Passing
0.02	#
0.006	#
0.002	#

Soil Fraction	Total Percentage
Cobbles	0
Gravel	0
Sand	6
Silt and Clay	94

Remarks:

#- not determined

23/12/2010

Checked by **Date**

23/12/2010

Approved by **Date**

LABORATORY TESTING SERVICES LIMITED

c/o Whitelands Farm, Middleton Stoney Road Bicester, Oxfordshire

Contract No.: **11628-141210**

Client Ref No: **10-19593**

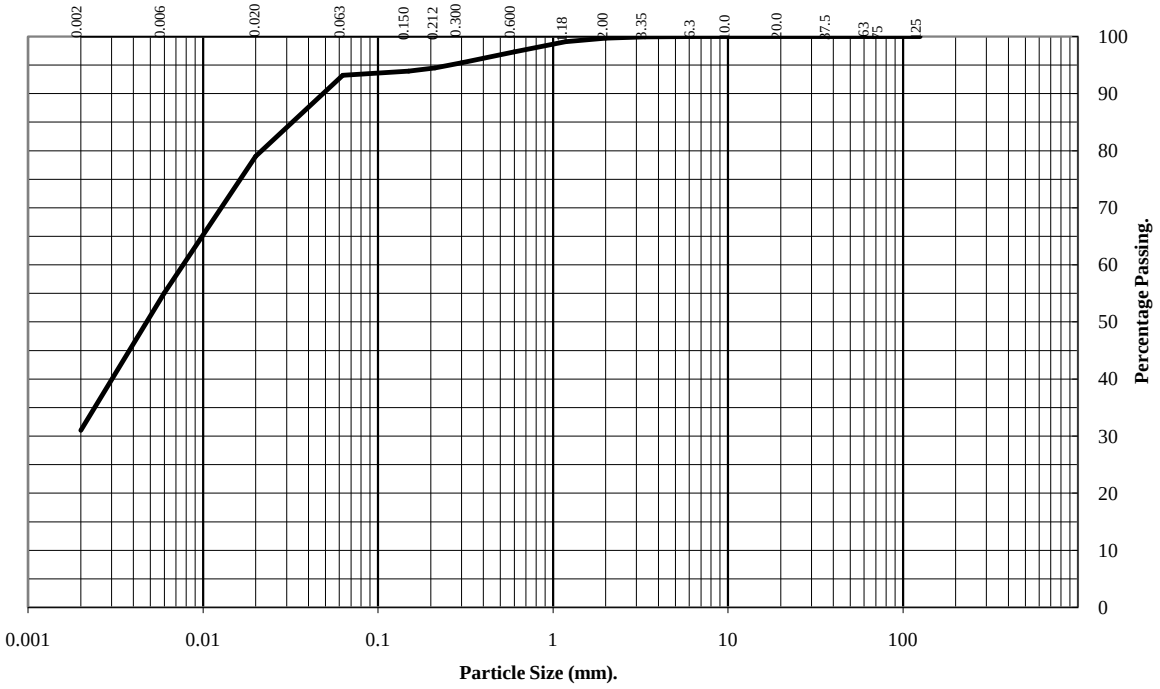
UKAS TESTING 2788

PARTICLE SIZE DISTRIBUTION TEST

BS 1377 Part 2:1990.

Wet Sieve & Pipette Analysis, Clause 9.2 & 9.4

Hole Number: **TP210** Depth (m): **1.00**



BS Test Sieve	Percentage Passing
125	100
75	100
63	100
37.5	100
20	100
10	100
6.3	100
3.35	100
2.00	100
1.18	99
0.60	97
0.300	95
0.212	95
0.150	94
0.063	93

Particle Diameter	Percentage Passing
0.02	79
0.006	55
0.002	31

Soil Fraction	Total Percentage
Cobbles	0
Gravel	0
Sand	7
Silt	62
Clay	31

Remarks:

Cl 9.4.8 - Sample has not been pretreated

04/01/2011

Checked by **Date**

04/01/2011

Approved by **Date**

LABORATORY TESTING SERVICES LIMITED

c/o Whitelands Farm, Middleton Stoney Road Bicester, Oxfordshire

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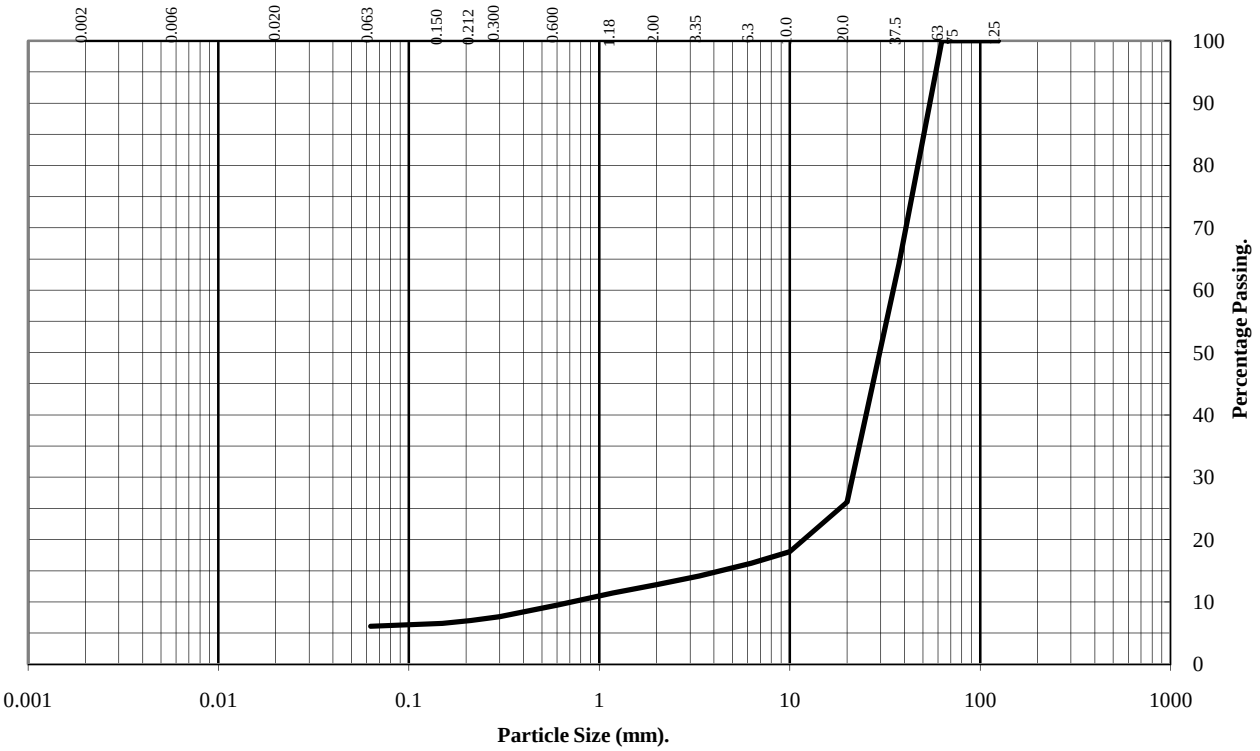
UKAS TESTING 2788

PARTICLE SIZE DISTRIBUTION TEST

BS 1377 Part 2:1990.

Wet Sieve, Clause 9.2

Hole Number: **TP211** Depth (m): **1.00**



BS Test Sieve	Percentage Passing
125	100
75	100
63	100
37.5	64
20	26
10	18
6.3	16
3.35	14
2.00	13
1.18	11
0.60	9
0.300	8
0.212	7
0.150	7
0.063	6

Particle Diameter	Percentage Passing
0.02	#
0.006	#
0.002	#

Soil Fraction	Total Percentage
Cobbles	0
Gravel	87
Sand	7
Silt and Clay	6

Remarks:

#- not determined

23/12/2010

Checked by **Date**

23/12/2010

Approved by **Date**

LABORATORY TESTING SERVICES LIMITED

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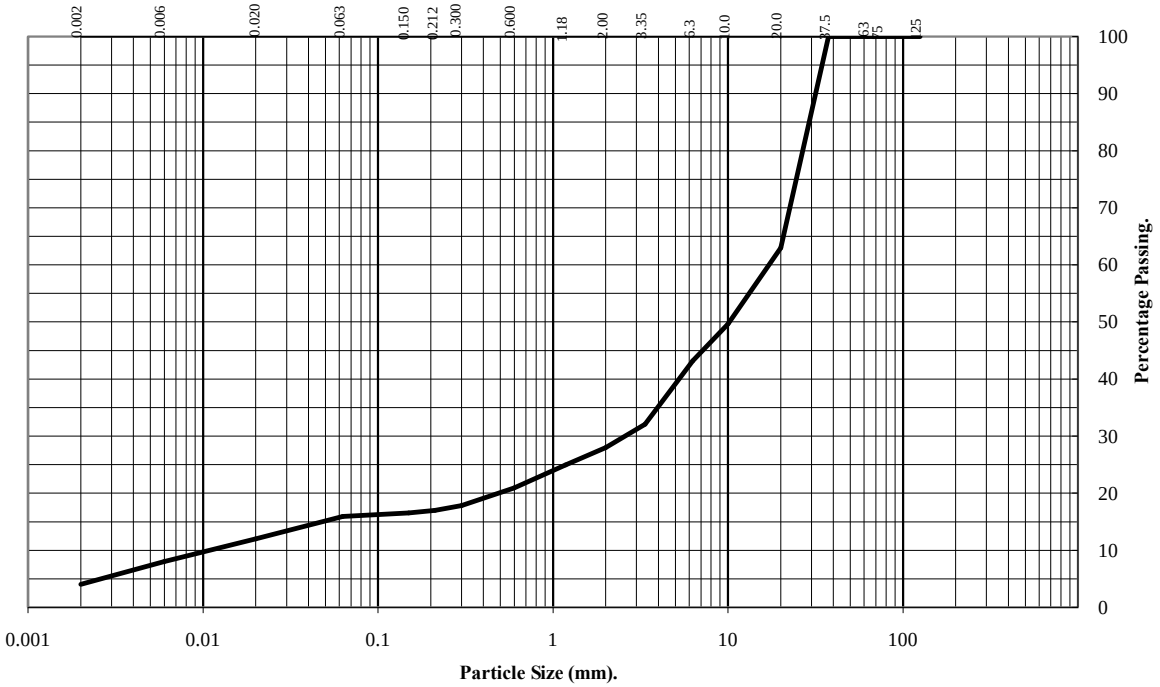
UKAS TESTING 2788

PARTICLE SIZE DISTRIBUTION TEST

BS 1377 Part 2:1990.

Wet Sieve & Pipette Analysis, Clause 9.2 & 9.4

Hole Number: **TP212** Depth (m): **1.00**



BS Test Sieve	Percentage Passing
125	100
75	100
63	100
37.5	100
20	63
10	50
6.3	43
3.35	32
2.00	28
1.18	25
0.60	21
0.300	18
0.212	17
0.150	17
0.063	16

Particle Diameter	Percentage Passing
0.02	12
0.006	8
0.002	4

Soil Fraction	Total Percentage
Cobbles	0
Gravel	72
Sand	12
Silt	12
Clay	4

Remarks:

Cl 9.4.8 - Sample has not been pretreated

04/01/2011
Checked by **Date**

04/01/2011
Approved by **Date**

LABORATORY TESTING SERVICES LIMITED

c/o Whitelands Farm, Middleton Stoney Road Bicester, Oxfordshire

Contract No.: **11628-141210**

Client Ref No: **10-19593**

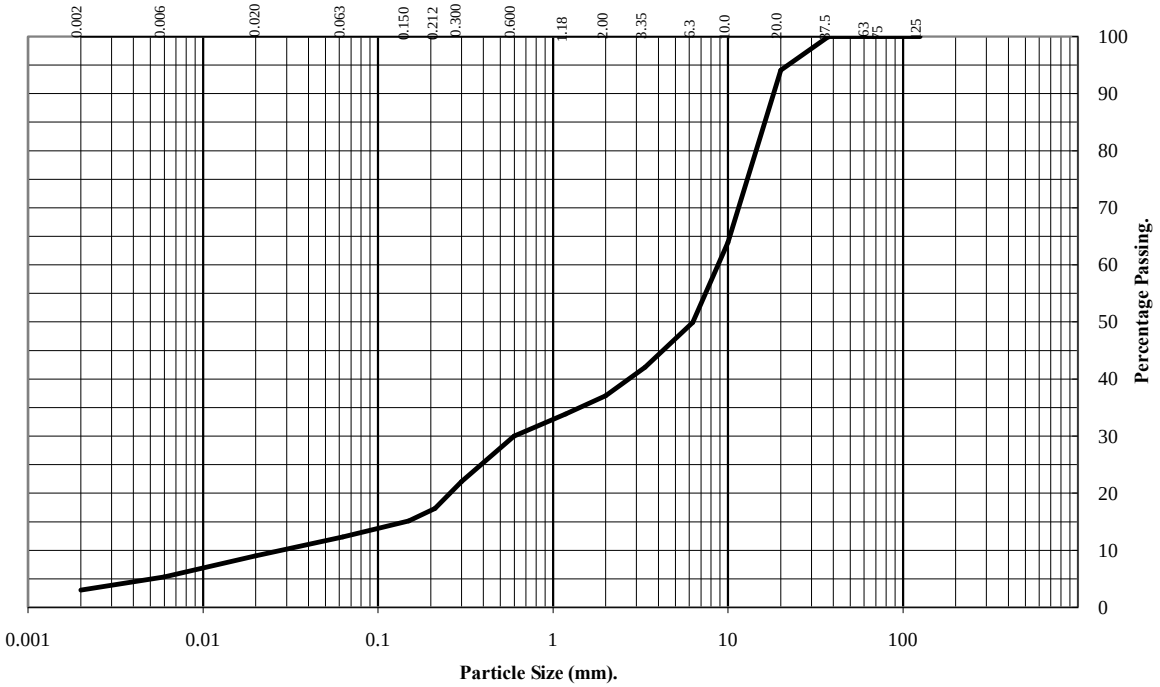
UKAS TESTING 2788

PARTICLE SIZE DISTRIBUTION TEST

BS 1377 Part 2:1990.

Wet Sieve & Pipette Analysis, Clause 9.2 & 9.4

Hole Number: **TP213** Depth (m): **1.00**



BS Test Sieve	Percentage Passing
125	100
75	100
63	100
37.5	100
20	94
10	64
6.3	50
3.35	42
2.00	37
1.18	34
0.60	30
0.300	22
0.212	17
0.150	15
0.063	12

Particle Diameter	Percentage Passing
0.02	9
0.006	5
0.002	3

Soil Fraction	Total Percentage
Cobbles	0
Gravel	63
Sand	25
Silt	9
Clay	3

Remarks:

Cl 9.4.8 - Sample has not been pretreated

04/01/2011

Checked by **Date**

04/01/2011

Approved by **Date**

LABORATORY TESTING SERVICES LIMITED

c/o Whitelands Farm, Middleton Stoney Road Bicester, Oxfordshire

Contract No.: **11628-141210**

Client Ref No: **10-19593**

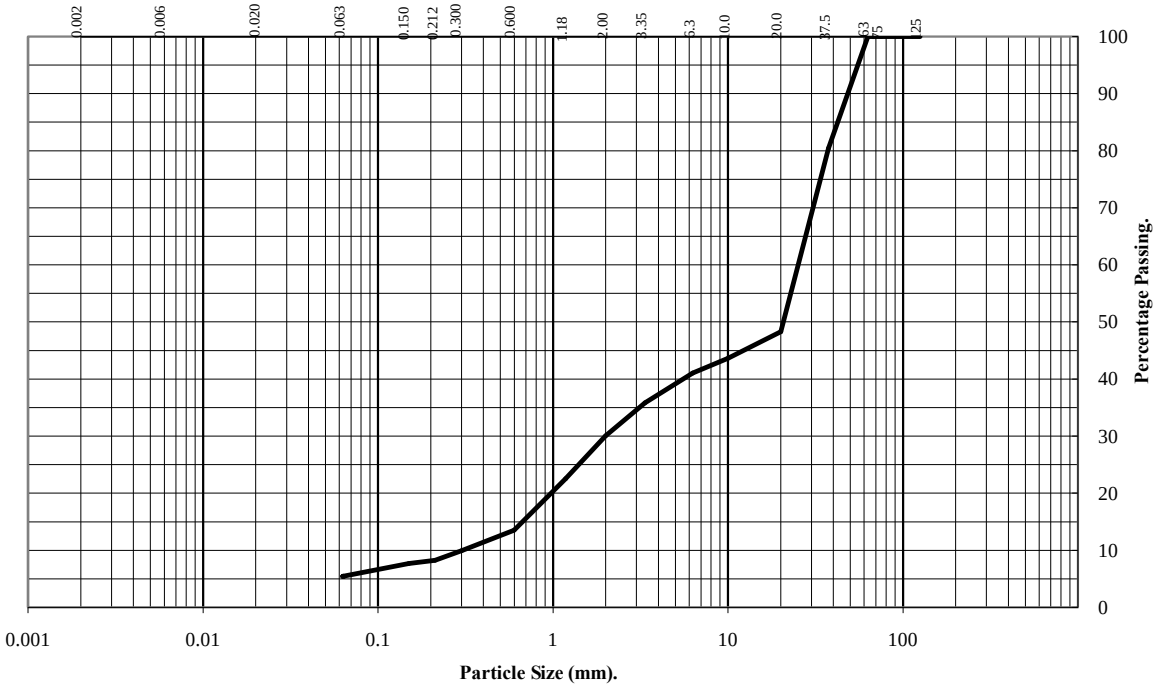
UKAS TESTING 2788

PARTICLE SIZE DISTRIBUTION TEST

BS 1377 Part 2:1990.

Wet Sieve, Clause 9.2

Hole Number: **TP214** Depth (m): **1.00**



BS Test Sieve	Percentage Passing
125	100
75	100
63	100
37.5	80
20	48
10	44
6.3	41
3.35	36
2.00	30
1.18	23
0.60	13
0.300	10
0.212	8
0.150	8
0.063	5

Particle Diameter	Percentage Passing
0.02	#
0.006	#
0.002	#

Soil Fraction	Total Percentage
Cobbles	0
Gravel	70
Sand	25
Silt and Clay	5

Remarks:

#- not determined

Sedimentation not performed due to less than 10% passing

06/01/2011 06/01/2011

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

LABORATORY TESTING SERVICES LIMITED

c/o Whitelands Farm, Middleton Stoney Road Bicester, Oxfordshire

Contract No.: **11628-141210**

Client Ref No: **10-19593**

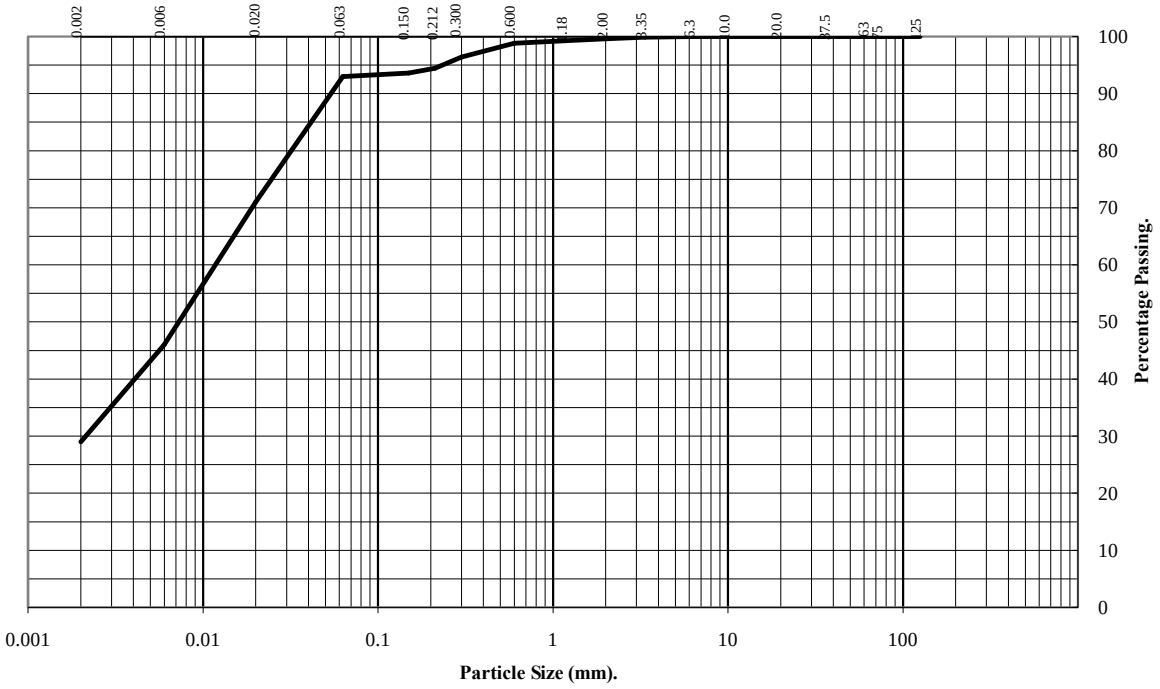
UKAS TESTING 2788

PARTICLE SIZE DISTRIBUTION TEST

BS 1377 Part 2:1990.

Wet Sieve & Pipette Analysis, Clause 9.2 & 9.4

Hole Number: **TP222** Depth (m): **0.80**



BS Test Sieve	Percentage Passing
125	100
75	100
63	100
37.5	100
20	100
10	100
6.3	100
3.35	100
2.00	100
1.18	99
0.60	99
0.300	96
0.212	94
0.150	94
0.063	93

Particle Diameter	Percentage Passing
0.02	71
0.006	46
0.002	29

Soil Fraction	Total Percentage
Cobbles	0
Gravel	0
Sand	7
Silt	64
Clay	29

Remarks:

Cl 9.4.8 - Sample has not been pretreated

04/01/2011

Checked by **Date**

04/01/2011

Approved by **Date**

LABORATORY TESTING SERVICES LIMITED

c/o Whitelands Farm, Middleton Stoney Road Bicester, Oxfordshire

Contract No.: **11628-141210**

Client Ref No: **10-19593**

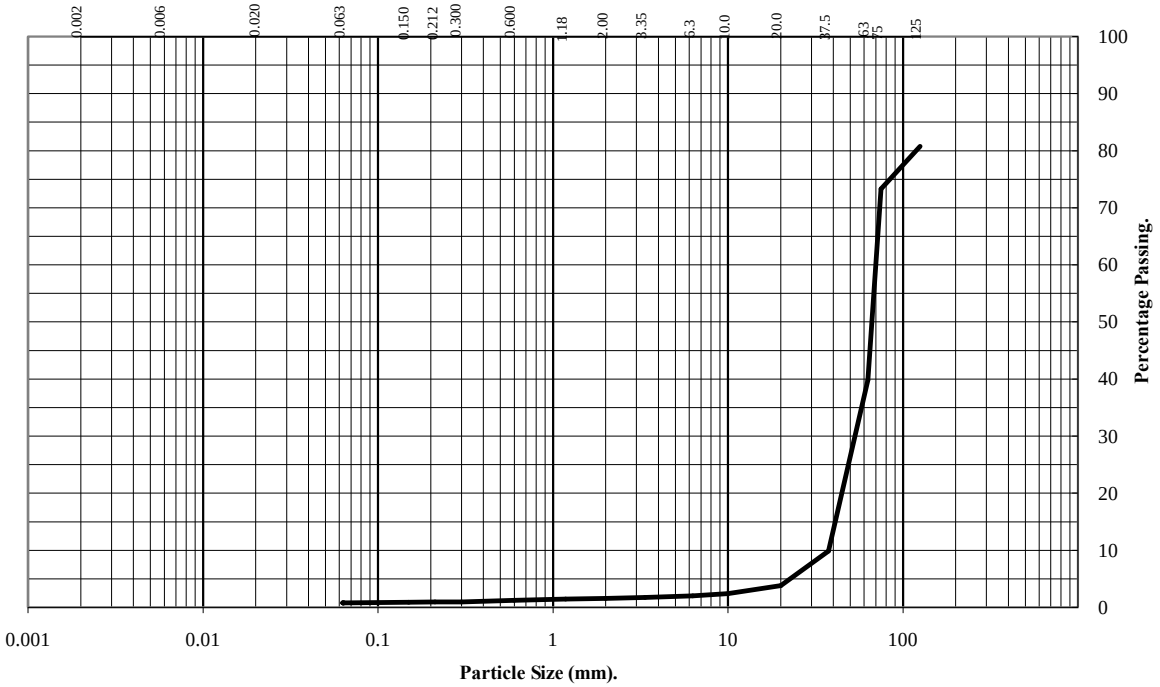
UKAS TESTING 2788

PARTICLE SIZE DISTRIBUTION TEST

BS 1377 Part 2:1990.

Wet Sieve, Clause 9.2

Hole Number: **TP224** Depth (m): **1.50**



BS Test Sieve	Percentage Passing
125	81
75	73
63	40
37.5	10
20	4
10	2
6.3	2
3.35	2
2.00	2
1.18	1
0.60	1
0.300	1
0.212	1
0.150	1
0.063	1

Particle Diameter	Percentage Passing
0.02	#
0.006	#
0.002	#

Soil Fraction	Total Percentage
Cobbles	60
Gravel	38
Sand	1
Silt and Clay	1

Remarks:

#- not determined

Sedimentation not performed due to less than 10% passing

06/01/2011

Checked by **Date**

06/01/2011

Approved by **Date**

LABORATORY TESTING SERVICES LIMITED

c/o Whitelands Farm, Middleton Stoney Road Bicester, Oxfordshire

Contract No.: **11628-141210**

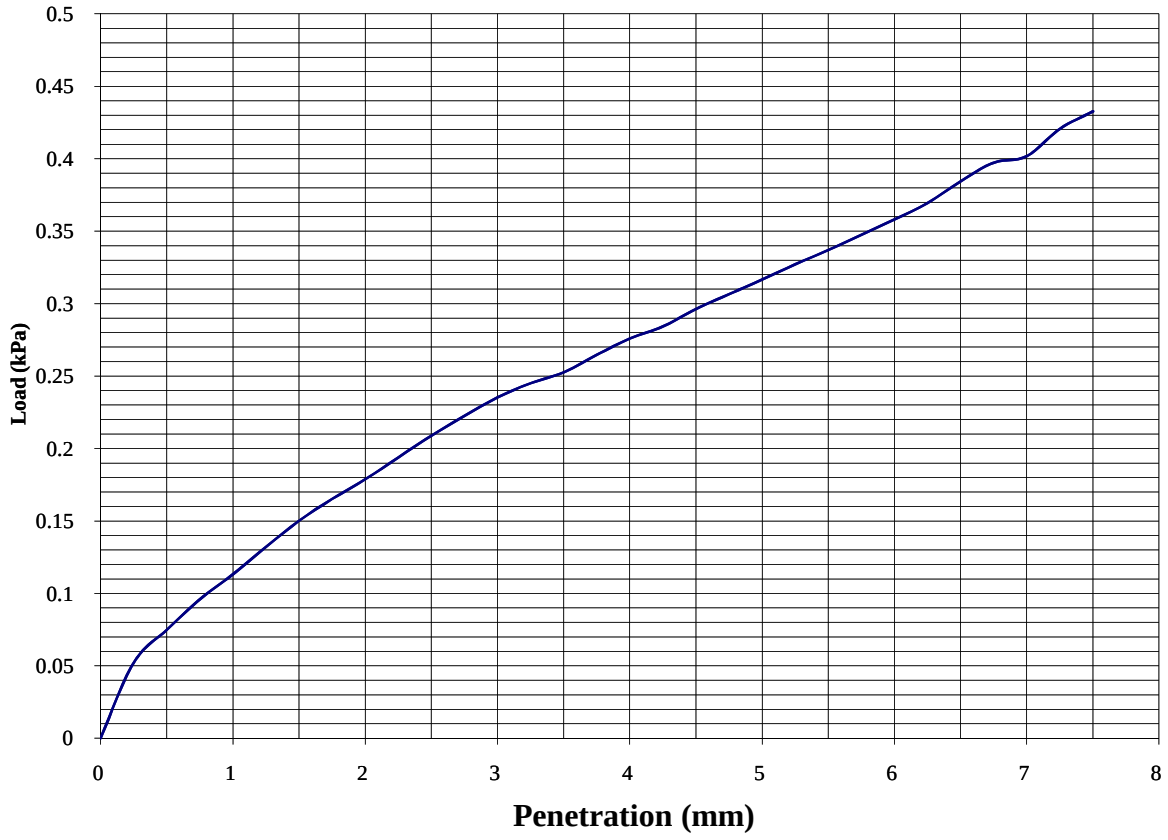
Client Ref No: **10-19593**

UKAS TESTING 2788

California Bearing Ratio Test.

BS 1377:Part 4:1990

Hole Number: **CP201** **Sample Number:** **N/A** **Depth (m)** **0.60-1.10**



Initial Sample Conditions		Test Conditions		Method of compaction : 2.5 Kg Rammer	
Moisture Content:	21	Surcharge Kg:	2.0	Final Moisture Content %	
Bulk Density Mg/m3:	2.06	Soaking Time hrs	n/a	Sample Top	21.2
Dry Density Mg/m3:	1.70	Swelling mm:	n/a	Sample Bottom	N/A
C.B.R. Value %	Sample Top	1.6		Sample Bottom	N/A
Percentage retained on 20mm BS test sieve:		0	Remarks:		

22/12/10

Checked by **Date**

22/12/10

Approved by **Date**

LABORATORY TESTING SERVICES LIMITED

c/o Whitelands Farm, Middleton Stoney Road
Bicester, Oxfordshire

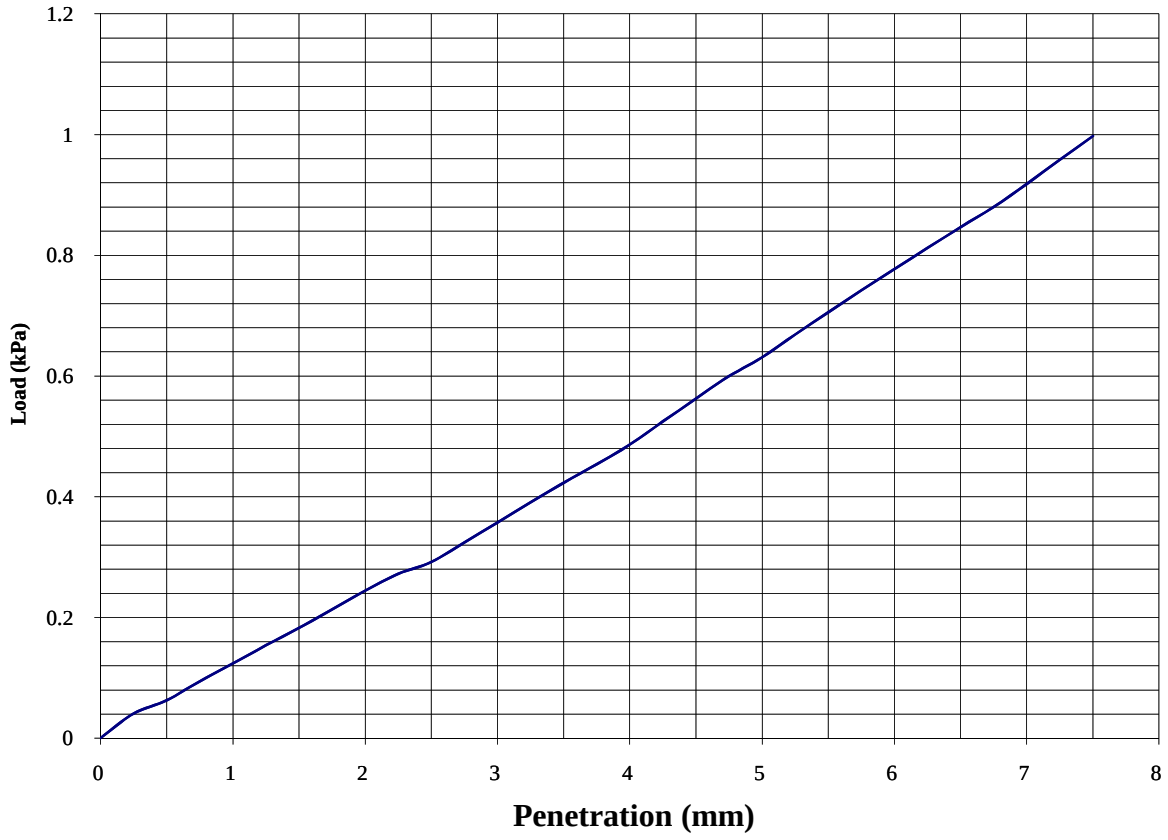
Contract No.:
11628-141210
Client Ref No:
10-19593

UKAS TESTING
2788

California Bearing Ratio Test.

BS 1377:Part 4:1990

Hole Number: CP202 **Sample Number:** N/A **Depth (m)** 1.00-1.50



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:	2.19	Soaking Time hrs	n/a	Sample Top	14.1
Dry Density Mg/m3:	1.92	Swelling mm:	n/a	Sample Bottom	N/A
C.B.R. Value %	Sample Top	3.2		Sample Bottom	N/A
Percentage retained on 20mm BS test sieve:		0	Remarks:		

22/12/10
Checked by **Date**

22/12/10
Approved by **Date**

LABORATORY TESTING SERVICES LIMITED

c/o Whitelands Farm, Middleton Stoney Road
Bicester, Oxfordshire

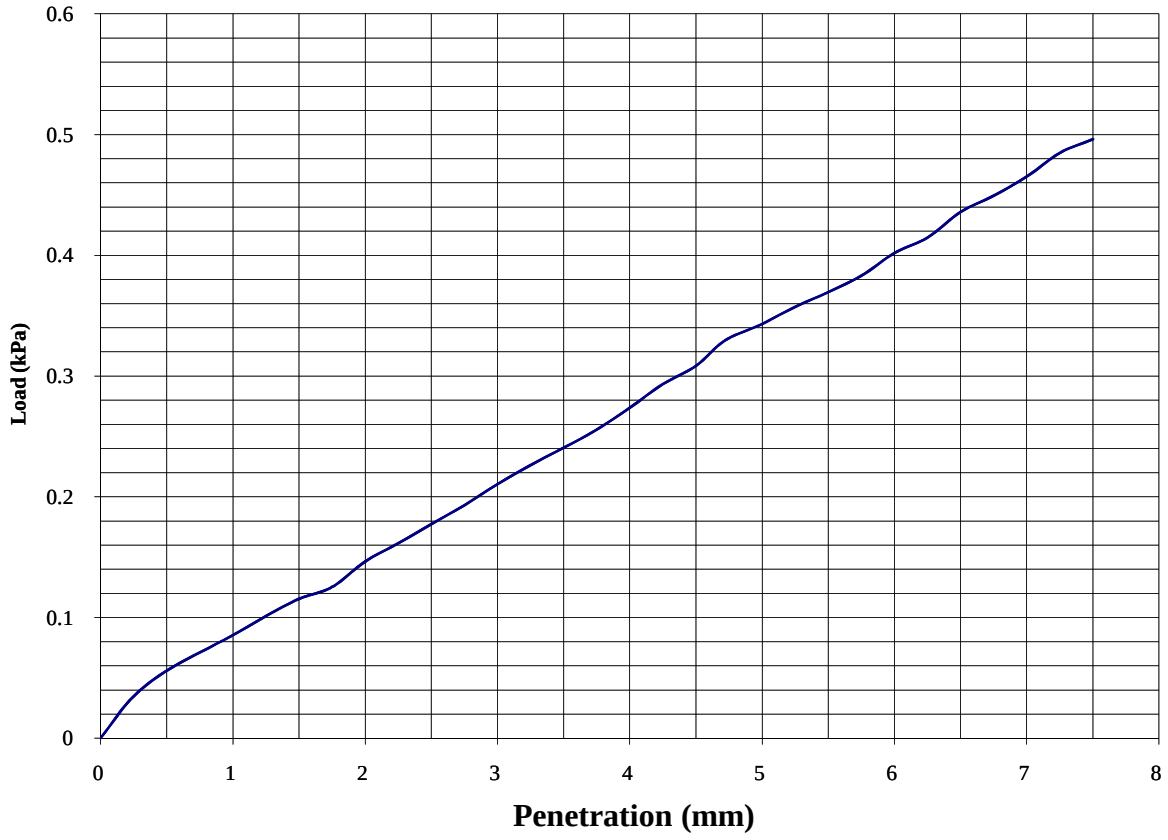
Contract No.:
11628-141210
Client Ref No:
10-19593

UKAS TESTING
2788

California Bearing Ratio Test.

BS 1377:Part 4:1990

Hole Number: CP203 **Sample Number:** N/A **Depth (m)** 1.00-1.50



Initial Sample Conditions		Test Conditions		Method of compaction : 2.5 Kg Rammer	
Moisture Content:	15	Surcharge Kg:	2.0	Final Moisture Content %	
Bulk Density Mg/m3:	2.68	Soaking Time hrs	n/a	Sample Top	14.5
Dry Density Mg/m3:	2.34	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:		0	Remarks:		

22/12/10
Checked by **Date**

22/12/10
Approved by **Date**

LABORATORY TESTING SERVICES LIMITED

c/o Whitelands Farm, Middleton Stoney Road
Bicester, Oxfordshire

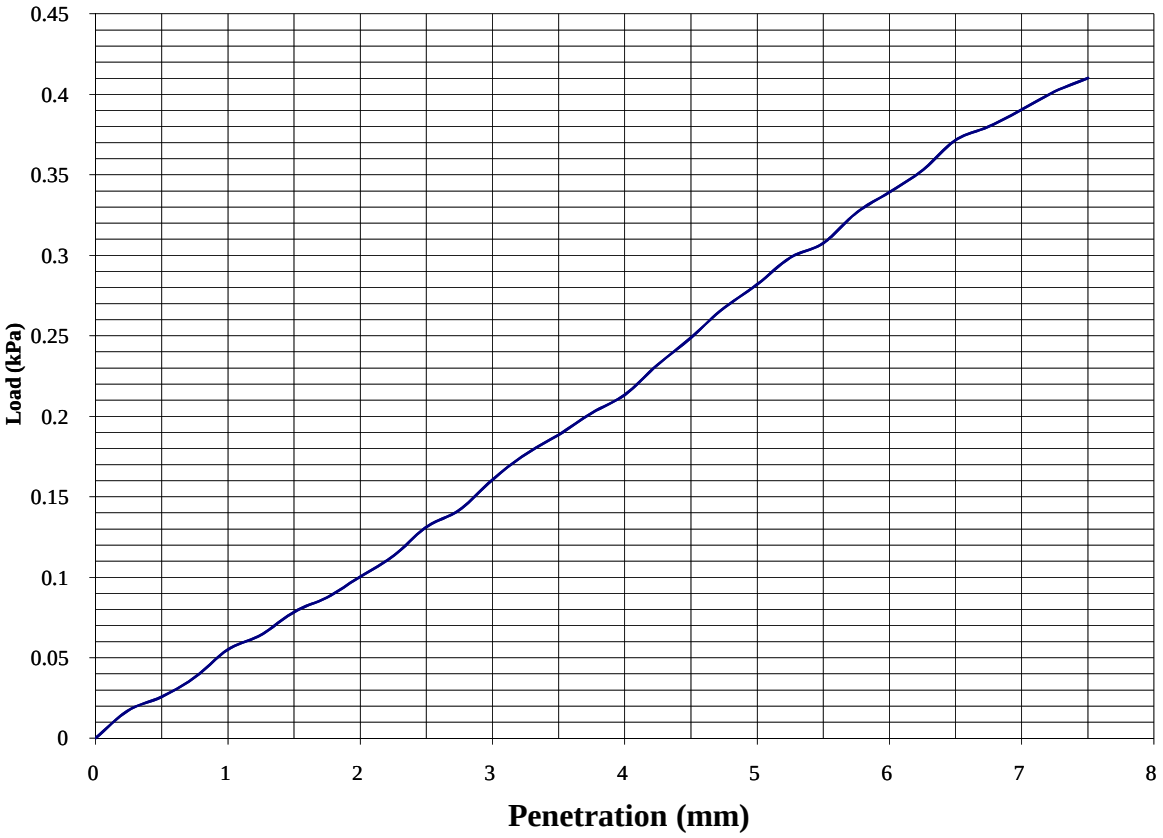
Contract No.:
11628-141210
Client Ref No:
10-19593

UKAS TESTING
2788

California Bearing Ratio Test.

BS 1377:Part 4:1990

Hole Number: **TP203** **Sample Number:** **N/A** **Depth (m)** **1.00**



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:	2.28	Soaking Time hrs	n/a	Sample Top	11.7
Dry Density Mg/m3:	2.04	Swelling mm:	n/a	Sample Bottom	N/A
C.B.R. Value %	Sample Top	1.4		Sample Bottom	N/A
Percentage retained on 20mm BS test sieve:		0	Remarks:		

22/12/10
Checked by **Date**

22/12/10
Approved by **Date**

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Bicester, Oxfordshire

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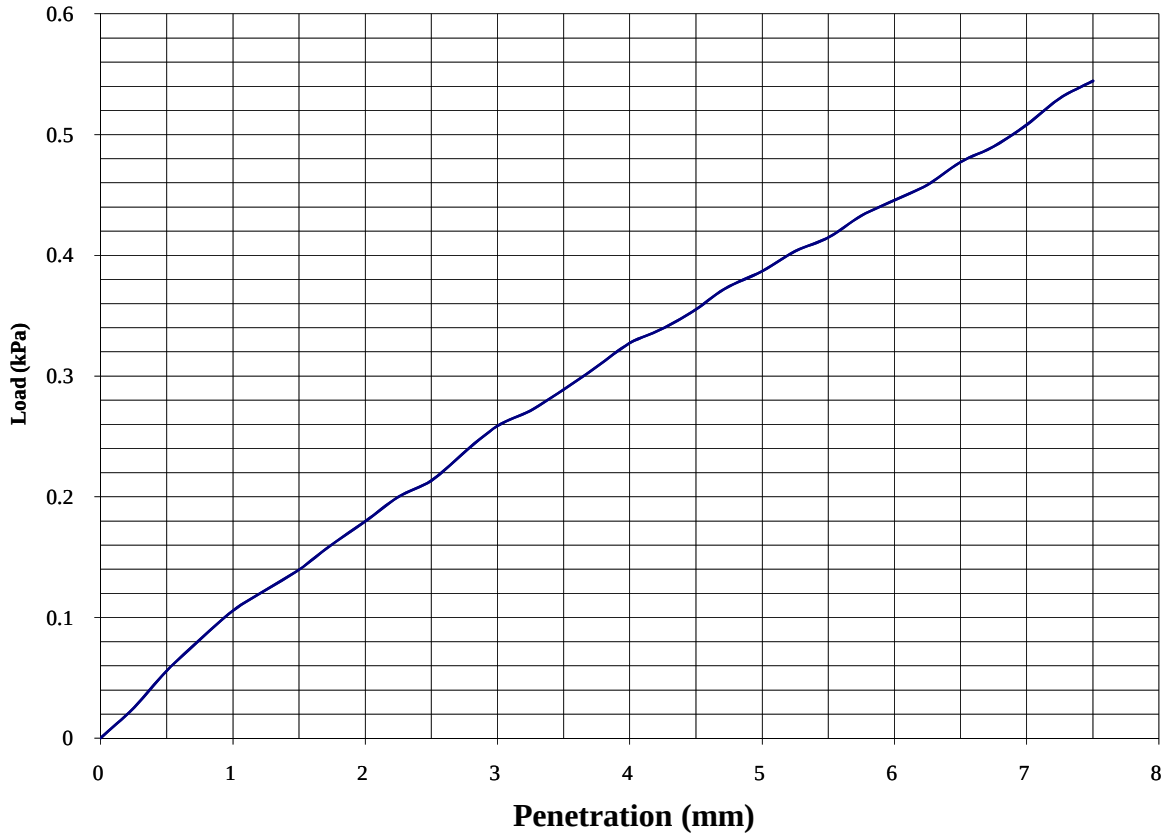
Client Ref No:
10-19593

UKAS TESTING
2788

California Bearing Ratio Test.

BS 1377:Part 4:1990

Hole Number: TP209 **Sample Number:** N/A **Depth (m)** 1.00



Initial Sample Conditions		Test Conditions		Method of compaction : 2.5 Kg Rammer	
Moisture Content:	26	Surcharge Kg:	2.0	Final Moisture Content %	
Bulk Density Mg/m3:	2.24	Soaking Time hrs	n/a	Sample Top	25.8
Dry Density Mg/m3:	1.78	Swelling mm:	n/a	Sample Bottom	N/A
C.B.R. Value %	Sample Top	1.9		Sample Bottom	N/A
Percentage retained on 20mm BS test sieve:		0	Remarks:		

22/12/10
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22/12/10
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LABORATORY TESTING SERVICES LIMITED

c/o Whitelands Farm, Middleton Stoney Road
Bicester, Oxfordshire

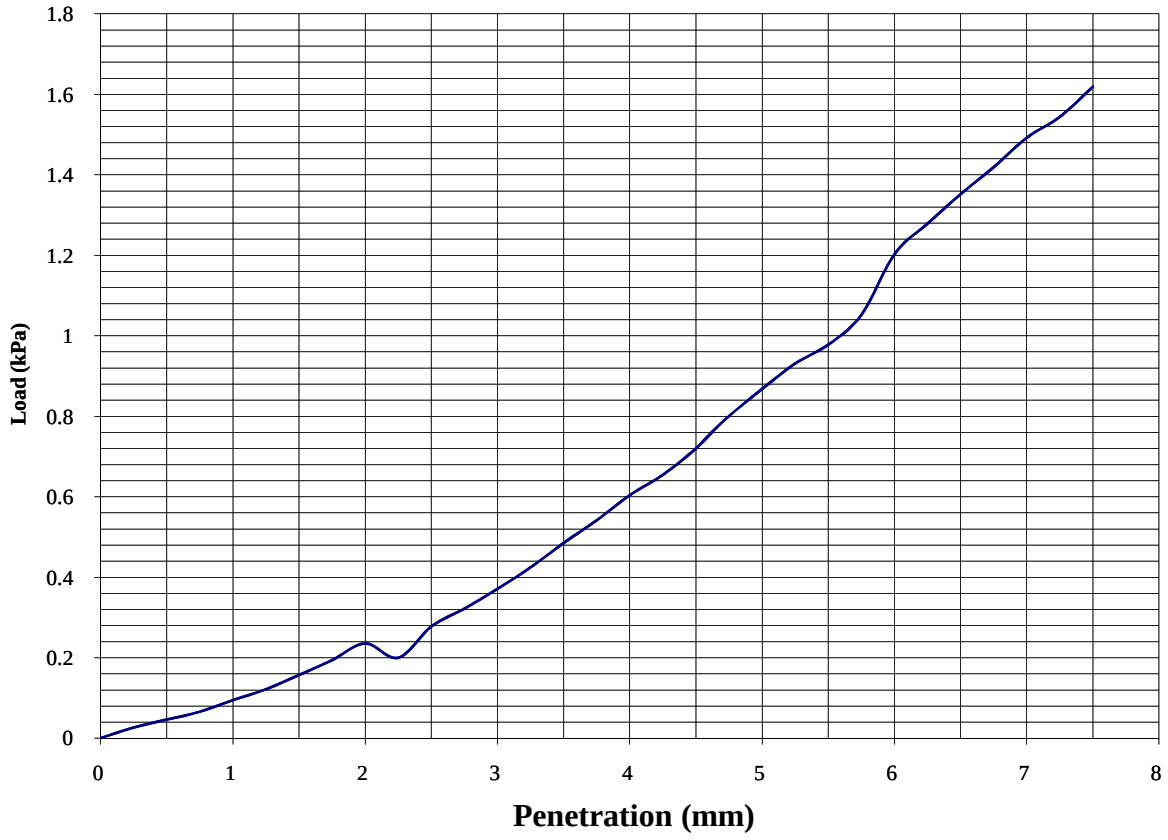
Contract No.:
11628-141210
Client Ref No:
10-19593

UKAS TESTING
2788

California Bearing Ratio Test.

