

Central Land Parcels (KM13 to 20 and Local Centre) Whitelands Farm, Southwest Bicester, Oxfordshire

Phase II Geo-Environmental and Geotechnical Assessment

Countryside Properties (Bicester) Ltd

November 2011

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EXECUTIVE SUMMARY

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

The proposed development of the current site that this report purports to includes the proposed construction of a largely residential development with some commercial premises within the land parcels designated by the client as KM13 to KM20.

The ground investigation was completed between 3rd and 12th August 2011 and included the progression of five cable percussive boreholes, sixteen window sampler boreholes and twenty four trial pits (eight with soakaways tests).

The ground conditions beneath the site are broadly consistent with published information and comprised 0.2 to 1.0m of Made Ground/Topsoil overlying a very variable and discontinuous layer (between 0.25m and 1.45m thick) of Kellaways Clay Member which overlies the Cornbrash Formation and Forest Marble at depth.

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

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 Cornbrash Formation.

Based on the ground conditions encountered and the test results available within the Cornbrash Formation it is anticipated that the minimum foundation depth is anticipated to be 1.5m below existing ground levels. At this foundation depth, the Cornbrash Formation would provide an allowable bearing capacity of 175 to 200kPa for standard spread foundations.

With reference to the Local Centre shallow spread foundations may be suitable depending on the structural load parameters and final design founding on the 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.

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 indices across the site, a CBR value of between 2.5% and 4% is anticipated for the Kellaways Clay Member and between 3% and 5% for the Cornbrash Formation anticipated as being available for design purposes.

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).

The soakage tests were proposed to be undertaken in accordance with BRE Digest 365 'Soakaway Design' 2007. However, with the exception of SA506 and SA531, the water within the remaining trial pits did not drain within the available time constraints and only one test per pit was completed (two were completed within SA506 and SA531). Therefore, it has not been possible to derive design infiltration rates for the strata in accordance with the guidance in the BRE Digest.

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 end-use that is currently proposed. However, it is considered likely that risks to human health may be mitigated by the provision of a suitable capping layer of at least 0.5m thickness.

Once final design layout plans are available, the contamination results should be re-appraised with regards to areas of soft standing and/or residential garden.

Based on the available data, the potential risk to the proposed development and future site users from ground gas and volatile vapours is considered to be low.

WSP ENVIRONMENTAL LIMITIED

The executive summary should be read in conjunction with the complete report (Ref. WSPE Phase II Geo-Environmental and Geotechnical Assessment Report 00020861/002, September 2011) and not relied upon as a separate document.

1 INTRODUCTION

1.1 AUTHORISATION

WSP Environmental Limited (WSPE) were instructed by Countryside Properties (Bicester) Ltd (the Client) to complete a Phase II Geo-Environmental and Geotechnical Assessment at Central Land Parcels (KM13 to KM20 and Local Centre), South West Bicester, Oxfordshire (the site). Site location and layout plans are provided 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, Southwest 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).
- WSPE 12370324-002 (June 2011) Central Eastern Land Parcels, Geo-Environmental and Geotechnical Assessment Report.
- WSPE 00024179-001 (September 2011) Bicester Farmhouse, Geo-Environmental and Geotechnical Assessment Report.

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 land parcels.

1.3 PROPOSED DEVELOPMENT

The proposed development of the current site that this report purports to, includes the proposed construction of a largely residential development with some commercial premises within the land parcels designated by the client as KM13 to KM20. Although a detailed development plan was not available at the time of writing, the locations of the land parcels is presented within a Site Layout and Exploratory Hole Location Plan in **Appendix A**.

Based on information provided by the client, it is understood that the central land parcels are to be redeveloped into residential housing plus associated garden and amenity space as well as 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 assessment are to appraise the ground; groundwater and ground gas conditions in the context of potential risks to identified receptors and provide advice on foundation solutions.