BS 1377:Part 4:1990

Hole Number: TP214 **Sample Number:** N/A **Depth (m)** 1.00



Initial Sample Conditions		Test Conditions		Method of compaction : 2.5 Kg Rammer	
Moisture Content:	11	Surcharge Kg:	2.0	Final Moisture Content %	
Bulk Density Mg/m3:	2.29	Soaking Time hrs	n/a	Sample Top	11.4
Dry Density Mg/m3:	2.05	Swelling mm:	n/a	Sample Bottom	N/A
C.B.R. Value %	Sample Top	4.3		Sample Bottom	N/A
Percentage retained on 20mm BS test sieve:		0	Remarks:		

22/12/10
Checked by **Date**

22/12/10
Approved by **Date**

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Bicester, Oxfordshire

Contract No.:
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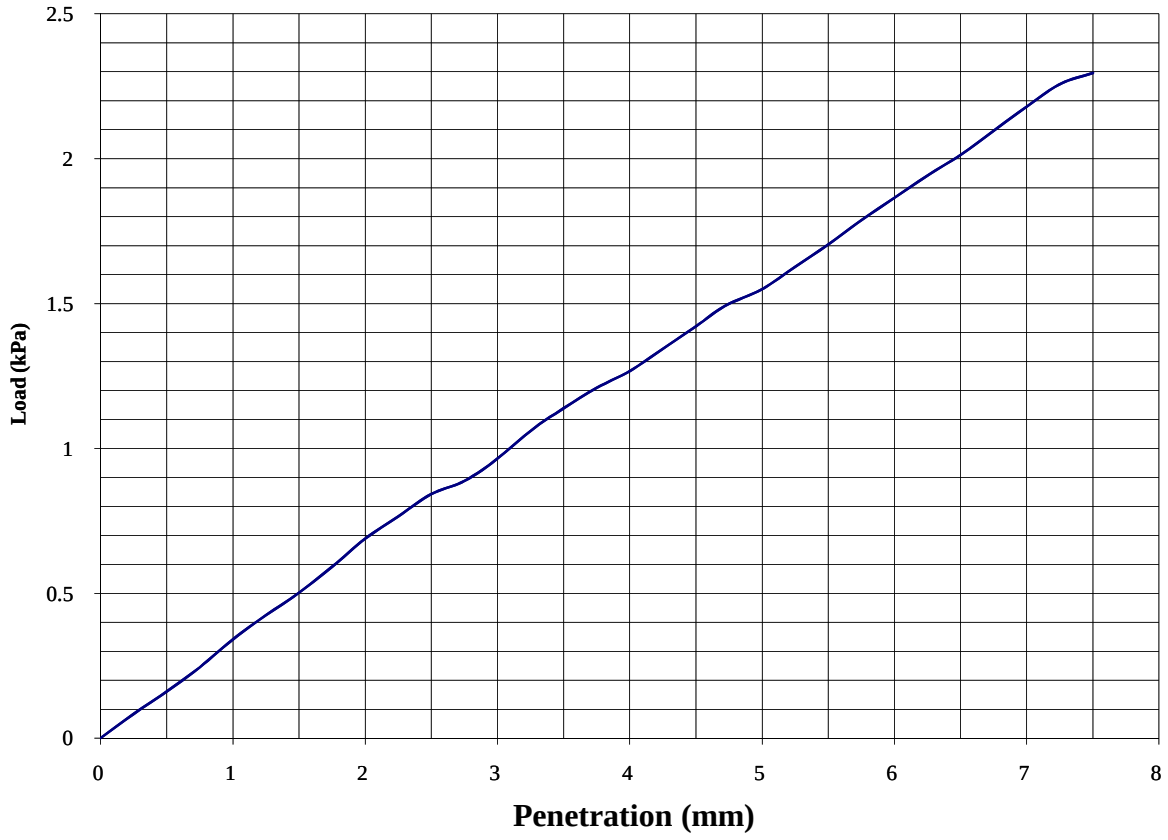
Client Ref No:
10-19593

UKAS TESTING
2788

California Bearing Ratio Test.

BS 1377:Part 4:1990

Hole Number: TP220 **Sample Number:** N/A **Depth (m)** 0.80



Initial Sample Conditions		Test Conditions		Method of compaction : 2.5 Kg Rammer	
Moisture Content:	10	Surcharge Kg:	2.0	Final Moisture Content %	
Bulk Density Mg/m3:	2.29	Soaking Time hrs	n/a	Sample Top	9.7
Dry Density Mg/m3:	2.09	Swelling mm:	n/a	Sample Bottom	N/A
C.B.R. Value %	Sample Top	7.8		Sample Bottom	N/A
Percentage retained on 20mm BS test sieve:		0	Remarks:		

22/12/10
Checked by **Date**

22/12/10
Approved by **Date**

LABORATORY TESTING SERVICES LIMITED

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Bicester, Oxfordshire

Contract No.:
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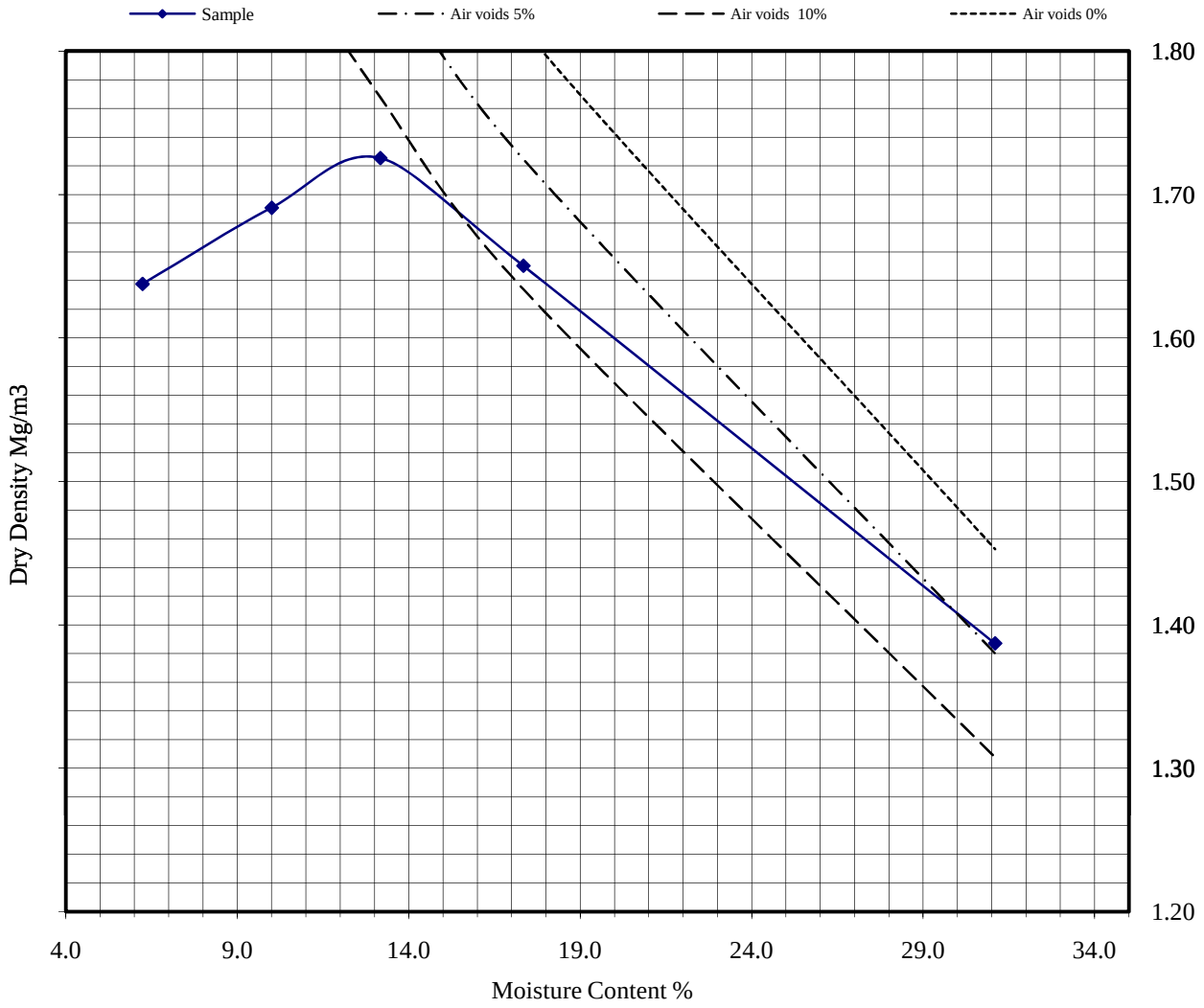
Client Ref No:
10-19593

UKAS TESTING
2788

Dry Density/Moisture Content Relationship

BS 1377:Part 4:1990

Hole/Sample Number: TP207/N/A **Type :** N/A **Depth (m):** 1.00



Initial Moisture Content:		31	Method of Compaction	4.5Kg Rammer / Single Sample	
Particle Density (Mg/m3):	2.65 Assumed		Material Retained on 37.5 mm Test Sieve (%):		0
Maximum Dry Density (mg/m3):		1.73	Material Retained on 20.0 mm Test Sieve (%):		0
Optimum Moisture Content (%):		13	Sample Preparation Clause :		3.2.4.1

Remarks

22/12/10

Checked by **Date**

22/12/10

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LABORATORY TESTING SERVICES LIMITED

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Bicester, Oxfordshire

Contract No.:
11628-141210
Client Ref No:
10-19593

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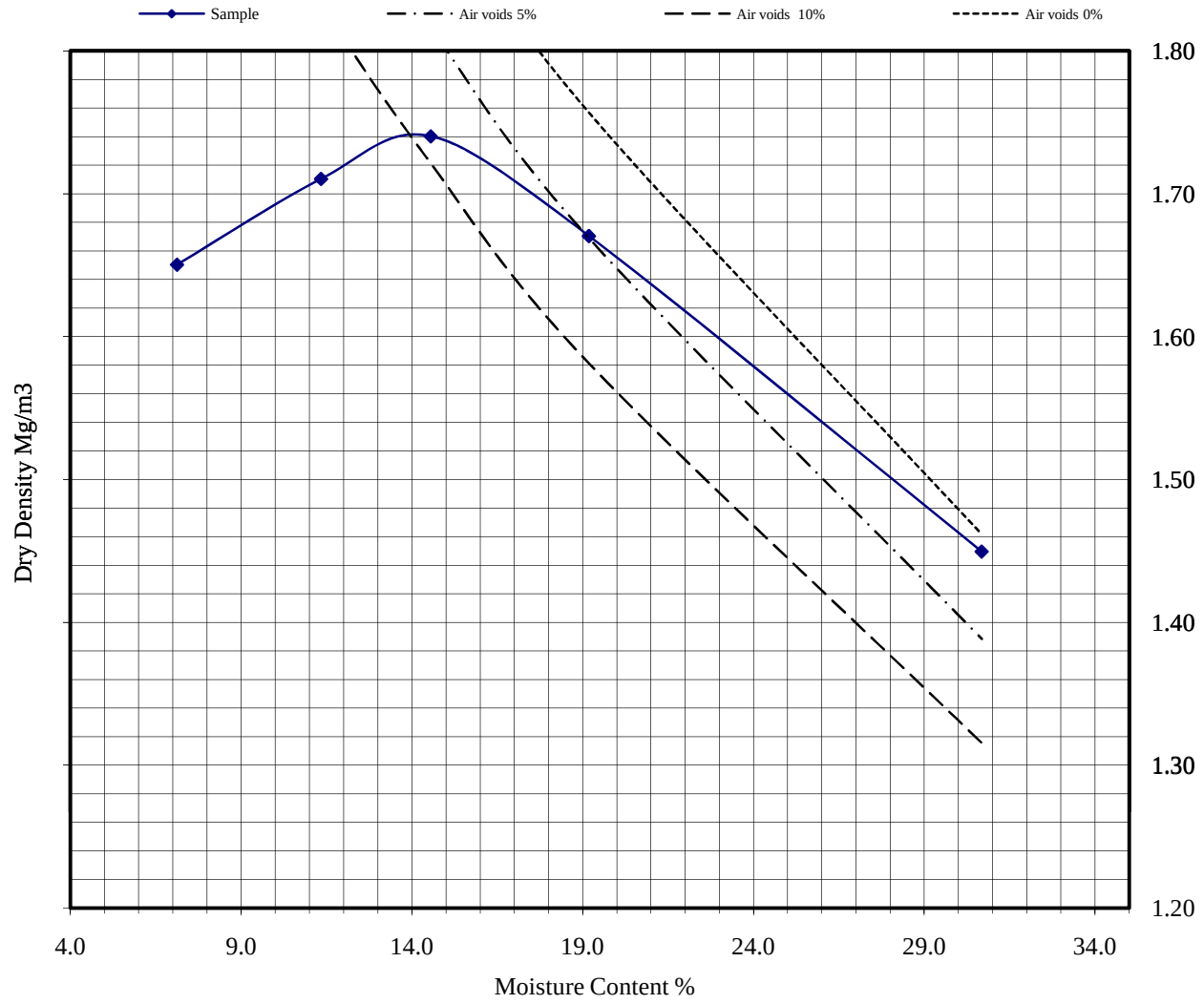
Dry Density/Moisture Content Relationship

BS 1377:Part 4:1990

Hole/Sample Number: **TP210/N/A** **Type :** **N/A** **Depth (m):** **1.00**



Initial Moisture Content:		31	Method of Compaction	4.5Kg Rammer / Single Sample	
Particle Density (Mg/m3):	2.65 Assumed		Material Retained on 37.5 mm Test Sieve (%):		0
Maximum Dry Density (mg/m3):		1.74	Material Retained on 20.0 mm Test Sieve (%):		0
Optimum Moisture Content (%):		15	Sample Preparation Clause :		3.2.4.1

Remarks

22/12/10

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22/12/10

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LABORATORY TESTING SERVICES LIMITED

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Bicester, Oxfordshire

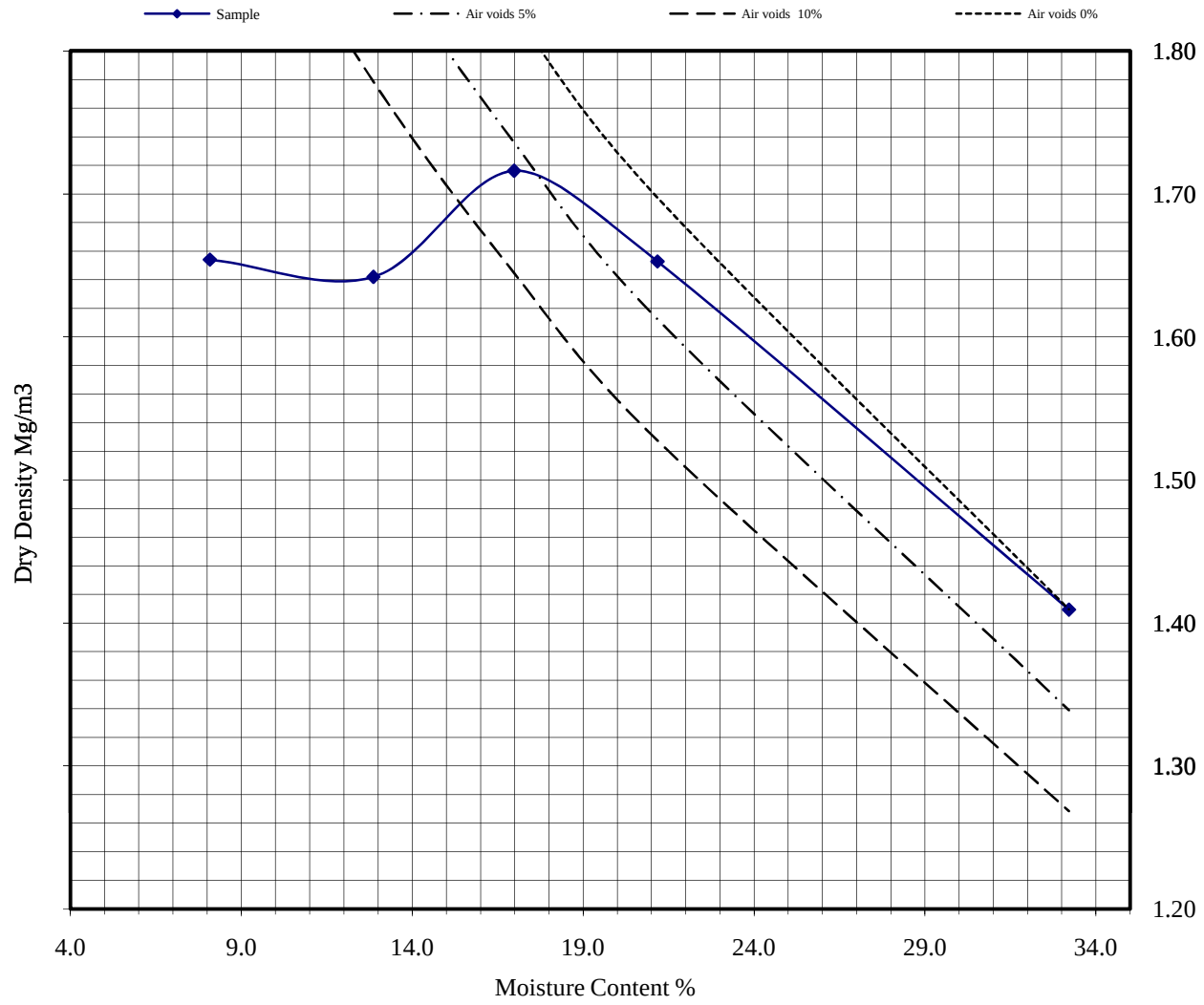
Contract No.:
11628-141210
Client Ref No:
10-19593

UKAS TESTING 2788

Dry Density/Moisture Content Relationship

BS 1377:Part 4:1990

Hole/Sample Number: **TP221/N/A** **Type :** **N/A** **Depth (m):** **1.00**



Initial Moisture Content:	33	Method of Compaction	4.5Kg Rammer / Single Sample
Particle Density (Mg/m3):	2.65 Assumed	Material Retained on 37.5 mm Test Sieve (%):	0
Maximum Dry Density (mg/m3):	1.72	Material Retained on 20.0 mm Test Sieve (%):	0
Optimum Moisture Content (%):	17	Sample Preparation Clause :	3.2.4.1

Remarks

22/12/10

Checked by **Date**

22/12/10

Approved by **Date**

LABORATORY TESTING SERVICES LIMITED

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Bicester, Oxfordshire

Contract No.:
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Client Ref No:
10-19593

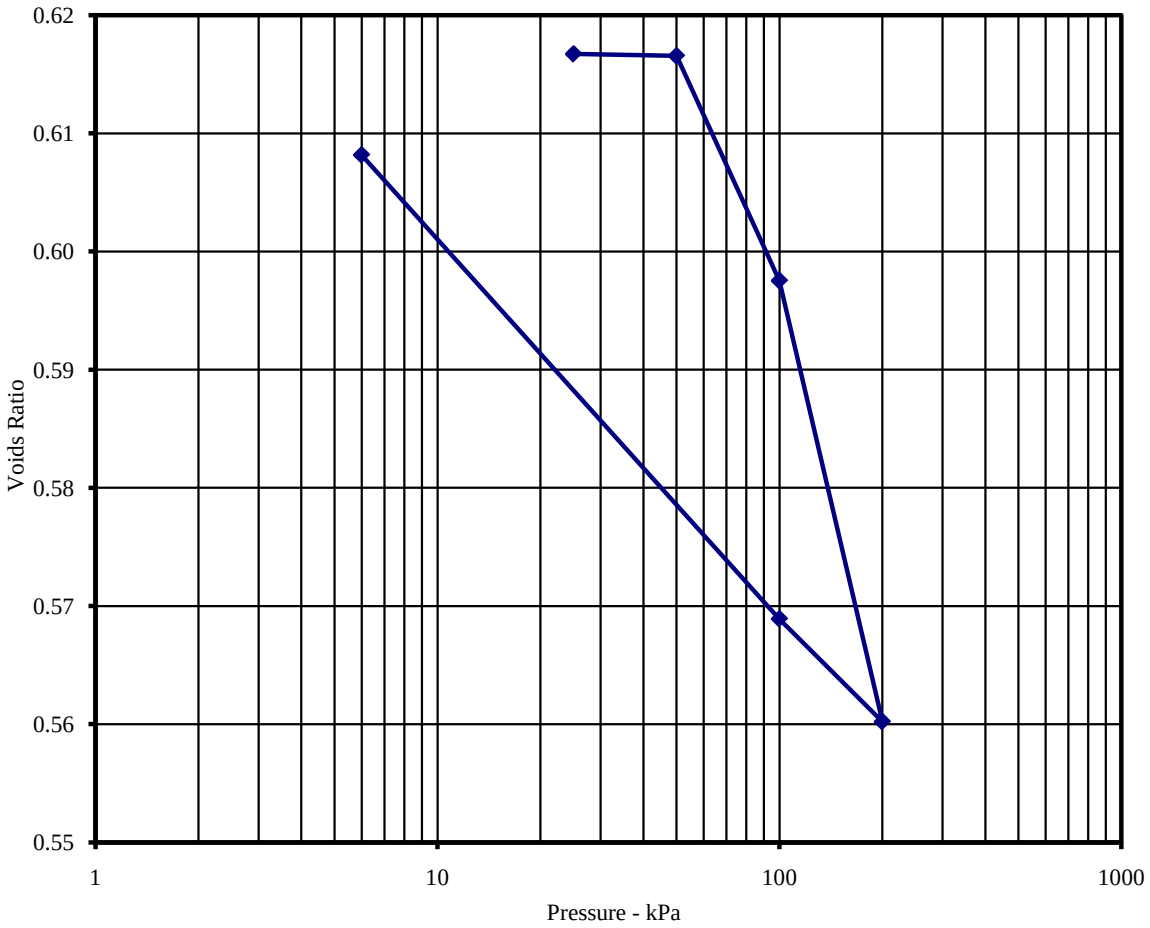
UKAS TESTING 2788

ONE DIMENSIONAL CONSOLIDATION

BS1377: Part 5: 1990

Hole Number: **CP204** Sample Number: **N/A** Depth (m): **2.00-2.45**

Initial Conditions		Pressure Range			Mv	Cv	Method of time fitting used
Moisture Content (%):	13	kPa			m2/MN	m2/yr	Cv Calculated using t90
Bulk Density (Mg/m3):	1.86	0	-	25	Swelling	Stage	Nominal Laboratory Temperature
Dry Density (Mg/m3):	1.65	25	-	50	0.004	7.403	20'C
Voids Ratio:	0.6053	50	-	100	0.235	6.018	Location of specimen with sample
Degree of saturation:	56.0	100	-	200	0.234	4.445	Top
Height (mm):	19.91	200	-	100	0.056	0.877	Remarks:
Diameter (mm)	75.1	100	-	6	0.266	2.427	
Particle Density (Mg/m3):	2.65						
Assumed							



07/01/11 07/01/11

Checked By **Date** **Approved By** **Date**

c/o Whitelands Farm, Middleton
Stoney Road Bicester, Oxfordshire

Contract No.
11628-14121
Client Ref No.
10-19593

page of

LABORATORY TESTING SERVICES LIMITED

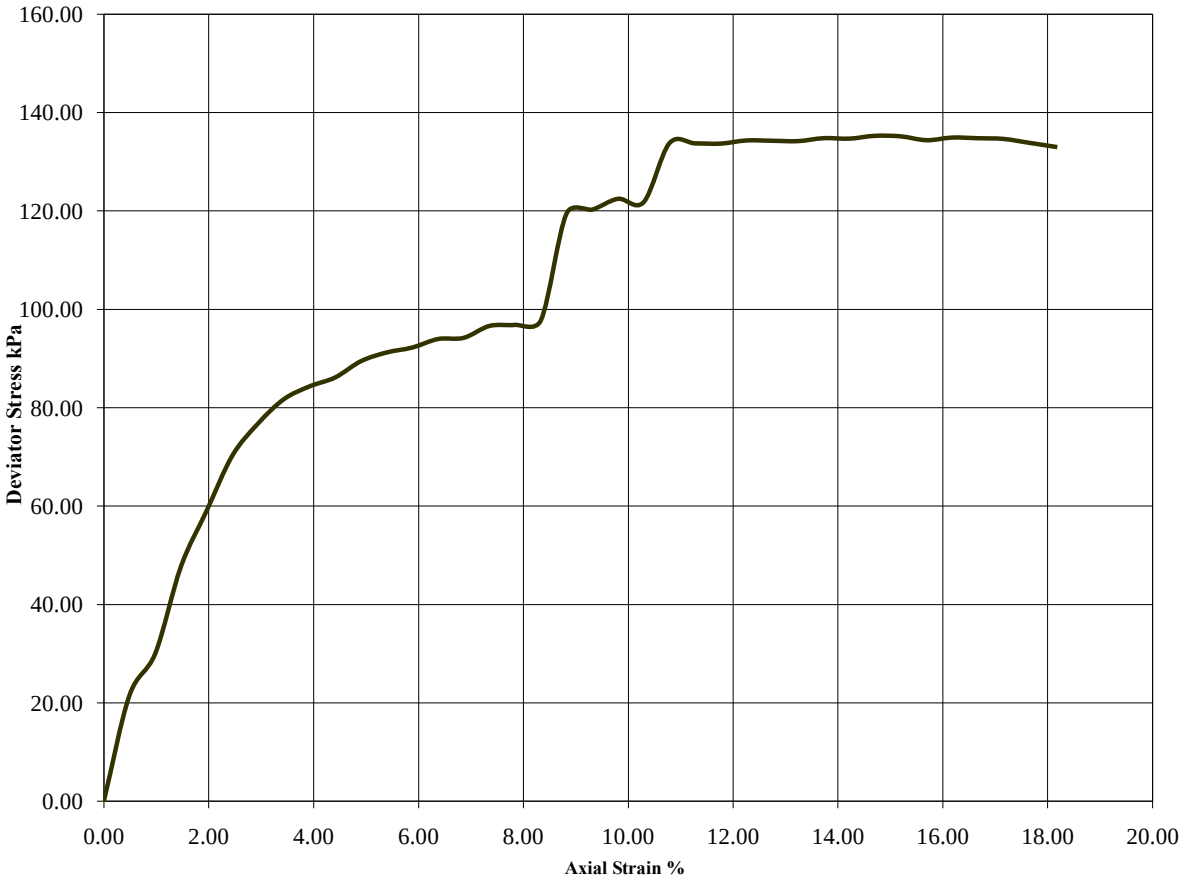
UKAS TESTING 2788

Undrained Shear Strength in Triaxial Compression

without measurement of Pore Pressure

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

Hole **CP204** Sample Number: **N/A** Depth (m): **2.00-2.45**



Diameter (mm):		102	Height (mm):		204	Test:	100mm Multistage		
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 top
A	35	1.92	1.42	400	98	49	8.3	compound	
				600	122	61	9.8		
				800	135	68	14.7		

04/01/11 04/01/11

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

Contract No.
11628-141210

ıds Farm, Missleton Stoney Road, Biscester, Ox **Client Ref No.**
10-19593

page of

LABORATORY TESTING SERVICES LIMITED

UKAS TESTING 2788

APPENDIX F COMPARISON OF CHEMICAL RESULTS & SCREENING CRITERIA

	Assessment Criteria	TP33	TP33	TP36	TP39	TP39	TP40	TP41	TP41	TP42	TP43	TP43	TP44	TP44	TP45
	↓	0.2	0.4	1	0.2	0.9	1	0.2	0.5	0.9	0.2	0.4	0.4	0.8	0.2
Selenium	350.24	0.30	---	0.30	0.30	0.30	0.30	0.30	0.60	0.30	0.30	0.30	0.30	---	0.30
Mercury	170.00	0.20	---	0.20	0.20	0.20	0.20	0.20	0.20	0.20	0.20	0.20	0.20	---	0.20
Arsenic	32.00	21.00	---	3.50	17.00	8.70	29.00	38.00	52.00	11.00	26.00	10.00	17.00	---	36.00
Cadmium	10.00	0.36	---	0.25	0.32	0.25	0.25	0.32	0.25	0.25	0.32	0.25	0.25	---	0.36
Chromium	3000.00	43.00	---	46.00	43.00	49.00	24.00	46.00	39.00	15.00	42.00	35.00	19.00	---	39.00
Copper	2300.00	36.00	---	160.00	40.00	41.00	58.00	39.00	860.00	530.00	130.00	110.00	280.00	---	51.00
Nickel	130.00	36.00	---	12.00	27.00	16.00	26.00	40.00	39.00	14.00	34.00	30.00	19.00	---	41.00
Lead	410.00	39.00	---	16.00	40.00	17.00	11.00	35.00	19.00	6.20	40.00	13.00	11.00	---	39.00
Zinc	3700.00	120.00	---	130.00	100.00	85.00	62.00	110.00	410.00	230.00	140.00	100.00	150.00	---	130.00
Naphthalene	8.70	0.10	---	0.10	0.10	0.10	0.10	0.10	0.20	0.10	0.10	0.20	0.60	---	0.50
Acenaphthylene	850.00	0.10	---	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	---	0.10
Acenaphthene	1000.00	0.10	---	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	---	0.10
Fluorene	780.00	0.10	---	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	---	0.10
Phenanthrene	375.00	0.10	---	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	---	0.10
Anthracene	9200.00	0.10	---	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	---	0.10
Fluoranthene	670.00	0.10	---	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	---	0.10
Pyrene	1550.00	0.10	---	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	---	0.10
Benzo(a)anthracene	5.90	0.10	---	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	---	0.10
Chrysene	9.30	0.10	---	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	---	0.10
Benzo(k)fluoranthene	10.00	0.10	---	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	---	0.10
Benzo(b)fluoranthene	7.00	0.10	---	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	---	0.10
Benzo(a)pyrene	1.00	0.10	---	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	---	0.10
Indeno(1,2,3-c,d)pyrene	4.20	0.10	---	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	---	0.10
Dibenzo(a,h)anthracene	0.90	0.10	---	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	---	0.10
Benzo(g,h,i)perylene	47.00	0.10	---	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	---	0.10
Aliphatic (>C5-C6)	110.00	---	0.20	---	---	---	---	---	---	---	---	---	---	0.20	---
Aliphatic (>C6-C8)	370.00	---	0.20	---	---	---	---	---	---	---	---	---	---	0.20	---
Aliphatic (>C8-C10)	110.00	---	0.20	---	---	---	---	---	---	---	---	---	---	0.20	---
Aliphatic (>C10-C12)	540 (203)	---	2.00	---	---	---	---	---	---	---	---	---	---	2.00	---
Aliphatic (>C12-C16)	3000 (141)	---	2.00	---	---	---	---	---	---	---	---	---	---	2.00	---
Aliphatic (>C16-C21)	76000.00	---	5.00	---	---	---	---	---	---	---	---	---	---	5.00	---
Aliphatic (>C21-C35)	76000.00	---	5.00	---	---	---	---	---	---	---	---	---	---	5.00	---
Aliphatic (>C35-C40)	76000.00	---	2.00	---	---	---	---	---	---	---	---	---	---	2.00	---
Aliphatic (>C40-C44)	76000.00	---	2.00	---	---	---	---	---	---	---	---	---	---	2.00	---
Aromatic (>C6-C7)	275.00	---	0.01	---	---	---	---	---	---	---	---	---	---	0.01	---
Aromatic (>C7-C8)	610.00	---	0.01	---	---	---	---	---	---	---	---	---	---	0.01	---
Aromatic (>C8-C10)	150.00	---	0.01	---	---	---	---	---	---	---	---	---	---	0.01	---
Aromatic (>C10-C12)	350.00	---	2.00	---	---	---	---	---	---	---	---	---	---	2.00	---
Aromatic (>C12-C16)	590.00	---	4.40	---	---	---	---	---	---	---	---	---	---	2.00	---
Aromatic (>C16-C21)	770.00	---	6.30	---	---	---	---	---	---	---	---	---	---	5.00	---
Aromatic (>C21-C35)	1200.00	---	5.00	---	---	---	---	---	---	---	---	---	---	5.00	---
Aromatic (>C35-C40)	1200.00	---	2.00	---	---	---	---	---	---	---	---	---	---	2.00	---
Aromatic (>C40-C44)	1200.00	---	2.00	---	---	---	---	---	---	---	---	---	---	2.00	---
Benzene	0.33	---	0.01	---	---	---	---	---	---	---	---	---	---	0.01	---
Ethylbenzene	353.54	---	0.01	---	---	---	---	---	---	---	---	---	---	0.01	---
m+p-Xylene	228.23	---	0.01	---	---	---	---	---	---	---	---	---	---	0.01	---
MTBE	160.00	---	0.01	---	---	---	---	---	---	---	---	---	---	0.01	---
o-Xylene	239.84	---	0.01	---	---	---	---	---	---	---	---	---	---	0.01	---
Toluene	610.00	---	0.01	---	---	---	---	---	---	---	---	---	---	0.01	---

	Assessment Criteria	TP45	TP03	TP05	TP05	TP07	TP30	TP30			
	↓	0.4	0.4	0.5	1	0.5	0.4	0.8			
Selenium	350.24	0.30	0.30	---	0.30	0.30	0.30	0.30			
Mercury	170.00	0.20	0.20	---	0.20	0.20	0.20	0.20			
Arsenic	32.00	27.00	32.00	---	8.80	14.00	13.00	8.50			
Cadmium	10.00	0.25	0.25	---	0.25	0.25	0.25	0.25			
Chromium	3000.00	28.00	48.00	---	15.00	15.00	20.00	16.00			
Copper	2300.00	140.00	22.00	---	12.00	5.90	27.00	17.00			
Nickel	130.00	35.00	34.00	---	21.00	17.00	24.00	16.00			
Lead	410.00	24.00	25.00	---	7.10	5.20	8.90	6.20			
Zinc	3700.00	130.00	110.00	---	47.00	34.00	65.00	29.00			
Naphthalene	8.70	0.40	0.10	---	0.10	0.10	0.10	0.10			
Acenaphthylene	850.00	0.10	0.10	---	0.10	0.10	0.10	0.10			
Acenaphthene	1000.00	0.10	0.10	---	0.10	0.10	0.10	0.10			
Fluorene	780.00	0.10	0.10	---	0.10	0.10	0.10	0.10			
Phenanthrene	375.00	0.10	0.10	---	0.10	0.10	0.10	0.10			
Anthracene	9200.00	0.10	0.10	---	0.10	0.10	0.10	0.10			
Fluoranthene	670.00	0.10	0.10	---	0.10	0.10	0.10	0.10			
Pyrene	1550.00	0.10	0.10	---	0.10	0.10	0.10	0.10			
Benzo(a)anthracene	5.90	0.10	0.10	---	0.10	0.10	0.10	0.10			
Chrysene	9.30	0.10	0.10	---	0.10	0.10	0.10	0.10			
Benzo(k)fluoranthene	10.00	0.10	0.10	---	0.10	0.10	0.10	0.10			
Benzo(b)fluoranthene	7.00	0.10	0.10	---	0.10	0.10	0.10	0.10			
Benzo(a)pyrene	1.00	0.10	0.10	---	0.10	0.10	0.10	0.10			
Indeno(1,2,3-c,d)pyrene	4.20	0.10	0.10	---	0.10	0.10	0.10	0.10			
Dibenzo(a,h)anthracene	0.90	0.10	0.10	---	0.10	0.10	0.10	0.10			
Benzo(g,h,i)perylene	47.00	0.10	0.10	---	0.10	0.10	0.10	0.10			
Aliphatic (>C5-C6)	110.00	---	---	0.20	---	---	---	---			
Aliphatic (>C6-C8)	370.00	---	---	0.20	---	---	---	---			
Aliphatic (>C8-C10)	110.00	---	---	0.20	---	---	---	---			
Aliphatic (>C10-C12)	540 (203)	---	---	2.00	---	---	---	---			
Aliphatic (>C12-C16)	3000 (141)	---	---	2.00	---	---	---	---			
Aliphatic (>C16-C21)	76000.00	---	---	5.00	---	---	---	---			
Aliphatic (>C21-C35)	76000.00	---	---	5.00	---	---	---	---			
Aliphatic (>C35-C40)	76000.00	---	---	2.00	---	---	---	---			
Aliphatic (>C40-C44)	76000.00	---	---	2.00	---	---	---	---			
Aromatic (>C6-C7)	275.00	---	---	0.01	---	---	---	---			
Aromatic (>C7-C8)	610.00	---	---	0.01	---	---	---	---			
Aromatic (>C8-C10)	150.00	---	---	0.01	---	---	---	---			
Aromatic (>C10-C12)	350.00	---	---	2.00	---	---	---	---			
Aromatic (>C12-C16)	590.00	---	---	2.00	---	---	---	---			
Aromatic (>C16-C21)	770.00	---	---	5.00	---	---	---	---			
Aromatic (>C21-C35)	1200.00	---	---	5.00	---	---	---	---			
Aromatic (>C35-C40)	1200.00	---	---	2.00	---	---	---	---			
Aromatic (>C40-C44)	1200.00	---	---	2.00	---	---	---	---			
Benzene	0.33	---	---	0.01	---	---	---	---			
Ethylbenzene	353.54	---	---	0.01	---	---	---	---			
m+p-Xylene	228.23	---	---	0.01	---	---	---	---			
MTBE	160.00	---	---	0.01	---	---	---	---			
o-Xylene	239.84	---	---	0.01	---	---	---	---			
Toluene	610.00	---	---	0.01	---	---	---	---			

	Assessment Criteria	TP31	TP37	TP41								
	↓	0.3 - 0.7	0.1	0.3-0.65								
Selenium	350.24	0.50	0.50	0.50								
Mercury	170.00	0.20	0.20	0.20								
Arsenic	32.00	24.30	29.00	18.70								
Cadmium	10.00	0.52	0.50	0.33								
Chromium	3000.00	18.20	42.60	34.70								
Copper	2300.00	19.70	23.10	15.20								
Nickel	130.00	36.90	35.50	29.60								
Lead	410.00	11.70	33.10	17.50								
Zinc	3700.00	78.80	99.60	62.50								
Naphthalene	1.50	0.30	0.30	0.30								
Acenaphthylene	170.00	0.30	0.30	0.30								
Acenaphthene	205.00	0.30	0.30	0.30								
Fluorene	160.00	0.30	0.30	0.30								
Phenanthrene	92.00	0.30	0.30	0.30								
Anthracene	2250.00	0.30	0.30	0.30								
Fluoranthene	260.00	0.30	0.30	0.30								
Pyrene	560.00	0.30	0.30	0.30								
Benzo(a)anthracene	3.10	0.30	0.30	0.30								
Chrysene	6.00	0.30	0.30	0.30								
Benzo(k)fluoranthene	8.50	0.30	0.30	0.30								
Benzo(b)fluoranthene	5.60	0.30	0.30	0.30								
Benzo(a)pyrene	0.83	0.30	0.30	0.30								
Indeno(1,2,3-c,d)pyrene	3.20	0.30	0.30	0.30								
Dibenzo(a,h)anthracene	0.76	0.30	0.30	0.30								
Benzo(g,h,i)perylene	44.00	0.30	0.30	0.30								
Aliphatic (>C5-C6)	30.00	---	---	---								
Aliphatic (>C6-C8)	73.00	---	---	---								
Aliphatic (>C8-C10)	19.00	---	---	---								
Aliphatic (>C10-C12)	93 (34)	---	---	---								
Aliphatic (>C12-C16)	740 (24)	---	---	---								
Aliphatic (>C16-C21)	45000 (8.5)	---	---	---								
Aliphatic (>C21-C35)	45000 (8.5)	---	---	---								
Aliphatic (>C35-C40)	45000 (8.5)	---	---	---								
Aliphatic (>C40-C44)	45000 (8.5)	---	---	---								
Aromatic (>C6-C7)	65.00	---	---	---								
Aromatic (>C7-C8)	120.00	---	---	---								
Aromatic (>C8-C10)	27.00	---	---	---								
Aromatic (>C10-C12)	69.00	---	---	---								
Aromatic (>C12-C16)	140.00	---	---	---								
Aromatic (>C16-C21)	250.00	---	---	---								
Aromatic (>C21-C35)	890.00	---	---	---								
Aromatic (>C35-C40)	890.00	---	---	---								
Aromatic (>C40-C44)	890.00	---	---	---								
Benzene	0.08	---	---	---								
Ethylbenzene	65.25	---	---	---								
m+p-Xylene	41.73	---	---	---								
MTBE	49.00	---	---	---								
o-Xylene	43.60	---	---	---								
Toluene	119.18	---	---	---								

	Assessment Criteria	TP201	TP202	TP203	TP203	TP204	TP205	TP206	TP206	TP207	TP207	TP208
	↓	1.00	1.00	0.50	1.00	1.00	1.00	0.50	1.00	1.00	2.00	1.00
Selenium	350.24	M/S	1.00	1.00	1.00	1.00	1.00	10.00	1.00	1.00	1.00	10.00
Mercury	170.00	M/S	0.14	0.14	0.14	0.14	0.14	0.14	0.14	0.14	0.14	0.14
Arsenic	32.00	M/S	9.05	16.10	9.31	4.48	16.10	57.20	2.84	8.90	2.95	7.56
Cadmium	10.00	M/S	0.02	0.02	0.02	0.02	0.02	0.20	0.02	0.02	0.02	0.20
Chromium	3000.00	M/S	6.36	11.00	6.84	41.00	15.80	9.10	41.00	30.00	28.10	44.10
Copper	2300.00	M/S	7.47	3.97	5.57	21.70	9.43	14.00	20.00	13.70	13.80	28.00
Nickel	130.00	M/S	8.02	14.50	8.47	10.70	14.60	42.00	13.80	6.91	5.17	23.80
Lead	410.00	M/S	15.50	5.94	6.63	18.10	12.60	13.70	17.60	12.60	10.50	20.00
Zinc	3700.00	M/S	32.70	10.70	8.49	55.60	35.40	93.90	62.70	40.50	39.40	60.80
Naphthalene	1.50	---	---	0.01	---	0.01	---	---	0.01	0.01	---	0.01
Acenaphthylene	170.00	---	---	0.01	---	0.01	---	---	0.02	0.01	---	0.01
Acenaphthene	205.00	---	---	0.01	---	0.01	---	---	0.01	0.01	---	0.01
Fluorene	160.00	---	---	0.01	---	0.01	---	---	0.01	0.01	---	0.01
Phenanthrene	92.00	---	---	0.02	---	0.02	---	---	0.02	0.02	---	0.02
Anthracene	2250.00	---	---	0.02	---	0.02	---	---	0.02	0.02	---	0.02
Fluoranthene	260.00	---	---	0.02	---	0.02	---	---	0.04	0.02	---	0.02
Pyrene	560.00	---	---	0.02	---	0.02	---	---	0.04	0.02	---	0.02
Benzo(a)anthracene	3.10	---	---	0.01	---	0.01	---	---	0.03	0.01	---	0.01
Chrysene	6.00	---	---	0.01	---	0.01	---	---	0.02	0.01	---	0.01
Benzo(k)fluoranthene	8.50	---	---	0.01	---	0.01	---	---	0.01	0.01	---	0.01
Benzo(b)fluoranthene	5.60	---	---	0.02	---	0.02	---	---	0.03	0.02	---	0.02
Benzo(a)pyrene	0.83	---	---	0.02	---	0.02	---	---	0.02	0.02	---	0.02
Indeno(1,2,3-c,d)pyrene	3.20	---	---	0.02	---	0.02	---	---	0.02	0.02	---	0.02
Dibenzo(a,h)anthracene	0.76	---	---	0.02	---	0.02	---	---	0.02	0.02	---	0.02
Benzo(g,h,i)perylene	44.00	---	---	0.02	---	0.02	---	---	0.02	0.02	---	0.02
Aliphatic (>C5-C6)	30.00	---	---	---	---	---	---	---	---	---	---	---
Aliphatic (>C6-C8)	73.00	---	---	---	---	---	---	---	---	---	---	---
Aliphatic (>C8-C10)	19.00	---	---	---	---	---	---	---	---	---	---	---
Aliphatic (>C10-C12)	93 (34)	---	---	---	---	---	---	---	---	---	---	---
Aliphatic (>C12-C16)	740 (24)	---	---	---	---	---	---	---	---	---	---	---
Aliphatic (>C16-C21)	45000 (8.5)	---	---	---	---	---	---	---	---	---	---	---
Aliphatic (>C21-C35)	45000 (8.5)	---	---	---	---	---	---	---	---	---	---	---
Aliphatic (>C35-C40)	45000 (8.5)	---	---	---	---	---	---	---	---	---	---	---
Aliphatic (>C40-C44)	45000 (8.5)	---	---	---	---	---	---	---	---	---	---	---
Aromatic (>C6-C7)	65.00	---	---	---	---	---	---	---	---	---	---	---
Aromatic (>C7-C8)	120.00	---	---	---	---	---	---	---	---	---	---	---
Aromatic (>C8-C10)	27.00	---	---	---	---	---	---	---	---	---	---	---
Aromatic (>C10-C12)	69.00	---	---	---	---	---	---	---	---	---	---	---
Aromatic (>C12-C16)	140.00	---	---	---	---	---	---	---	---	---	---	---
Aromatic (>C16-C21)	250.00	---	---	---	---	---	---	---	---	---	---	---
Aromatic (>C21-C35)	890.00	---	---	---	---	---	---	---	---	---	---	---
Aromatic (>C35-C40)	890.00	---	---	---	---	---	---	---	---	---	---	---
Aromatic (>C40-C44)	890.00	---	---	---	---	---	---	---	---	---	---	---
Benzene	0.08	---	---	---	---	---	---	---	---	---	---	---
Ethylbenzene	65.25	---	---	---	---	---	---	---	---	---	---	---
m+p-Xylene	41.73	---	---	---	---	---	---	---	---	---	---	---
MTBE	49.00	---	---	---	---	---	---	---	---	---	---	---
o-Xylene	43.60	---	---	---	---	---	---	---	---	---	---	---
Toluene	119.18	---	---	---	---	---	---	---	---	---	---	---

	Assessment Criteria	TP208	WS209	TP210	TP220	TP212	TP213	TP214	TP215	TP216	TP217	TP218	TP219	TP220
	↓	2.00	1.00	1.00	1.00	1.00	1.00	1.00	0.70	0.40	0.40	0.60	0.60	0.80
Selenium	350.24	1.00	1.00	1.00	1.00	1.00	10.00	1.00	1.00	10.00	10.00	1.00	1.00	1.00
Mercury	170.00	0.14	0.14	0.14	0.14	0.14	0.14	0.14	0.14	0.14	0.14	0.14	0.14	0.14
Arsenic	32.00	6.72	10.10	3.75	5.82	5.28	17.30	15.00	9.45	121.00	58.90	13.90	16.10	13.80
Cadmium	10.00	0.02	0.02	0.02	0.02	0.02	0.20	0.02	0.02	0.20	0.20	0.02	0.02	0.02
Chromium	3000.00	28.70	10.60	30.30	27.60	9.00	12.60	7.79	6.61	56.80	49.50	42.20	37.70	37.20
Copper	2300.00	21.80	7.86	20.60	17.20	4.56	14.00	10.10	4.86	26.80	25.60	18.40	15.40	18.70
Nickel	130.00	7.89	12.10	7.17	5.87	5.86	19.90	19.90	11.20	104.00	61.30	26.10	18.50	27.70
Lead	410.00	13.80	8.22	19.10	19.80	5.02	7.00	10.80	7.71	20.70	18.80	15.70	27.40	18.40
Zinc	3700.00	63.00	12.40	53.40	50.50	8.64	55.10	33.70	19.10	118.00	104.00	92.10	53.00	75.10
Naphthalene	1.50	---	0.02	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.02	0.02
Acenaphthylene	170.00	---	0.01	0.02	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
Acenaphthene	205.00	---	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
Fluorene	160.00	---	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
Phenanthrene	92.00	---	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.04	0.02	0.02
Anthracene	2250.00	---	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02
Fluoranthene	260.00	---	0.02	0.05	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.03	0.02	0.02
Pyrene	560.00	---	0.02	0.05	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.03	0.02	0.02
Benzo(a)anthracene	3.10	---	0.02	0.02	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.02	0.01	0.01
Chrysene	6.00	---	0.02	0.03	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.02	0.01	0.01
Benzo(k)fluoranthene	8.50	---	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
Benzo(b)fluoranthene	5.60	---	0.03	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.03	0.02	0.02
Benzo(a)pyrene	0.83	---	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02
Indeno(1,2,3-c,d)pyrene	3.20	---	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02
Dibenzo(a,h)anthracene	0.76	---	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02
Benzo(g,h,i)perylene	44.00	---	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02
Aliphatic (>C5-C6)	30.00	---	---	---	---	---	---	---	---	---	---	---	---	---
Aliphatic (>C6-C8)	73.00	---	---	---	---	---	---	---	---	---	---	---	---	---
Aliphatic (>C8-C10)	19.00	---	---	---	---	---	---	---	---	---	---	---	---	---
Aliphatic (>C10-C12)	93 (34)	---	---	---	---	---	---	---	---	---	---	---	---	---
Aliphatic (>C12-C16)	740 (24)	---	---	---	---	---	---	---	---	---	---	---	---	---
Aliphatic (>C16-C21)	45000 (8.5)	---	---	---	---	---	---	---	---	---	---	---	---	---
Aliphatic (>C21-C35)	45000 (8.5)	---	---	---	---	---	---	---	---	---	---	---	---	---
Aliphatic (>C35-C40)	45000 (8.5)	---	---	---	---	---	---	---	---	---	---	---	---	---
Aliphatic (>C40-C44)	45000 (8.5)	---	---	---	---	---	---	---	---	---	---	---	---	---
Aromatic (>C6-C7)	65.00	---	---	---	---	---	---	---	---	---	---	---	---	---
Aromatic (>C7-C8)	120.00	---	---	---	---	---	---	---	---	---	---	---	---	---
Aromatic (>C8-C10)	27.00	---	---	---	---	---	---	---	---	---	---	---	---	---
Aromatic (>C10-C12)	69.00	---	---	---	---	---	---	---	---	---	---	---	---	---
Aromatic (>C12-C16)	140.00	---	---	---	---	---	---	---	---	---	---	---	---	---
Aromatic (>C16-C21)	250.00	---	---	---	---	---	---	---	---	---	---	---	---	---
Aromatic (>C21-C35)	890.00	---	---	---	---	---	---	---	---	---	---	---	---	---
Aromatic (>C35-C40)	890.00	---	---	---	---	---	---	---	---	---	---	---	---	---
Aromatic (>C40-C44)	890.00	---	---	---	---	---	---	---	---	---	---	---	---	---
Benzene	0.08	---	---	---	---	---	---	---	---	---	---	---	---	---
Ethylbenzene	65.25	---	---	---	---	---	---	---	---	---	---	---	---	---
m+p-Xylene	41.73	---	---	---	---	---	---	---	---	---	---	---	---	---
MTBE	49.00	---	---	---	---	---	---	---	---	---	---	---	---	---
o-Xylene	43.60	---	---	---	---	---	---	---	---	---	---	---	---	---
Toluene	119.18	---	---	---	---	---	---	---	---	---	---	---	---	---

	Assessment Criteria	TP221	TP222	TP223	TP224	WS201	WS201	WS202	WS202	WS203	WS203	WS204	WS204
	↓	1.00	0.80	0.60	0.20	0.70	1.70	0.50	1.50	0.60	1.60	0.70	1.50
Selenium	350.24	1.00	1.00	1.00	10.00	1.00	1.00	10.00	1.00	1.04	1.00	1.00	1.00
Mercury	170.00	0.14	0.14	0.14	0.14	0.14	0.14	0.14	0.14	0.14	0.14	0.14	0.14
Arsenic	32.00	6.37	8.72	18.90	35.60	21.00	7.79	20.50	33.60	10.70	8.93	32.50	10.40
Cadmium	10.00	0.02	0.02	0.02	0.20	0.02	0.02	0.20	0.02	0.02	0.02	0.02	0.02
Chromium	3000.00	35.50	39.40	32.90	37.10	34.80	5.99	38.60	6.11	47.70	5.31	21.40	14.40
Copper	2300.00	17.80	20.40	12.50	29.80	16.70	4.01	21.70	17.70	21.60	3.13	15.20	10.00
Nickel	130.00	11.10	15.90	14.30	38.30	25.20	6.57	50.90	36.70	18.90	9.03	33.50	17.50
Lead	410.00	20.60	18.40	16.10	39.10	17.90	4.49	14.60	11.30	18.30	4.14	10.50	10.40
Zinc	3700.00	39.90	48.80	36.60	88.50	82.30	12.90	98.60	103.00	73.80	9.83	36.20	15.50
Naphthalene	1.50	0.01	0.01	0.01	0.02	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
Acenaphthylene	170.00	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
Acenaphthene	205.00	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
Fluorene	160.00	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
Phenanthrene	92.00	0.02	0.02	0.02	0.03	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02
Anthracene	2250.00	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02
Fluoranthene	260.00	0.02	0.02	0.02	0.07	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02
Pyrene	560.00	0.02	0.02	0.02	0.05	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02
Benzo(a)anthracene	3.10	0.01	0.01	0.01	0.04	0.01	0.01	0.02	0.01	0.01	0.01	0.01	0.01
Chrysene	6.00	0.01	0.01	0.01	0.04	0.01	0.01	0.02	0.02	0.01	0.01	0.01	0.01
Benzo(k)fluoranthene	8.50	0.01	0.01	0.01	0.02	0.01	0.01	0.02	0.01	0.01	0.01	0.01	0.01
Benzo(b)fluoranthene	5.60	0.02	0.03	0.02	0.06	0.02	0.02	0.04	0.02	0.02	0.02	0.02	0.02
Benzo(a)pyrene	0.83	0.02	0.02	0.02	0.05	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02
Indeno(1,2,3-c,d)pyrene	3.20	0.02	0.02	0.02	0.05	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02
Dibenzo(a,h)anthracene	0.76	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02
Benzo(g,h,i)perylene	44.00	0.02	0.02	0.02	0.06	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02
Aliphatic (>C5-C6)	30.00	---	---	---	0.01	---	---	---	---	---	---	---	---
Aliphatic (>C6-C8)	73.00	---	---	---	0.01	---	---	---	---	---	---	---	---
Aliphatic (>C8-C10)	19.00	---	---	---	0.01	---	---	---	---	---	---	---	---
Aliphatic (>C10-C12)	93 (34)	---	---	---	0.01	---	---	---	---	---	---	---	---
Aliphatic (>C12-C16)	740 (24)	---	---	---	44.60	---	---	---	---	---	---	---	---
Aliphatic (>C16-C21)	45000 (8.5)	---	---	---	18.80	---	---	---	---	---	---	---	---
Aliphatic (>C21-C35)	45000 (8.5)	---	---	---	6.61	---	---	---	---	---	---	---	---
Aliphatic (>C35-C40)	45000 (8.5)	---	---	---	0.10	---	---	---	---	---	---	---	---
Aliphatic (>C40-C44)	45000 (8.5)	---	---	---	0.10	---	---	---	---	---	---	---	---
Aromatic (>C6-C7)	65.00	---	---	---	0.01	---	---	---	---	---	---	---	---
Aromatic (>C7-C8)	120.00	---	---	---	0.01	---	---	---	---	---	---	---	---
Aromatic (>C8-C10)	27.00	---	---	---	0.01	---	---	---	---	---	---	---	---
Aromatic (>C10-C12)	69.00	---	---	---	0.01	---	---	---	---	---	---	---	---
Aromatic (>C12-C16)	140.00	---	---	---	20.30	---	---	---	---	---	---	---	---
Aromatic (>C16-C21)	250.00	---	---	---	10.20	---	---	---	---	---	---	---	---
Aromatic (>C21-C35)	890.00	---	---	---	12.90	---	---	---	---	---	---	---	---
Aromatic (>C35-C40)	890.00	---	---	---	4.92	---	---	---	---	---	---	---	---
Aromatic (>C40-C44)	890.00	---	---	---	4.16	---	---	---	---	---	---	---	---
Benzene	0.08	---	---	---	0.01	---	---	---	---	---	---	---	---
Ethylbenzene	65.25	---	---	---	0.00	---	---	---	---	---	---	---	---
m+p-Xylene	41.73	---	---	---	0.01	---	---	---	---	---	---	---	---
MTBE	49.00	---	---	---	0.01	---	---	---	---	---	---	---	---
o-Xylene	43.60	---	---	---	0.00	---	---	---	---	---	---	---	---
Toluene	119.18	---	---	---	0.00	---	---	---	---	---	---	---	---

	Assessment Criteria	WS205	WS205	WS206	WS207	WS208	WS208	WS209	WS210	WS210	WS211	WS211	WS212
	↓	0.60	1.50	0.10	0.60	0.60	2.00	0.70	0.40	0.70	0.40	0.80	0.60
Selenium	350.24	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Mercury	170.00	0.14	0.14	0.14	0.14	0.14	0.14	0.14	0.14	0.14	0.14	0.14	0.14
Arsenic	32.00	12.50	16.30	38.70	12.70	9.26	13.80	23.80	19.00	21.10	18.70	8.63	11.80
Cadmium	10.00	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02
Chromium	3000.00	25.20	20.50	39.80	53.90	40.80	25.90	38.30	30.50	39.60	19.50	6.40	6.45
Copper	2300.00	11.30	11.80	15.90	16.90	18.90	21.90	15.10	13.40	12.60	16.10	3.49	2.37
Nickel	130.00	27.60	29.00	33.50	14.80	27.20	5.86	10.80	19.00	11.50	18.90	9.05	8.81
Lead	410.00	12.10	11.90	17.40	22.20	17.00	17.30	15.60	16.60	18.00	36.80	5.27	4.09
Zinc	3700.00	43.50	43.90	86.20	37.00	77.80	45.50	38.60	65.30	34.80	53.20	17.90	10.20
Naphthalene	1.50	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.02	0.01	0.01	0.01	0.01
Acenaphthylene	170.00	0.01	0.02	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
Acenaphthene	205.00	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
Fluorene	160.00	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
Phenanthrene	92.00	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02
Anthracene	2250.00	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02
Fluoranthene	260.00	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.03	0.13	0.02
Pyrene	560.00	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.03	0.11	0.02
Benzo(a)anthracene	3.10	0.01	0.05	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.12	0.01
Chrysene	6.00	0.01	0.05	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.02	0.14	0.01
Benzo(k)fluoranthene	8.50	0.01	0.05	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.08	0.01
Benzo(b)fluoranthene	5.60	0.02	0.15	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.03	0.15	0.02
Benzo(a)pyrene	0.83	0.02	0.05	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.12	0.02
Indeno(1,2,3-c,d)pyrene	3.20	0.02	0.11	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.06	0.02
Dibenzo(a,h)anthracene	0.76	0.02	0.03	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02
Benzo(g,h,i)perylene	44.00	0.02	0.15	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.09	0.02
Aliphatic (>C5-C6)	30.00	---	---	---	---	---	---	0.01	0.01	0.01	0.01	0.01	---
Aliphatic (>C6-C8)	73.00	---	---	---	---	---	---	0.01	0.01	0.01	0.01	0.01	---
Aliphatic (>C8-C10)	19.00	---	---	---	---	---	---	0.01	0.01	0.01	0.01	0.01	---
Aliphatic (>C10-C12)	93 (34)	---	---	---	---	---	---	0.01	0.01	0.01	0.01	0.01	---
Aliphatic (>C12-C16)	740 (24)	---	---	---	---	---	---	0.10	8.12	10.10	8.06	8.10	---
Aliphatic (>C16-C21)	45000 (8.5)	---	---	---	---	---	---	0.10	2.79	2.15	1.58	3.73	---
Aliphatic (>C21-C35)	45000 (8.5)	---	---	---	---	---	---	0.10	3.87	0.10	8.09	5.88	---
Aliphatic (>C35-C40)	45000 (8.5)	---	---	---	---	---	---	0.10	0.10	0.10	0.52	1.64	---
Aliphatic (>C40-C44)	45000 (8.5)	---	---	---	---	---	---	0.10	0.10	0.10	0.10	1.26	---
Aromatic (>C6-C7)	65.00	---	---	---	---	---	---	0.01	0.01	0.01	0.01	0.01	---
Aromatic (>C7-C8)	120.00	---	---	---	---	---	---	0.01	0.01	0.01	0.01	0.01	---
Aromatic (>C8-C10)	27.00	---	---	---	---	---	---	0.01	0.01	0.01	0.01	0.01	---
Aromatic (>C10-C12)	69.00	---	---	---	---	---	---	0.01	0.01	0.01	0.01	0.01	---
Aromatic (>C12-C16)	140.00	---	---	---	---	---	---	0.10	14.50	10.50	16.30	4.65	---
Aromatic (>C16-C21)	250.00	---	---	---	---	---	---	0.10	3.06	2.56	4.60	3.75	---
Aromatic (>C21-C35)	890.00	---	---	---	---	---	---	0.10	1.51	0.10	21.80	10.90	---
Aromatic (>C35-C40)	890.00	---	---	---	---	---	---	0.10	0.10	0.10	4.84	6.53	---
Aromatic (>C40-C44)	890.00	---	---	---	---	---	---	0.10	0.10	0.10	2.73	6.47	---
Benzene	0.08	---	---	---	---	---	---	0.01	0.01	0.01	0.01	0.01	---
Ethylbenzene	65.25	---	---	---	---	---	---	0.00	0.00	0.00	0.00	0.00	---
m+p-Xylene	41.73	---	---	---	---	---	---	0.01	0.01	0.01	0.01	0.01	---
MTBE	49.00	---	---	---	---	---	---	0.01	0.01	0.01	0.01	0.01	---
o-Xylene	43.60	---	---	---	---	---	---	0.00	0.00	0.00	0.00	0.00	---
Toluene	119.18	---	---	---	---	---	---	0.00	0.00	0.00	0.00	0.00	---

APPENDIX G MONITORING DATA

Groundwater and Ground Gas Monitoring Summary

Site Name	Central Eastern Land Parcels, South West Bicester
Client	Countryside Properties (Bicester) Ltd
Job No.	12370324-002

Start Date	09/12/2010
End Date	24/01/2011
No. Visits	3

	Borehole	Methane (% v/v)		Carbon Dioxide (% v/v)		Oxygen (% v/v)		Flow (l/hr)		Standing Water Level (m)		Gas Screening Value Methane (l/hr)	Gas Screening Value Carbon Dioxide (l/hr)
		MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX		
1	CP201	0.0	0.0	0.0	0.0	20.3	20.9	-0.2	0.0	1.85	1.85		
2	CP202	0.0	0.0	0.0	0.3	14.2	20.3	-0.2	0.0	0.61	1.90		
3	CP203	0.0	0.0	0.0	0.3	20.1	22.0	-0.3	0.0	1.00	1.20		
4	CP204	0.0	0.0	0.0	0.0	20.3	22.9	-0.4	0.0	1.42	2.17		
5	WS201	0.0	0.0	0.0	0.1	20.1	20.8	-0.2	-0.1	0.96	1.31		-0.0001
6	WS202	0.0	0.0	0.0	0.3	19.8	20.7	-0.1	0.0	1.50	2.58		
7	WS203	0.0	0.0	0.0	0.4	19.6	22.6	-0.2	0.0	1.14	1.16		
8	WS204	0.0	0.0	0.0	0.2	17.6	21.4	-0.2	0.0	0.51	1.57		
9	WS205	0.0	0.0	0.0	0.0	20.0	21.5	-0.9	0.0	0.70	1.50		
10	WS206	0.0	0.0	0.0	0.1	18.1	20.2	-0.3	0.0	0.68	0.68		
11	WS207	0.0	0.0	0.0	0.2	19.8	23.2	-0.2	0.0	1.21	1.21		
12	WS208	0.0	0.1	0.0	3.3	4.0	22.8	-0.3	0.0	2.25	2.25		
13	WS209	0.0	0.0	0.0	0.1	20.3	22.0	0.0	0.2	0.94	0.97		0.0002
14	WS210	0.0	0.0	0.0	0.0	20.0	21.0	-0.3	0.0	1.19	1.21		
15	WS211	0.0	0.0	0.0	0.0	20.0	21.5	-0.1	0.0	0.00	0.00		
16	WS212	0.0	0.0	0.0	0.4	19.5	21.2	-0.4	0.0	0.73	0.73		
17	WS136	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.59	1.59		
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Groundwater and Ground Gas Monitoring Summary

Site Name	Central Eastern Land Parcels, South West Bicester
Client	Countryside Properties (Bicester) Ltd
Job No.	12370324-002

Start Date	09/12/2010
End Date	24/01/2011
No. Visits	3

	Borehole	Standing Water Level (m)		Response Zone		Thickness of Product (mm)		PID Readings ppmV		H2S ppm	CO ppm	Was the well ever flooded?	Was Product >1mm detected?
		MIN	MAX	TOP	BASE	MIN	MAX	MIN	MAX	MAX	MAX		
1	CP201	1.9	1.9	0.5	2.0	0	0	0	0	0	0	No	No
2	CP202	0.6	1.9	0.5	2.5	0	0	0	0	0	0	No	No
3	CP203	1.0	1.2	0.5	3.0	0	0	0	0	0	0	No	No
4	CP204	1.4	2.2	0.5	2.7	0	0	0	0	0	0	No	No
5	WS201	1.0	1.3	0.5	1.9	0	0	0	0	0	0	No	No
6	WS202	1.5	2.6	0.5	2.5	0	0	0	0	0	0	No	No
7	WS203	1.1	1.2	0.5	1.8	0	0	0	0	0	0	No	No
8	WS204	0.5	1.6	0.5	1.9	0	0	0	0	0	0	No	No
9	WS205	0.7	1.5	0.5	1.2	0	0	0	0	0	0	No	No
10	WS206	0.7	0.7	0.3	0.8	0	0	0	0	0	0	No	No
11	WS207	1.2	1.2	0.5	1.0	0	0	0	0	0	0	No	No
12	WS208	2.3	2.3	0.5	2.5	0	0	0	0	0	0	No	No
13	WS209	0.9	1.0	0.5	1.0	0	0	0	0	0	0	No	No
14	WS210	1.2	1.2	0.5	1.0	0	0	0	0	0	0	No	No
15	WS211	0.0	0.0	0.5	1.0	0	0	0	0	0	0	Yes	No
16	WS212	0.7	0.7	0.3	0.8	0	0	0	0	0	0	No	No
17	WS136	1.6	1.6	0.5	1.0	0	0	0	0	0	0	No	No
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Groundwater and Ground Gas Monitoring Summary

Site Name	Central Eastern Land Parcels, South West Bicester
Client	Countryside Properties (Bicester) Ltd
Job No.	12370324-002

Start Date	09/12/2010
End Date	24/01/2011
No. Visits	3

Visit No.	Visit Date	Pressure Trend	Start mB	End mB
1	09/12/2010	Not Recorded		
2	14/01/2011	Not Recorded		
3	24/01/2011		1025	
4				
5				
6				
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	Minimum mB	Maximum mB
Barometric Pressure	1025	1025

Gas Screening Value (GSV) Calculation

	GSV Max per hole (l/hr)	GSV using Max Values (l/hr)	Maximum Values (% v/v)
Carbon Dioxide	0.0002	**0.0066**	3.3
Methane	0	**0.0002**	0.1

Max Flow (l/hr)	0.2

GSV Max Per Hole is the maximum calculated GSV using data *specific to each borehole* over the monitoring period.

GSV Using Max Values is a worst case estimated of the GSV using Maxmimum Concentration and Maximum Flow for the whole data set.

CIRIA C665 - Table 8.5 (Refer to CIRIA document for full table and notes) (2007)

	Characteristic Situation (CIRIA R149)	Comparable PIT gas regime	Risk Classification	Gas Screening Value (l/hr)	Additional Factors
	1	A	Very Low Risk	<0.07	Typically methane ≤ 1% and/or carbon dioxide ≤ 5% otherwise consider increase to Characteristic Situation 2
	2	B	Low Risk	<0.7	Borehole air flow rate not to exceed 70l/hr. Otherwise consider increase to Characteristic Situation 3
	3	C	Moderate Risk	<3.5	
	4	D	Moderate to High Risk	<15	Quantitative Risk Assessment required to evaluate scope of protection measures
	5	E	High Risk	<70	
	6	F	Very High Risk	>70	

NHBC Report No. 4 - Table 14.1 (Refer to NHBC document for full table) (March 2007)

Traffic Light Classification	Methane		Carbon Dioxide	
	Typical Max Concentration (%v/v)	Gas Screening Value (l/hr)	Typical Max Concentration (%v/v)	Gas Screening Value (l/hr)
Green	1	0.13	5	0.78
Amber	5	0.63	10	1.6
Amber 2	20	1.6	30	3.1
Red				

Notes:
1. The worst-case ground gas regime identified on the site, either methane or carbon dioxide, at the worst case temporal conditions that the site may be expected to encounter will be the decider as to what Traffic Light is allocated.
2. Borehole Gas Volume Flow Rate, in litres per hour is defined as Wilson and Card (1999), is the borehole flow rate multiplied by the concentrations in the air stream of the particular gas being considered;
3. The typical Maximum Concentration can be exceeded in certain circumstances should the conceptual model indicate that it is safe to do so;
4. The Gas Screening Value Threshold should not generally be exceeded without the completion fo a detailed ground gas risk assessment taking into account site-specific conditions.

APPENDIX H RISK ASSESSMENT APPROACH

RISK ASSESSMENT APPROACH

ANALYSIS PROTOCOLS

Two criteria are used for the selection of potential contaminants to test for during a ground investigation, as follows:

- Contaminants must be likely to be present on many sites affected by current or former industrial use in the United Kingdom in sufficient concentrations to cause harm. The purpose of this criterion is to exclude substances that are rarely found or are unlikely to be present in harmful concentrations; and
- Contaminants must pose a potential risk to human beings and to sensitive environmental receptors, i.e. the water environment, the ecosystem or the integrity of construction or building materials.

Only substances meeting both of the above criteria are selected for chemical analysis. Therefore, the selected substances are:

- Likely to occur on many industrial sites in sufficient concentrations to cause harm or pollution; and,
- Known or suspected to pose significant risk to humans (death, serious injury, cancer or other disease, genetic mutation, birth defects or the impairment of reproductive functions); or,
- Known or suspected to pose a significant risk in the water environment, or likely to cause other adverse impacts in the water environment, as a result of their presence on land; or,
- Known or suspected to pose a significant risk to ecosystems as a result of their presence on land; or,
- Known or suspected to have a significant effect on buildings or building materials; or,
- Known or suspected to be persistent and mobile in soils or have tendency to bio-accumulate through exposure of sensitive organisms.

The following documents are the primary sources for identifying those contaminants likely to be present:

- CLR 8 'Priority Contaminants for the Assessment of Land' (Environment Agency 2002a). This document identifies priority contaminants, selected on the basis that they are likely to be present on many current or former sites affected by industrial or waste management activity in the UK in sufficient concentrations to cause harm; and
- The Department of the Environment's Industry Profiles (DoE 1995-95) which describe specific industrial processes and the chemicals that are commonly found on industrial land.

RISK ASSESSMENT APPROACH

The approach to risk assessment with respect to risks to human health from contaminated land in the UK is set out in the publication *Model Procedures for the Management of Land Contamination (CLR11)* (Environment Agency 2004a). This sets out a tiered approach:

- Preliminary Risk Assessment (e.g. establishing potential pollutant linkages);
- Generic Quantitative Risk Assessment (GQRA) (e.g. the comparison of contaminant concentrations against Soil Guideline Values (SGV) or other Generic Assessment Criteria (GAC)); and
- Detailed Quantitative Risk Assessment (DQRA) (e.g. the comparison of contaminant concentrations against site specific assessment criteria).

USE OF STATISTICAL TESTS IN DATA INTERPRETATION

A statistical basis for the assessment of the analytical results obtained is detailed within CL:AIRE / CIEH (2008). The premise is to review an entire data set in an appropriate way in comparison to GAC, with the approach differentiated for datasets where random or targeted sampling has been undertaken and where a site is being considered in a planning or Part 2A context.

GENERIC QUANTITATIVE RISK ASSESSMENT – HUMAN HEALTH

In order to undertake a GQRA, contaminant concentrations need to be compared to appropriate GAC. Current UK industry practice is to use, as first preference, UK SGVs published by the Environment Agency and derived using the Contaminated Land Exposure Assessment model (CLEA).

The CLEA model provides an approach for the assessment of chronic risks to human health from concentrations of a substance within soil; where appropriate.

The current version of the model (V1.04) was published in January 2009 and, following its publication, a number of SGVs have also been produced. However, the SGVs published to date are only for a limited number of contaminants. Where published SGV do not exist, other GAC values have been utilised in accordance with the following hierarchy:

- GAC prepared in accordance with the CLEA V1.04 model by authoritative bodies (e.g. Chartered Institute of Environmental Health (CIEH), Environment Industries Commission (EIC)); or in their absence,
- WSP in-house GAC prepared in accordance with the CLEA V1.04 model and associated documents;
- The approach utilised by WSP in the preparation of GAC is detailed in the following sections.

WSP APPROACH

The approach adopted by WSP has been to generate GAC for chronic risks to human health using CLEA V1.04. In generating GAC, input parameters consistent with the recent Environment Agency publications have been adopted:

- Environment Agency (2009a), Human Health Toxicological Assessment of Contaminants in Soil, Report SC050021/SR2, January 2009;
- Environment Agency (2009b), CLEA Software (Version 1.04) Handbook (and Software), Report SC050021/SR4, January 2009; and
- Environment Agency (2009c), Updated Technical Background to the CLEA Model, Report SC050021/SR3, January 2009;

SUBSTANCE SPECIFIC INFORMATION – HEALTH CRITERIA VALUES

Toxicological data for respective contaminants has been chosen for use based on the guidance in Environment Agency (2009a). Where UK guidance is available (i.e. existing published TOX reports (Environment Agency 2002l-t) the HCV have been adopted. Where no TOX report is available the following approaches has been used (given in order of preference);

- Published toxicity reviews to derive HCV within Nathanial et. al, 2006;
- Other appropriate UK sources;
- Authoritative European sources;
- International Organisations (e.g. World Health Organisation); or
- Appropriate, authoritative US sources (e.g. USEPA).

SUBSTANCE SPECIFIC INFORMATION – PHYSICO CHEMICAL CHARACTERISTICS

Fate and transport characteristics for the contaminants for which GAC have been derived were chosen using the following hierarchy of data sources;

- Environment Agency (2008a), Compilation of Data for Priority Organic Pollutants, Report SC050021/SR7, November 2008;
- Defra/Environment Agency sources (e.g. Environment Agency, Review of the Fate and Transport of Selected Contaminants in the Soil Environment, Draft Technical Report P5- 079/TR1 (Environment Agency 2003a));
- Other UK Government documents;
- European data sources; (e.g. RIVM Report 711701 023 Technical evaluation of the Intervention Values for Soil/sediment and Groundwater, (RIVM 2001);
- International data sources; (e.g. World Health Organisation); or

- Other national sources (e.g. USEPA).
- Where appropriate, source values have been adjusted to reflect a UK soil temperature of 10ºC (e.g. Kaw).

MODEL SETTINGS

In the generation of GAC, default settings have been used for the following exposure scenarios:

- Residential with Plant Uptake;
- Residential without Plant Uptake;
- Allotments; and
- Commercial/Industrial.

The default soil type is set as Sandy Loam with the default pH of 7; Soil Organic Matter of 1%, 3% and 6% have been considered.

SOIL SATURATION

With the exception of petroleum hydrocarbon fractions, GAC have been limited to the calculated soil saturation limit for organic species; this is in accordance with the approach taken by the Environment Agency in the production of SGV. Petroleum hydrocarbon fractions are, where appropriate, addressed based on Hazard Index and so have not been limited to soil saturation.

CYANIDES

The primary risk to human receptors from free cyanide in soils is an acute risk (i.e. a single dose could have a lethal affect as opposed to adverse affects from cumulative intake (chronic affect)).

There is no current UK guidance available for calculating acute risks from free cyanide, therefore the (officially withdrawn) SNIFFER 2000 methodology has been used to derive an acute GAC of 60 mg/kg for all exposure scenarios. The value is given for Free or Easily Liberatable Cyanide but should be used to assess Total Cyanide in the absence of cyanide speciation. In cases where the Total Cyanide exceeds the GAC then analysis from Free or Easily Liberatable Cyanide should be completed.

APPLICATION OF GAC FOR HUMAN HEALTH

In the application of GAC (and SGV) to a site the user recognises the limitations of CLEA model. Specifically these relate to the absence of certain pollutant considerations such as risks to services, of fire and explosion, aesthetics, institutional perception, groundwater, surface waters, ecotoxicological risk and risks to buildings (amongst others).

The GAC specifically do not meet the requirements of legal definition of 'significant possibility of significant harm' but provide a benchmark below which concentrations of contaminants are not considered to warrant further consideration in the context of the land use scenario.

GROUNDWATER TO INDOOR AIR (HUMAN HEALTH)

The CLEA model does not explicitly consider the potential for chronic impact to Human Health from indoor inhalation of concentrations of volatile vapours from dissolved phase contamination. The potential exists for this to be an important exposure route for a limited number of highly volatile contaminants. GAC have been calculated for volatile contaminants for volatilisation from groundwater using RISC 4. It should be noted that the Risc 4 approach does not include advection into buildings and an alternative approach may be required where this is a significant effect.

Exposure factors required for the model have been derived using the information contained within current Environment Agency Guidance (2009a, b). Where ranges of values are provided for input parameters in the Environment Agency guidance, an appropriate conservative single value has been chosen for input into the RISC 4 model. The following table details the receptor exposure factors used in the RISC 4 model to generate the GAC.

Receptor exposure factors

Residential Receptor	unit	Residential	Source	Commercial	Source
Lifetime	yr	6	Environment Agency 2009a, Section 3.23	49	Environment Agency 2009a, Section 3.4.1
Body weight	kg	14.2	Environment Agency 2009b Table 3.2 average over age 0-6 considering child age 0-1 has 0.5yr exposure	70	Environment Agency 2009b Section 4.1
Exposure frequency for indoor air	no/yr	365	Environment Agency 2009a, Table 3.1	230	Environment Agency 2009a, Table 3.9
Exposure duration for indoor air	yr	6	Environment Agency 2009a, Section 3.2.3	49	Environment Agency 2009a, Section 3.4.1
Lung retention factor	fraction	1	Conservative assumption	1	Conservative assumption
Inhalation rate indoors	m^3/hr	0.5	Environment Agency 2009a, calculated average from Table 4.14	0.56	Environment Agency 2009a, calculated average from Table 4.14
Time indoors	hr/day	21.7	Environment Agency 2009a, Table 3.2	8.3	Environment Agency 2009a Box 3.6
Bioavailability for all contaminants	%	100%	Default conservative assumption	100%	Default conservative assumption

Default building parameters have been utilised in the generation of the groundwater GAC values as presented in the following table.

Building Parameters

Building Parameters	Unit	Two Storey Small Terraced House	Source	Pre-1970, 3 Storey Office	Source
Cross sectional area of building	m^2	28	Environment Agency 2009a, Table 3.3	424	Environment Agency 2009a, Table 3.10
Volume of building	m^3	134.4	Environment Agency 2009a, Table 3.3	4070.4	Environment Agency 2009a, Table 3.10
Number of air exchanges per day	no.	12	Environment Agency 2009a, Table 3.3	24	Environment Agency 2009a, Table 3.10
Thickness of basement or foundation walls	m	0.15	Environment Agency 2009a, Table 3.3	0.15	Environment Agency 2009a, Table 3.10
Fraction of the foundation that are cracks		0.001429	Calculated based on Environment Agency 2009a, floor crack area as a fraction of total floor area	0.000389	Calculated based on Environment Agency 2009a, floor crack area as a fraction of total floor area
Porosity of foundation cracks		1	Assumes crack fraction is entirely available for vapour ingress	1	Assumes crack fraction is entirely available for vapour ingress
Water content in foundation cracks		0	Conservative Assumption	0	Conservative Assumption

In the absence of UK guidelines, the exposure scenario adopted has considered a groundwater source 0.5m below the base of the building as a conservative approach representing an example of a very shallow aquifer and corresponding with the depth of a soil source as adopted in the generic scenario in the CLEA model. The appropriateness of this assumption should be assessed on a site by site basis considering the conceptual model for the site. The groundwater model parameters are presented in the following table.

Groundwater Scenario

Groundwater Parameters	units	value	Source
Distance to Building Foundation from Groundwater	m	0.50	Environment Agency 2009a p51.
Total porosity in source zone	cm^3/cm^3	0.53	Environment Agency 2009a, Table 4.4 (Sandy Loam)
Water content in source zone	cm^3/cm^3	0.33	Environment Agency 2009a, Table 4.4 (Sandy Loam)
Thickness of the Capillary Fringe	cm	10	Estimate
Air content in the Capillary fringe	cm^3/cm	0.01	Estimate

For many contaminants, no risk is calculated at concentrations below the pure phase solubility of the contaminant. Caution should be applied when Non-Aqueous Phase Liquids (NAPL) are likely to be present, either where these have been detected during monitoring or where the concentration of a component in a mixture exceeds 10% of its calculated effective solubility. In such cases a separate assessment of the generation of volatile vapours from NAPL via modelling or a soil vapour survey may be required.

It is important to note that the values are only applicable to Human Health and cannot be used to determine the potential risks to Controlled Waters.

GENERIC QUANTITATIVE RISK ASSESSMENT - CONTROLLED WATERS

CONTROL OF RESIDUAL CONTAMINATION

Part 2A of the Environmental Protection Act 1990 introduced the regime for the identification and remediation of contaminated land. Land may be classified as contaminated land under the regime by virtue of actual or likely pollution of Controlled Waters caused by substances in, on or under the land. The Environment Agency is a statutory consultee in relation to controlled waters issues. In situations where there is no existing pollutant linkage, Section 161 of the Water Resources Act 1991 (as amended 2003) and the Anti-Pollution Works Regulations 1999 can be used to address contamination which could represent a potential risk.

CONTROL OF CONTAMINATION FROM ONGOING ACTIVITIES

The existing Groundwater Directive (80/68/EEC) aims to protect groundwater from pollution by controlling discharges and disposals of certain dangerous substances to groundwater. In the UK, the directive is implemented through the Groundwater Regulations 1998. Groundwater pollution is prevented under these Regulations by preventing or limiting the inputs of listed substances into groundwater. Substances controlled under the Regulations fall into two lists:

List 1	List 2
organohalogen compounds and substances which may form such compounds in the aquatic environment; organophosphorus compounds; organotin compounds; substances which possess carcinogenic, mutagenic or teratogenic properties in or via the aquatic environment (including substances which have those properties which would otherwise be in list 2); mercury and its compounds; cadmium and its compounds; mineral oils and hydrocarbons; and cyanides.	the following metals and metalloids and their compounds; Zinc, Copper, Nickel, Chromium, Lead, Selenium, Arsenic, Antimony, Molybdenum, Titanium, Tin, Barium, Beryllium, Boron, Uranium, Vanadium, Cobalt, Thallium, Tellurium, Silver; biocides and their derivatives not appearing in List 1; substances which have a deleterious effect on the taste or odour of groundwater and compounds liable to cause the formation of such substances in such water and to render it unfit for human consumption; toxic or persistent organic compounds of silicon and substances which may cause the formation of such compounds in water, excluding those which are biologically harmless or are rapidly converted in water into harmless substances; inorganic compounds of phosphorus and elemental phosphorus; fluorides; and ammonia and nitrites.

- List 1 substances are the most toxic and must be prevented from entering groundwater. Substances in this list may be disposed of to the ground, under a permit, but must not reach groundwater; and
- List 2 substances are less dangerous, and can be discharged to groundwater under a permit, but must not cause pollution.

Listed dangerous substances have assessment criteria in the form of Environmental Quality Standards (EQS). The dangerous substance is not believed to be detrimental to aquatic life at a concentration below its EQS limit.

The existing Groundwater Directive is to be repealed by the Water Framework Directive in 2013. New or amended regulations are expected before then to enact both the Water Framework Directive and its Daughter Directive on the

protection of groundwater. This new Groundwater Directive (2006/118/EC) is commonly referred to as the Groundwater Daughter Directive.

In the meantime, the existing principle of preventing or limiting the inputs of List 1 or List 2 substances respectively into groundwater under the original Groundwater Regulations 1998 remains, but will be expanded to encompass any substance liable to cause pollution. In addition, the Water Framework Directive provides a risk-based framework for regulation.

WATER FRAMEWORK DIRECTIVE

The Water Framework Directive (WFD) 2000/60/EC came into force on in December 2000 and its transition into UK legislation began in 2003. The directive aims to reduce pollution, prevent deterioration and improve the health of aquatic ecosystems through achieving good status for all water bodies. Good status is considered to be a function of concentrations of pollutants which:

- Do not exceed the quality standards under relevant European Community legislation;
- Would not result in a failure of associated surface water bodies to achieve environmental objectives;
- Would not result in a significant diminution of the ecological or chemical quality of associated surface water bodies;
- Would not result in any significant damage to groundwater dependent terrestrial ecosystems; and
- Do not exhibit the effects of saline or other intrusions.
- In addition, the Water Framework Directive sets further objectives, these include:
- A requirement for measures to be implemented to prevent or limit input of pollutants to groundwater;
- A requirement for measures to be implemented to reverse and significant and sustained upward trends; and
- Groundwater bodies to be protected such that their quality does not deteriorate to the point where additional treatment is required for drinking water supplies.

River Basin Management Plans required as part of the WFD have been published in draft and are to be finalised by December 2009. A consultation document on the classification of water bodies has been issued by Defra (http://www.defra.gov.uk/corporate/consult/wfd-classification-direction/index.htm) which sets out Groundwater and Surface Water Threshold Values, for river basins in England and Wales.

ASSESSMENT APPROACH

At the GQRA level, assessment typically comprises the following:

- Consideration of soil concentrations of organic substances in the context of soil saturation to determine the potential for migration under gravity;
- Comparison of soil leachate concentrations against appropriate GAC; and
- Comparison of groundwater concentrations against appropriate GAC.
- This approach is equivalent to Tier 1 / Level 1 Assessment as undertaken using ConSim (2003) / Environment Agency Remedial Targets Methodology V3.1 (2006).

The ideal remediation standard from the regulatory perspective is natural background quality, namely, there should be no significant deterioration in the water quality at the receptor (that is, it should not be detectable against natural background variations). This data may be obtained from up hydraulic gradient locations or regional datasets. The Environment Agency has published information on the baseline condition of several aquifers, it is recognised, however, that such data is rarely available and remediation to such a standard is often not technically achievable or cost effective. For this reason target concentrations utilised as GAC may be based on water quality standards that are appropriate for the intended use or to ensure that objectives for a groundwater or associated water body are met. In England and Wales, the standards selected (as appropriate) include the following:

- The Water Supply (Water Quality) Regulations: 2001 (WSR);

- Environmental Quality Standards, Dangerous Substances Directive (EQS) prepared for List 1 and 2 substances under the existing Groundwater Directive (80/68/EEC);
- The Surface Waters (Abstraction for Drinking Water) (Classification) Regulations 1996 (SWR);
- The Private Water Supplies Regulations 1991;
- European Drinking Water Standards, (Council Directive 98/83/EC);
- World Health Organisation, Guidelines for Drinking Water Quality, First Addendum to the Third Edition, Volume 1 2006; and
- United States Environmental Protection Agency (USEPA) Region Three, Six and Nine Human Health Medium Specific Risk Based Screening Levels for soils and tap water with dermal exposure routes, which have been derived using human health exposure models consistent with the ASTM Risk Based Corrective Action, approach (ASTM, E1739-95, 1995).
- Priority is given to UK standards, however, where data is not available for a specific substance, additional standards such as those published by the WHO or USEPA are used.

ECOLOGICAL RISK ASSESSMENT

Where a statutory ecological receptor is identified on, or in proximity to the site, an assessment in accordance with current Environment Agency Ecological Risk Assessment (ERA) Framework will be undertaken. The frameworks is currently in development (http://www.environment-agency.gov.uk/research/planning/40375.aspx)

EXCEEDANCES

Where a GAC is exceeded further work and/or remediation is normally required. For moderate exceedances further work may include progression to a Detailed Quantitative Risk Assessment (DQRA) which is likely to require further data collection. The outcome of the DQRA may be that the risk is not significant or, if the risk is identified as being significant, the generation of site-specific remedial targets.

Where significant exceedances of GAC are identified remedial measures may be require immediately.

The simplest remediation method that is generally accepted for contamination that has been identified to pose a potential risk to humans, but not to other receptors, is to provide a barrier between occupiers / users of a site and the identified contamination. This barrier normally comprises a 'clean' covering horizon of soil. This remediation method is only suitable for contaminants that are of low volatility.

REFERENCES

CL:AIRE / CIEH (2008), *Guidance on Comparing Soil Contamination Data with a Critical Concentration,* May 2008;

Environment Agency & Defra (2002a), *R&D Publication CLR8 Priority Contaminants for the Assessment of Land;*

Environment Agency (2003a), *Review of fate & transport of selected contaminants in the Environment, Report P5-079-TR1;*

Environment Agency (2004a), *Model Procedures for the Management of Land Contamination,* September 2004, ISBN: 1844322955;

Environment Agency (2008a), *Compilation of Data for Priority Organic Pollutants*, Report SC050021/SR7, November 2008;

Environment Agency (2009a), *Human Health Toxicological Assessment of Contaminants in Soil*, Report SC050021/SR2, January 2009;

Environment Agency (2009b), *CLEA Software (Version 1.04) Handbook (and Software)*, Report SC050021/SR4, January 2009;

Environment Agency (2009c), *Updated Technical Background to the CLEA Model*, Report SC050021/SR3, January 2009;

Environment Agency (2009d), *A Review of Body Weight and Height Data Used in the CLEA Model*, Report SC050021/Final Technical Review 1, January 2009;

Nathanial etc. al., (2006)*, Generic Assessment Criteria for Human Health Risk Assessment* Land Quality Press, Nottingham, ISBN 0-9547474-3-7; and

RIVM (2001), *Report 711701 023 Technical evaluation of the Intervention Values for Soil/sediment and Groundwater.*

APPENDIX I CONSULTATIONS

Environmental Services Department

Edward Potter BSc (Hons) DMS **Head of Environmental Services**

Cherwell
DISTRICT COUNCIL
NORTH OXFORDSHIRE

Helen Gardiner,
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Bodicote • Banbury
Oxfordshire • OX15 4AA
Telephone ***01295 252535***
Textphone 01295 221622
DX 24224 (Banbury)
http://www.cherwell-dc.gov.uk

Please ask for ***Christopher Fry*** *Our ref* ***Cchf 02/08*** *Your ref* ***Bicester Schools***
Direct Dial ***01295 221622*** *Fax* ***01295 263155*** *Email* ***Christopher.fry@cherwell-dc.gov.uk***

Date: 22 September 2008

Dear Helen Gardiner,

RE: Bicester Schools Site Contaminated Land Enquiry.

I refer to your email request dated 17 September for information regarding this site and my telephone conversation with you on 22 September. In the absence of map coordinates I have attempted to cover the area outlined on your plan and this is shown in the attached report.

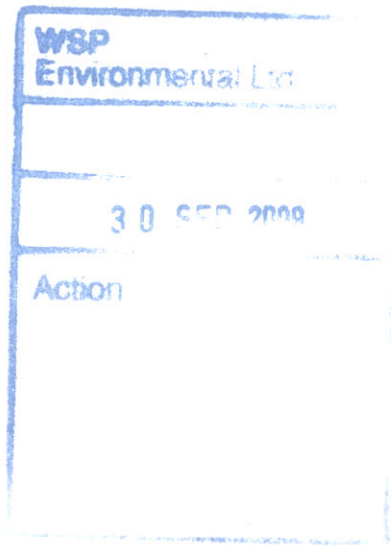
The information included here is gathered, in part, from the Councils access to data supplied by Landmark and the British Geological Survey and is current up to 01/04/07. All other information has been obtained from a search of records held within the Environmental Services Department.

I trust this information is sufficient for your purposes.