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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;
- Five cable percussion boreholes to 1.70m bgl, each with combined gas and groundwater monitoring wells (note that refusals were met prior to maximum proposed depth);
- Representative soakaway testing within nine pits spread across the site undertaken to determine preliminary indicative infiltration rates;
- The advancement of thirteen window sample boreholes, each with combined gas and groundwater monitoring wells installed (due to ground refusals a maximum depth of 2m bgl was achieved);
- The advancement of twenty four trial pits at approximate 75m centres (due to ground refusals a maximum depth of 2.3m bgl was achieved);
- In-situ testing and recovery of disturbed soil samples;
- Undertaking of laboratory testing, as appropriate, to allow representative derivation of geotechnical parameters and assessment of potential contamination risks; and
- Completion of three rounds of ground gas and groundwater (level) monitoring.

1.6 LIMITATIONS

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

2 SITE CHARACTERISATION

2.1 SITE DETAILS

Table 2.1 Site Details

Site Address	Whitelands Farm, Middleton Stoney Road, Southwest Bicester			
National Grid Reference	457220, 222050			
Area	Approximately 17 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. Construction works have commenced on some of the surrounding land parcels.			
Summary of Surrounding Land Uses	 The surrounding land uses comprise: North: Development of formerly agricultural land into a health care centre and residential properties; South: Development of formerly agricultural land into primary and secondary schools; East: Oxford Road with adjacent petrol station, garden centre, supermarket and shopping centre; and, West: Development of formerly agricultural land into residential properties including the listed farmhouse building. 			

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

2.2 GEOLOGY, HYDROGEOLOGY AND HYDROLOGY

2.2.1 Geology/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 2.2 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:

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.

^{*} 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.

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 (WSPE, 2009)). Alluvium was also encountered during the site investigation of the adjacent northern land parcels (12370399-001 (WSPE, 2010)).

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

2.2.2 Hydrology

Several land drains are located in close proximity to the northern and southern boundaries of the site. In addition to the land drains, **Table 2.3** details other surface water features within 500m of the subject site.

Table 2.3: Surface Water Features

Surface Water	Flow Direction	River Basin M	lanagement	Distance from site boundary	Direction
Feature		Ecological Quality	Chemical Quality		
Pringle Brook	East	-	-	35m	North
Langford Brook	South	Moderate	-	240m	Southern
Gagle Brook	South	Moderate	-	350m	West

2.3 PRELIMINARY CONCEPTUAL SITE MODEL

Based on a previous Phase I Assessment and subsequent WSPE investigations of surrounding parcels of the wider site area, the following preliminary conceptual site model has been developed.

Table 2.4: Preliminary Conceptual Site Model

Potential contaminant sources	Associated contaminants	Potential migration pathways	Sensitive receptors
On-Site			
Made Ground;Areas of burning (fallow land);Agricultural use	 Metals, inorganics (such as pH and sulphate) and asbestos; Total Petroleum Hydrocarbons; Polycyclic Aromatic Hydrocarbons (PAHs); Ground gases; and, 	 Human Health Inhalation of volatile vapours/ ground gases; Ingestion of soil and dust; Direct contact with soil and groundwater; & Ingress into potable water supply pipes. 	 Future Site Users (residential); & Construction & Maintenance Staff;
	Herbicides and pesticides.	Controlled Waters Leaching into groundwater & lateral migration	 Groundwater: Secondary (A) Aquifer; and, Pringle, Langford and Gagle brook.

Potential contaminant sources	Associated contaminants	Potential migration pathways	Sensitive receptors
		 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

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-	Petrol stations;	 Metals and Inorganics (such as pH and sulphate) and asbestos; Migration of groundwater or gas 	Future Site Users;Construction &
-	Adjacent railway land;	 Total Petroleum Hydrocarbons (TPH); 	Maintenance Staff;
	Infilled	Polycyclic Aromatic Hydrocarbons (PAHs);	Groundwater: Secondary (A)
	quarry;	Volatile Organic Compounds (VOCs)	Aquifer;
-	Former coal depot; &	and Semi Volatile Organic Compounds (SVOCs); &	Building fabric and construction
-	Printers.	Volatile vapours & ground gas.	materials; &
			 Below ground services and supply pipes.

3 SITE INVESTIGATION

3.1 FIELD WORK

The site investigation works were completed between 3rd and 12th August 2011 under supervision of a WSPE engineer. The works comprised the scope as detailed in **Section 1.5**. An exploratory hole location plan and detailed logs showing the ground conditions encountered are presented in **Appendix A** and **Appendix B** respectively.