Yours sincerely

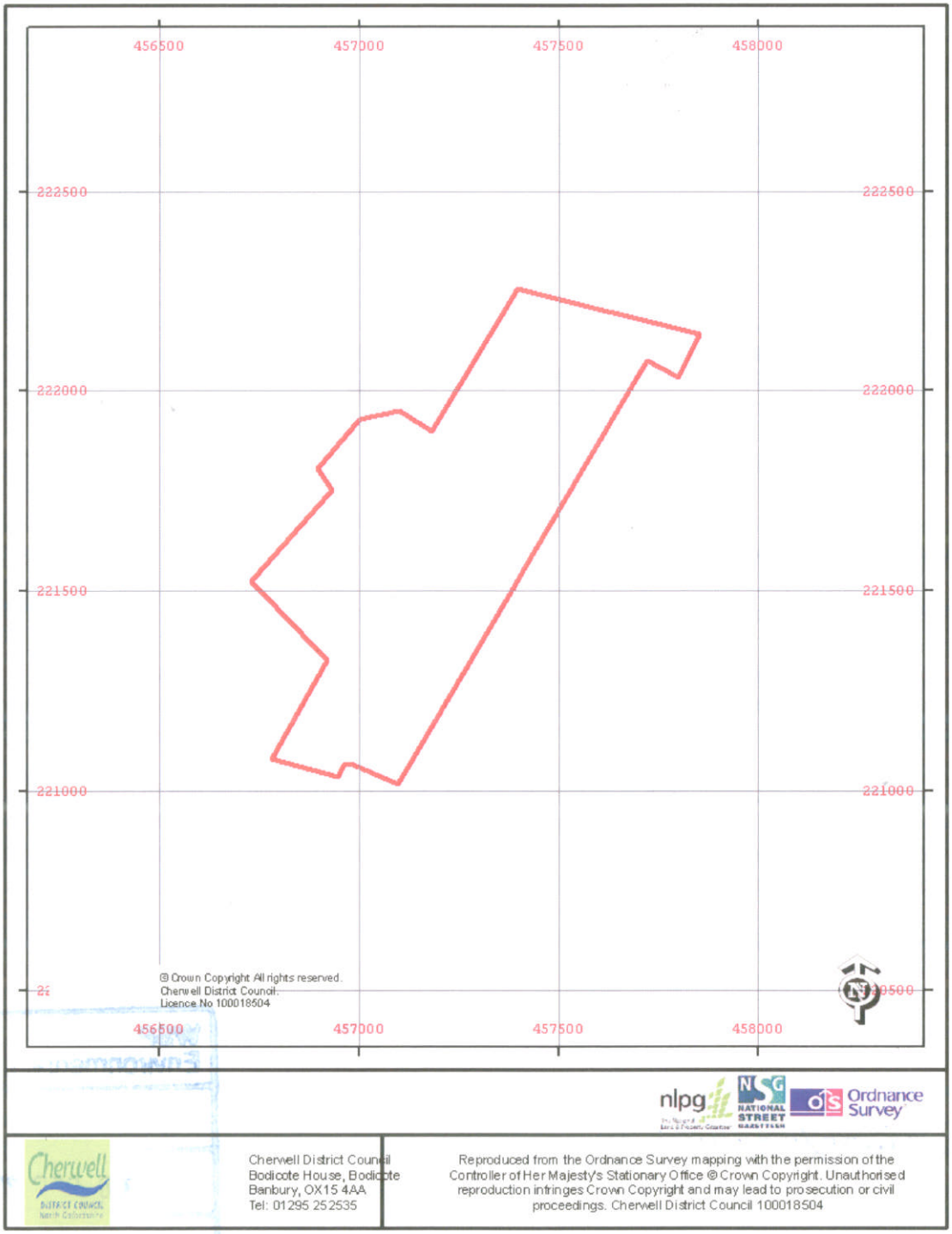
Christopher C. H. Fry

Christopher Fry
Acting Contaminated Land Officer/Contaminated Land Consultant.



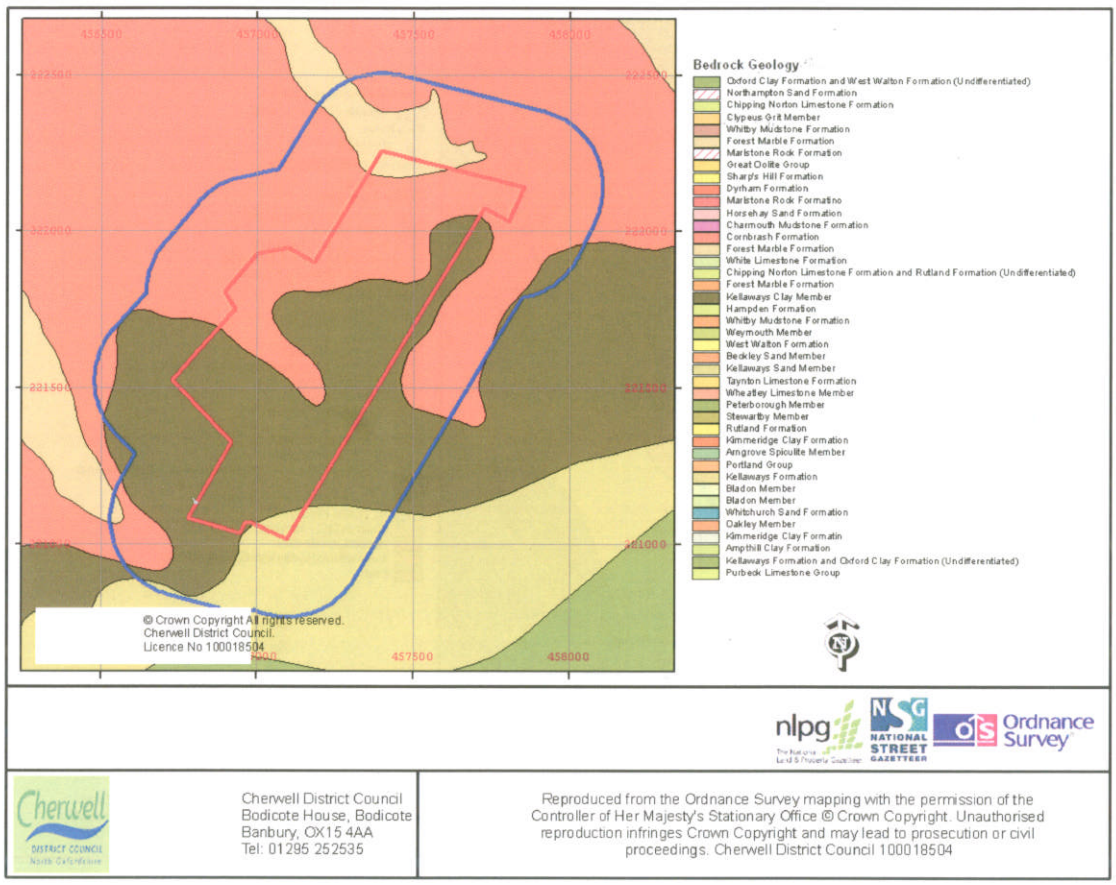
Site report

Report Name: Bicester Schools Site Kings End (Centred at 457216, 221663)
Report Number: CCHF 02



Geology

Bedrock Geology



Geological Map, British Geological Survey © NERC

The map shows the site (red) and a search radius of 250 meters (blue).

Geological maps have been extracted from the 1:50000 map series produced by the British Geological Survey.

Bedrock geology is a term used for the main mass of rocks forming the Earth's bedrock and present everywhere, whether exposed at the surface in outcrops or concealed beneath superficial deposits or water. They have formed over vast lengths of geological time ranging from ancient and highly altered rocks of the Proterozoic, some 2500 million years ago, or older, up to the relatively young Pliocene, 1.8 million years ago.

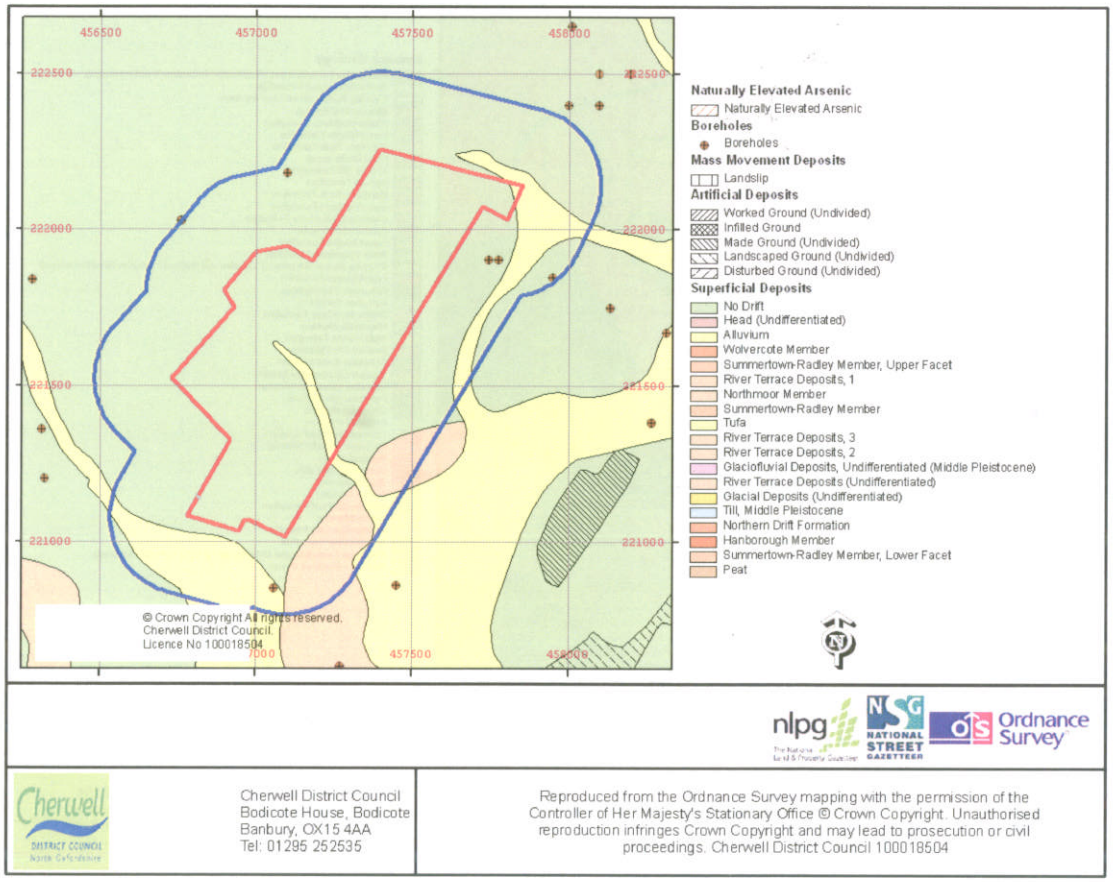
Site Results

Rock Type
FOREST MARBLE FORMATION (LIMESTONE AND MUDSTONE, INTERBEDDED)
KELLAWAYS SAND MEMBER (SANDSTONE AND SILTSTONE, INTERBEDDED)
KELLAWAYS CLAY MEMBER (MUDSTONE)
CORNBRASH FORMATION (LIMESTONE)

Search Radius Results

Rock Type
FOREST MARBLE FORMATION (LIMESTONE AND MUDSTONE, INTERBEDDED)
KELLAWAYS SAND MEMBER (SANDSTONE AND SILTSTONE, INTERBEDDED)
KELLAWAYS CLAY MEMBER (MUDSTONE)
CORNBRASH FORMATION (LIMESTONE)

Superficial, Artificial, Mass Movement Deposits, Boreholes and Naturally Occurring Arsenic



Geological Map, British Geological Survey © NERC

The map shows the site (red) and a search radius of 250 meters (blue).

Geological maps have been extracted from the 1:50000 map series produced by the British Geological Survey.

Superficial deposits is a term used by the BGS for natural deposits formed during the most recent period of geological time, the Quaternary, which extends 1.8 million years back from the present.

Artificial deposits is a term used by BGS for those areas where the ground surface has been significantly modified by human activity. Whilst artificial or man-made deposits are not part of the 'real geology' of solid and superficial deposits it does affect them and needs recording because the near surface ground conditions are important to human activities and economic development.

Borehole information has been extracted from the British Geological Survey register of boreholes.

Superficial Deposits

Site Results

Deposit Type
NO DRIFT
ALLUVIUM (CLAY, SILT, SAND AND GRAVEL)

Search Radius Results

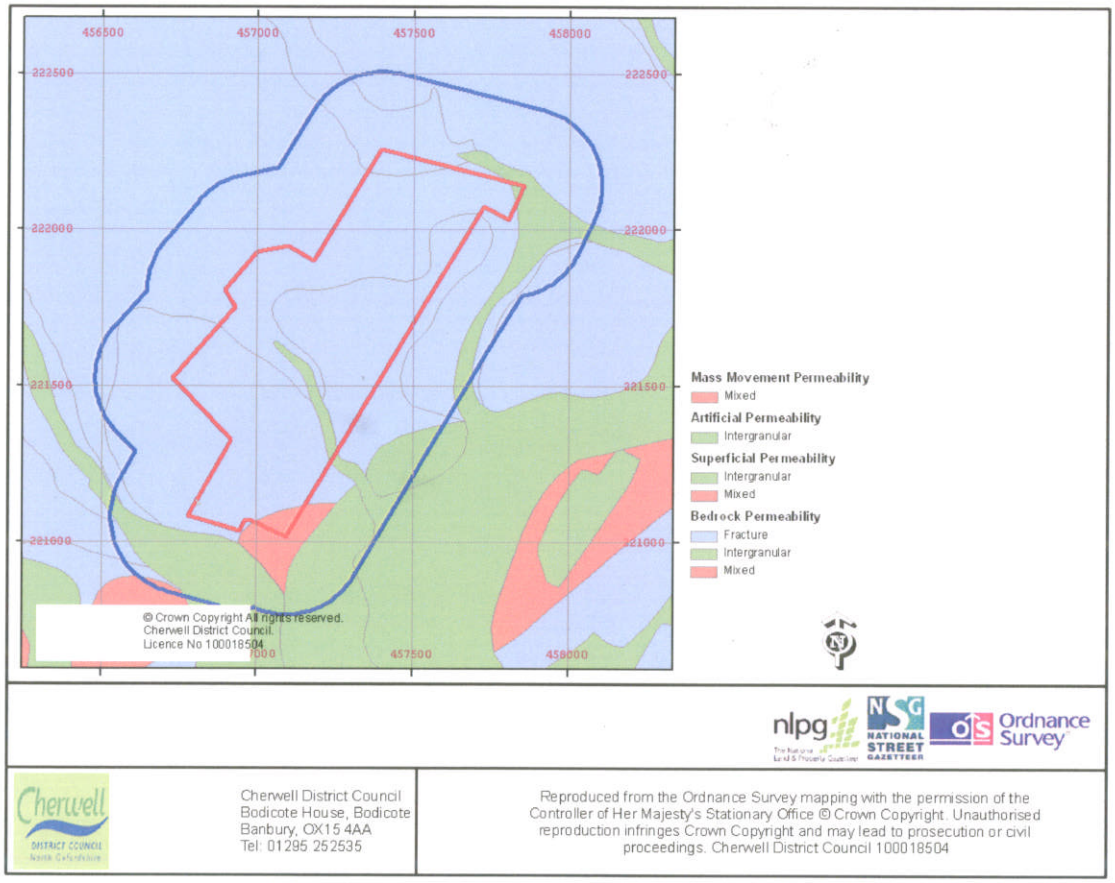
Ref	Name	Easting	Northing	Length(m)	Confidential
SP52SE175	COTTAGES BICESTER WHITE LANDS FARM NR.CHESTERTON	456760	0222030	42.06	N

For more information on a particular borehole contact:

Borehole Records Enquiries
British Geological Survey
Kingsley Dunham Centre
Keyworth
Nottingham
NG12 5GG
Tel: 0115 9363109
http://www.bgs.ac.uk/enquiries/bharch.html

All depths are in metres. A depth of '-1' indicates that either the depth is unknown or that the borehole is confidential.

Permeability of Rocks



Geological Map, British Geological Survey © NERC

The map shows the site (red) and a search radius of 250 meters (blue).

Permeability refers to the movement of water, and other fluids, through rocks and the potential for contamination of the underground fresh water supply. Permeability values indicate the vulnerability of the rock to groundwater pollution from the surface and are a measure of the fastest route by which any pollutant could travel through rocks and enter the underground water resource.

Bedrock Permeability

Site Results

Flow Type
Fracture
Mixed

Search Radius Results

Flow Type
Fracture
Mixed

Superficial Permeability

Deposit Type
NO DRIFT
RIVER TERRACE DEPOSITS, 1 (SAND AND GRAVEL)
ALLUVIUM (CLAY, SILT, SAND AND GRAVEL)

Artificial Deposits

Site Results

No artificial deposits at the site

Search Radius Results

No artificial deposits in the search radius

Mass Movement Deposits

Site Results

No mass movement deposits at the site

Search Radius Results

No mass movement deposits in the search radius

Faults

Site Results

No faults at the site

Search Radius Results

No faults in the search radius

Boreholes

Site Results

No boreholes at the site

Search Radius Results

Ref	Name	Easting	Northing	Length(m)	Confidential
SP52SE3	WHITELANDS FARM BICESTER	456760	0222030	42.06	N
SP52SE49	BICESTER TRAILER PARK BH5	457060	0220850	30.48	N
SP52SE87	BICESTER SOUTHERN BYPASS TP 1	457745	0221904	1	N
SP52SE88	BICESTER SOUTHERN BYPASS TP 2	457777	0221902	0	N
SP52SE89	BICESTER SOUTHERN BYPASS TP 3	457949	0221847	1	N
SP52SE163	WHITE LANDS FARM NR.CHESTERTON	456760	0222030	-1	N
SP52SE170	WHITELANDS FARM	457100	0222180	-1	N

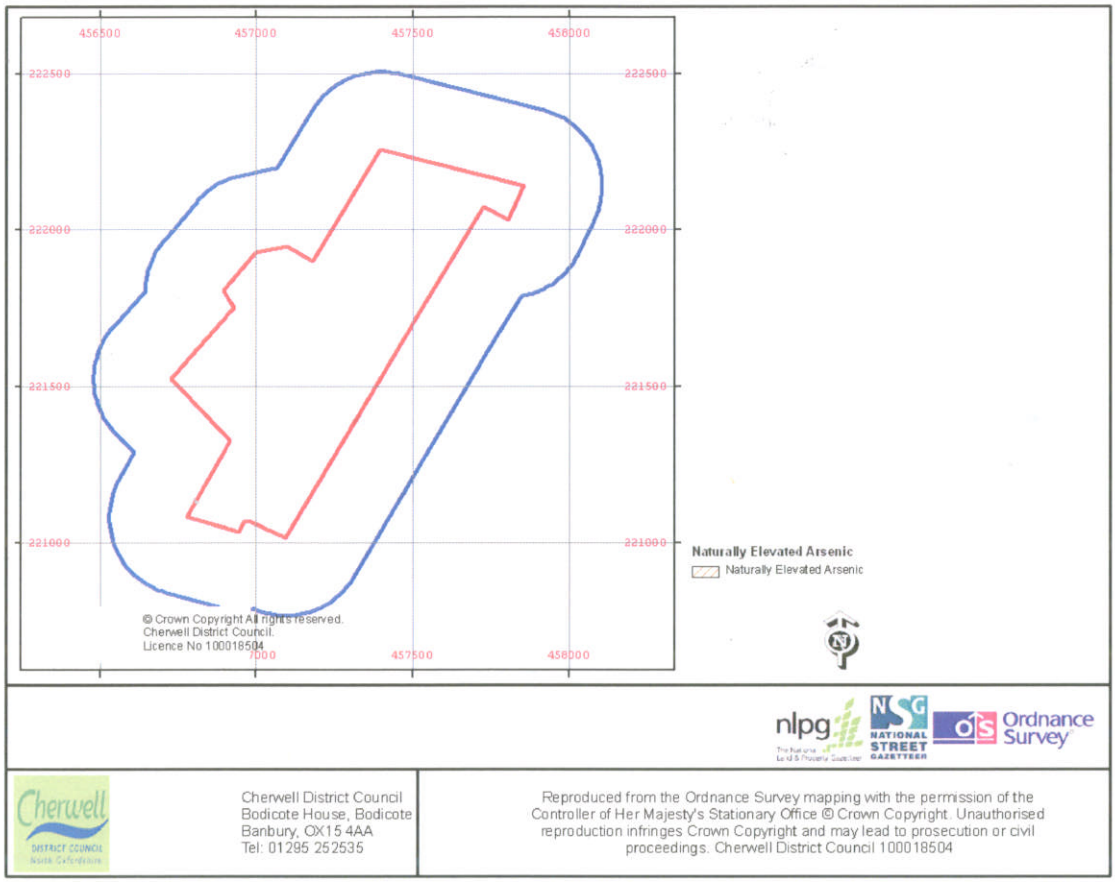
Ref	Name	Easting	Northing	Length(m)	Confidential
SP52SE175	COTTAGES BICESTER WHITE LANDS FARM NR.CHESTERTON	456760	0222030	42.06	N

For more information on a particular borehole contact:

Borehole Records Enquiries
British Geological Survey
Kingsley Dunham Centre
Keyworth
Nottingham
NG12 5GG
Tel: 0115 9363109
http://www.bgs.ac.uk/enquiries/bharch.html

All depths are in metres. A depth of '-1' indicates that either the depth is unknown or that the borehole is confidential.

Naturally Occurring Arsenic



Geological Map, British Geological Survey © NERC

The map shows the site (red) and a search radius of 250 meters (blue).

The map showing areas of naturally elevated arsenic was derived from the BGS Bedrock Geology map.

Naturally Elevated Arsenic

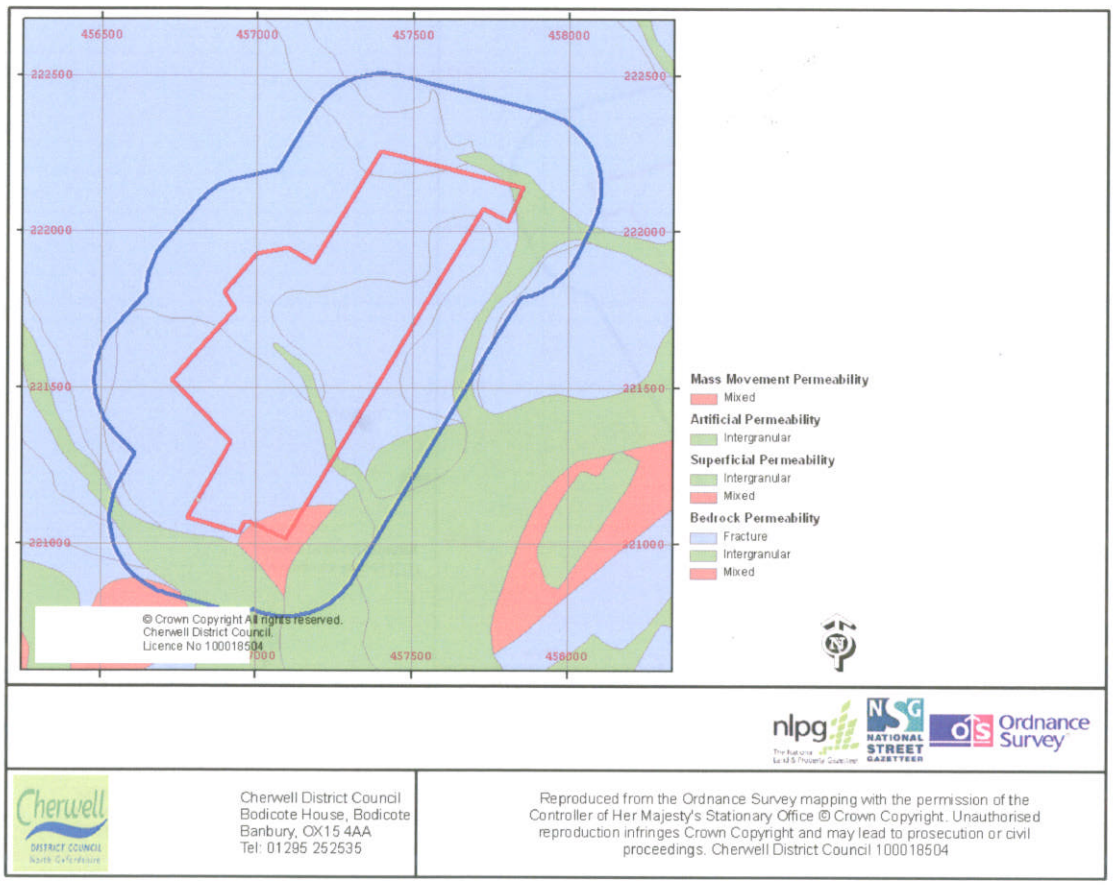
Site Results

No naturally elevated arsenic at the site

Search Radius Results

No naturally elevated arsenic in the search radius

Permeability of Rocks



Geological Map, British Geological Survey © NERC

The map shows the site (red) and a search radius of 250 meters (blue).

Permeability refers to the movement of water, and other fluids, through rocks and the potential for contamination of the underground fresh water supply. Permeability values indicate the vulnerability of the rock to groundwater pollution from the surface and are a measure of the fastest route by which any pollutant could travel through rocks and enter the underground water resource.

Bedrock Permeability

Site Results

Flow Type
Fracture
Mixed

Search Radius Results

Flow Type
Fracture
Mixed

Superficial Permeability

Site Results

Flow Type
Intergranular

Search Radius Results

Flow Type
Intergranular

Artificial Permeability

Site Results

No artificial permeability ratings in the search radius

Search Radius Results

No artificial permeability ratings in the search radius

Mass Movement Permeability

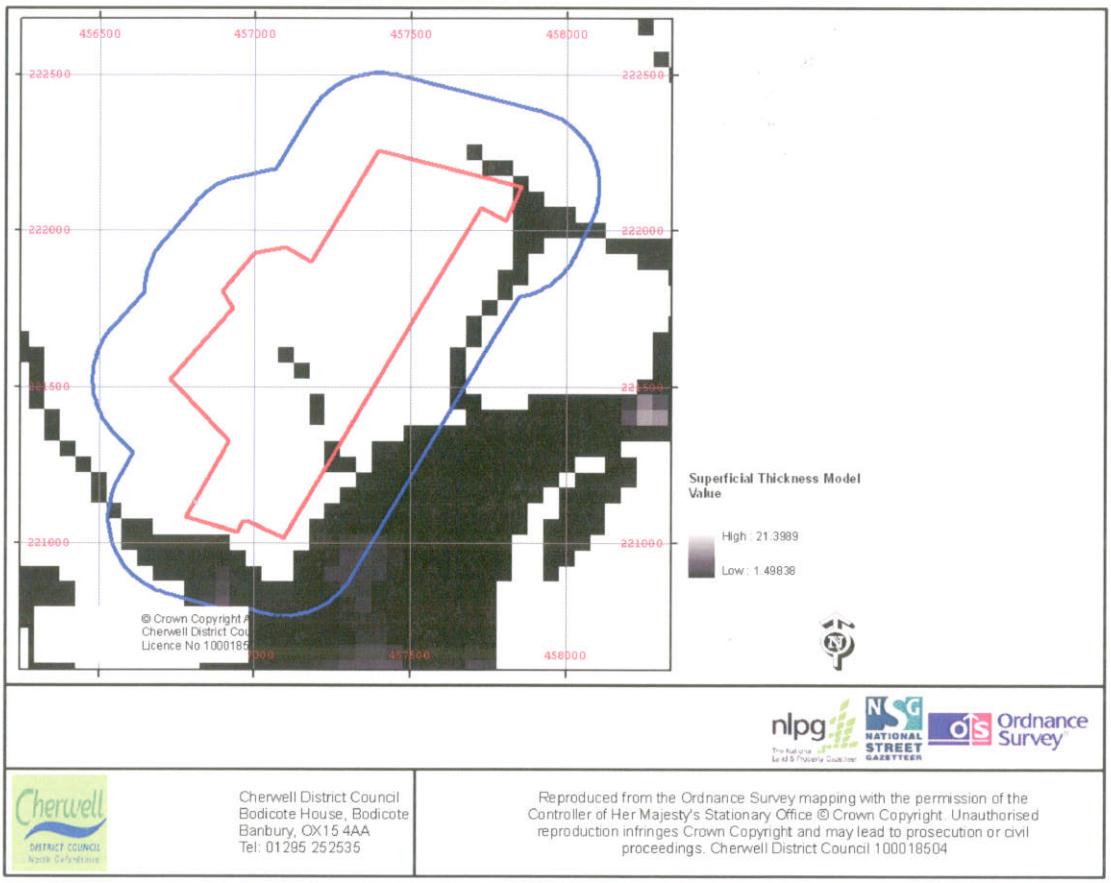
Site Results

No mass movement permeability ratings in the search radius

Search Radius Results

No mass movement permeability ratings in the search radius

Superficial Thickness

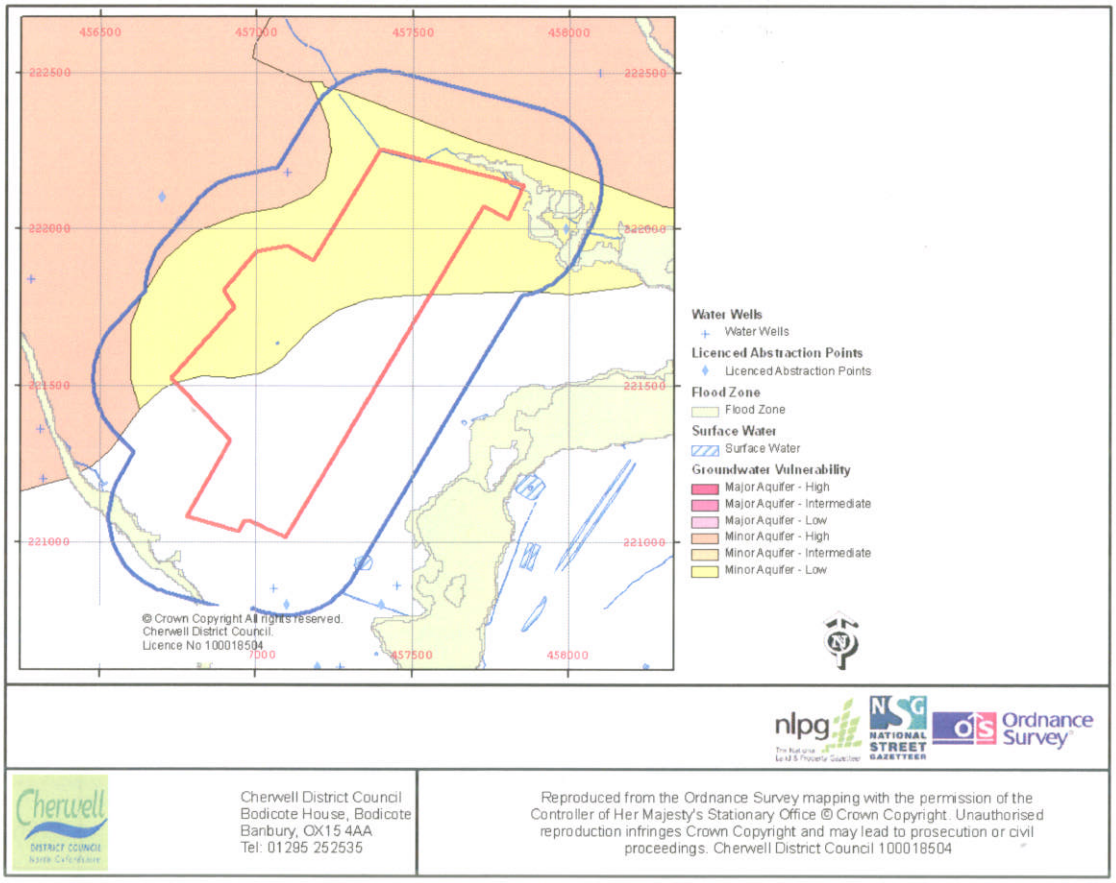


Geological Map, British Geological Survey © NERC

The map shows the site (red) and a search radius of 250 meters (blue).

The superficial thickness elevation model represents the first attempt by BGS to create nationwide models of such data. The models provide only a simple, mathematical interpretation of reality. The complexity of Superficial deposits in Great Britain is such that it is only possible to model indicative values of thickness and elevation. The models should never be used as a substitute for thorough site investigation.
For the purposes of modelling, superficial deposits include sediments deposited during the Quaternary, subsequent Holocene rivers and coastal systems and also modern anthropogenic material. i.e. deposits that are less than 2.6 million years old.

Hydrology



Groundwater Vulnerability and Water Abstraction Licences © Environment Agency

The map shows the site (red) and a search radius of 250 meters (blue).

The British Geological Survey holds a register of both used and disused water wells at its office in Wallingford, Oxfordshire which date back over 150 years. This register has been interrogated to produce the water well information. Depth information recorded for water wells is measured in metres.

Surface water information was derived from Os Master Map.

Groundwater vulnerability and Water Abstractions Licenses information comes from the Environment Agency.

Surface Water

Site Results

Description
Inland Water
Inland Water
Inland Water
Inland Water
Inland Water
Inland Water
Inland Water
Inland Water

Search Radius Results

Description
Inland Water
Inland Water
Inland Water
Inland Water
Inland Water
Inland Water
Inland Water
Inland Water
Inland Water
Inland Water
Inland Water
Inland Water
Inland Water
Inland Water
Inland Water
Inland Water

Water Wells

Site Results

No water wells present at the site

Search Radius Results

Reference	Location	Easting	Northing	Depth(m)	Year
SP52SE170/BJ	WHITELANDS FARM COTTAGES BICESTER	457100	222180	0	
SP52SE49/BJ	BICESTER TRAILER PARK	457060	220850	30.5	1986
SP52SE163/BJ	WHITE LANDS FARM NR.CHESTERTON	456760	222030	0	
SP52SE175/BJ	WHITE LANDS FARM NR.CHESTERTON	456760	222030	42.1	

Private Water Wells

Site Results

No private water wells present at the site

Search Radius Results

Address1	Address2	Address 3	National Grid Reference	Supply Type	Supply Use
The Trailer Park	Oxford Road	Bicester	SP5708420826	Borehole	

Water Abstraction Sites

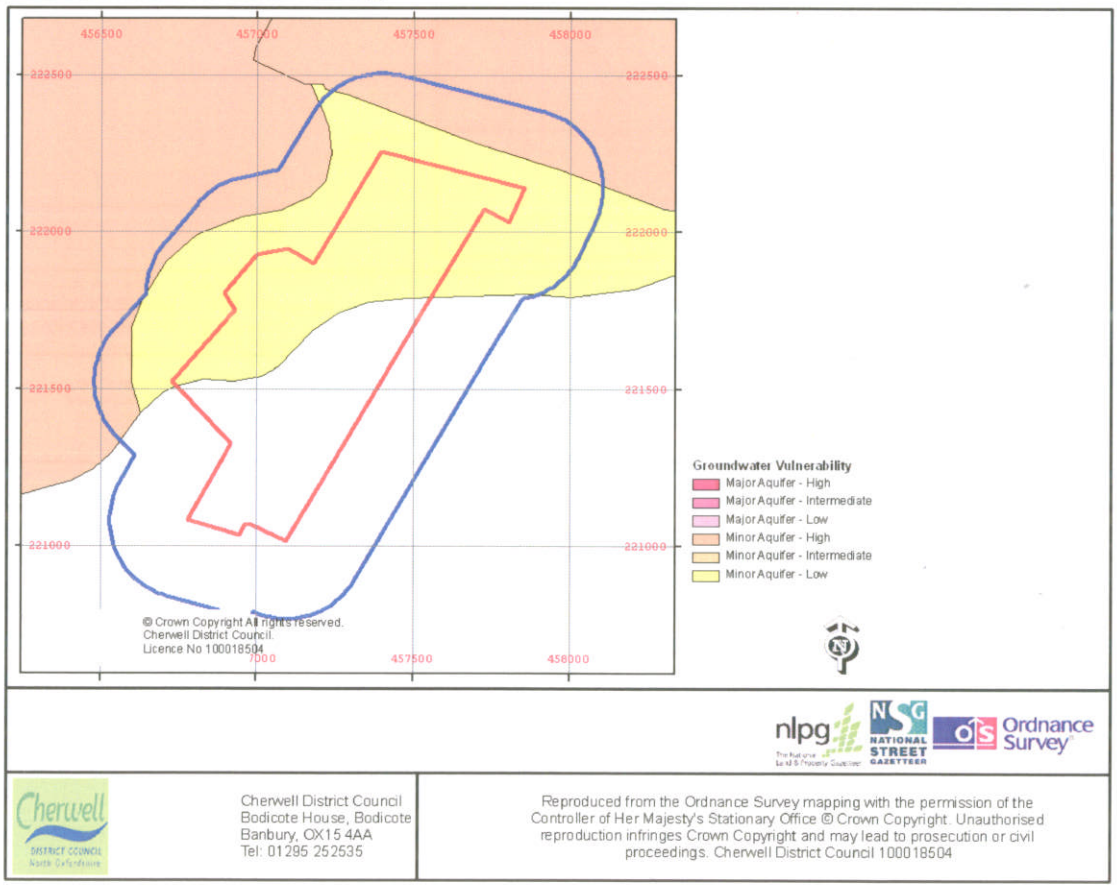
Site Results

No EA licensed water abstraction sites at the site

Search Radius Results

License	Name	Point Name	Easting	Northing	Use
28/39/14/0349	ARCADIS GERAGHTY & MILLER INT INC.	PRINGLE DRIVE FILLING STATION BICESTER OXON	457990	222000	Pollution Remediation
28/39/14/0300	M & L ROSSITER	BICESTER TRAILER PARK, OXFORD ROAD, WENDLEBURY	457100	220800	Drinking, Cooking, Sanitary, Washing, (Small Garden) - Commercial/Industrial/Public Services
28/39/14/0300		BICESTER TRAILER PARK, OXFORD ROAD, WENDLEBURY	457100	220800	

Groundwater Vulnerability



Groundwater Vulnerability data © Environment Agency

The map shows the site (red) and a search radius of 250 meters (blue).

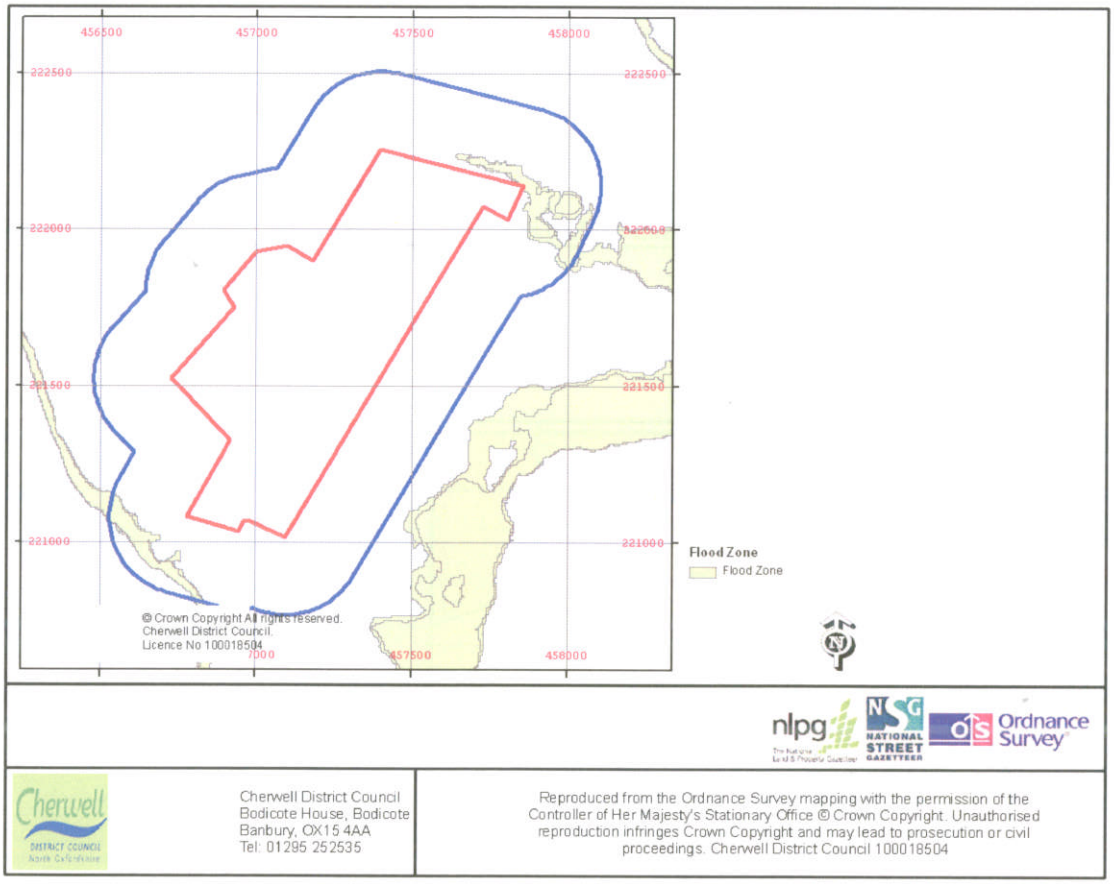
Site Results

Classification
Minor Aquifer - Low

Search Radius Results

Classification
Minor Aquifer - Low
Minor Aquifer - High Urban
Minor Aquifer - High 3

Flood Zone



Flood Zone data © Environment Agency

The map shows the site (red) and a search radius of 250 meters (blue).

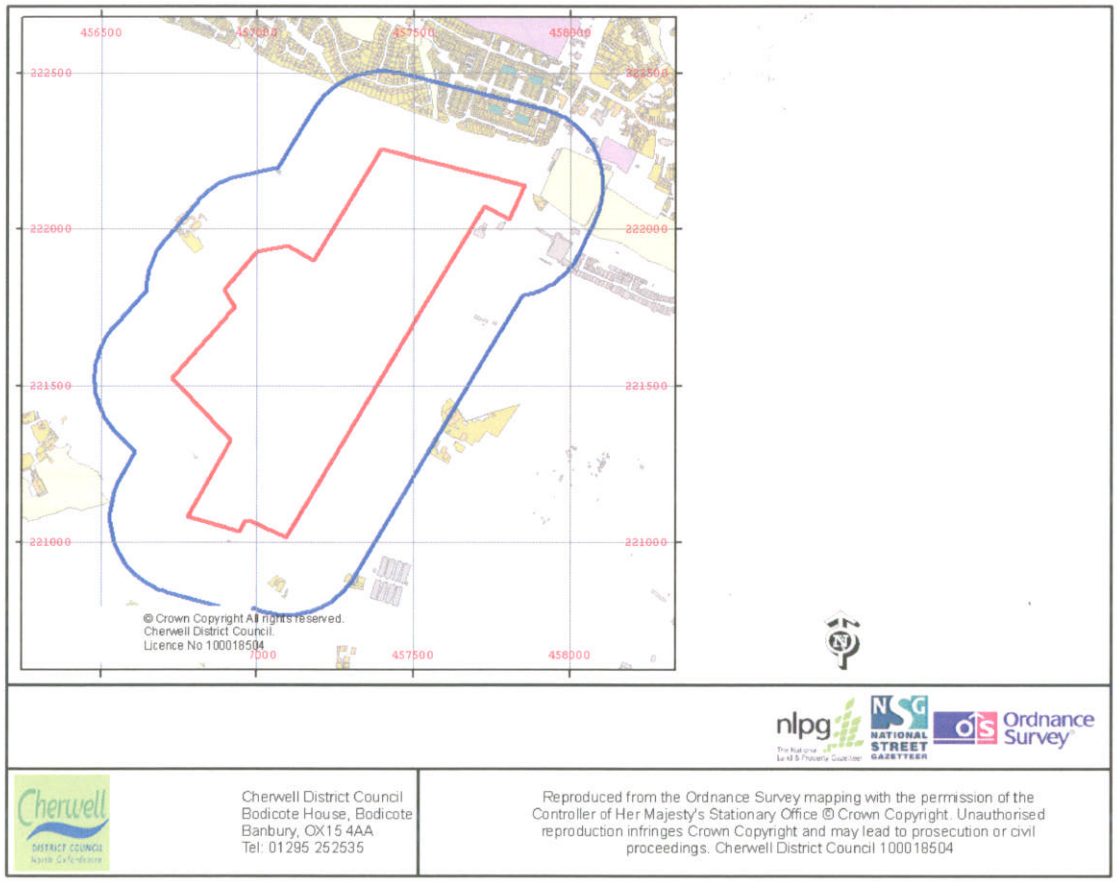
Site Results

Zone Name
ZONE3
ZONE2

Search Radius Results

Zone Name
ZONE3
ZONE2

Current Land Use



The map shows the site (red) and a search radius of 250 meters (blue).

The current land use (c.2005) information is based on information from OS Master Map, OS Address Point and Aerial photographs.

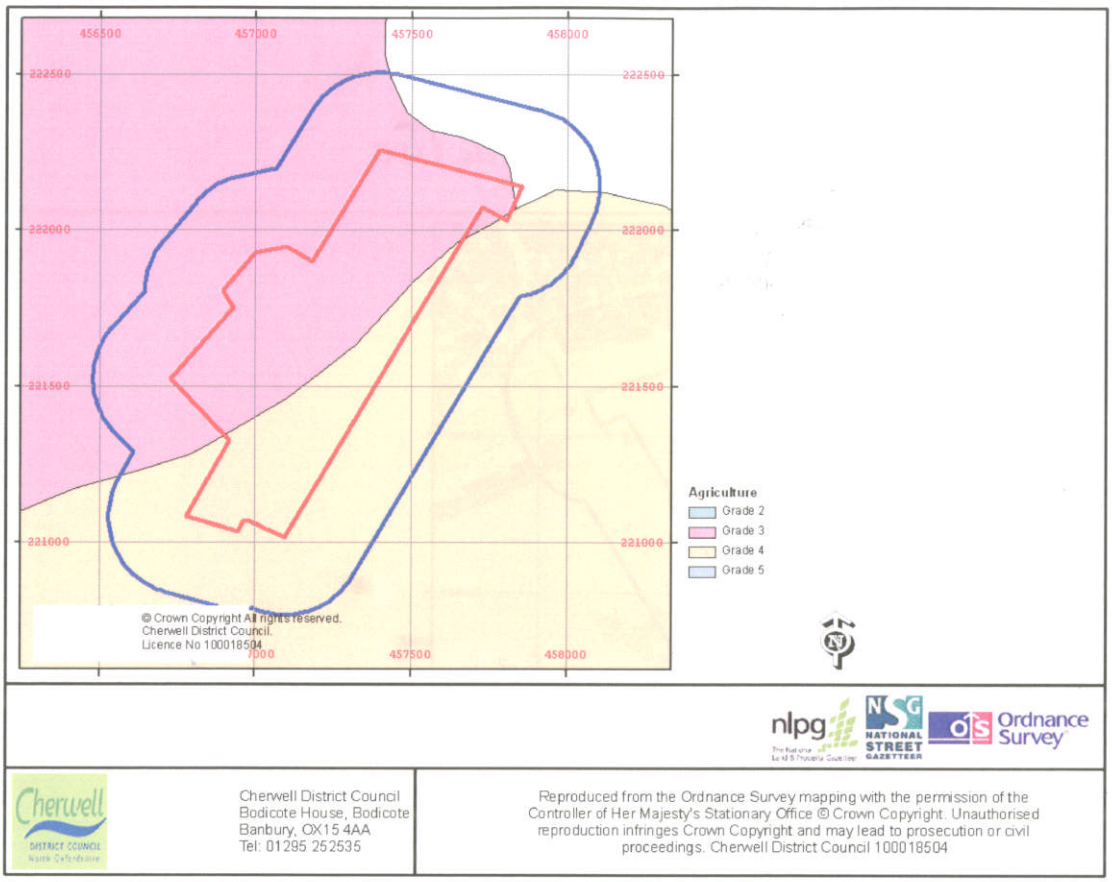
Site Results

No current land use data available at the site

Search Radius Results

Land use
Industrial/Commercial
Sensitive Open Areas
Residential Property
Residential Garden
Allotments
Education

Agriculture



The map shows the site (red) and a search radius of 250 meters (blue).

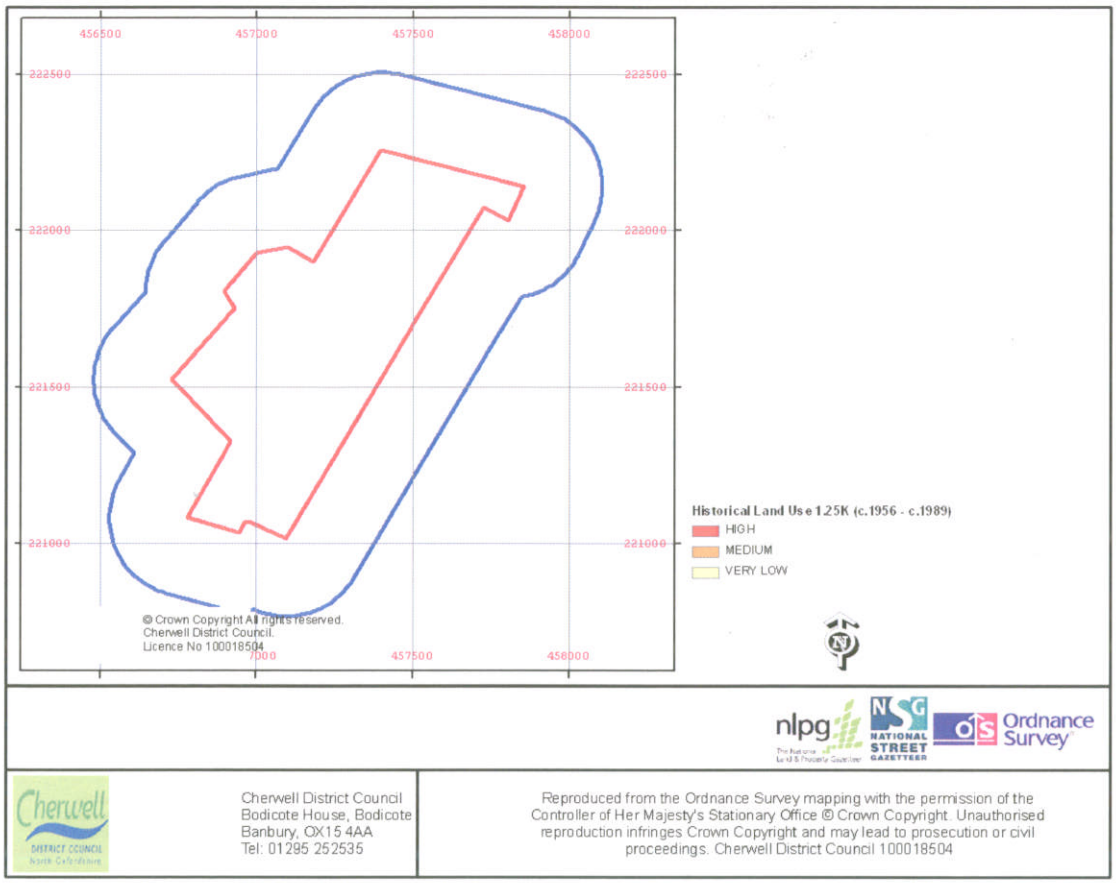
Site Results

Description
GRADE 3
GRADE 4
URBAN

Search Radius Results

Description
GRADE 3
GRADE 4
URBAN

Historical Land Use 1.25K (c.1956 - c.1989)



The map shows the site (red) and a search radius of 250 meters (blue).

The historical land use 1.25K (c.1956 - c.1989) information is based on County Series maps of the entire Cherwell District at a scale of 6 inches to one mile, which were mapped in the period 1956 - 1989.

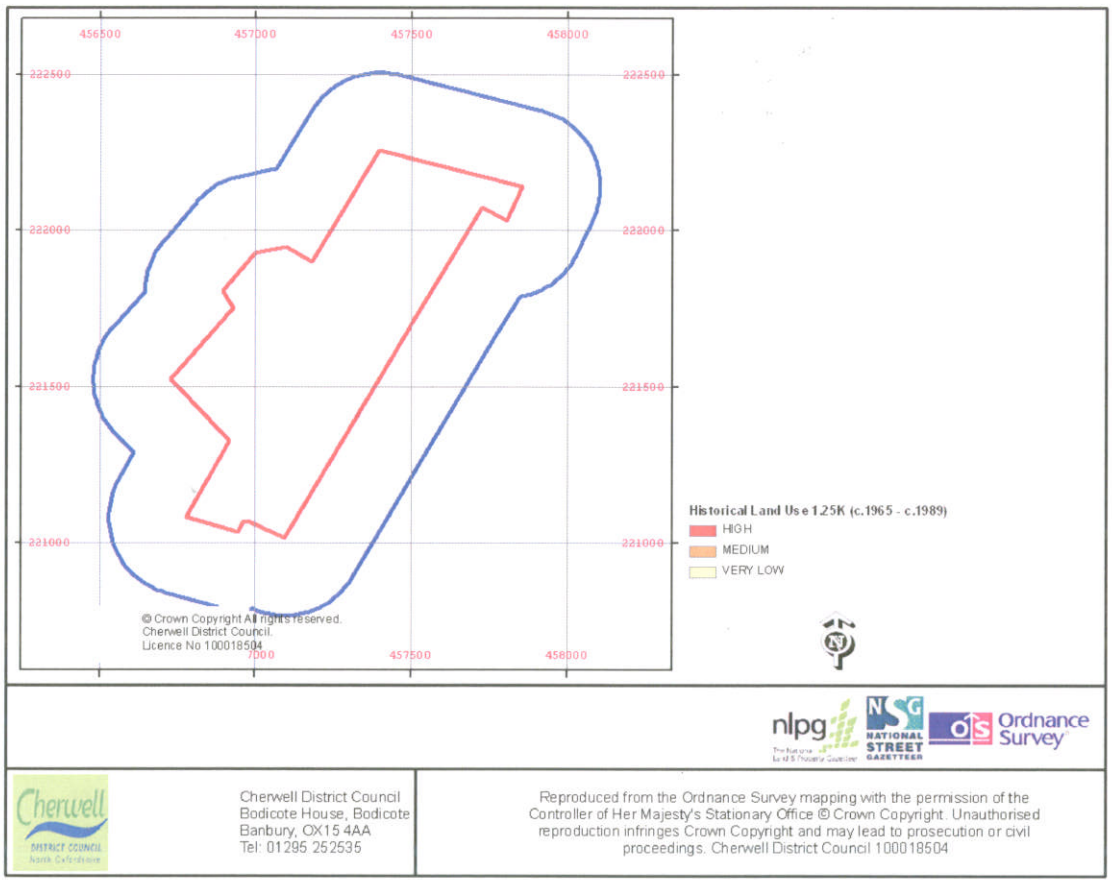
Site Results

No historical land use 1.25K (c.1956 - c.1989) mapped at the site

Search Radius Results

No historical land use 1.25K (c.1956 - c.1989) mapped in the search radius

Historical Land Use 1.25K (c.1965 - c.1989)



The map shows the site (red) and a search radius of 250 meters (blue).

The historical land use 1.25K (c.1965 - c.1989) information is based on County Series maps of the entire Cherwell District at a scale of 6 inches to one mile, which were mapped in the period 1965 - 1989.

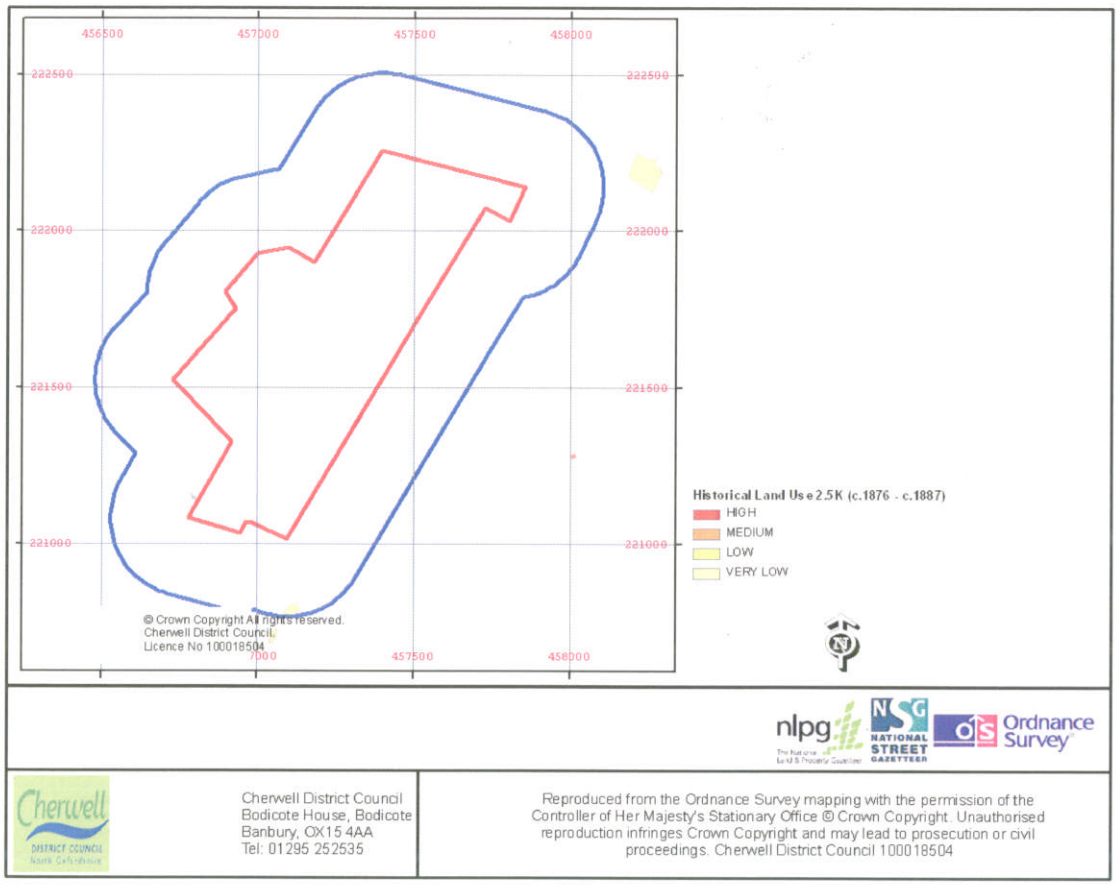
Site Results

No historical land use 1.25K (c.1965 - c.1989) mapped at the site

Search Radius Results

No historical land use 1.25K (c.1965 - c.1989) mapped in the search radius

Historical Land Use 2.5K (c.1876 - c.1887)



The map shows the site (red) and a search radius of 250 meters (blue).

The historical land use 2.5K (c.1876 - c.1887) information is based on County Series maps of the entire Cherwell District at a scale of 6 inches to one mile, which were mapped in the period 1876 -1887.

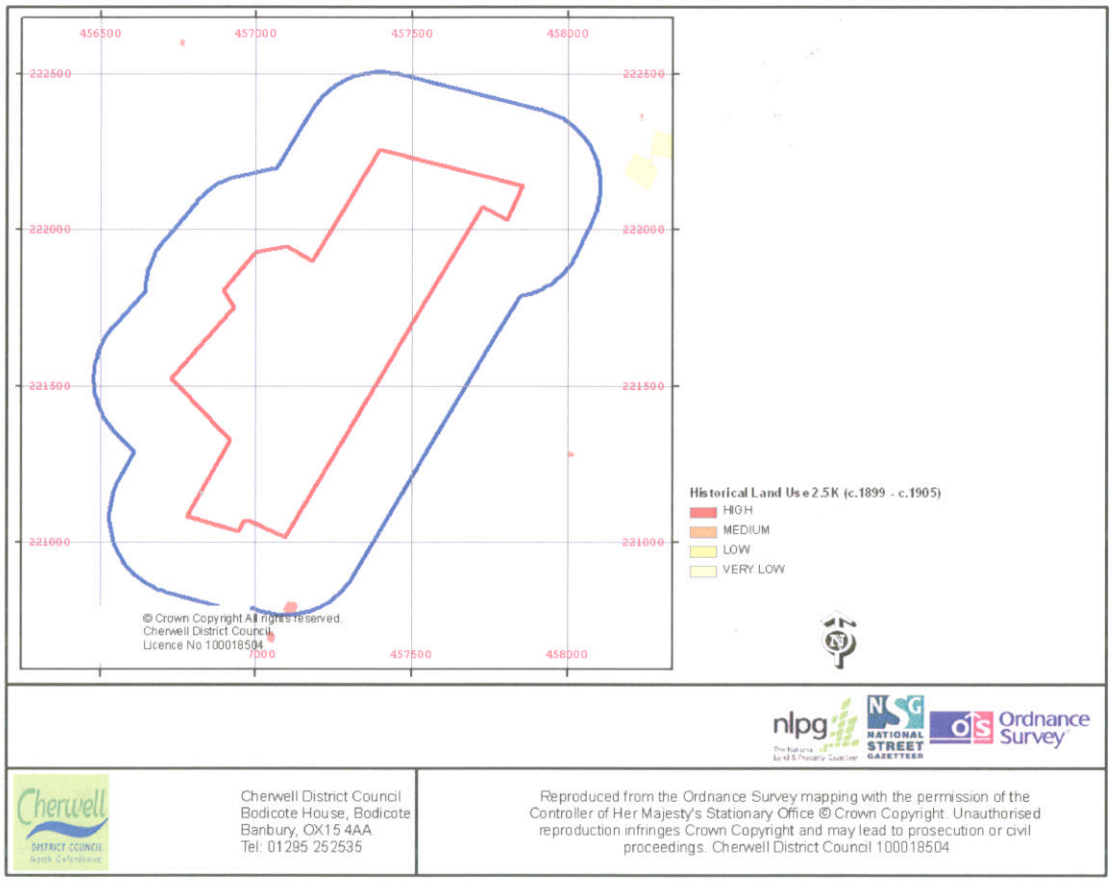
Site Results

No historical land use 2.5K (c.1876 - c.1887) mapped at the site

Search Radius Results

Description	Ranking
Pit - Clay	Low

Historical Land Use 2.5K (c.1899 - c.1905)



The map shows the site (red) and a search radius of 250 meters (blue).

The historical land use 2.5K (c.1899 - c.1905) information is based on County Series maps of the entire Cherwell District at a scale of 6 inches to one mile, which were mapped in the period 1899 -1905.

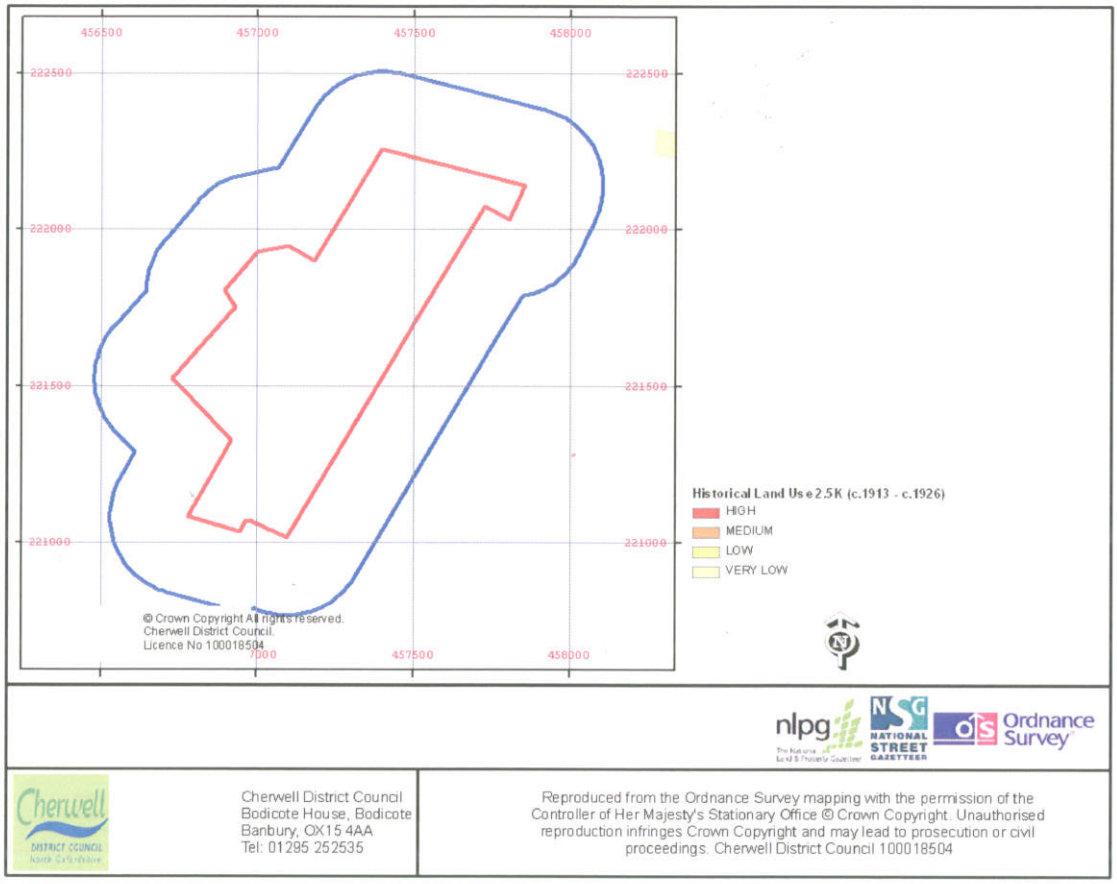
Site Results

No historical land use 2.5K (c.1899 - c.1905) mapped at the site

Search Radius Results

Description	Ranking
Unknown Filled Ground	High

Historical Land Use 2.5K (c.1913 - c.1926)



The map shows the site (red) and a search radius of 250 meters (blue).

The historical land use 2.5K (c.1913 - c.1926) information is based on County Series maps of the entire Cherwell District at a scale of 6 inches to one mile, which were mapped in the period 1913 -1926.

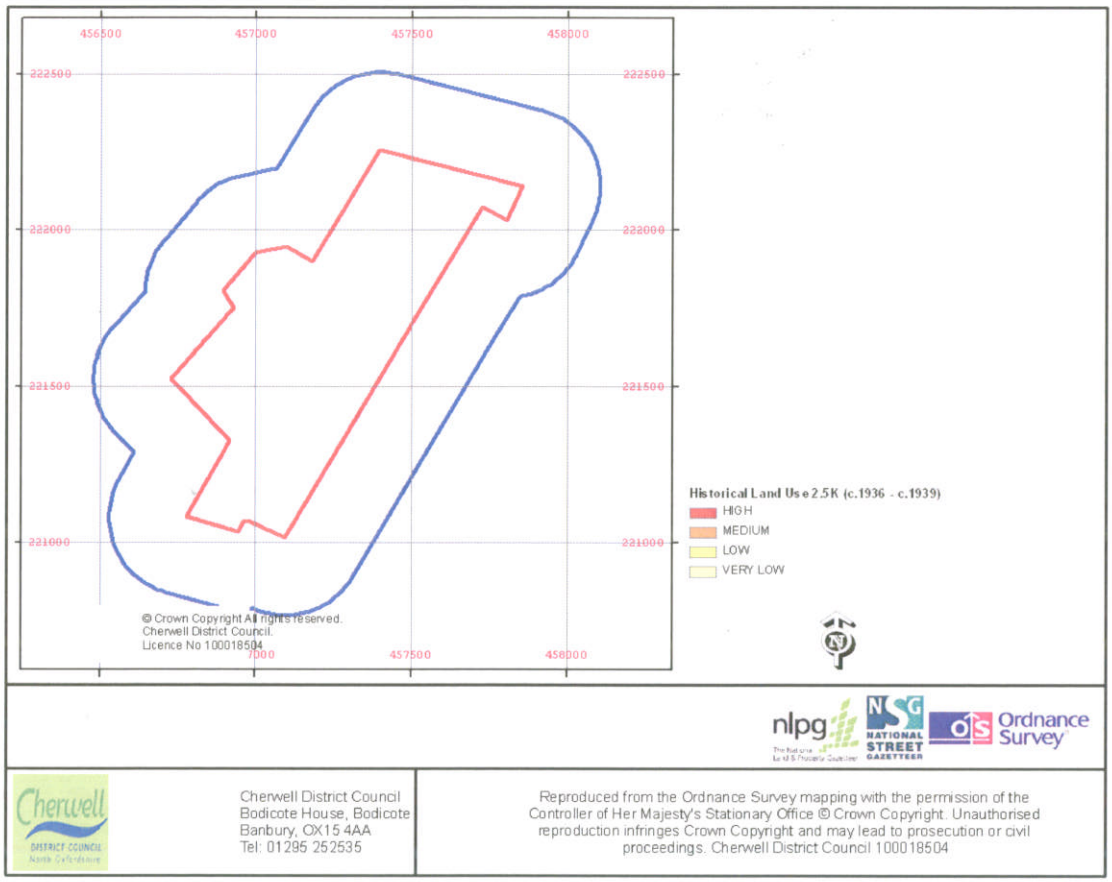
Site Results

No historical land use 2.5K (c.1913 - c.1926) mapped at the site

Search Radius Results

No historical land use 2.5K (c.1913 - c.1926) mapped in the search radius

Historical Land Use 2.5K (c.1936 - c.1939)



The map shows the site (red) and a search radius of 250 meters (blue).

The historical land use 2.5K (c.1936 - c.1939) information is based on County Series maps of the entire Cherwell District at a scale of 6 inches to one mile, which were mapped in the period 1936 -1939.

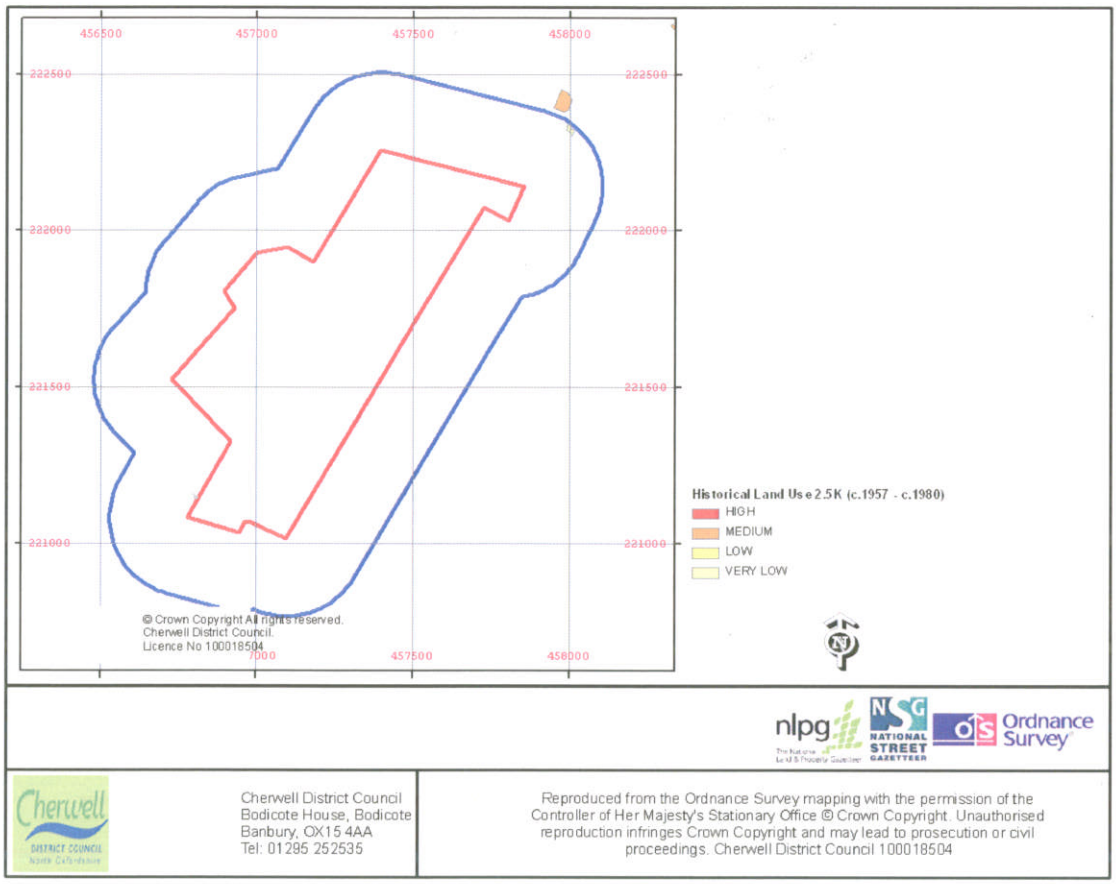
Site Results

No historical land use 2.5K (c.1936 - c.1939) mapped at the site

Search Radius Results

No historical land use 2.5K (c.1936 - c.1939) mapped in the search radius

Historical Land Use 2.5K (c.1957 - c.1980)



The map shows the site (red) and a search radius of 250 meters (blue).

The historical land use 2.5K (c.1957 - c.1980) information is based on County Series maps of the entire Cherwell District at a scale of 6 inches to one mile, which were mapped in the period 1957 -1980.

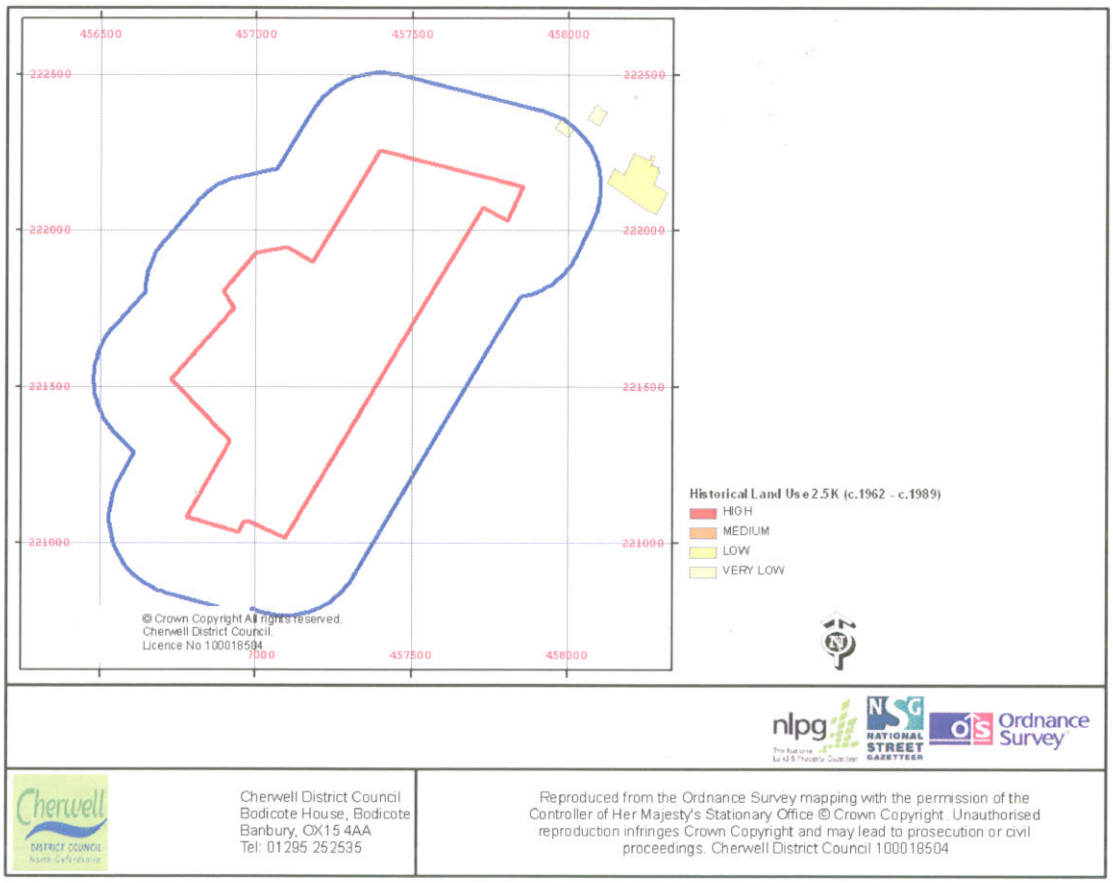
Site Results

No historical land use 2.5K (c.1957 - c.1980) mapped at the site

Search Radius Results

Description	Ranking
Hospital - Hospital	Very Low

Historical Land Use 2.5K (c.1962 - c.1989)



The map shows the site (red) and a search radius of 250 meters (blue).

The historical land use 2.5K (c.1962 - c.1989) information is based on County Series maps of the entire Cherwell District at a scale of 6 inches to one mile, which were mapped in the period 1962 -1989.

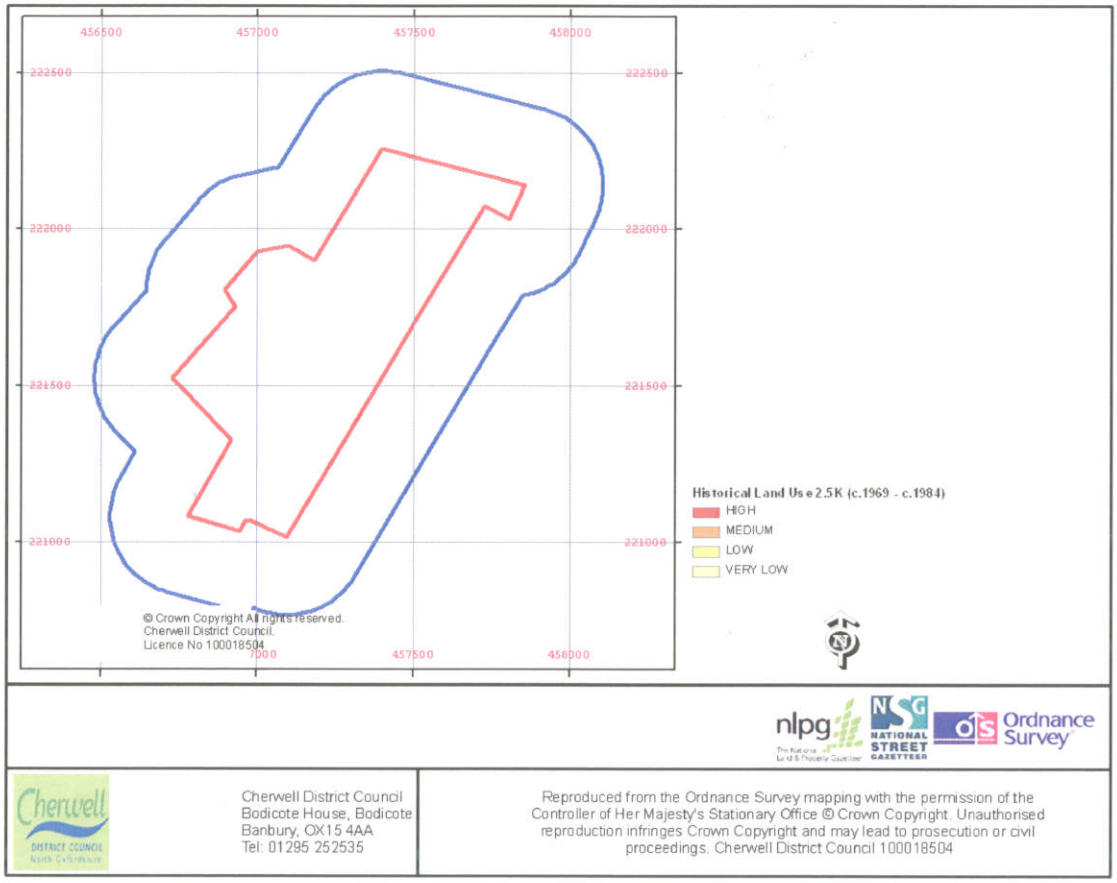
Site Results

No historical land use 2.5K (c.1962 - c.1989) mapped at the site

Search Radius Results

Description	Ranking
Hospital - Hospital	Very Low

Historical Land Use 2.5K (c.1969 - c.1984)



The map shows the site (red) and a search radius of 250 meters (blue).

The historical land use 2.5K (c.1969 - c.1984) information is based on County Series maps of the entire Cherwell District at a scale of 6 inches to one mile, which were mapped in the period 1969 -1984.

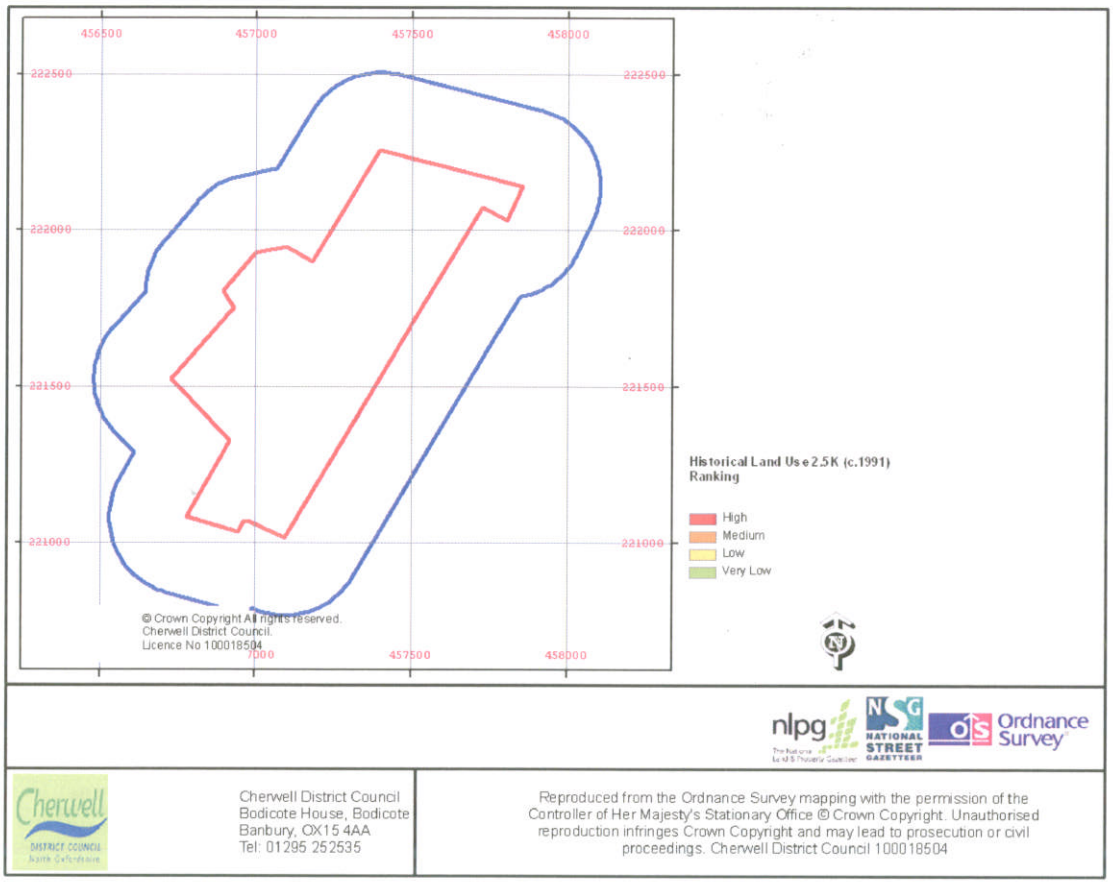
Site Results

No historical land use 2.5K (c.1969 - c.1984) mapped at the site

Search Radius Results

No historical land use 2.5K (c.1969 - c.1984) mapped in the search radius

Historical Land Use 2.5K (c.1991)



The map shows the site (red) and a search radius of 250 meters (blue).

The historical land use 2.5K (c.1991) information is based on County Series maps of the entire Cherwell District at a scale of 6 inches to one mile, which were mapped in the period 1991.

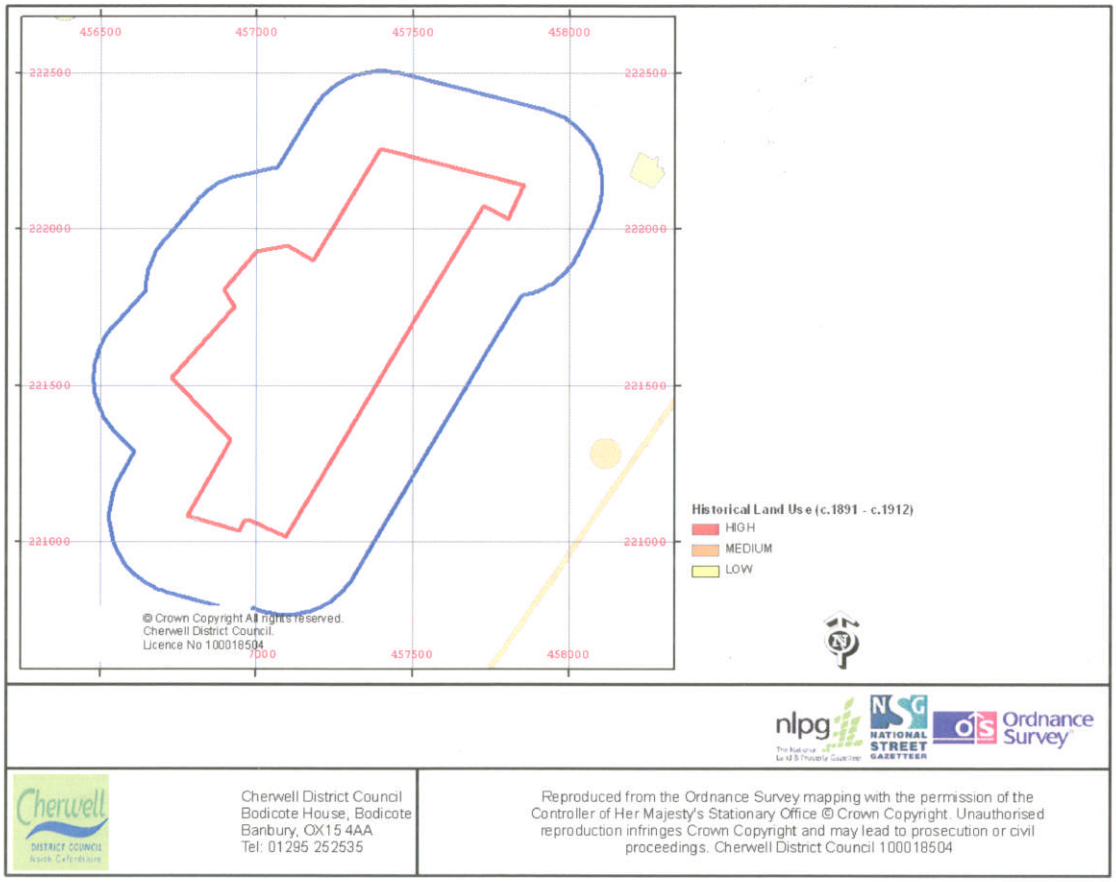
Site Results

No historical land use 2.5K (c.1991) mapped at the site

Search Radius Results

No historical land use 2.5K (c.1991) mapped in the search radius

Historical Land Use (c.1891 - c.1912)



The map shows the site (red) and a search radius of 250 meters (blue).

The historical land use (c.1891 - c.1912) information is based on County Series maps of the entire Cherwell District at a scale of 6 inches to one mile, which were mapped in the period 1891-1912.

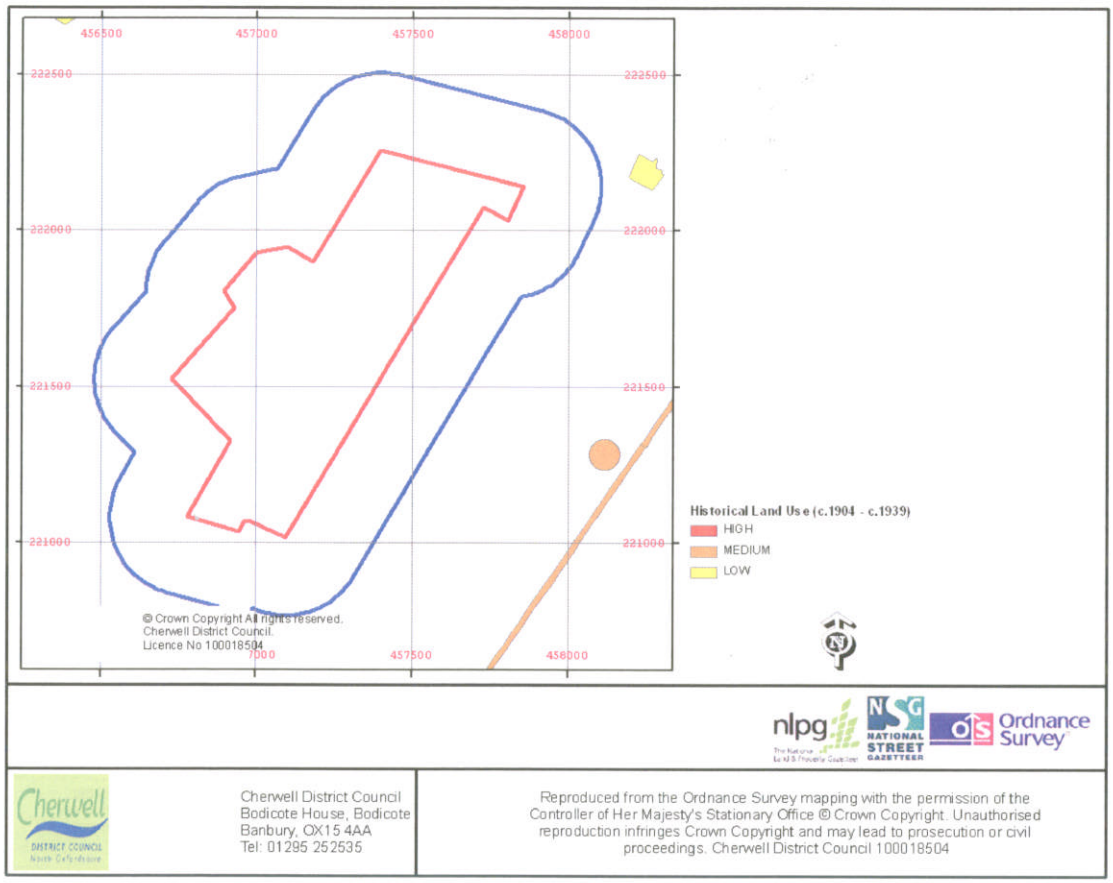
Site Results

No historical land use (c.1891 - c.1912) mapped at the site

Search Radius Results

No historical land use (c.1891 - c.1912) mapped in the search radius

Historical Land Use (c.1904 - c.1939)



The map shows the site (red) and a search radius of 250 meters (blue).

The historical land use (c.1904 - c.1939) information is based on County Series maps of the entire Cherwell District at a scale of 6 inches to one mile, which were mapped in the period 1904-1939.

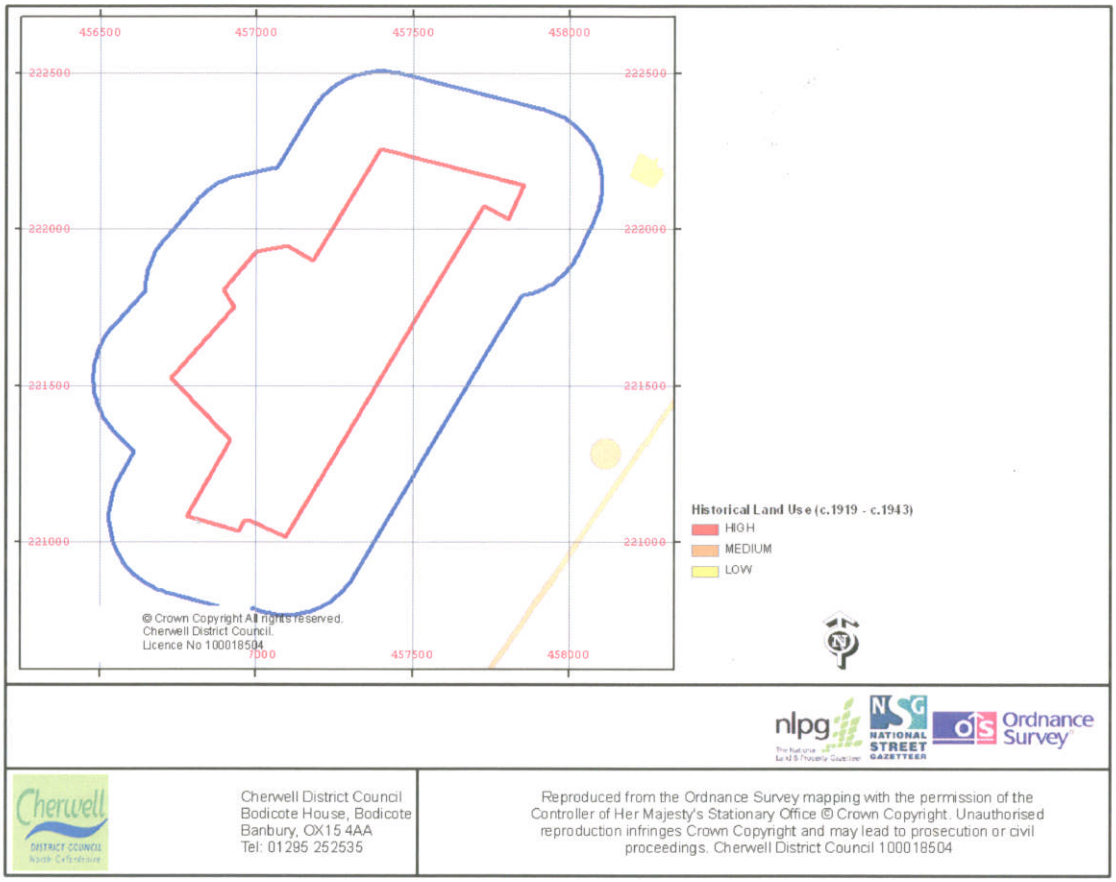
Site Results

No historical land use (c.1904 - c.1939) mapped at the site

Search Radius Results

No historical land use (c.1904 - c.1939) mapped in the search radius

Historical Land Use (c.1919 - c.1943)



The map shows the site (red) and a search radius of 250 meters (blue).

The historical land use (c.1919 - c.1943) information is based on County Series maps of the entire Cherwell District at a scale of 6 inches to one mile, which were mapped in the period 1919-1943.