The ground investigation was undertaken in general accordance with techniques outlined in BS5930: 1999 Code of Practice for Site Investigations and BS10175: 2011 Code of Practice for the Investigation of Potentially Contaminated Sites. Appropriate personal protective equipment (PPE) was worn at all times by all personnel during the course of the ground investigation. The investigation was carried out under the supervision of an engineer from WSPE. In advance of the works, each exploratory hole location was cleared of services by a specialist contractor, as detailed within the WSPE Health and Safety Plan.

3.2 RATIONALE FOR EXPLORATORY HOLE LOCATIONS

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: Site Investigation Rationale

Element of investigation	Details	Rationale
Trial Pits (with no	TP502 to TP516	To provide general coverage of the shallow
soakage tests undertaken)	TP518 to TP519	ground conditions.
·	TP521 to TP524	
	TP526 to TP527	
	TP529 to TP530 & TP532	
Trial Pits (with soakage tests)	SA501, SA506, SA515/A, SA517, SA520, SA525, SA528 & SA531	To provide general coverage of information on shallow ground conditions and on infiltration rates. It should be noted that the soakaways were positioned by WSPE in order to provide baseline coverage of the site. Should soakaways be proposed at the site, further testing will be required once the location and invert levels are confirmed.
Cable Percussion Boreholes	CP501 to CP505	To provide preliminary geotechnical design parameters and install ground gas and groundwater monitoring wells.
Window Sample Boreholes	WS501 to WS516	To provide further information on shallow ground conditions and to install ground gas and groundwater monitoring wells.
In-situ Testing	Standard Penetration Tests (SPTs) were undertaken on the in-situ soils	To provide indicative geotechnical design parameters.

Element of investigation	Details	Rationale
Installation of gas and groundwater monitoring wells	Installed in 5 cable percussive boreholes and 10 window sample boreholes with response zones typically within the Kellaways Clay Member and Cornbrash Formation.	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 samples were submitted to the UKAS and MCERTS accredited laboratories of ALcontrol for chemical analysis.	To allow assessment of potential risks to identified receptors.

Note that deeper boreholes have been progressed by rotary methods in the adjacent Bicester Farmhouse site but were not deemed as required for the Central Land Parcel where potential sources/pathways do not require it.

3.3 CABLE PERCUSSIVE BOREHOLES

Five cable percussive boreholes (CP501 to CP505) were advanced to depths of between 0.7m and 1.7m bgl respectively (The final depth of each borehole were constrained by the site geology).

In-situ geotechnical testing (Standard Penetration Tests (SPT)) were carried out in each borehole.

Upon completion of the drilling, monitoring standpipes were installed in each borehole with response zones typically in the Kellaways Clay Member and Cornbrash Formation. Each well was fitted with an air tight gas tap and a secure cover raised above the surrounding ground level.

Representative disturbed and undisturbed samples were recovered for laboratory analysis.

Descriptive logs of the borehole with details of depths, sample type and in-situ test results are presented in **Appendix B.**

3.4 WINDOW SAMPLE BOREHOLES

Sixteen dynamic window sample boreholes (WS501 to WS516) were progressed to a maximum depth of 2m bgl to allow the inspection, in-situ testing and sampling of shallow strata including Made Ground.

In-situ geotechnical testing (Standard Penetration Tests (SPT)) were carried out in several of the boreholes and representative samples from each strata were recovered for laboratory analysis.

Descriptive window sample logs with details of depths and sample type are presented in Appendix B.

3.5 TRIAL PITS

Twenty four machine excavated trial pits were completed to a maximum depth of 2.3m bgl on approximate 75m grid centres across the site. The trial pits were excavated to gain a representative understanding of the shallow soils including the Made Ground and Kellaways Clay Member. In addition, a further nine trial pits were used to assess the baseline soil infiltration rates across the site (soakaway tests) Selected samples from each horizon were collected for laboratory analysis. Upon completion the trial pits were back filled with arisings.

Descriptive logs showing the ground conditions encountered and samples collected from the trial pits are presented in **Appendix B**.