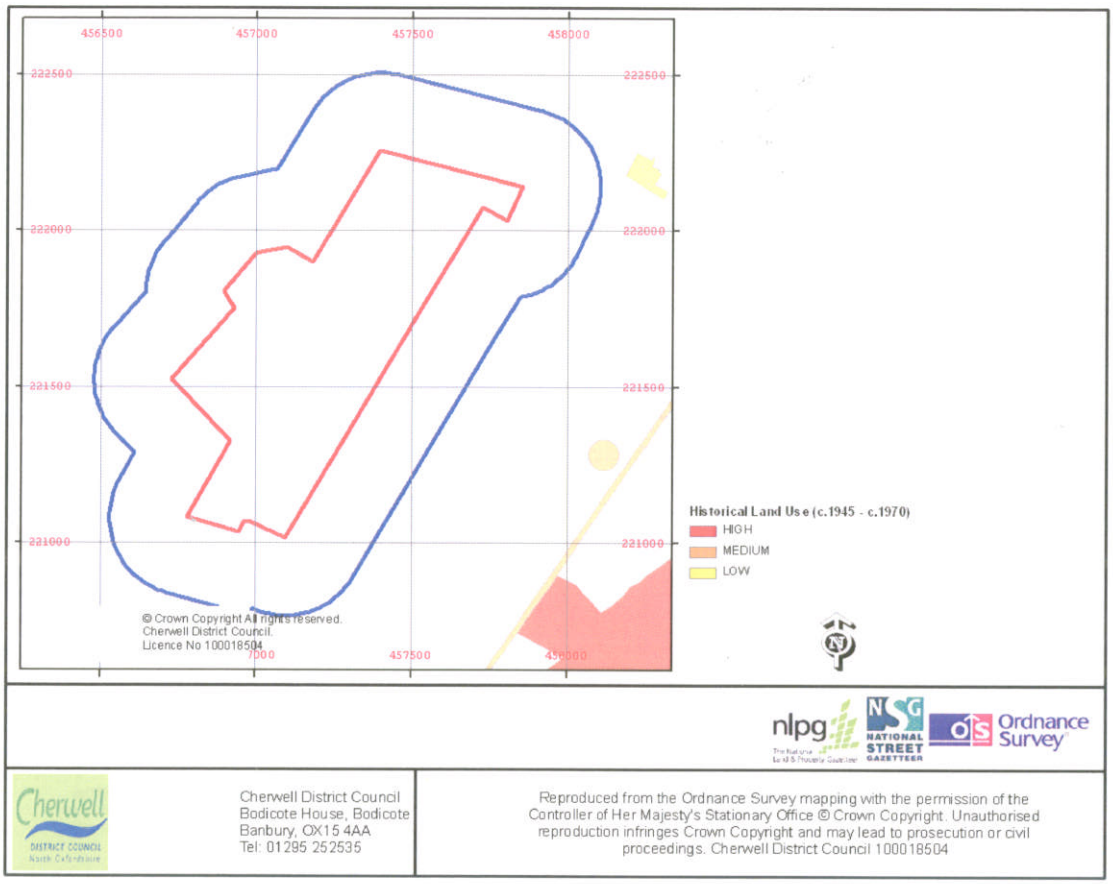
Site Results

No historical land use (c.1919 - c.1943) mapped at the site

Search Radius Results

No historical land use (c.1919 - c.1943) mapped in the search radius

Historical Land Use (c.1945 - c.1970)



The map shows the site (red) and a search radius of 250 meters (blue).

The historical land use (c.1945 - c.1970) information is based on Ordnance Survey National Grid maps of the entire Cherwell District at a scale of 1:10 000, which were mapped in the period 1945-1970.

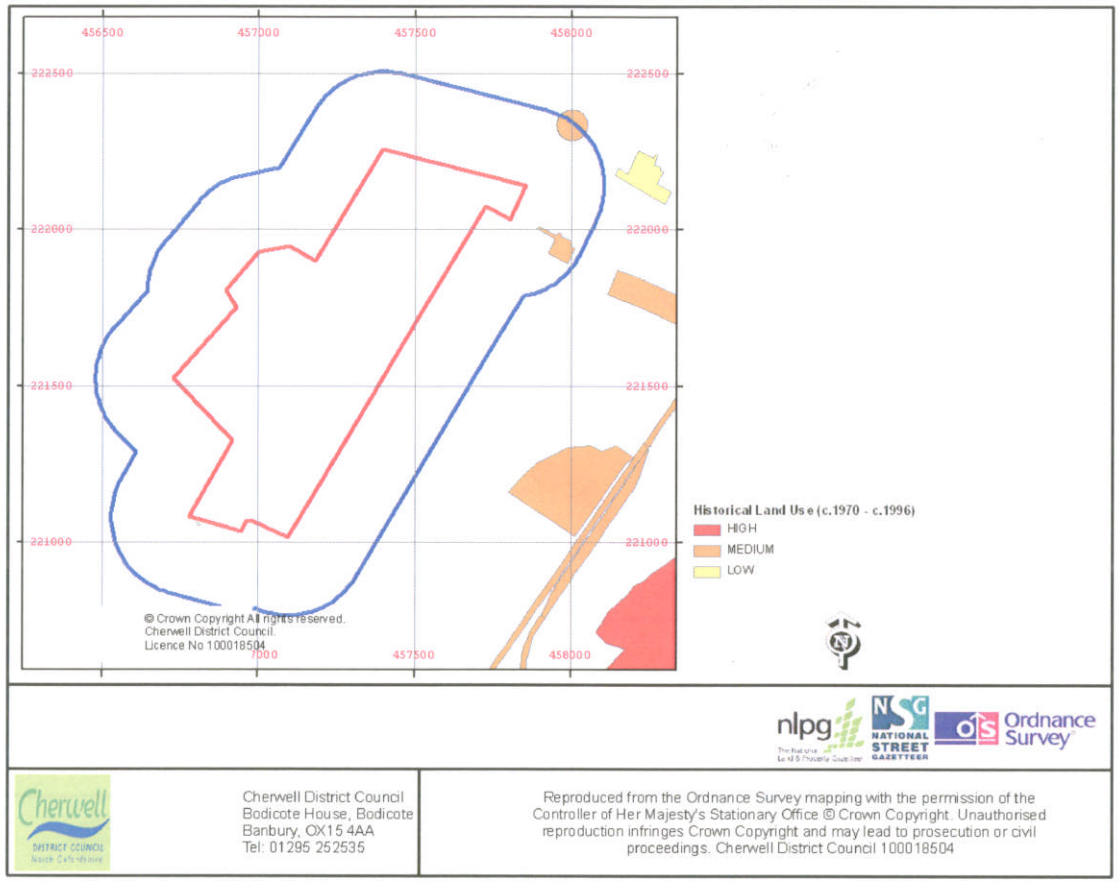
Site Results

No historical land use (c.1945 - c.1970) mapped at the site

Search Radius Results

No historical land use (c.1945 - c.1970) mapped in the search radius

Historical Land Use (c.1970 - c.1996)



The map shows the site (red) and a search radius of 250 meters (blue).

The historical land use (c.1970 - c.1996) information is based on Ordnance Survey National Grid maps of the entire Cherwell District at a scale of 1:10 000, which were mapped in the period 1970-1996.

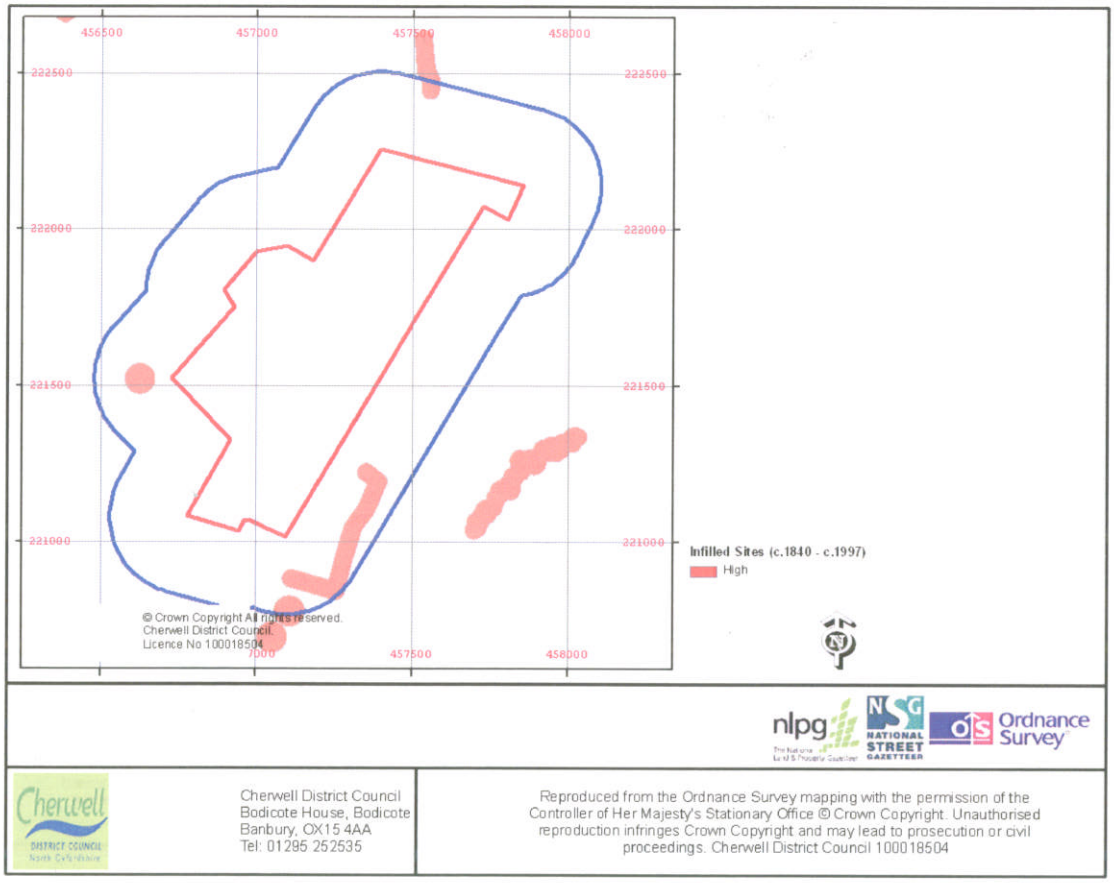
Site Results

No historical land use (c.1970 - c.1996) mapped at the site

Search Radius Results

Description	Ranking
Hospitals	MEDIUM
Factory or works - use not specified	MEDIUM

Infilled Sites (c.1840 - c.1997)



The map shows the site (red) and a search radius of 250 meters (blue).

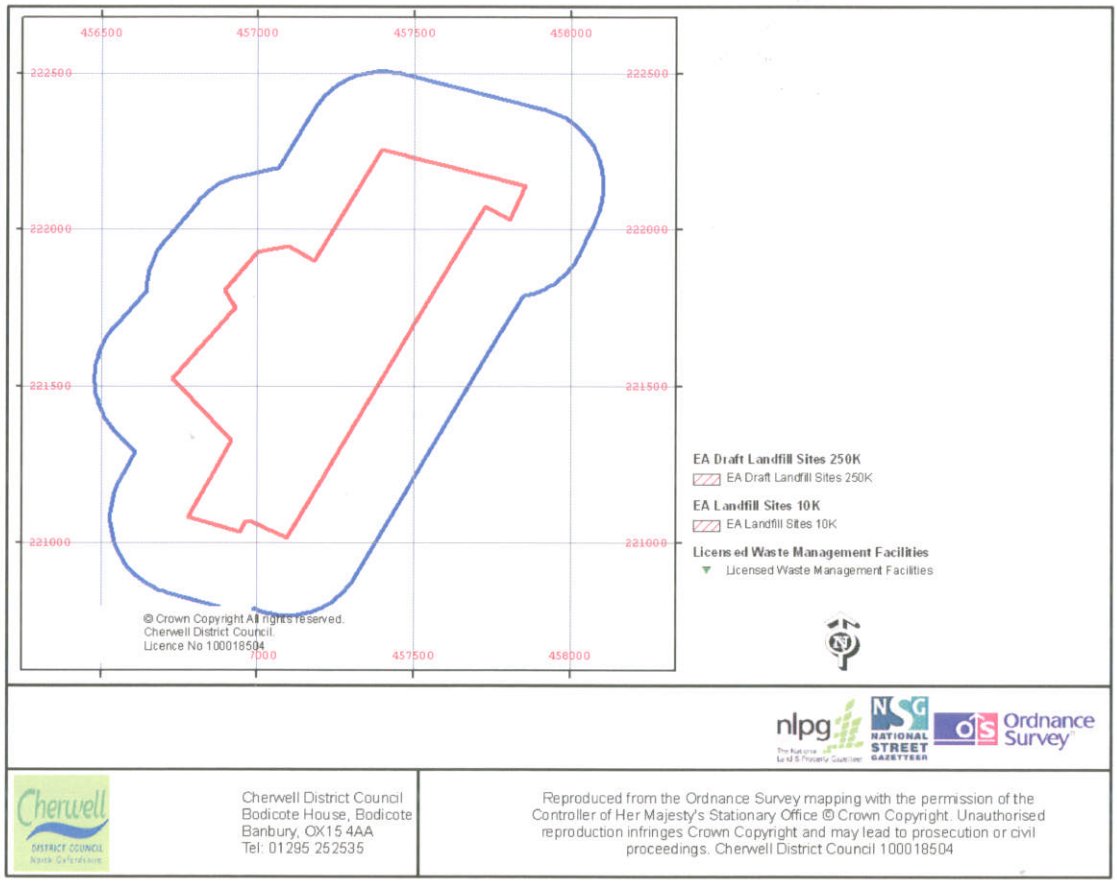
Site Results

No infilled Sites (c.1840 - c.1997) mapped at the site

Search Radius Results

Description	Ranking
Unknown Filled Ground (Pond, marsh, river, stream,dock	High
Unknown Filled Ground (Pond, marsh, river, stream,dock	High
Unknown Filled Ground (Pit, quarry etc)	High
Unknown Filled Ground (Pond, marsh, river, stream,dock	High

Landfill Sites and Licensed Waste Management Facilities



The map shows the site (red) and a search radius of 250 meters (blue).

Landfill and waste data derives from Environment Agency data & local knowledge of sites that pre date Environment Agency data.

EA Landfill Sites 10K

Site Results

No EA registered landfills at the site

Search Radius Results

No EA registered landfills in the search radius

EA Draft Landfill Sites 250K

Site Results

No draft landfills at the site

Search Radius Results

No draft landfills in the search radius

Licensed Waste Management Facilities

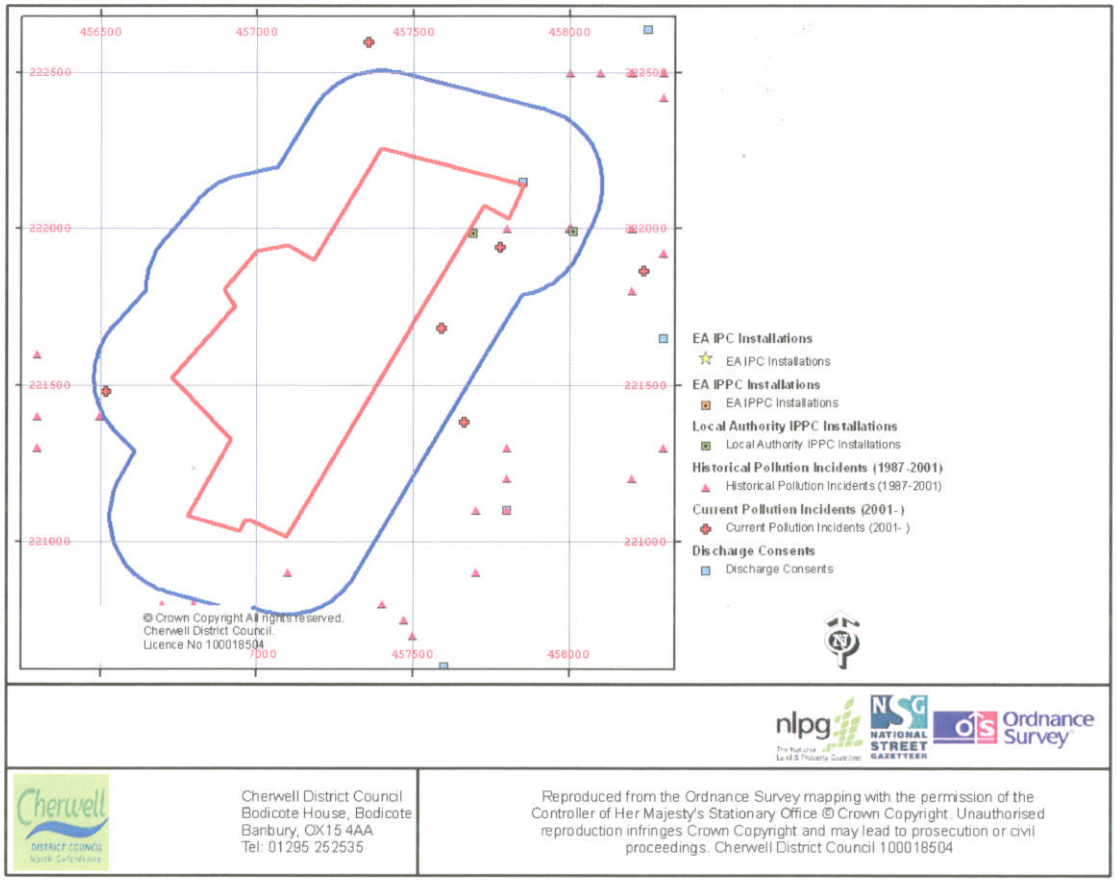
Site Results

No waste sites at the site

Search Radius Results

No waster sites in the search radius

Environmentally Sensitive Data



The map shows the site (red) and a search radius of 250 meters (blue).

All environmentally sensitive data derives from Environment Agency data

EA IPC Installations

Site Results

No IPC Installations at the site

Search Radius Results

No IPC Installations in the search radius

EA IPPC Installations

Site Results

No IPPC Installations at the site

Search Radius Results

No IPPC Installations in the search radius

Local Authority IPPC Installations

Site Results

No IPPC Installations at the site

Search Radius Results

Name	Operator	Permit Number	Description Easting
Northing		Tesco	Service Station Unloading Petrol
458010	221990	ROC UK Ltd	Service Station Unloading Petrol
457692	221984		

Registered Radioactive Substance Sites

Site Results

No Registered Radioactive Substance sites at the site

Search Radius Results

No Registered Radioactive Substance sites in the search radius

Historical Pollution Incidents (1987-2001)

Site Results

No Historical Pollution Incidents (1987-2001) at the site

Search Radius Results

Details	NGR	Major Incident
Sewage/Other/	SP571 209	No
General/Suspended solids (inert)/	SP 580 220	No
Natural/Other/	SP 58 22	No
General/Rubbish/	SP58 22	Yes
General/Suspended solids (inert)/SILT	SP58002200	Yes
Agriculture/Milk/	SP58002200	No
Oil/Diesel/DIESEL	SP 5780 2200	No
Not Yet Known/Not Yet Known/AZOLLA WATER	SP 58 22	No
Other	SP58002200	
No Pollutant	SP58002200	
Hydraulic oils/fluids	SP58002200	
Other	SP58002200	
Industrial and Commercial waste	SP58002200	
Settled Sewage	SP58002200	
No Pollutant	SP58002200	
Industrial and Commercial waste	SP58002200	
Other	SP58002200	
Grain & Feeds	SP58002200	
Other Pollutant	SP58002200	
Fuel oils (industrial)	SP58002200	
Settled Sewage	SP58002200	
Settled Sewage	SP58002200	
	SP58002200	

Current Pollution Incidents (2001-)

Site Results

No Current Pollution Incidents (2001-) at the site

Search Radius Results

Details	NGR	Major Incident
	SP 57589 21682	Category 4 (No Impact)
Hay fire	SP56522148	Category 3 (Minor)
road traffic accident	SP5777821940	Category 2 (Significant)

Discharge Consents

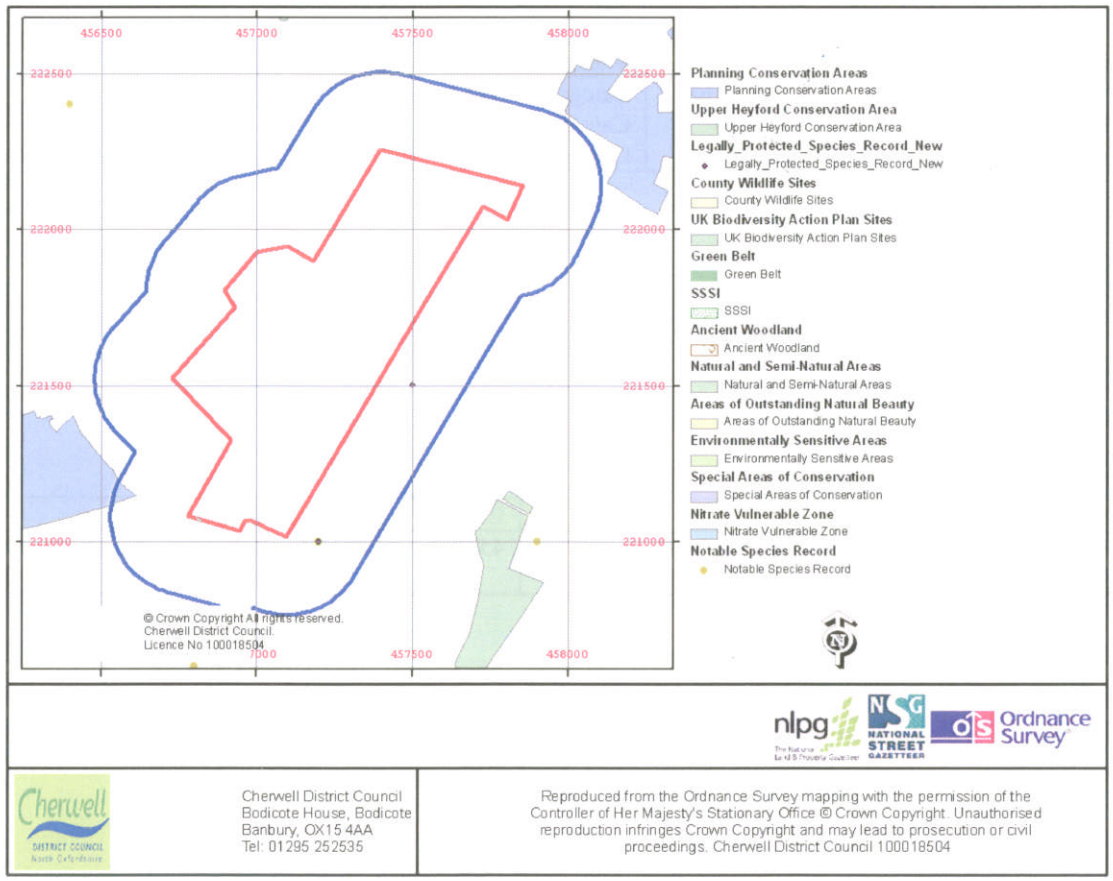
Site Results

No discharge consents at the site

Search Radius Results

License	Name	Easting	Northing	Type
CNTM.1213	SOVREIGN TYRE LTD TRADING AS	457850	222150	Retail Filling Stations

Sites of Environmental Importance



Scheduled Ancient Monuments data © English Nature

The map shows the site (red) and a search radius of 250 meters (blue).

Information on Ancient Woodland and SSSIs were provided by English Nature.

Ancient Woodland

Site Results

No ancient woodland at the site

Search Radius Results

No ancient woodland in the search radius

SSSI

Site Results

No SSSIs at the site

Search Radius Results

No SSSIs in the search radius

Planning Conservation Areas

Site Results

No Planning Conservation Areas at the site

Search Radius Results

Site name
Chesterton

Upper Heyford Conservation Area

Site Results

No Conservation Areas at the site

Search Radius Results

No Conservation Areas in the search radius

Special Areas of Conservation

Site Results

No Special Areas of Conservation at the site

Search Radius Results

No Special Areas of Conservation in the search radius

County Wildlife Sites

Site Results

No Wildlife Sites at the site

Search Radius Results

No Wildlife Sites in the search radius

UK Biodiversity Action Plan Sites

Site Results

No UK Biodiversity Action Plan at the site

Search Radius Results

No UK Biodiversity Action Plan in the search radius

Green Belt land

Site Results

No areas of Green Belt at the site

Search Radius Results

No areas of Green Belt in the search radius

Natural and Semi-Natural Areas

Site Results

No Natural and Semi-Natural Areas at the site

Search Radius Results

No Natural and Semi-Natural Areas in the search radius

Areas of Outstanding Natural Beauty

Site Results

No Areas of Outstanding Natural Beauty at the site

Search Radius Results

No Areas of Outstanding Natural Beauty in the search radius

Environmentally Sensitive Areas

Site Results

No Environmentally Sensitive Areas at the site

Search Radius Results

No Environmentally Sensitive Areas in the search radius

Nitrate Vulnerable Zone

Site Results

No Nitrate Vulnerable Zone at the site

Search Radius Results

No Nitrate Vulnerable Zone in the search radius

Notable Species Records

Site Results

No Notable Species Records at the site

Search Radius Results

Name	Site	Status
Emberiza citrinella	Roman Road by Hayfield	

Legally Protected Species Record

Site Results

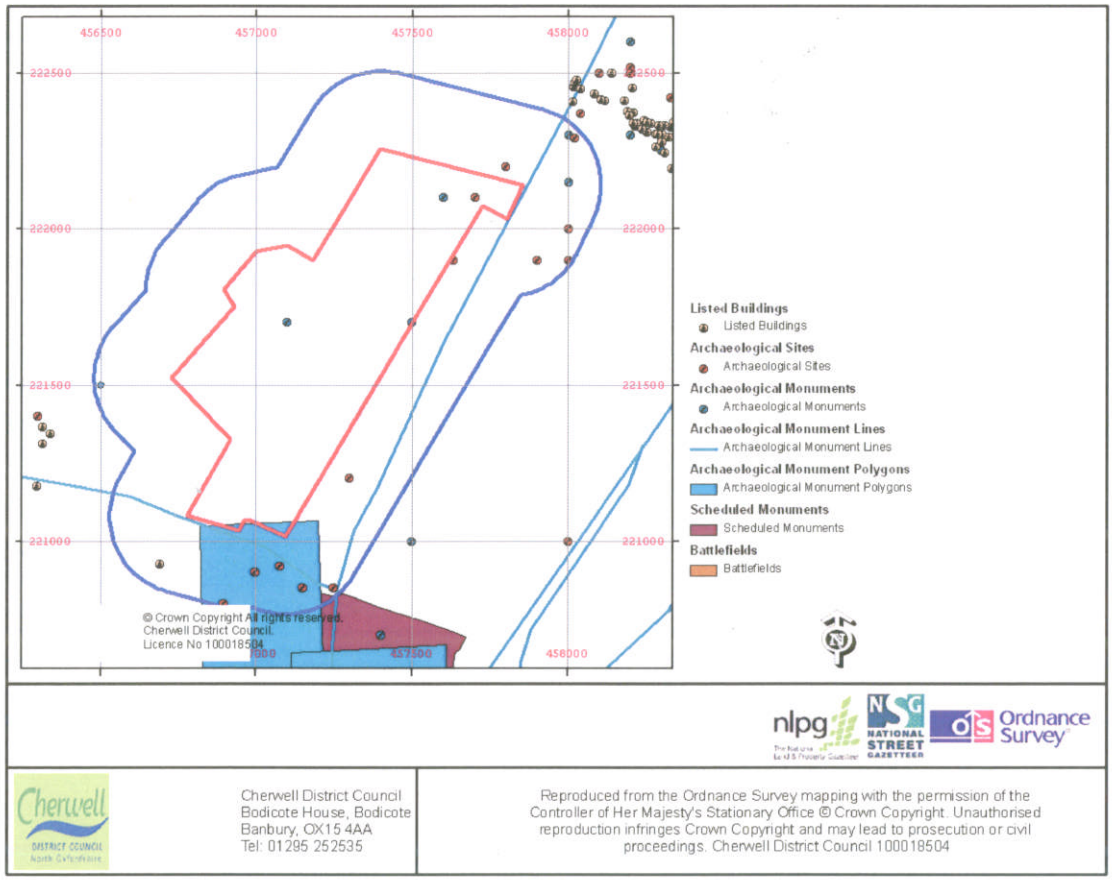
No Legally Protected Species Record at the site

Search Radius Results

Name	Site	Status
Matrix	Roman Road by Hayfield	

Name	Site	Status
Meles	oxon tetrad 5620	

Heritage Sites



Scheduled Ancient Monuments data © English Nature

The map shows the site (red) and a search radius of 250 meters (blue).

Listed Buildings

Site Results

No listed buildings at the site

Search Radius Results

Title	Easting	Northing
BRIDGE APPROXIMAT	456692	220926

Archaeological Sites

Site Results

Name	Easting	Northing
PROPOSED BICESTER COMMUNITY HOSPITAL	457700	222100

Search Radius Results

Name	Easting	Northing

Name	Easting	Northing
BICESTER COLLEGE HOSPITAL, KINGS END	458020	222290
HAPPY EATER, FORTE DEVELOPMENT	457630	221900
CHESTERTON LANE, ALCHESTER	457080	220920
BICESTER RETAIL VILLAGE (PHASE 2B)	458000	221900
F-STATION	457150	220850
CHESTERTON LANE	457000	220900
COURTHOUSE AND COUNTY POLICE BUILDINGS	458000	222000
FACCENDA CHICKEN FARM	457250	220850
A421 WENDLEBURY-BICESTER DUALLING (SITE D)	457300	221200
CHESTERTON LANE (A421 WENDLEBURY-BICESTER DUALLING SITES B &	457000	220900
LAND ADJACENT TO MIDDLETON STONEY ROAD	457800	222200
OXFORD ROAD, BICESTER	458000	221900
A421 WENDLEBURY-BICESTER DUALLING (SITE A)	456900	220800
TESCO SUPERMARKET SITE	457900	221900
LITTLEBURY HOTEL	458000	222000

Archaeological Monuments

Site Results

Description	Easting	Northing
Cropmarks - ring ditches (5)	457600	222100
Cropmark - ? ring ditches	457100	221700

Search Radius Results

Description	Easting	Northing
Cropmarks - ring ditches (2)	457500	221700
The hospital was built as a nursing home in 1927-28, and begun as a rectangular building, comprising a central block flanked by three-bay wings. The east wing was extended in the 1930s-40s by two bays, which house the operating theatre.	458000	222300
Former public house, two storeys, built from rubble with a stuccoed front and a slate roof. A central entrance with pilasters and a pediment is flanked by two canted bay windows; there are two sash windows to the first floor. Shown on the Ordnance Survey	458000	222000
Bicester anti-tank island.	458000	222000
Excavations in 1937 uncovered the remains of an Iron Age and Romano British settlement site dating to the 1st and 2nd centuries AD. Further excavations in the vicinity in 1991 discovered more Iron Age and Roman settlement on the North side of Akeman Street	457080	220920
Cropmarks - curved ditch	458000	222150

Archaeological Monument Lines

Site Results

No archaeological monuments at the site

Search Radius Results

Description
Roman road running from Towcester to Alchester. Roman Road extending from Alchester to Cirencester

Archaeological Monument Polygons

Site Results

Description
Iron Age Banjo enclosure and possible hut circles and track way visible as Cropmarks.

Search Radius Results

Description
Quartzite Pebble Macehead - erroneously sited
Iron Age Banjo enclosure and possible hut circles and trackway visible as Cropmarks.

Scheduled Monuments

Site Results

No scheduled monuments at the site

Search Radius Results

Name
Alchester Roman site

Battlefields

Site Results

No battlefields at the site

Search Radius Results

No battlefields in the search radius

Additional Comments

Important

Ms Helen Gardiner
WSP Environmental
Mountbatten House
Basing View
Basingstoke
Hampshire
RG21 4HJ

Our ref: WIR28824

Your ref:

Date: 06 October 2008

Dear Ms Gardiner

Further to your recent quest please find below information relating to site known as:

Site south of Bicester, SP 57564 21958

After checking the Environment Agency's records I can confirm the following

Pre- license / Licensed Landfills
0 within 1km of NGR SP 57564 21958

Pollution Incidents
0 Category 1 or 2 Pollution Incidents within 500m of NGR SP 57564 21958

Part B APC
Any records of these will be available from the Local Planning Authority.

Private Water Supplies
Any records of these will be available from the Local Environmental Health Office.

Abstraction Licences
0 Licensed Abstractions within 500m of NGR SP 57564 21958

Please may we draw your attention to the enclosed Standard Notice (Commercial) for the supply of Environment Agency Information.

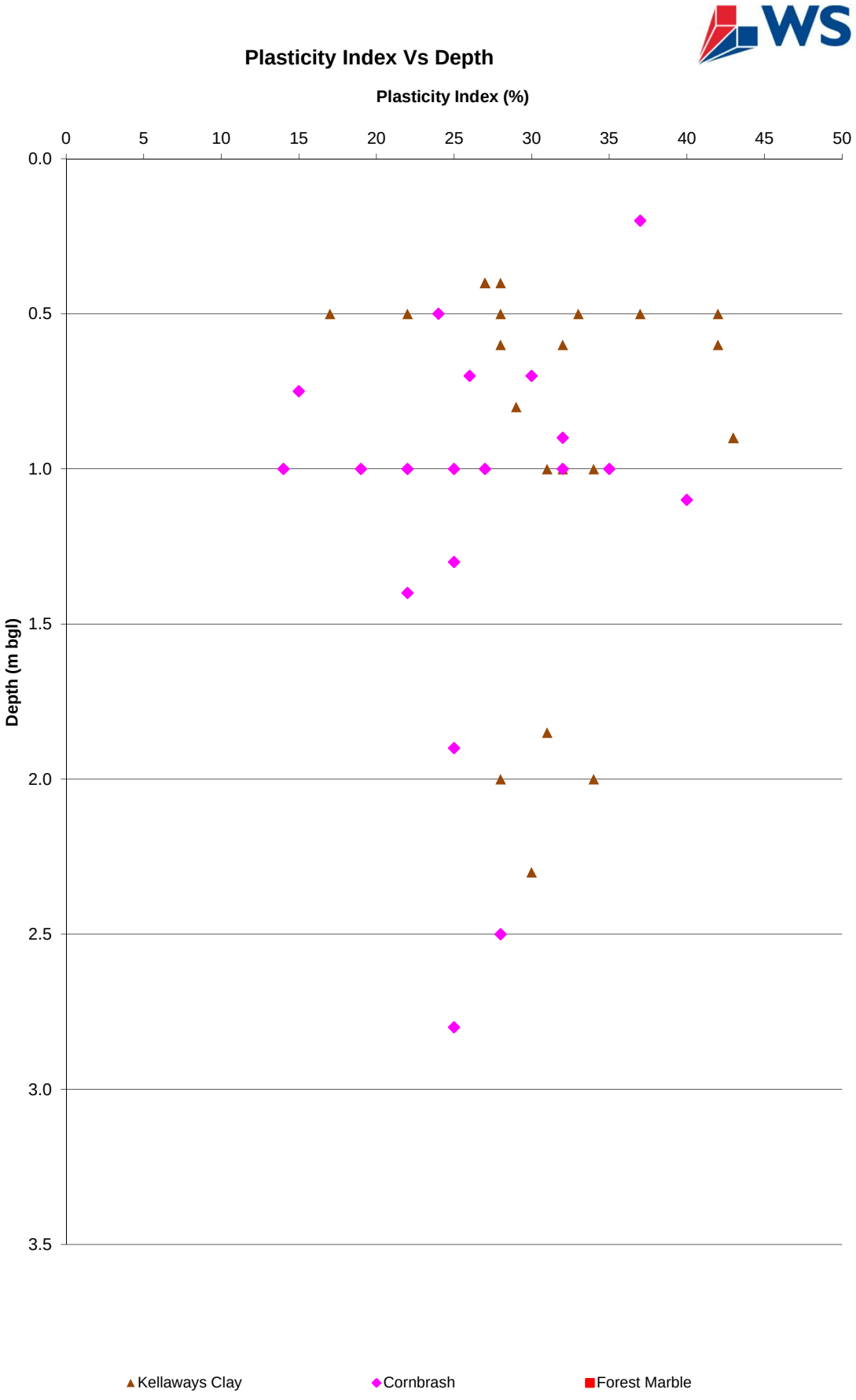
We hope this information is useful to you.

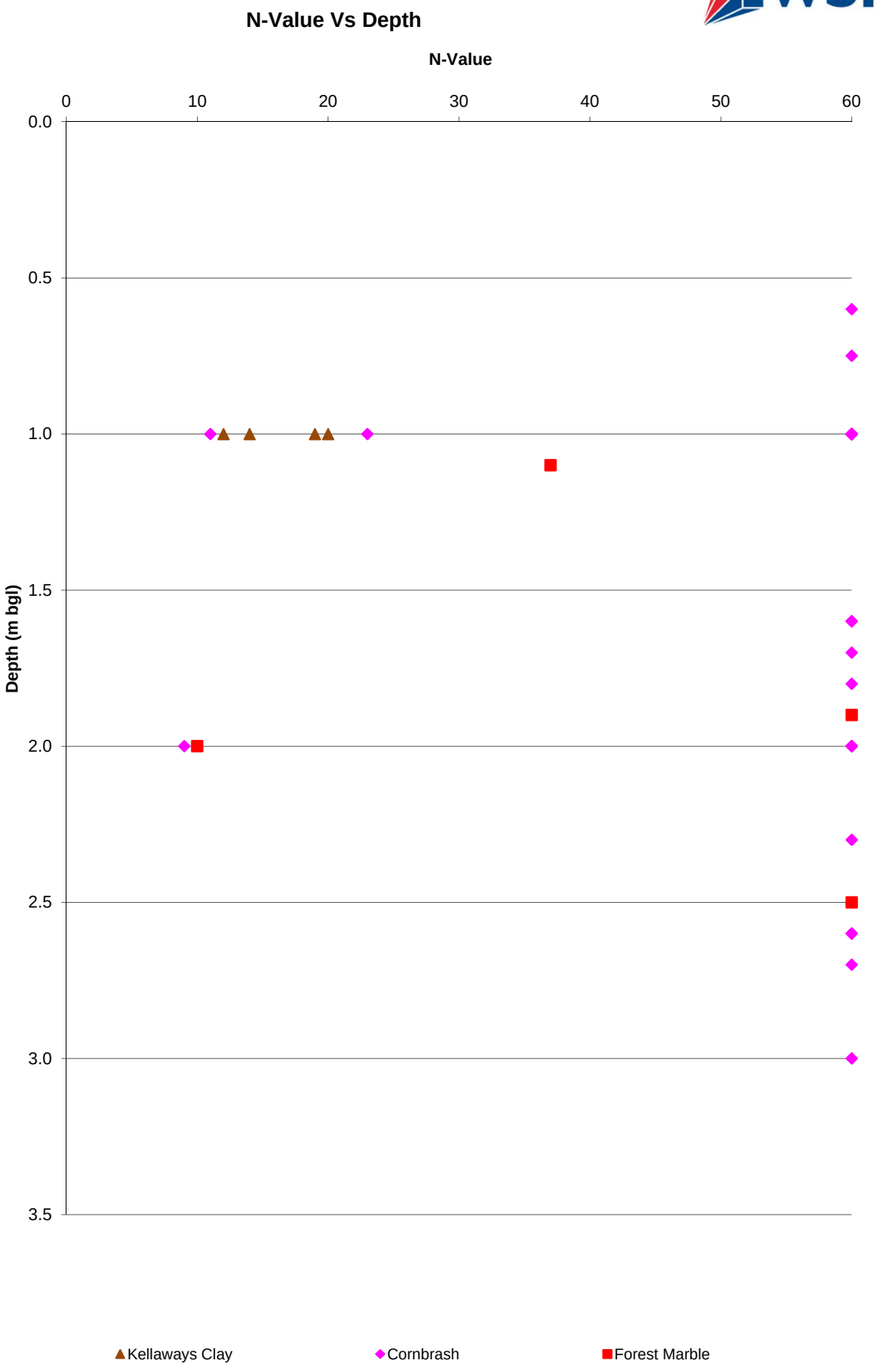
Yours sincerely

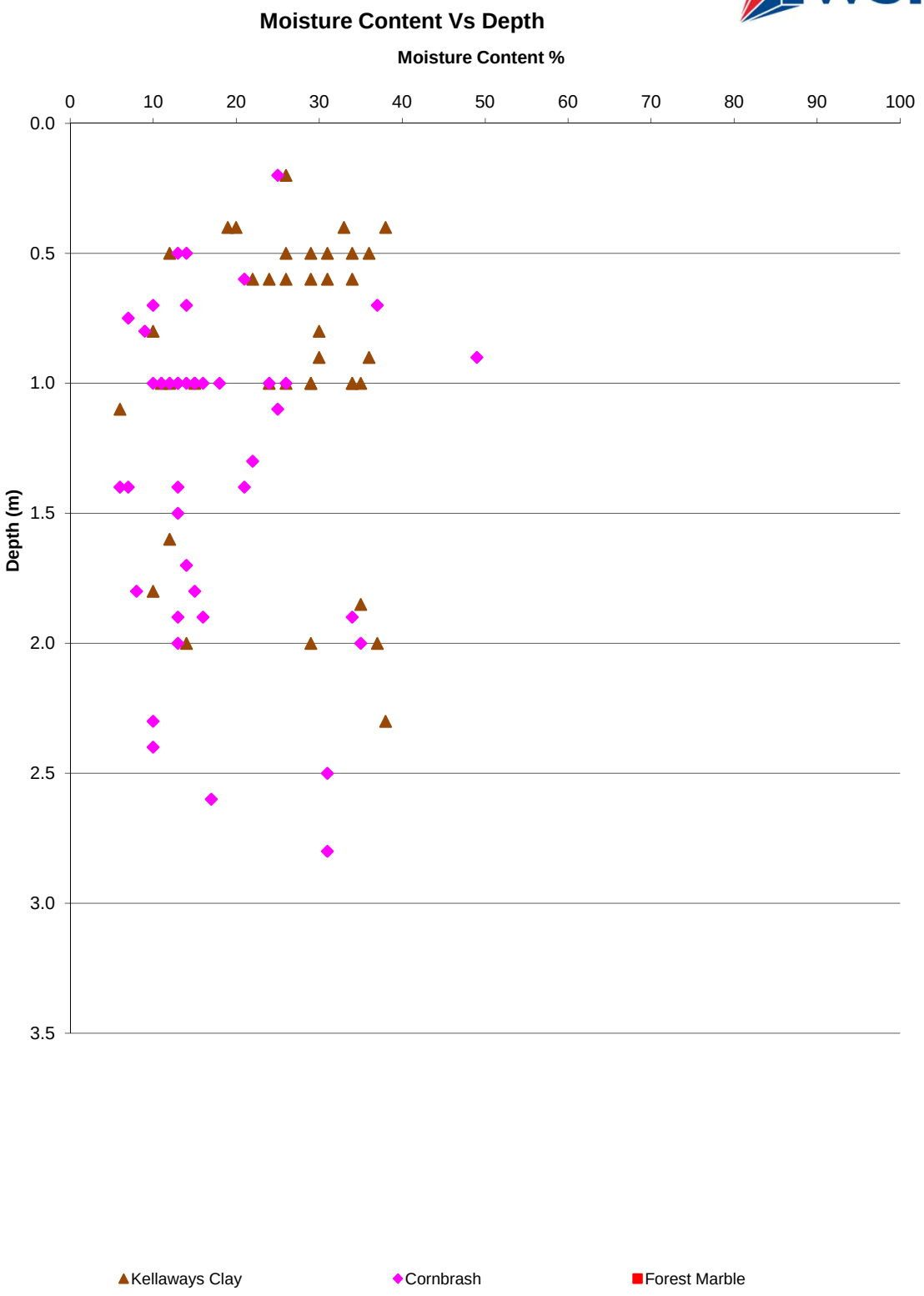
Demetri Somarakis
External Relations Officer

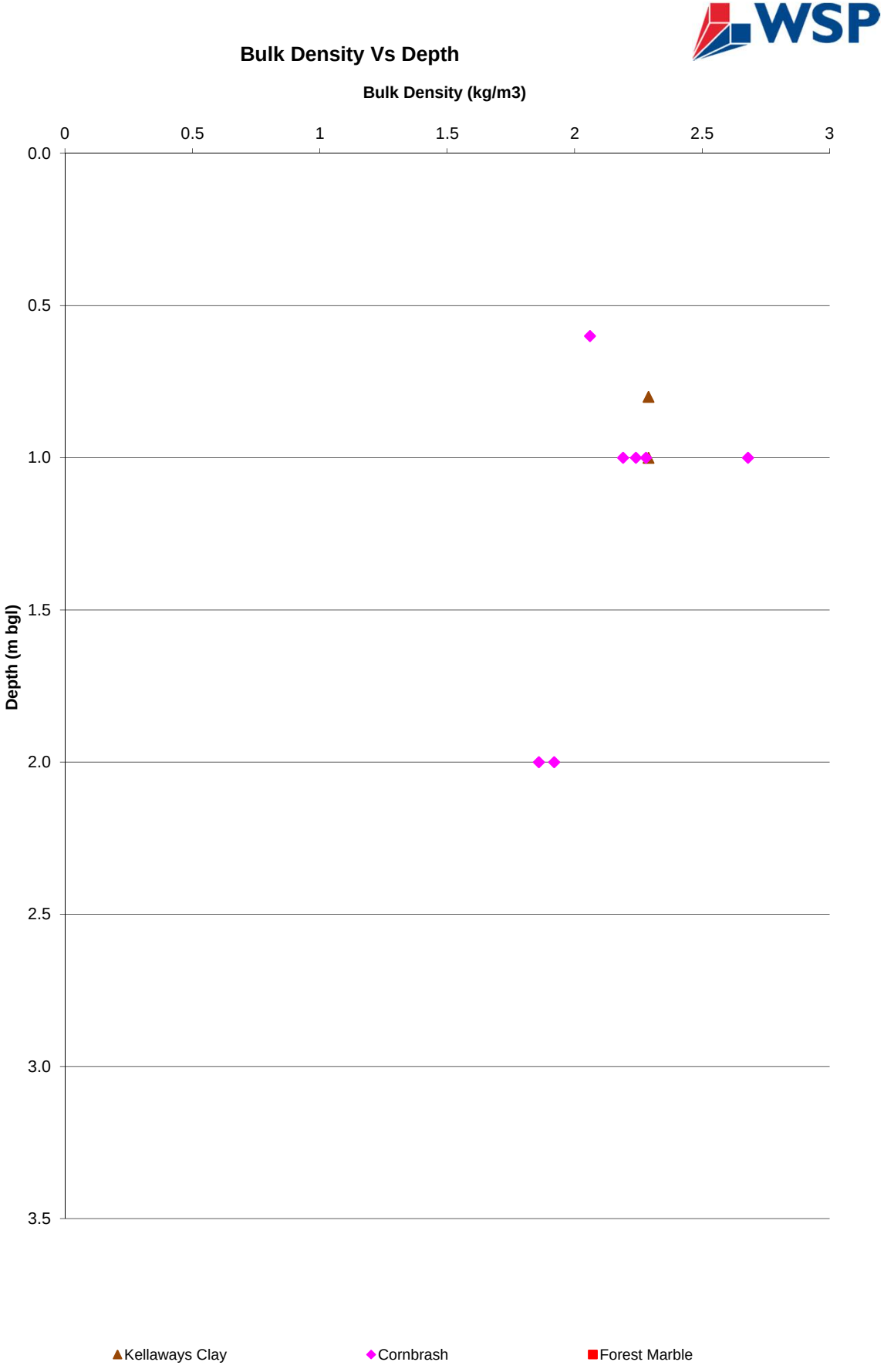
Direct dial: 01491 828360
Direct fax: 01491 828599
e-mail: dem.somarakis@environment-agency.gov.uk

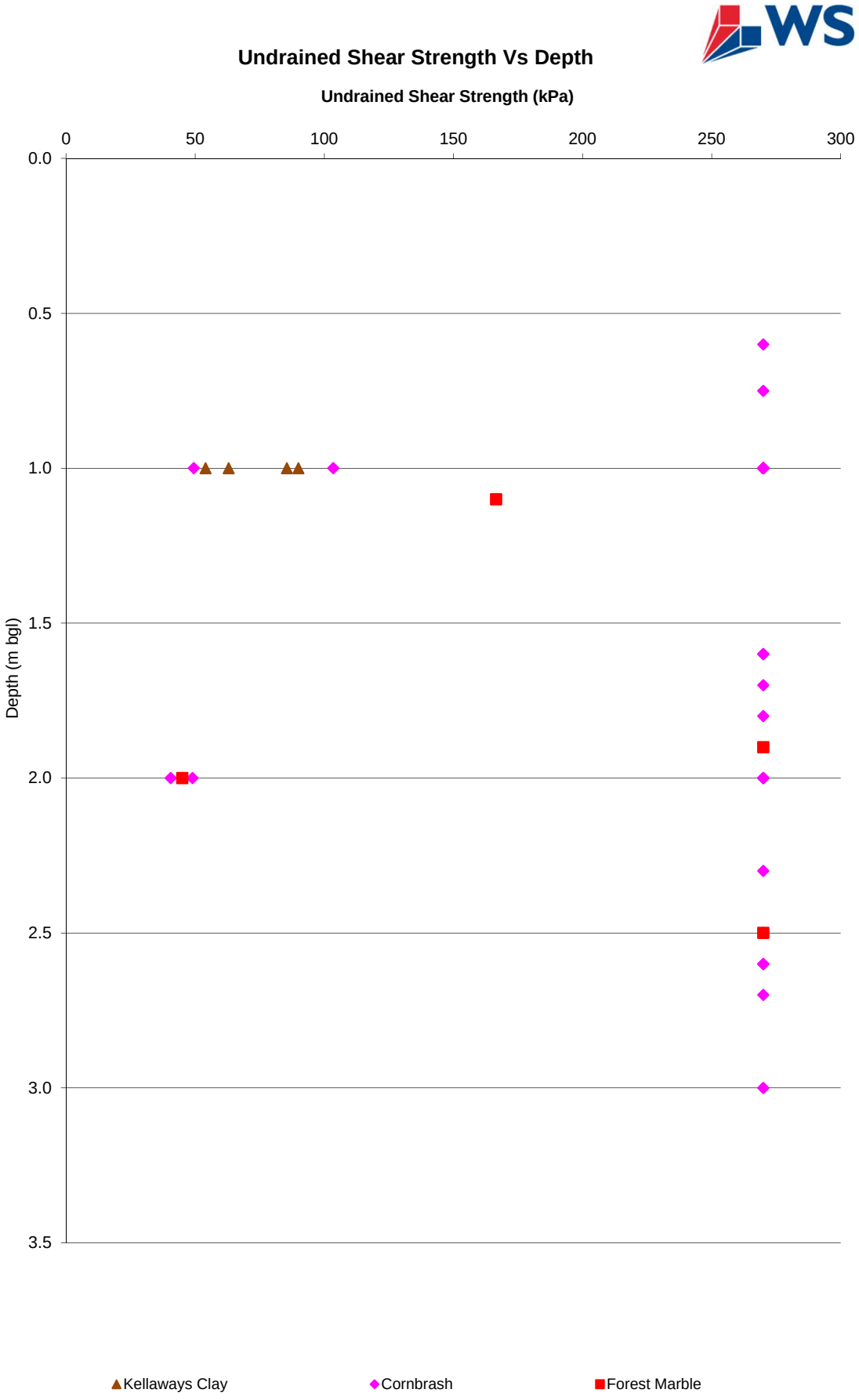
APPENDIX J GEOTECHNICAL RESULT PLOTS


Plasticity Index Vs Depth
Plasticity Index (%)
0
5
10
15
20
25
30
35
40
45
50
0.0
0.5
1.0
1.5
2.0
2.5
3.0
3.5
Depth (m bgl)
Kellaways Clay
Cornbrash
Forest Marble

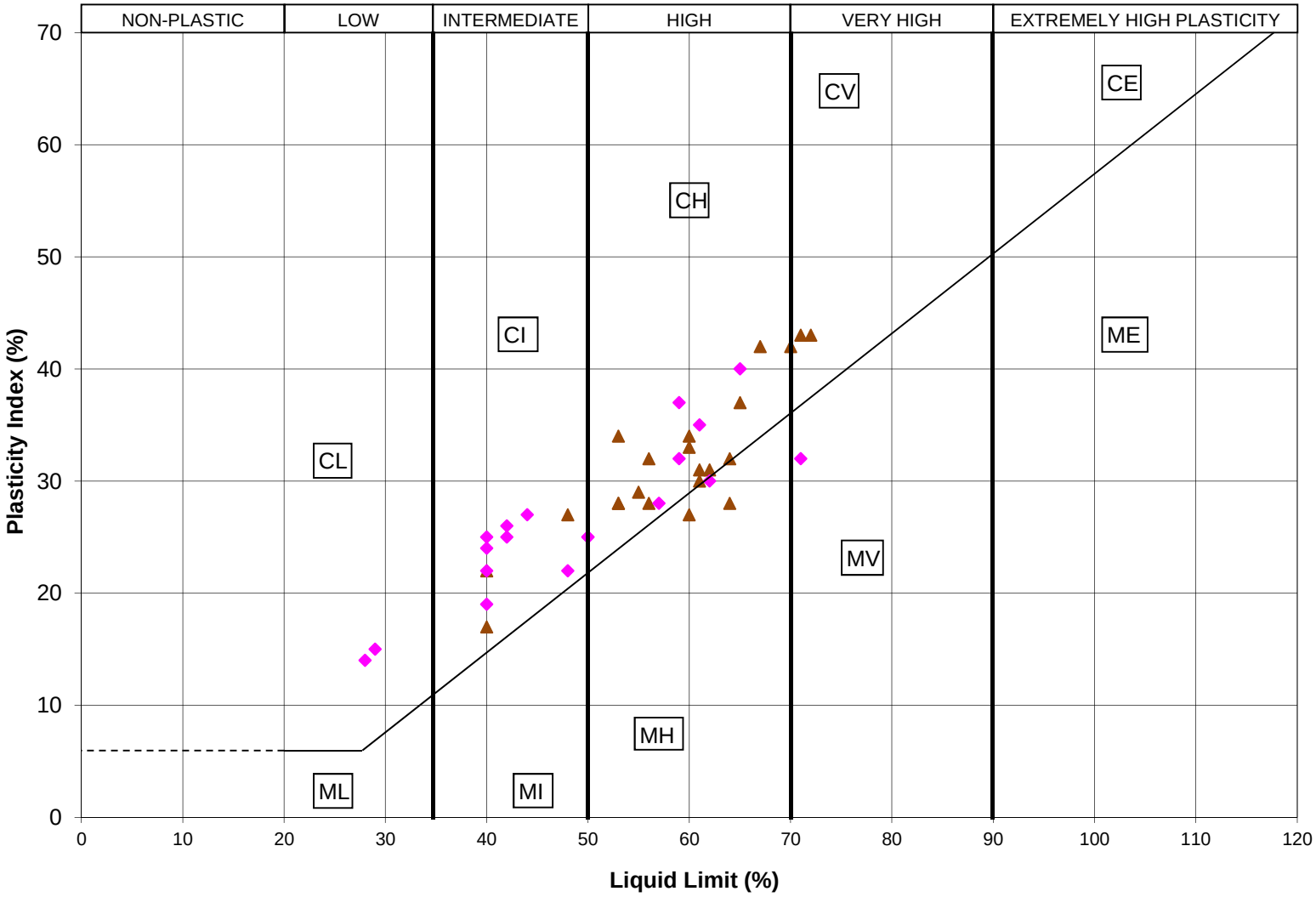

N-Value Vs Depth
N-Value
0
10
20
30
40
50
60
0.0
0.5
1.0
1.5
2.0
2.5
3.0
3.5
Depth (m bgl)
Kellaways Clay
Cornbrash
Forest Marble


Moisture Content Vs Depth
Moisture Content %
0
10
20
30
40
50
60
70
80
90
100
0.0
0.5
1.0
1.5
2.0
2.5
3.0
3.5
Depth (m)
Kellaways Clay
Cornbrash
Forest Marble


Bulk Density Vs Depth
Bulk Density (kg/m3)
0
0.5
1
1.5
2
2.5
3
0.0
0.5
1.0
1.5
2.0
2.5
3.0
3.5
Depth (m bgl)
Kellaways Clay
Cornbrash
Forest Marble


Undrained Shear Strength Vs Depth
Undrained Shear Strength (kPa)
0
50
100
150
200
250
300
0.0
0.5
1.0
1.5
2.0
2.5
3.0
3.5
Depth (m bgl)
Kellaways Clay
Cornbrash
Forest Marble

Plasticity Chart (After BS5930:1999)

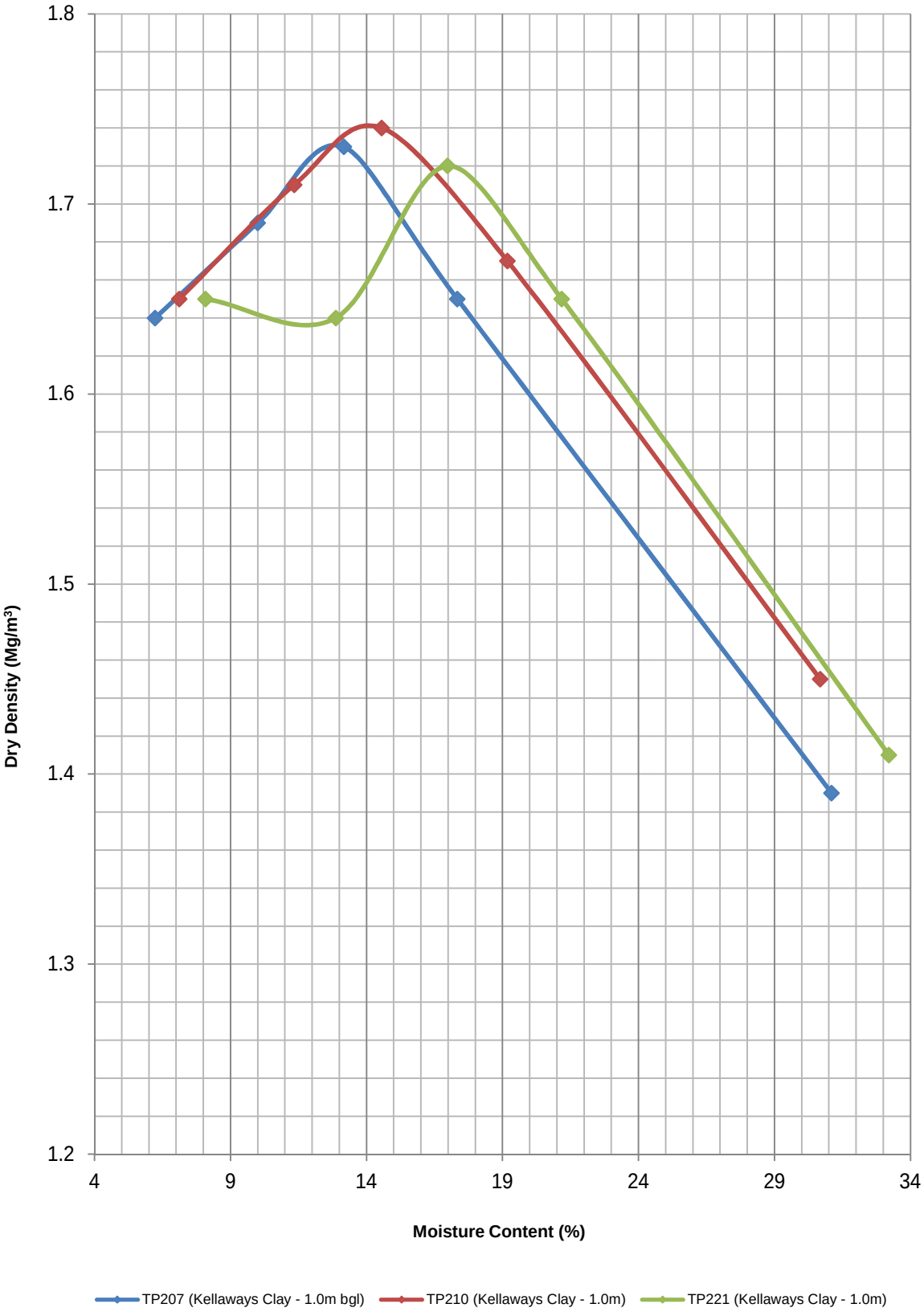


▲ Kellaways Clay

◆ Cornbrash

■ Forest Marble

Dry Density/Moisture Content Relationship



APPENDIX K SOAKAWAY TEST RESULTS

WSP

WSP Environmental

Project:	Bicester
Number:	12370324-002

TRIAL PIT SOAKAGE TEST - Field data collection and calculation sheet
(enter data into blue cells, leave purple cells)

TEST DATA

Pit reference	**SA201**
Pit depth (m)	1.6
Pit width (m)	0.6
Pit length (m)	1.85
Depth to standing water (m)	-

Test 1		**Test 2**		**Test 3**	
Time (min)	**Depth (m)**	**Time (min)**	**Depth (m)**	**Time (min)**	**Depth (m)**
0	0.46	0		0	
0.5	0.47	0.5		0.5	
1	0.48	1		1	
1.5	0.49	1.5		1.5	
2	0.495	2		2	
2.5	0.5	2.5		2.5	
3	0.51	3		3	
3.5	0.52	3.5		3.5	
4	0.525	4		4	
4.5	0.53	4.5		4.5	
5	0.54	5		5	
6	0.555	6		6	
7	0.56	7		7	
8	0.58	8		8	
9	0.595	9		9	
10	0.64	10		10	
15	0.72	15		15	
20	0.81	20		20	
25	0.825	25		25	
30	0.84	30		30	
40	0.85	40		40	
50	0.87	50		50	
60	0.91	60		60	
70	0.95	70		70	
80	1	80		80	
90	1.025	90		90	
100	1.05	100		100	
110	1.08	110		110	
120	1.1	120		120	
130	1.13	130		130	
140	1.15	140		140	
150	1.17	150		150	
160	1.19	160		160	
170	1.21	170		170	
180	1.23	180		180	
190	1.25				
200	1.27				
210	1.29				
220	1.315				
230	1.33				
240	1.34				
250					
260					
270					
280					
290					
300					

Note - obviously if the pit is draining away quickly - you should maintain testing every minute.
Note - if you use aggregate, it is likely that the pipe will extend above ground level, and as such the reference will not be the same, record the elevation of the pipe above ground level, and correct once back in office, prior to calculating infiltration rate

Depth to water at start (m bgl) depth to water, at start of test (time, 0mins), once pit has been filled NOTE, fill to approximately 1m bgl and below any MG

Head of water at start (m bgl) - pit depth minus depth to water at start NOTE this is used to work out the volume of water

25% effective depth (m bgl) - depth to water at start plus 1/4 of head of water at start (25% of the water has drained away)

50% effective depth (m bgl) - depth to water at start plus 1/2 of head of water at start

75% effective depth (m bgl) - depth to water at start plus 3/4 of head of water at start NOTE this is the minimum depth bgl that you must drain to, ideally the pit should empty

Aggregate size (if used)				
void ratio	1	use 0.3 if 10mm aggregrate, 0.4 if 20mm aggregate and 1 if no aggregate at all		
Depth to water at start (m)	0.46		0.00	0.00
Effective Depth (m)	1.14		1.60	1.60
25% effective depth (m)	0.75		0.40	0.40
50% effective depth (m)	1.03		0.80	0.80
75% effective depth (m)	1.32		1.20	1.20

t25 (mins) - the time taken for 25% of the water in the pit to drain away (i.e. to drain to 25% effective depth)
t75 (mins) - the time taken for 75% of the water in the pit to drain away (i.e. to drain to 75% effective depth)

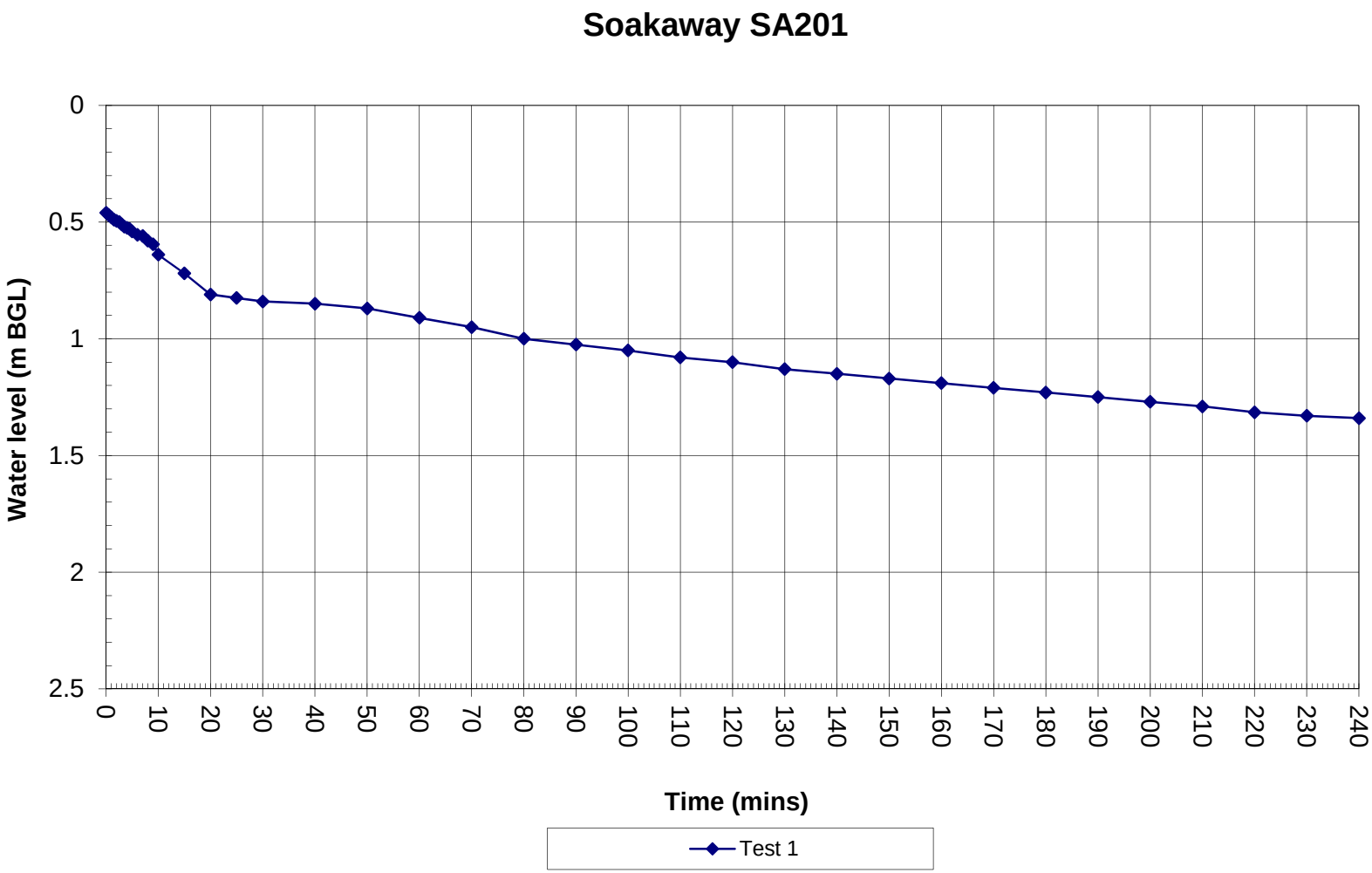
t25 (mins)	scale from graph	**17.00**		
t75 (mins)	scale from graph	**230.00**		

Vp (75-25) (m3) - volume of water in pit between 75% and 25% effective depth
ap 50 (m2) - surface area of pit through which the water is infiltrating (based on 50% effective depth)
t (75-25) (mins) - time taken from pit to drain from 75% to 25% effective depth

Vp (75-25) (m3)	**6.3E-01**	**8.9E-01**	**8.9E-01**
ap 50 (m2)	**3.90E+00**	**5.03E+00**	**5.03E+00**
t (75-25) (mins)	213.00	0.00	0.00

soil infiltration rate (m/s) this is the value that we use in our report - check with table below for consistency with the soil type observed

soil infiltration rate (m/s)	1.3E-05	#DIV/0!	#DIV/0!


Soakaway SA201
Water level (m BGL)
0
0.5
1
1.5
2
2.5
0
10
20
30
40
50
60
70
80
90
100
110
120
130
140
150
160
170
180
190
200
210
220
230
240
Time (mins)
Test 1

WSP

WSP Environmental

Project: Bicester
Number: 12370324-002

TRIAL PIT SOAKAGE TEST - Field data collection and calculation sheet
(enter data into blue cells, leave purple cells)

TEST DATA

Pit reference	**SA202**
Pit depth (m)	2.2
Pit width (m)	0.6
Pit length (m)	2.1
Depth to standing water (m)	-

Test 1	
Time (min)	**Depth (m)**
0	0.53
0.5	0.53
1	0.53
1.5	0.53
2	0.53
2.5	0.535
3	0.535
3.5	0.54
4	0.54
4.5	0.54
5	0.54
6	0.545
7	0.545
8	0.55
9	0.55
10	0.555
15	0.56
20	0.57
25	0.575
30	0.58
40	0.59
50	0.6
60	0.61
70	0.63
80	0.64
90	0.655
100	0.675
110	0.685
120	0.7
130	
140	
150	
160	
170	
180	
190	
200	
210	
220	
230	
240	
250	
260	
270	
280	
290	
300	

Test 2	
Time (min)	**Depth (m)**
0	
0.5	
1	
1.5	
2	
2.5	
3	
3.5	
4	
4.5	
5	
6	
7	
8	
9	
10	
15	
20	
25	
30	
40	
50	
60	
70	
80	
90	
100	
110	
120	
130	
140	
150	
160	
170	
180	

Test 3	
Time (min)	**Depth (m)**
0	
0.5	
1	
1.5	
2	
2.5	
3	
3.5	
4	
4.5	
5	
6	
7	
8	
9	
10	
15	
20	
25	
30	
40	
50	
60	
70	
80	
90	
100	
110	
120	
130	
140	
150	
160	
170	
180	

Note - obviously if the pit is draining away quickly - you should maintain testing every minute.
Note - if you use aggregate, it is likely that the pipe will extend above ground level, and as such the reference will not be the same, record the elevation of the pipe above ground level, and correct once back in office, prior to calculating infiltration rate

Depth to water at start (m bgl) depth to water, at start of test (time, 0mins), once pit has been filled NOTE, fill to approximately 1m bgl and below any MG

Head of water at start (m bgl) - pit depth minus depth to water at start NOTE this is used to work out the volume of water

25% effective depth (m bgl) - depth to water at start plus 1/4 of head of water at start (25% of the water has drained away)

50% effective depth (m bgl) - depth to water at start plus 1/2 of head of water at start

75% effective depth (m bgl) - depth to water at start plus 3/4 of head of water at start NOTE this is the minimum depth bgl that you must drain to, ideally the pit should empty

Aggregate size (if used)					
void ratio	1	use 0.3 if 10mm aggregrate, 0.4 if 20mm aggregate and 1 if no aggregate at all			
Depth to water at start (m)	0.53		0.00		0.00
Effective Depth (m)	1.67		2.20		2.20
25% effective depth (m)	0.95		0.55		0.55
50% effective depth (m)	1.37		1.10		1.10
75% effective depth (m)	1.78		1.65		1.65

t25 (mins) - the time taken for 25% of the water in the pit to drain away (i.e. to drain to 25% effective depth)
t75 (mins) - the time taken for 75% of the water in the pit to drain away (i.e. to drain to 75% effective depth)

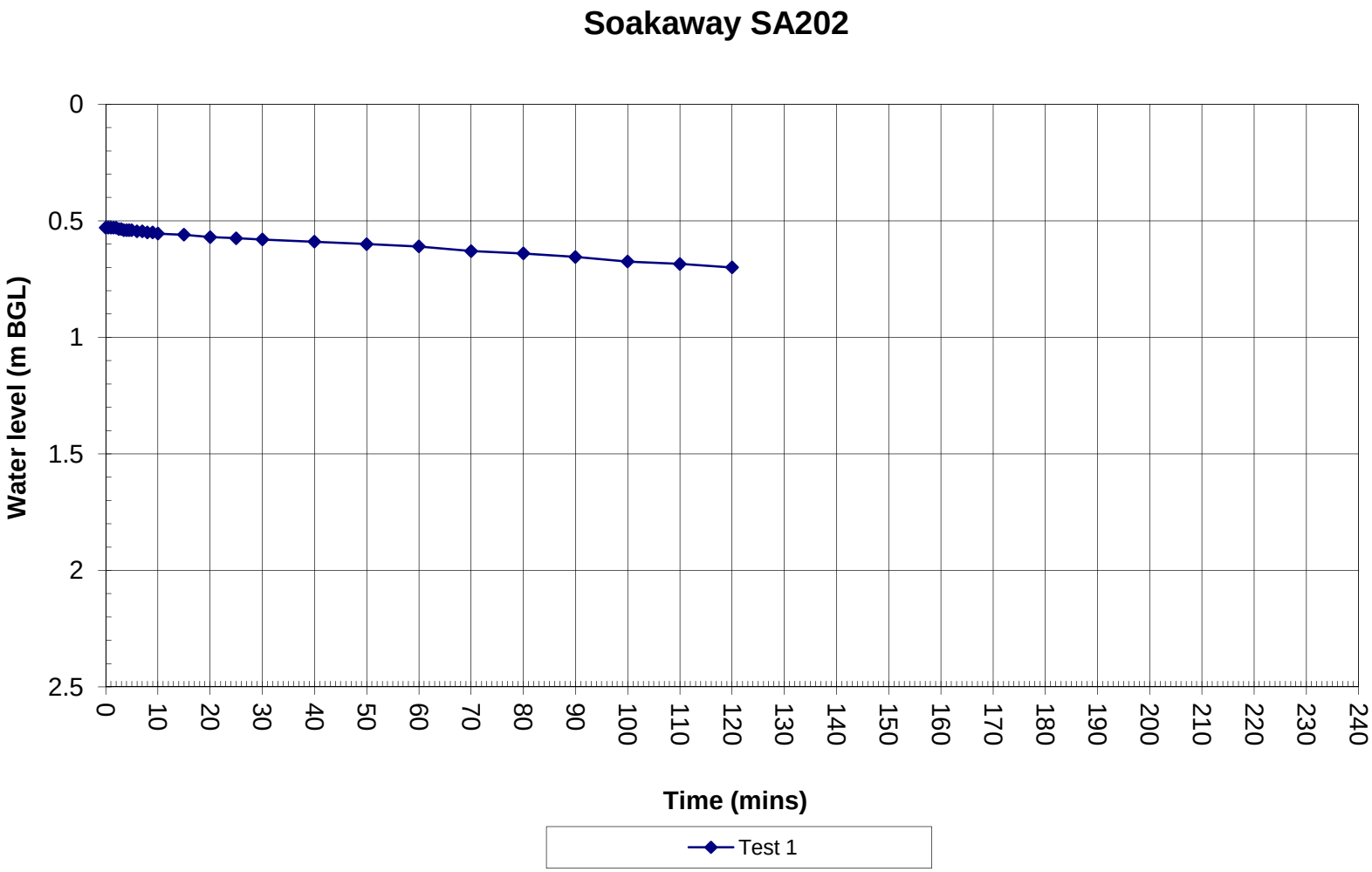
t25 (mins)	scale from graph	-		
t75 (mins)	scale from graph	-		

Vp (75-25) (m3) - volume of water in pit between 75% and 25% effective depth
ap 50 (m2) - surface area of pit through which the water is infiltrating (based on 50% effective depth)
t (75-25) (mins) - time taken from pit to drain from 75% to 25% effective depth

Vp (75-25) (m3)	**1.1E+00**	**1.4E+00**	**1.4E+00**
ap 50 (m2)	**5.77E+00**	**7.20E+00**	**7.20E+00**
t (75-25) (mins)	#VALUE!	0.00	0.00

soil infiltration rate (m/s) this is the value that we use in our report - check with table below for consistency with the soil type observed

soil infiltration rate (m/s)	#VALUE!	#DIV/0!	#DIV/0!


Soakaway SA202
Water level (m BGL)
0
0.5
1
1.5
2
2.5
0
10
20
30
40
50
60
70
80
90
100
110
120
130
140
150
160
170
180
190
200
210
220
230
240
Time (mins)
Test 1

WSP

WSP Environmental

Project: Bicester
Number: 12370324-002

TRIAL PIT SOAKAGE TEST - Field data collection and calculation sheet
(enter data into blue cells, leave purple cells)

TEST DATA

Pit reference	**SA203**
Pit depth (m)	2.6
Pit width (m)	0.6
Pit length (m)	2
Depth to standing water (m)	-

Test 1		**Test 2**		**Test 3**	
Time (min)	**Depth (m)**	**Time (min)**	**Depth (m)**	**Time (min)**	**Depth (m)**
0	0.51	0		0	
0.5	0.51	0.5		0.5	
1	0.51	1		1	
1.5	0.51	1.5		1.5	
2	0.51	2		2	
2.5	0.51	2.5		2.5	
3	0.51	3		3	
3.5	0.51	3.5		3.5	
4	0.51	4		4	
4.5	0.51	4.5		4.5	
5	0.51	5		5	
6	0.51	6		6	
7	0.51	7		7	
8	0.51	8		8	
9	0.51	9		9	
10	0.51	10		10	
15	0.515	15		15	
20	0.515	20		20	
25	0.515	25		25	
30	0.52	30		30	
40	0.52	40		40	
50	0.525	50		50	
60	0.525	60		60	
70	0.53	70		70	
80	0.53	80		80	
90	0.53	90		90	
100		100		100	
110		110		110	
120		120		120	
130		130		130	
140		140		140	
150		150		150	
160		160		160	
170		170		170	
180		180		180	
190					
200					
210					
220					
230					
240					
250					
260					
270					
280					
290					
300					

Note - obviously if the pit is draining away quickly - you should maintain testing every minute.
Note - if you use aggregate, it is likely that the pipe will extend above ground level, and as such the reference will not be the same, record the elevation of the pipe above ground level, and correct once back in office, prior to calculating infiltration rate

Depth to water at start (m bgl) depth to water, at start of test (time, 0mins), once pit has been filled NOTE, fill to approximately 1m bgl and below any MG

Head of water at start (m bgl) - pit depth minus depth to water at start NOTE this is used to work out the volume of water

25% effective depth (m bgl) - depth to water at start plus 1/4 of head of water at start (25% of the water has drained away)

50% effective depth (m bgl) - depth to water at start plus 1/2 of head of water at start

75% effective depth (m bgl) - depth to water at start plus 3/4 of head of water at start NOTE this is the minimum depth bgl that you must drain to, ideally the pit should empty

Aggregate size (if used)				
void ratio	1	use 0.3 if 10mm aggregrate, 0.4 if 20mm aggregate and 1 if no aggregate at all		
Depth to water at start (m)	0.51		0.00	0.00
Effective Depth (m)	2.09		2.60	2.60
25% effective depth (m)	1.03		0.65	0.65
50% effective depth (m)	1.56		1.30	1.30
75% effective depth (m)	2.08		1.95	1.95

t25 (mins) - the time taken for 25% of the water in the pit to drain away (i.e. to drain to 25% effective depth)
t75 (mins) - the time taken for 75% of the water in the pit to drain away (i.e. to drain to 75% effective depth)

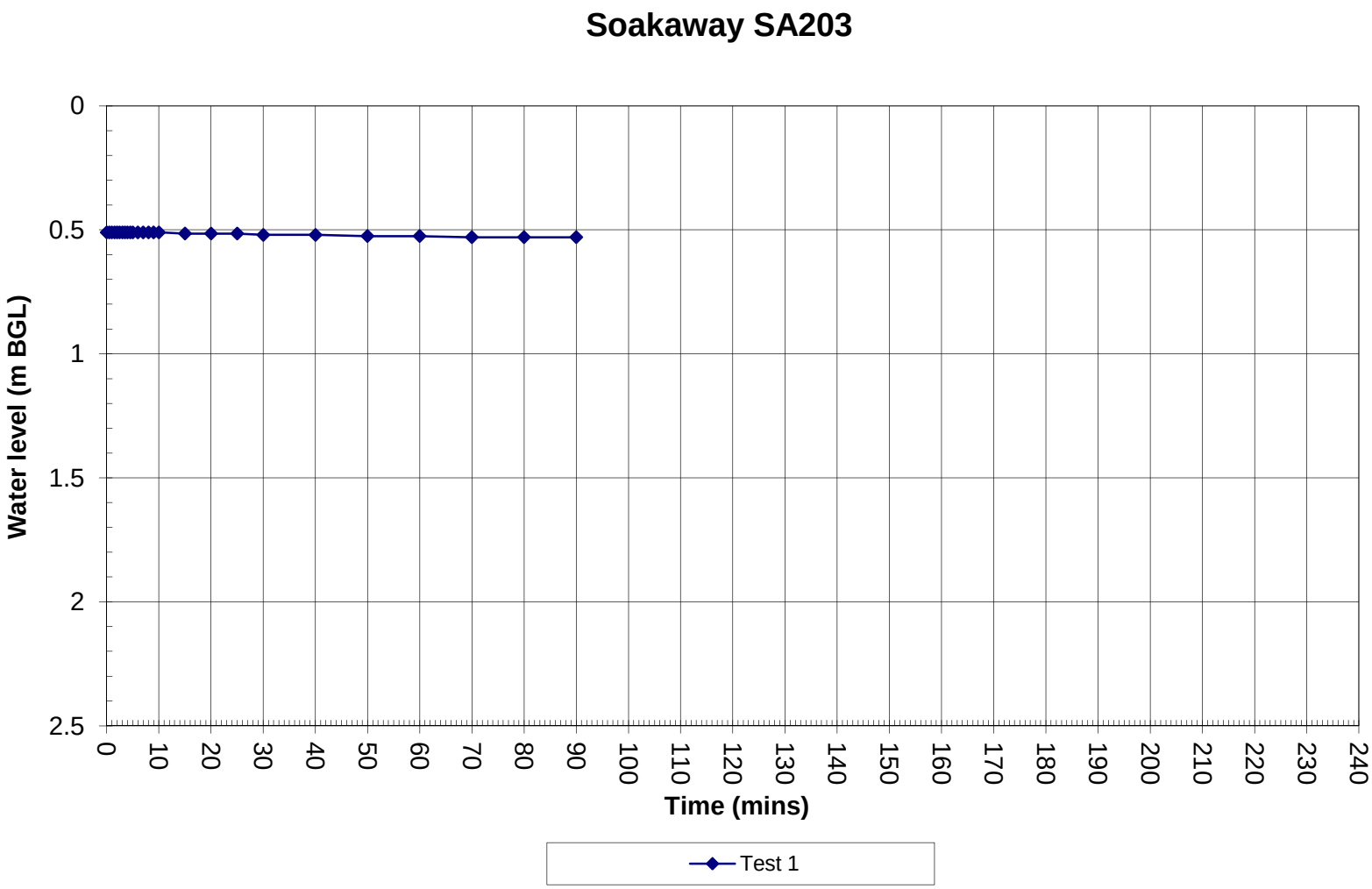
t25 (mins)	scale from graph	-		
t75 (mins)	scale from graph	-		

Vp (75-25) (m3) - volume of water in pit between 75% and 25% effective depth
ap 50 (m2) - surface area of pit through which the water is infiltrating (based on 50% effective depth)
t (75-25) (mins) - time taken from pit to drain from 75% to 25% effective depth

Vp (75-25) (m3)	**1.3E+00**	**1.6E+00**	**1.6E+00**
ap 50 (m2)	**6.63E+00**	**7.96E+00**	**7.96E+00**
t (75-25) (mins)	#VALUE!	0.00	0.00

soil infiltration rate (m/s) this is the value that we use in our report - check with table below for consistency with the soil type observed

soil infiltration rate (m/s)	#VALUE!	#DIV/0!	#DIV/0!


Soakaway SA203
Water level (m BGL)
0
0.5
1
1.5
2
2.5
0
10
20
30
40
50
60
70
80
90
100
110
120
130
140
150
160
170
180
190
200
210
220
230
240
Time (mins)
Test 1

WSP

WSP Environmental

Project: Bicester
Number: 12370324-002

TRIAL PIT SOAKAGE TEST - Field data collection and calculation sheet
(enter data into blue cells, leave purple cells)

TEST DATA

Pit reference	**SA204**
Pit depth (m)	1.7
Pit width (m)	0.6
Pit length (m)	1.85
Depth to standing water (m)	-

Test 1	
Time (min)	**Depth (m)**
0	0.44
0.5	0.455
1	0.47
1.5	0.48
2	0.49
2.5	0.505
3	0.52
3.5	0.53
4	0.54
4.5	0.55
5	0.56
6	0.59
7	0.61
8	0.63
9	0.65
10	0.67
15	0.73
20	0.81
25	0.87
30	0.93
40	1.01
50	1.1
60	1.17
70	1.23
80	1.28
90	1.33
100	1.355
110	1.38
120	1.405
130	1.43
140	1.455
150	1.48
160	
170	
180	
190	
200	
210	
220	
230	
240	
250	
260	
270	
280	
290	
300	

Test 2	
Time (min)	**Depth (m)**
0	
0.5	
1	
1.5	
2	
2.5	
3	
3.5	
4	
4.5	
5	
6	
7	
8	
9	
10	
15	
20	
25	
30	
40	
50	
60	
70	
80	
90	
100	
110	
120	
130	
140	
150	
160	
170	
180	

Test 3	
Time (min)	**Depth (m)**
0	
0.5	
1	
1.5	
2	
2.5	
3	
3.5	
4	
4.5	
5	
6	
7	
8	
9	
10	
15	
20	
25	
30	
40	
50	
60	
70	
80	
90	
100	
110	
120	
130	
140	
150	
160	
170	
180	

Note - obviously if the pit is draining away quickly - you should maintain testing every minute.
Note - if you use aggregate, it is likely that the pipe will extend above ground level, and as such the reference will not be the same, record the elevation of the pipe above ground level, and correct once back in office, prior to calculating infiltration rate

Depth to water at start (m bgl) depth to water, at start of test (time, 0mins), once pit has been filled NOTE, fill to approximately 1m bgl and below any MG

Head of water at start (m bgl) - pit depth minus depth to water at start NOTE this is used to work out the volume of water

25% effective depth (m bgl) - depth to water at start plus 1/4 of head of water at start (25% of the water has drained away)

50% effective depth (m bgl) - depth to water at start plus 1/2 of head of water at start

75% effective depth (m bgl) - depth to water at start plus 3/4 of head of water at start NOTE this is the minimum depth bgl that you must drain to, ideally the pit should empty

Aggregate size (if used)			
void ratio	1	use 0.3 if 10mm aggregrate, 0.4 if 20mm aggregate and 1 if no aggregate at all	
Depth to water at start (m)	0.44	0.00	0.00
Effective Depth (m)	1.26	1.70	1.70
25% effective depth (m)	0.76	0.43	0.43
50% effective depth (m)	1.07	0.85	0.85
75% effective depth (m)	1.39	1.28	1.28

t25 (mins) - the time taken for 25% of the water in the pit to drain away (i.e. to drain to 25% effective depth)
t75 (mins) - the time taken for 75% of the water in the pit to drain away (i.e. to drain to 75% effective depth)

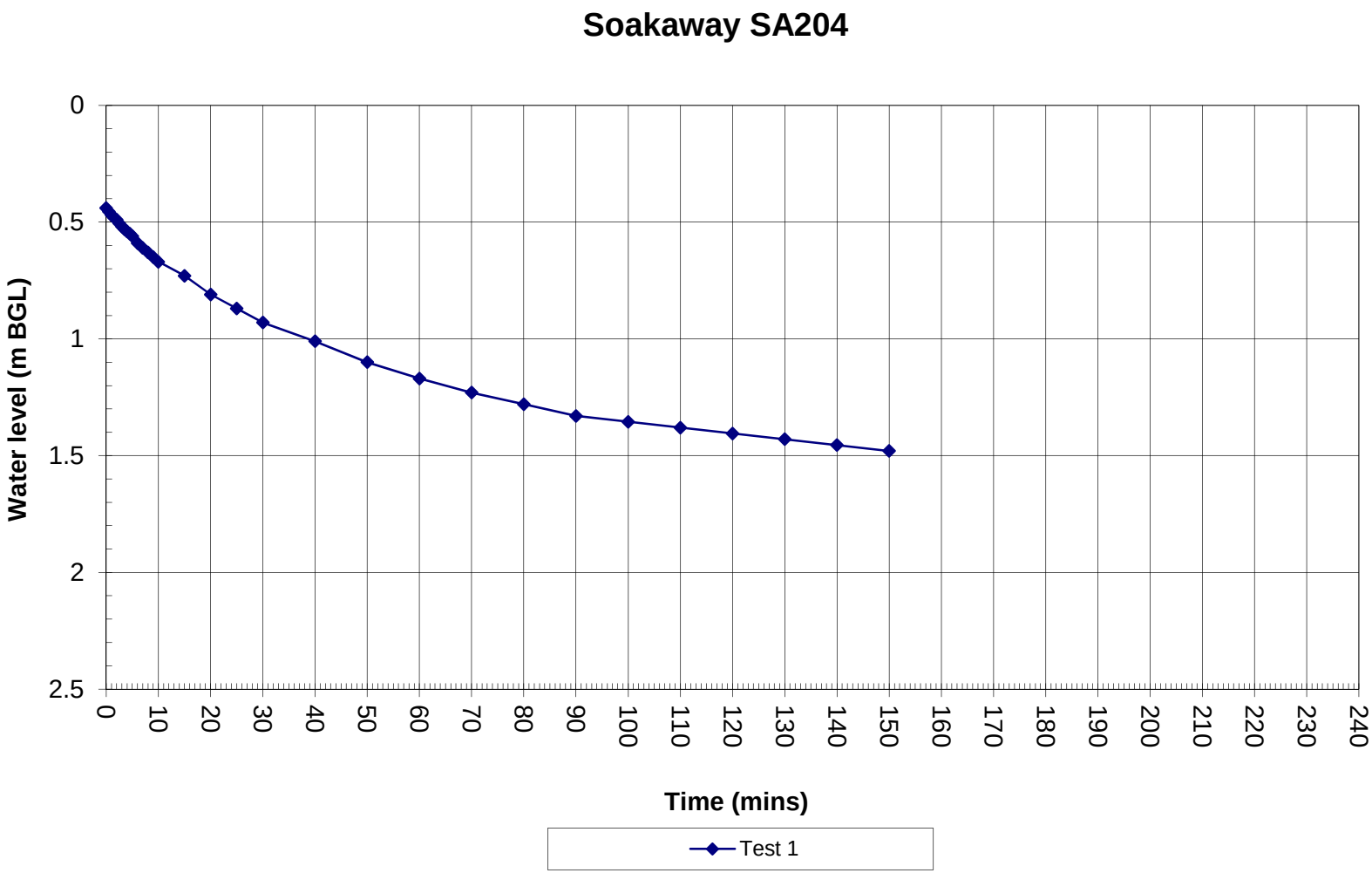
t25 (mins)	scale from graph	**15.00**		
t75 (mins)	scale from graph	**114.00**		

Vp (75-25) (m3) - volume of water in pit between 75% and 25% effective depth
ap 50 (m2) - surface area of pit through which the water is infiltrating (based on 50% effective depth)
t (75-25) (mins) - time taken from pit to drain from 75% to 25% effective depth

Vp (75-25) (m3)	**7.0E-01**	**9.4E-01**	**9.4E-01**
ap 50 (m2)	**4.20E+00**	**5.28E+00**	**5.28E+00**
t (75-25) (mins)	99.00	0.00	0.00

soil infiltration rate (m/s) this is the value that we use in our report - check with table below for consistency with the soil type observed

soil infiltration rate (m/s)	2.8E-05	#DIV/0!	#DIV/0!