3.6 GROUNDWATER AND GROUND GAS MONITORING

Ground gas monitoring has been completed on three occasions since the completion of the investigation in standpipes that were installed within natural stratum. A full ground gas monitoring record is provided in **Appendix E** and is discussed in detail in Section 6.6.

3.7 LABORATORY TESTING

Selected soil samples were submitted for analysis at the UKAS and MCERTS accredited laboratory of Alcontrol in Hawarden. The results of the soil contamination testing are presented in **Appendix C** and the geotechnical testing in **Appendix D** and included the following determinands:

3.7.1 Chemical Analysis

- Metals / Semi Metals arsenic, cadmium, chromium, copper, lead, mercury, nickel, zinc and selenium.
- Organic Compounds Total Petroleum Hydrocarbons Criteria Working Group (TPH-CWG), Polycyclic Aromatic Hydrocarbons (PAH), Semi-Volatile Organic Compounds (SVOCs), Volatile Organic Compounds (VOCs), Phenol and Benzene, Toluene, Ethylbenzene, and Xylene (BTEX).
- Pesticides/Herbicides Organochlorine and Organophosphorous compounds
- Other –pH, sulphate, soil organic matter

3.7.2 Geotechnical Analysis

Sulphate, pH, Moisture Content, Liquid Limit, Plasticity Limit and Plasticity Index, Particle Size Distribution (PSD), Bulk/Dry Density, California Bearing Ration (CBR), Compaction, Consolidation and Point Load (axial) tests.

4 GROUND CONDITIONS

4.1 GENERAL

The ground conditions encountered in the exploratory holes are broadly consistent with the geological sequence as described in the British Geological Survey map for the site and comprised Topsoil/Made Ground and discontinuous layer of Kellaways Clay Member which were underlain by the Cornbrash Formation and Forest Marble (only possibly identified in TP532).

4.2 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	0.20 to 0.70	Topsoil is generally grey brown slightly clayey, slightly sandy clay with rootlets.
Made Ground	GL	0.20 – 1.00	Material that was potentially Made Ground was only encountered in CP504, TP513, TP526, TP530 and TP532. It was generally found to comprise re-worked grey/brown slightly sandy, slightly gravelly clay.
Kellaways Clay Member	0.2 – 0.7	0.25 – 1.45	The Kellaways Clay Member was found to be discontinuous at the site and where identified is typically orange/brown, clay which was occasionally slightly gravelly and slightly sandy. The unit was found to vary across the site and occasionally comprised fissured dark bluish grey clay with occasional sand horizons.
Cornbrash Formation	GL – 1.7	0.05 - >1.70 Thickness remained unproven	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 with cobbles.
Forest Marble Formation	-	Thickness remained unproven	Due the strength of the overlying Cornbrash Formation, the Forest Marble Formation was only possibly encountered in TP532. However, based on data from surrounding sites it typically comprises dark grey clay and dark orange completely weathered mudstone.

4.3 VISUAL AND OLFACTORY EVIDENCE OF CONTAMINATION

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

4.4 GROUNDWATER

Groundwater was not encountered within any of the boreholes, window sample boreholes or trial pits during the site investigation.

4.5 GROUND GAS

Ground gas monitoring has been completed on three occasions since the completion of the investigation in standpipes that were installed within natural stratum. A full ground gas monitoring record is provided in **Appendix E** and is discussed in detail in **Section 6.5.**

- Methane was not recorded at concentrations above the instruments limit of detection (<0.1%v/v);
- Carbon dioxide was recorded between <0.1% and 3.4%v.v;
- Oxygen generally ranged between 18.5% and 20.8%v.v; and
- Ground gas flow was recorded between -0.2 litres per hour (I/hr) and 0.2I/hr.

The full results are presented within Appendix E.

4.6 DRAINAGE

A number of soakaway tests were undertaken at nine locations across the site in order to provide preliminary baseline soil infiltrations rates.

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

- SA501 & SA525 undertaken within the Kellaways Clay Member;
- SA506, SA515 & SA517 undertaken within the Cornbrash Formation; and
- SA520, SA528 & SA531 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, with the exception of SA506 and SA531, the water within the remaining trial pits did not drain within the available time constraints and only one test per pit was completed (two were completed within SA506 and SA531).