Soakaway SA204
Water level (m BGL)
0
0.5
1
1.5
2
2.5
0
10
20
30
40
50
60
70
80
90
100
110
120
130
140
150
160
170
180
190
200
210
220
230
240
Time (mins)
Test 1

WSP

WSP Environmental

Project: Bicester
Number: 12370324-002

TRIAL PIT SOAKAGE TEST - Field data collection and calculation sheet
(enter data into blue cells, leave purple cells)

TEST DATA

Pit reference	**SA205**
Pit depth (m)	2
Pit width (m)	0.6
Pit length (m)	2.1
Depth to standing water (m)	-

Test 1		**Test 2**		**Test 3**	
Time (min)	**Depth (m)**	**Time (min)**	**Depth (m)**	**Time (min)**	**Depth (m)**
0	0.52	0		0	
0.5	0.52	0.5		0.5	
1	0.52	1		1	
1.5	0.53	1.5		1.5	
2	0.535	2		2	
2.5	0.535	2.5		2.5	
3	0.54	3		3	
3.5	0.55	3.5		3.5	
4	0.56	4		4	
4.5	0.565	4.5		4.5	
5	0.57	5		5	
6	0.58	6		6	
7	0.59	7		7	
8	0.61	8		8	
9	0.62	9		9	
10	0.64	10		10	
15	0.66	15		15	
20	0.7	20		20	
25	0.74	25		25	
30	0.78	30		30	
40	0.825	40		40	
50	0.87	50		50	
60	0.915	60		60	
70	0.94	70		70	
80	0.985	80		80	
90	1.02	90		90	
100	1.04	100		100	
110	1.07	110		110	
120	1.095	120		120	
130	1.12	130		130	
140	1.14	140		140	
150	1.16	150		150	
160	1.18	160		160	
170	1.2	170		170	
180	1.22	180		180	
190	1.24				
200					
210					
220					
230					
240					
250					
260					
270					
280					
290					
300					

Note - obviously if the pit is draining away quickly - you should maintain testing every minute.
Note - if you use aggregate, it is likely that the pipe will extend above ground level, and as such the reference will not be the same, record the elevation of the pipe above ground level, and correct once back in office, prior to calculating infiltration rate

Depth to water at start (m bgl) depth to water, at start of test (time, 0mins), once pit has been filled NOTE, fill to approximately 1m bgl and below any MG

Head of water at start (m bgl) - pit depth minus depth to water at start NOTE this is used to work out the volume of water

25% effective depth (m bgl) - depth to water at start plus 1/4 of head of water at start (25% of the water has drained away)

50% effective depth (m bgl) - depth to water at start plus 1/2 of head of water at start

75% effective depth (m bgl) - depth to water at start plus 3/4 of head of water at start NOTE this is the minimum depth bgl that you must drain to, ideally the pit should empty

Aggregate size (if used)				
void ratio	1	use 0.3 if 10mm aggregrate, 0.4 if 20mm aggregate and 1 if no aggregate at all		
Depth to water at start (m)	0.52		0.00	0.00
Effective Depth (m)	1.48		2.00	2.00
25% effective depth (m)	0.89		0.50	0.50
50% effective depth (m)	1.26		1.00	1.00
75% effective depth (m)	1.63		1.50	1.50

t25 (mins) - the time taken for 25% of the water in the pit to drain away (i.e. to drain to 25% effective depth)
t75 (mins) - the time taken for 75% of the water in the pit to drain away (i.e. to drain to 75% effective depth)

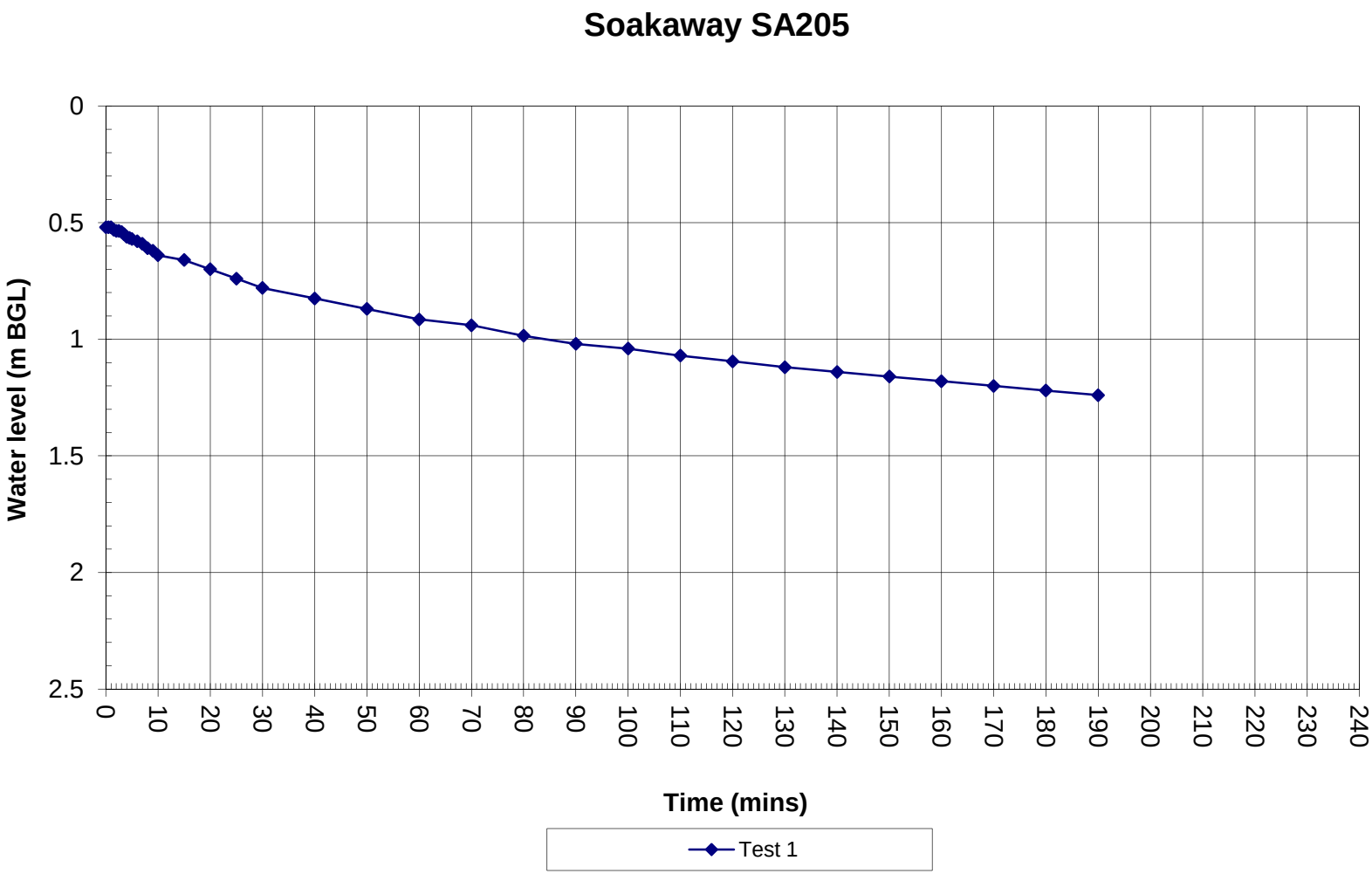
t25 (mins)	scale from graph	**55.00**		
t75 (mins)	scale from graph	**-**		

Vp (75-25) (m3) - volume of water in pit between 75% and 25% effective depth
ap 50 (m2) - surface area of pit through which the water is infiltrating (based on 50% effective depth)
t (75-25) (mins) - time taken from pit to drain from 75% to 25% effective depth

Vp (75-25) (m3)	**9.3E-01**	**1.3E+00**	**1.3E+00**
ap 50 (m2)	**5.26E+00**	**6.66E+00**	**6.66E+00**
t (75-25) (mins)	#VALUE!	0.00	0.00

soil infiltration rate (m/s) this is the value that we use in our report - check with table below for consistency with the soil type observed

soil infiltration rate (m/s)	#VALUE!	#DIV/0!	#DIV/0!


Soakaway SA205
Water level (m BGL)
0
0.5
1
1.5
2
2.5
0
10
20
30
40
50
60
70
80
90
100
110
120
130
140
150
160
170
180
190
200
210
220
230
240
Time (mins)
Test 1

WSP

WSP Environmental

Project: Bicester
Number: 12370324-002

TRIAL PIT SOAKAGE TEST - Field data collection and calculation sheet
(enter data into blue cells, leave purple cells)

TEST DATA

Pit reference	**SA206**
Pit depth (m)	1.9
Pit width (m)	0.6
Pit length (m)	1.95
Depth to standing water (m)	-

Test 1		**Test 2**		**Test 3**	
Time (min)	**Depth (m)**	**Time (min)**	**Depth (m)**	**Time (min)**	**Depth (m)**
0	0.61	0		0	
0.5	0.615	0.5		0.5	
1	0.62	1		1	
1.5	0.625	1.5		1.5	
2	0.63	2		2	
2.5	0.635	2.5		2.5	
3	0.64	3		3	
3.5	0.645	3.5		3.5	
4	0.65	4		4	
4.5	0.65	4.5		4.5	
5	0.655	5		5	
6	0.66	6		6	
7	0.67	7		7	
8	0.68	8		8	
9	0.685	9		9	
10	0.69	10		10	
15	0.71	15		15	
20	0.73	20		20	
25	0.75	25		25	
30	0.775	30		30	
40	0.81	40		40	
50	0.84	50		50	
60	0.865	60		60	
70	0.89	70		70	
80	0.915	80		80	
90	0.94	90		90	
100	0.965	100		100	
110	0.99	110		110	
120	1.01	120		120	
130		130		130	
140		140		140	
150		150		150	
160		160		160	
170		170		170	
180		180		180	
190					
200					
210					
220					
230					
240					
250					
260					
270					
280					
290					
300					

Note - obviously if the pit is draining away quickly - you should maintain testing every minute.
Note - if you use aggregate, it is likely that the pipe will extend above ground level, and as such the reference will not be the same, record the elevation of the pipe above ground level, and correct once back in office, prior to calculating infiltration rate

Depth to water at start (m bgl) depth to water, at start of test (time, 0mins), once pit has been filled NOTE, fill to approximately 1m bgl and below any MG

Head of water at start (m bgl) - pit depth minus depth to water at start NOTE this is used to work out the volume of water

25% effective depth (m bgl) - depth to water at start plus 1/4 of head of water at start (25% of the water has drained away)

50% effective depth (m bgl) - depth to water at start plus 1/2 of head of water at start

75% effective depth (m bgl) - depth to water at start plus 3/4 of head of water at start NOTE this is the minimum depth bgl that you must drain to, ideally the pit should empty

Aggregate size (if used)			
void ratio	1	use 0.3 if 10mm aggregrate, 0.4 if 20mm aggregate and 1 if no aggregate at all	
Depth to water at start (m)	0.61	0.00	0.00
Effective Depth (m)	1.29	1.90	1.90
25% effective depth (m)	0.93	0.48	0.48
50% effective depth (m)	1.26	0.95	0.95
75% effective depth (m)	1.58	1.43	1.43

t25 (mins) - the time taken for 25% of the water in the pit to drain away (i.e. to drain to 25% effective depth)
t75 (mins) - the time taken for 75% of the water in the pit to drain away (i.e. to drain to 75% effective depth)

t25 (mins)	scale from graph	**87.00**		
t75 (mins)	scale from graph	**-**		

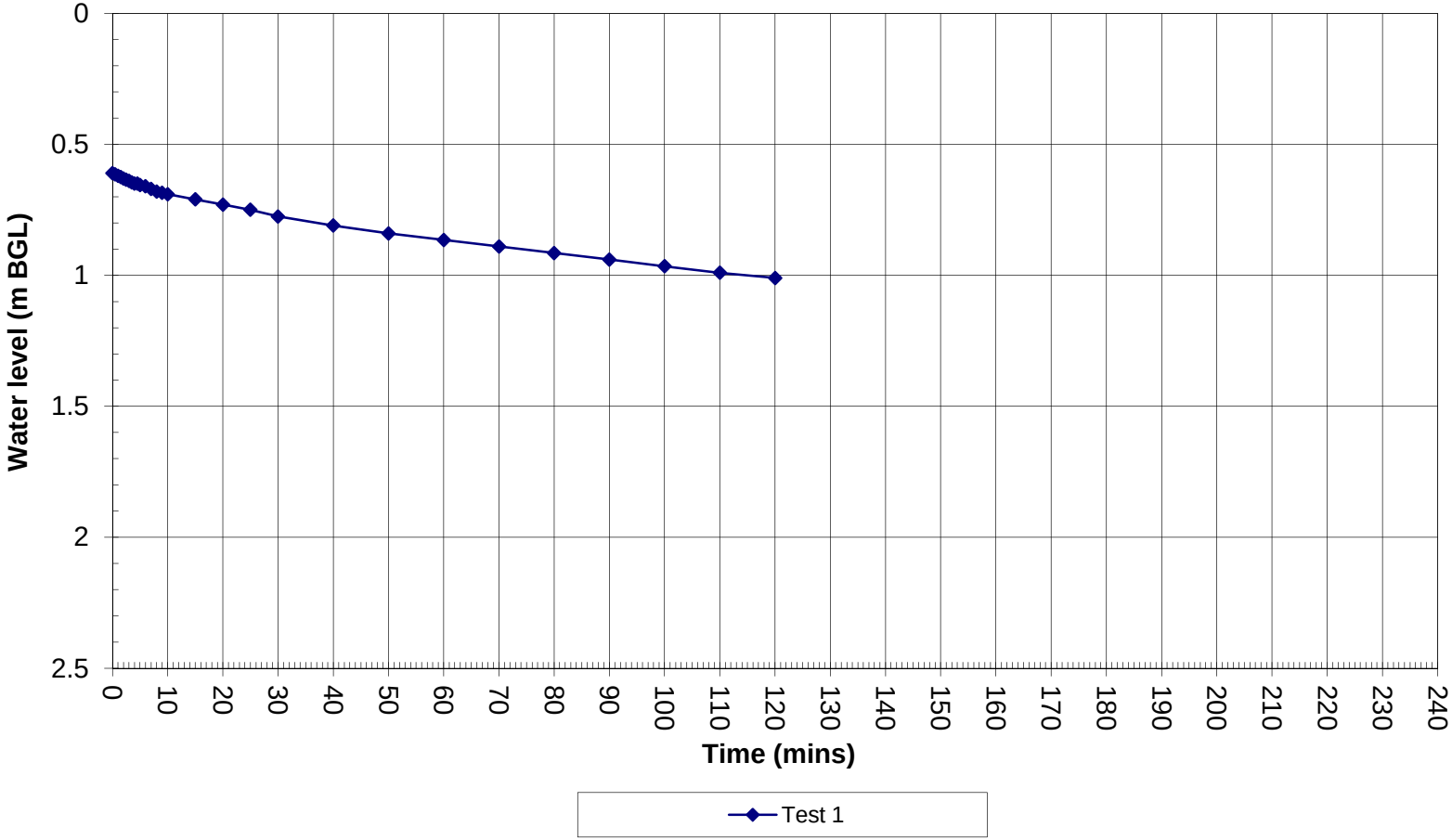
Vp (75-25) (m3) - volume of water in pit between 75% and 25% effective depth
ap 50 (m2) - surface area of pit through which the water is infiltrating (based on 50% effective depth)
t (75-25) (mins) - time taken from pit to drain from 75% to 25% effective depth

Vp (75-25) (m3)	**7.5E-01**	**1.1E+00**	**1.1E+00**
ap 50 (m2)	**4.46E+00**	**6.02E+00**	**6.02E+00**
t (75-25) (mins)	#VALUE!	0.00	0.00

soil infiltration rate (m/s) this is the value that we use in our report - check with table below for consistency with the soil type observed

soil infiltration rate (m/s)	#VALUE!	#DIV/0!	#DIV/0!

Soakaway SA206



WSP

WSP Environmental

Project: Bicester
Number: 12370324-002

TRIAL PIT SOAKAGE TEST - Field data collection and calculation sheet
(enter data into blue cells, leave purple cells)

TEST DATA

Pit reference	**SA207**
Pit depth (m)	1.35
Pit width (m)	0.6
Pit length (m)	1.5
Depth to standing water (m)	-

Test 1		**Test 2**		**Test 3**	
Time (min)	**Depth (m)**	**Time (min)**	**Depth (m)**	**Time (min)**	**Depth (m)**
0	0.58	0		0	
0.5	0.6	0.5		0.5	
1	0.62	1		1	
1.5	0.65	1.5		1.5	
2	0.66	2		2	
2.5	0.68	2.5		2.5	
3	0.695	3		3	
3.5	0.71	3.5		3.5	
4	0.725	4		4	
4.5	0.74	4.5		4.5	
5	0.75	5		5	
6	0.77	6		6	
7	0.79	7		7	
8	0.815	8		8	
9	0.83	9		9	
10	0.845	10		10	
15	0.9	15		15	
20	0.94	20		20	
25	0.99	25		25	
30	1.02	30		30	
40	1.09	40		40	
50	1.14	50		50	
60	1.19	60		60	
70	1.24	70		70	
80		80		80	
90		90		90	
100		100		100	
110		110		110	
120		120		120	
130		130		130	
140		140		140	
150		150		150	
160		160		160	
170		170		170	
180		180		180	
190					
200					
210					
220					
230					
240					
250					
260					
270					
280					
290					
300					

Note - obviously if the pit is draining away quickly - you should maintain testing every minute.
Note - if you use aggregate, it is likely that the pipe will extend above ground level, and as such the reference will not be the same, record the elevation of the pipe above ground level, and correct once back in office, prior to calculating infiltration rate

Depth to water at start (m bgl) depth to water, at start of test (time, 0mins), once pit has been filled NOTE, fill to approximately 1m bgl and below any MG

Head of water at start (m bgl) - pit depth minus depth to water at start NOTE this is used to work out the volume of water

25% effective depth (m bgl) - depth to water at start plus 1/4 of head of water at start (25% of the water has drained away)

50% effective depth (m bgl) - depth to water at start plus 1/2 of head of water at start

75% effective depth (m bgl) - depth to water at start plus 3/4 of head of water at start NOTE this is the minimum depth bgl that you must drain to, ideally the pit should empty

Aggregate size (if used)			
void ratio	1	use 0.3 if 10mm aggregrate, 0.4 if 20mm aggregate and 1 if no aggregate at all	
Depth to water at start (m)	0.58	0.00	0.00
Effective Depth (m)	0.77	1.35	1.35
25% effective depth (m)	0.77	0.34	0.34
50% effective depth (m)	0.97	0.68	0.68
75% effective depth (m)	1.16	1.01	1.01

t25 (mins) - the time taken for 25% of the water in the pit to drain away (i.e. to drain to 25% effective depth)
t75 (mins) - the time taken for 75% of the water in the pit to drain away (i.e. to drain to 75% effective depth)

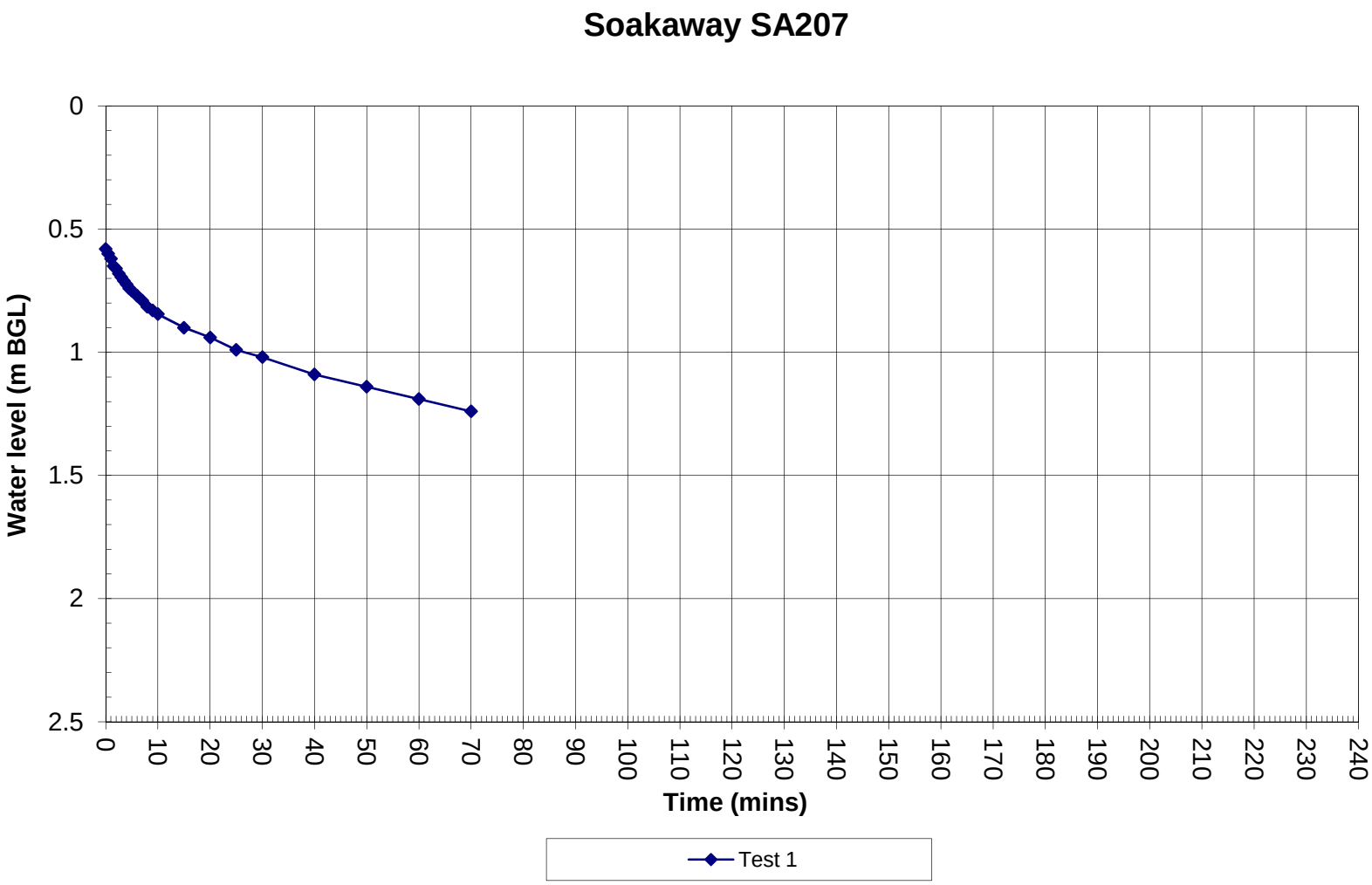
t25 (mins)	scale from graph	**6.00**		
t75 (mins)	scale from graph	**55.00**		

Vp (75-25) (m3) - volume of water in pit between 75% and 25% effective depth
ap 50 (m2) - surface area of pit through which the water is infiltrating (based on 50% effective depth)
t (75-25) (mins) - time taken from pit to drain from 75% to 25% effective depth

Vp (75-25) (m3)	**3.5E-01**	**6.1E-01**	**6.1E-01**
ap 50 (m2)	**2.52E+00**	**3.74E+00**	**3.74E+00**
t (75-25) (mins)	49.00	0.00	0.00

soil infiltration rate (m/s) this is the value that we use in our report - check with table below for consistency with the soil type observed

soil infiltration rate (m/s)	4.7E-05	#DIV/0!	#DIV/0!


Soakaway SA207
Water level (m BGL)
0
0.5
1
1.5
2
2.5
0
10
20
30
40
50
60
70
80
90
100
110
120
130
140
150
160
170
180
190
200
210
220
230
240
Time (mins)
Test 1

WSP

WSP Environmental

Project: Bicester
Number: 12370324-002

TRIAL PIT SOAKAGE TEST - Field data collection and calculation sheet
(enter data into blue cells, leave purple cells)

TEST DATA

Pit reference	**SA208**
Pit depth (m)	1.6
Pit width (m)	0.6
Pit length (m)	2
Depth to standing water (m)	-

Test 1		**Test 2**		**Test 3**	
Time (min)	**Depth (m)**	**Time (min)**	**Depth (m)**	**Time (min)**	**Depth (m)**
0	0.5	0		0	
0.5		0.5		0.5	
1	0.51	1		1	
1.5	0.515	1.5		1.5	
2	0.515	2		2	
2.5	0.515	2.5		2.5	
3	0.515	3		3	
3.5	0.52	3.5		3.5	
4	0.525	4		4	
4.5	0.53	4.5		4.5	
5	0.53	5		5	
6	0.535	6		6	
7	0.54	7		7	
8	0.545	8		8	
9	0.55	9		9	
10	0.555	10		10	
15	0.58	15		15	
20	0.6	20		20	
25	0.615	25		25	
30	0.63	30		30	
40	0.655	40		40	
50	0.68	50		50	
60	0.705	60		60	
70	0.73	70		70	
80	0.75	80		80	
90	0.775	90		90	
100	0.8	100		100	
110	0.825	110		110	
120	0.84	120		120	
130	0.86	130		130	
140	0.875	140		140	
150	0.89	150		150	
160		160		160	
170		170		170	
180		180		180	
190					
200					
210					
220					
230					
240					
250					
260					
270					
280					
290					
300					

Note - obviously if the pit is draining away quickly - you should maintain testing every minute.
Note - if you use aggregate, it is likely that the pipe will extend above ground level, and as such the reference will not be the same, record the elevation of the pipe above ground level, and correct once back in office, prior to calculating infiltration rate

Depth to water at start (m bgl) depth to water, at start of test (time, 0mins), once pit has been filled NOTE, fill to approximately 1m bgl and below any MG

Head of water at start (m bgl) - pit depth minus depth to water at start NOTE this is used to work out the volume of water

25% effective depth (m bgl) - depth to water at start plus 1/4 of head of water at start (25% of the water has drained away)

50% effective depth (m bgl) - depth to water at start plus 1/2 of head of water at start

75% effective depth (m bgl) - depth to water at start plus 3/4 of head of water at start NOTE this is the minimum depth bgl that you must drain to, ideally the pit should empty

Aggregate size (if used)			
void ratio	1	use 0.3 if 10mm aggregrate, 0.4 if 20mm aggregate and 1 if no aggregate at all	
Depth to water at start (m)	0.50	0.00	0.00
Effective Depth (m)	1.10	1.60	1.60
25% effective depth (m)	0.78	0.40	0.40
50% effective depth (m)	1.05	0.80	0.80
75% effective depth (m)	1.33	1.20	1.20

t25 (mins) - the time taken for 25% of the water in the pit to drain away (i.e. to drain to 25% effective depth)
t75 (mins) - the time taken for 75% of the water in the pit to drain away (i.e. to drain to 75% effective depth)

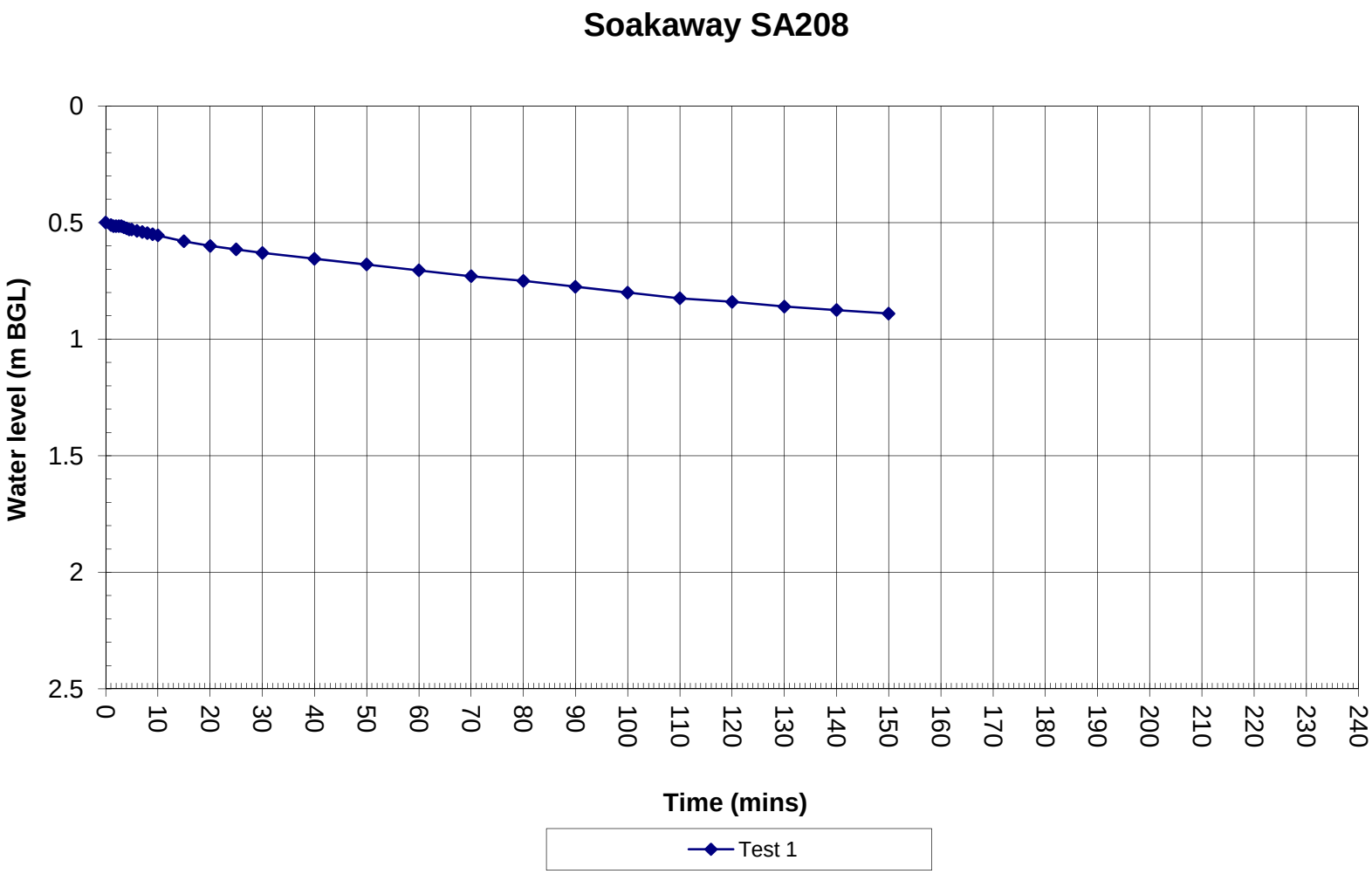
t25 (mins)	scale from graph	**92.00**		
t75 (mins)	scale from graph	**-**		

Vp (75-25) (m3) - volume of water in pit between 75% and 25% effective depth
ap 50 (m2) - surface area of pit through which the water is infiltrating (based on 50% effective depth)
t (75-25) (mins) - time taken from pit to drain from 75% to 25% effective depth

Vp (75-25) (m3)	**6.6E-01**	**9.6E-01**	**9.6E-01**
ap 50 (m2)	**4.06E+00**	**5.36E+00**	**5.36E+00**
t (75-25) (mins)	#VALUE!	0.00	0.00

soil infiltration rate (m/s) this is the value that we use in our report - check with table below for consistency with the soil type observed

soil infiltration rate (m/s)	#VALUE!	#DIV/0!	#DIV/0!


Soakaway SA208
Water level (m BGL)
0
0.5
1
1.5
2
2.5
0
10
20
30
40
50
60
70
80
90
100
110
120
130
140
150
160
170
180
190
200
210
220
230
240
Time (mins)
Test 1

WSP

WSP Environmental

Project: Bicester
Number: 12370324-002

TRIAL PIT SOAKAGE TEST - Field data collection and calculation sheet
(enter data into blue cells, leave purple cells)

TEST DATA

Pit reference	**SA209**
Pit depth (m)	1.6
Pit width (m)	0.6
Pit length (m)	2
Depth to standing water (m)	-

Test 1		**Test 2**		**Test 3**	
Time (min)	**Depth (m)**	**Time (min)**	**Depth (m)**	**Time (min)**	**Depth (m)**
0	0.33	0		0	
0.5	0.335	0.5		0.5	
1	0.34	1		1	
1.5	0.34	1.5		1.5	
2	0.345	2		2	
2.5	0.345	2.5		2.5	
3	0.345	3		3	
3.5	0.35	3.5		3.5	
4	0.355	4		4	
4.5	0.355	4.5		4.5	
5	0.355	5		5	
6	0.36	6		6	
7	0.365	7		7	
8	0.37	8		8	
9	0.375	9		9	
10	0.375	10		10	
15	0.395	15		15	
20	0.41	20		20	
25	0.435	25		25	
30	0.44	30		30	
40	0.465	40		40	
50	0.49	50		50	
60	0.52	60		60	
70	0.535	70		70	
80	0.55	80		80	
90	0.575	90		90	
100	0.59	100		100	
110	0.605	110		110	
120	0.62	120		120	
130	0.635	130		130	
140	0.65	140		140	
150	0.665	150		150	
160	0.68	160		160	
170	0.695	170		170	
180	0.71	180		180	
190	0.725				
200	0.74				
210	0.76				
220	0.775				
230	0.79				
240					
250					
260					
270					
280					
290					
300					

Note - obviously if the pit is draining away quickly - you should maintain testing every minute.
Note - if you use aggregate, it is likely that the pipe will extend above ground level, and as such the reference will not be the same, record the elevation of the pipe above ground level, and correct once back in office, prior to calculating infiltration rate

Depth to water at start (m bgl) depth to water, at start of test (time, 0mins), once pit has been filled NOTE, fill to approximately 1m bgl and below any MG

Head of water at start (m bgl) - pit depth minus depth to water at start NOTE this is used to work out the volume of water

25% effective depth (m bgl) - depth to water at start plus 1/4 of head of water at start (25% of the water has drained away)

50% effective depth (m bgl) - depth to water at start plus 1/2 of head of water at start

75% effective depth (m bgl) - depth to water at start plus 3/4 of head of water at start NOTE this is the minimum depth bgl that you must drain to, ideally the pit should empty

Aggregate size (if used)			
void ratio	1	use 0.3 if 10mm aggregrate, 0.4 if 20mm aggregate and 1 if no aggregate at all	
Depth to water at start (m)	0.33	0.00	0.00
Effective Depth (m)	1.27	1.60	1.60
25% effective depth (m)	0.65	0.40	0.40
50% effective depth (m)	0.97	0.80	0.80
75% effective depth (m)	1.28	1.20	1.20

t25 (mins) - the time taken for 25% of the water in the pit to drain away (i.e. to drain to 25% effective depth)
t75 (mins) - the time taken for 75% of the water in the pit to drain away (i.e. to drain to 75% effective depth)

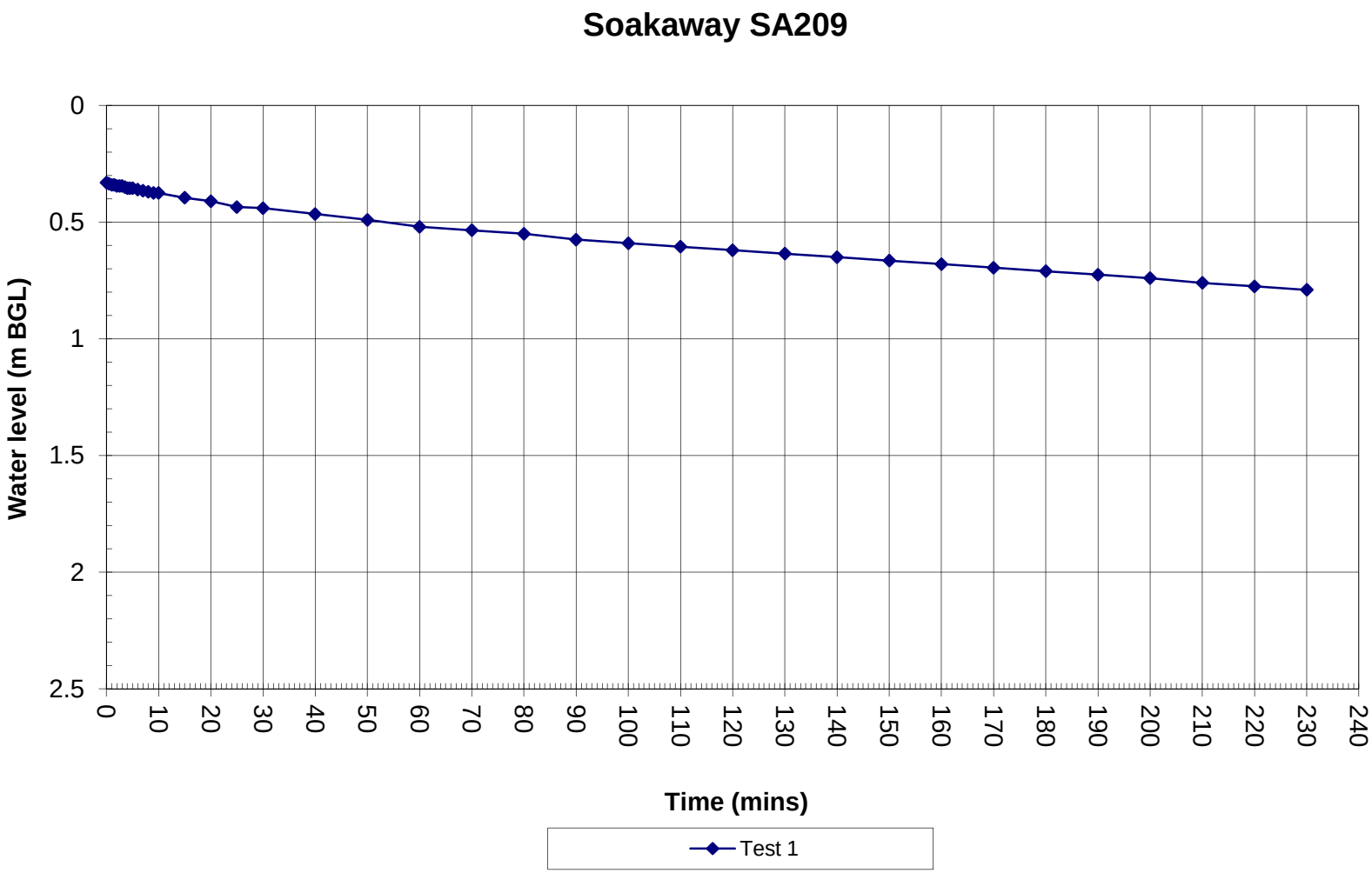
t25 (mins)	scale from graph	**140.00**		
t75 (mins)	scale from graph	**-**		

Vp (75-25) (m3) - volume of water in pit between 75% and 25% effective depth
ap 50 (m2) - surface area of pit through which the water is infiltrating (based on 50% effective depth)
t (75-25) (mins) - time taken from pit to drain from 75% to 25% effective depth

Vp (75-25) (m3)	**7.6E-01**	**9.6E-01**	**9.6E-01**
ap 50 (m2)	**4.50E+00**	**5.36E+00**	**5.36E+00**
t (75-25) (mins)	#VALUE!	0.00	0.00

soil infiltration rate (m/s) this is the value that we use in our report - check with table below for consistency with the soil type observed

soil infiltration rate (m/s)	#VALUE!	#DIV/0!	#DIV/0!


Soakaway SA209
Water level (m BGL)
0
0.5
1
1.5
2
2.5
0
10
20
30
40
50
60
70
80
90
100
110
120
130
140
150
160
170
180
190
200
210
220
230
240
Time (mins)
Test 1

WSP

WSP Environmental

Project:	Bicester
Number:	12370324-002

TRIAL PIT SOAKAGE TEST - Field data collection and calculation sheet
(enter data into blue cells, leave purple cells)

TEST DATA

Pit reference	**SA210**
Pit depth (m)	1.65
Pit width (m)	0.6
Pit length (m)	2
Depth to standing water (m)	-

Test 1		**Test 2**		**Test 3**	
Time (min)	**Depth (m)**	**Time (min)**	**Depth (m)**	**Time (min)**	**Depth (m)**
0	0.62	0		0	
0.5	0.625	0.5		0.5	
1	0.63	1		1	
1.5	0.64	1.5		1.5	
2	0.65	2		2	
2.5	0.655	2.5		2.5	
3	0.66	3		3	
3.5	0.67	3.5		3.5	
4	0.675	4		4	
4.5	0.68	4.5		4.5	
5	0.68	5		5	
6	0.69	6		6	
7	0.695	7		7	
8	0.7	8		8	
9	0.705	9		9	
10	0.71	10		10	
15	0.74	15		15	
20	0.765	20		20	
25	0.785	25		25	
30	0.8	30		30	
40	0.825	40		40	
50	0.855	50		50	
60	0.87	60		60	
70	0.885	70		70	
80	0.9	80		80	
90	0.91	90		90	
100	0.92	100		100	
110	0.935	110		110	
120		120		120	
130	0.96	130		130	
140		140		140	
150		150		150	
160		160		160	
170		170		170	
180		180		180	
190					
200					
210					
220					
230					
240					
250					
260					
270	1.05				
280					
290					
300					

Note - obviously if the pit is draining away quickly - you should maintain testing every minute.
Note - if you use aggregate, it is likely that the pipe will extend above ground level, and as such the reference will not be the same, record the elevation of the pipe above ground level, and correct once back in office, prior to calculating infiltration rate

Depth to water at start (m bgl) depth to water, at start of test (time, 0mins), once pit has been filled NOTE, fill to approximately 1m bgl and below any MG

Head of water at start (m bgl) - pit depth minus depth to water at start NOTE this is used to work out the volume of water

25% effective depth (m bgl) - depth to water at start plus 1/4 of head of water at start (25% of the water has drained away)

50% effective depth (m bgl) - depth to water at start plus 1/2 of head of water at start

75% effective depth (m bgl) - depth to water at start plus 3/4 of head of water at start NOTE this is the minimum depth bgl that you must drain to, ideally the pit should empty

Aggregate size (if used)				
void ratio	1	use 0.3 if 10mm aggregrate, 0.4 if 20mm aggregate and 1 if no aggregate at all		
Depth to water at start (m)	0.62		0.00	0.00
Effective Depth (m)	1.03		1.65	1.65
25% effective depth (m)	0.88		0.41	0.41
50% effective depth (m)	1.14		0.83	0.83
75% effective depth (m)	1.39		1.24	1.24

t25 (mins) - the time taken for 25% of the water in the pit to drain away (i.e. to drain to 25% effective depth)
t75 (mins) - the time taken for 75% of the water in the pit to drain away (i.e. to drain to 75% effective depth)

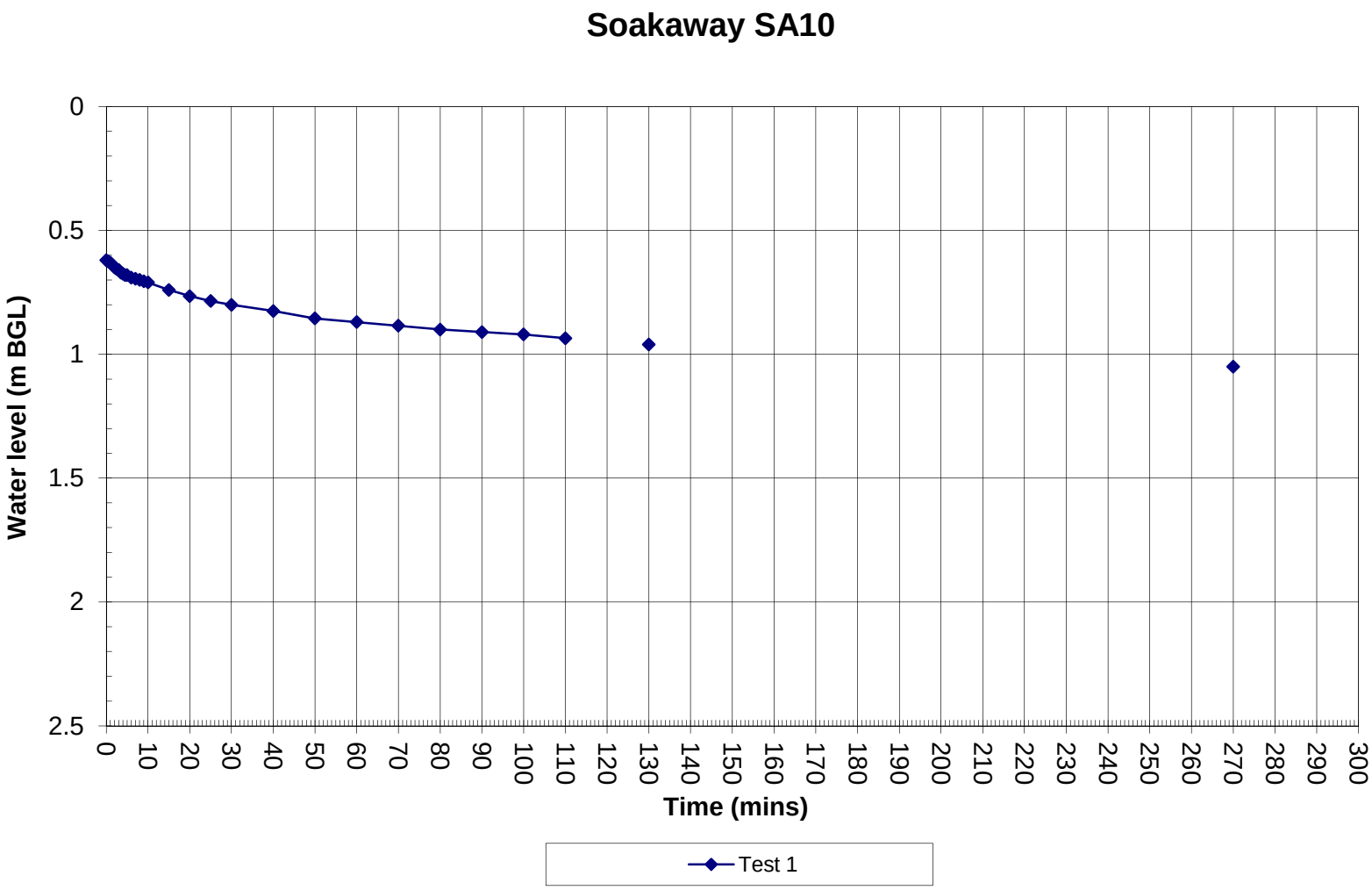
t25 (mins)	scale from graph	**0.70**		
t75 (mins)	scale from graph	**-**		

Vp (75-25) (m3) - volume of water in pit between 75% and 25% effective depth
ap 50 (m2) - surface area of pit through which the water is infiltrating (based on 50% effective depth)
t (75-25) (mins) - time taken from pit to drain from 75% to 25% effective depth

Vp (75-25) (m3)	**6.2E-01**	**9.9E-01**	**9.9E-01**
ap 50 (m2)	**3.88E+00**	**5.49E+00**	**5.49E+00**
t (75-25) (mins)	#VALUE!	0.00	0.00

soil infiltration rate (m/s) this is the value that we use in our report - check with table below for consistency with the soil type observed

soil infiltration rate (m/s)	#VALUE!	#DIV/0!	#DIV/0!


Soakaway SA10
Water level (m BGL)
0
0.5
1
1.5
2
2.5
0
10
20
30
40
50
60
70
80
90
100
110
120
130
140
150
160
170
180
190
200
210
220
230
240
250
260
270
280
290
300
Time (mins)
Test 1

APPENDIX L NOTES FOR LIMITATIONS

Notes on Limitations

For

Geo-Environmental and Geotechnical Consultancy Services

General

WSP Environmental Limited has prepared this report solely for the use of the Client and those parties with whom a warranty agreement has been executed, or with whom an assignment has been agreed. Should any third party wish to use or rely upon the contents of the report, written approval must be sought from WSP Environmental Limited; a charge may be levied against such approval.

WSP Environmental Limited accepts no responsibility or liability for:

a) the consequences of this document being used for any purpose or project other than for which it was commissioned, and

b) this document to any third party with whom an agreement has not been executed.

Phase I Environmental Audits

The work undertaken to provide the basis of this report comprised a study of available documented information from a variety of sources (including the Client), together with (where appropriate) a brief walk over inspection of the site and meetings and discussions with relevant authorities and other interested parties. The opinions given in this report have been dictated by the finite data on which they are based and are relevant only to the purpose for which the report was commissioned. The information reviewed should not be considered exhaustive and has been accepted in good faith as providing true and representative data pertaining to site conditions. Should additional information become available which may affect the opinions expressed in this report, WSP Environmental Limited reserves the right to review such information and, if warranted, to modify the opinions accordingly.

It should be noted that any risks identified in this report are perceived risks based on the information reviewed; actual risks can only be assessed following a physical investigation of the site.

Phase II Environmental Audits

The investigation of the site has been carried out to provide sufficient information concerning the type and degree of contamination, and ground and groundwater conditions to allow a reasonable risk assessment to be made. The objectives of the investigation have been limited to establishing the risks associated with potential human targets, building materials, the environment (including adjacent land), and to surface and groundwater.

The amount of exploratory work and chemical testing undertaken has necessarily been restricted by the short timescale available, and the locations of exploratory holes have been restricted to the areas unoccupied by the building(s) on the site and by buried services. A more comprehensive investigation may be required if the site is to be redeveloped as, in addition to risk assessment, a number of important engineering and environmental issues may need to be resolved.

For these reasons if costs have been included in relation to site remediation these must be considered as tentative only and must, in any event, be confirmed by a qualified quantity surveyor.

The exploratory holes undertaken, which investigate only a small volume of the ground in relation to the size of the site, can only provide a general indication of site conditions. The number of sampling points and the methods of sampling and testing do not preclude the existence of localised "hotspots" of contamination where concentrations may be significantly higher than those actually encountered.

The risk assessment and opinions provided, inter alia, take in to consideration currently available guidance relating to acceptable contamination concentrations; no liability can be accepted for the retrospective effects of any future changes or amendments to these values.

Geo-environmental Investigations

The investigation of the site has been carried out to provide sufficient information concerning the type and degree of contamination, geotechnical characteristics, and ground and groundwater conditions to provide a reasonable assessment of the environmental risks together with engineering and development implications.

If costs have been included in relation to site remediation these must be confirmed by a qualified quantity surveyor.

The exploratory holes undertaken, which investigate only a small volume of the ground in relation to the size of the site, can only provide a general indication of site conditions. The opinions provided and recommendations given in this report are based on the ground conditions apparent at the site of each of the exploratory holes. There may be exceptional ground conditions elsewhere on the site which have not been disclosed by this investigation and which have therefore not been taken into account in this report.

The comments made on groundwater conditions are based on observations made at the time that site work was carried out. It should be noted that groundwater levels will vary owing to seasonal, tidal and weather related effects.

The scope of the investigation was selected on the basis of the specific development proposed by the Client and may be inappropriate to another form of development or scheme.

The risk assessment and opinions provided, inter alia, take in to consideration currently available guidance relating to acceptable contamination concentrations; no liability can be accepted for the retrospective effects of any future changes or amendments to these values.