Therefore, it has not been possible to derive design infiltration rates for the strata in accordance with the guidance in the BRE Digest as the fall in water level and number of repeat tests within the pits was not sufficient. However, indicative infiltration rates based on the single tests alone are summarised as follows:

- In SA501 and SA525 infiltration rates varied between 1.48 x10⁻⁵ and 5.66 x10⁻⁵ m/s;
- In SA506, SA515 and SA517 infiltration rates varied between 1.14 x10⁻⁴ and 9.11 x10⁻⁵* m/s; and
- In SA520, SA528 and SA531 infiltration rates varied between 1.57 x10⁻⁵ and 7.31 x10⁻⁶ m/s.

It should be noted that the above infiltration rates are indicative only and should not be used for the detailed design of infiltration drainage. Should infiltration drainage be preferred then further tests in accordance with BRE 365, 2007 should be undertaken based on the final location, invert levels and storage capacities required.

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

^{* -} Denotes infiltration rate achieved on second test.

4.7 GEOTECHNICAL PROPERTIES AND CHARACTERISTIC VALUES OF SOIL PARAMETERS

4.7.1 Geotechnical Classification Tests

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 D**.

Table 4.2: Summary of Geotechnical Properties

Geotechnical Properties			Stratum		
	Topsoil	Made Ground	Kellaways Clay Member	Cornbrash Formation	Forest Marble Formation
SPT 'N' Value	Not tested	Not tested	50 – 55	20 -> 60	Not tested
Moisture content (%)	10 - 13	26 - 33	8 – 30	4.6 – 17	Not tested
Plasticity Index (%)	Not tested	30 - 41	17 – 41	14 – 25	Not tested
Bulk density (Mg/m³)	Not tested	Not tested	1.90 – 1.93	1.81 – 2.08	Not tested
Dry Density (Mg/m³)	Not tested	Not tested	1.43 – 1.65	1.43 – 1.93	Not tested
pH	7.94 – 8.61	7.61	7.11 – 8.51	7.30 – 8.81	Not tested
Sulphate (g/l)	Not tested	<0.01	<0.01 – 0.06	<0.008 – 0.0682	Not tested
Indicative Unconfined Compressive Strength (Correlated from the point load results)	Not tested	Not tested	Not tested	12.1 – 98.12	Not tested
Point Load Index (MPa)	Not tested	Not tested	Not tested	0.55 – 4.46	Not tested
Vibrating Hammer Compaction (mg/m³)	1.66	Not tested	1.99	1.63 – 1.96	Not tested
Indicative California Bearing Ratio (top of sample)	27.1	15.4	24.2	3.4 – 52.32	Not tested

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

- Moisture Content vs depth;
- SPT N Value vs depth;
- Undrained shear strength (from SPT's) vs depth;
- Plasticity Index vs depth;
- Plasticity chart; and,
- Corrected Unconfined Compressive Strength (from Point Load) vs depth

4.7.2 Particle Distribution Tests

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 (%)
Made Ground	Min/Max	0	0	20	80
	Max		Only one sam	ple analysed	
Kellaways Clay Member	Min	0	0	3	30
	Max	0	19*	57	94
Cornbrash Formation	Min	18	0	5	6
FUIIIauUII	Max	27	82	55	89

Note: * High gravel content may be indicative of granular horizons within the Kellaways Clay Member

The results within the Kellaways Clay Member and the Cornbrash Formation are broadly consistent with the tests undertaken within surrounding parcels of land in each respective stratum.

The results within the Kellaways Clay Member are indicative that the stratum is relatively variable across the site, ranging from granular to cohesive in composition. Based on the exploratory hole logs this variability is also seen in the stratums thickness which shows the body to be discontinuous and undulating. It appears to be thickest towards the east with another shallow horizon towards the west. However, the Kellaways Member is distinctly absent over much of the site.

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

4.7.3 California Bearing Ratio Tests

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* (%)
CP501	0.5	Cornbrash Formation	14	21.4
CP502	0.1	Topsoil	11	27.1
TP504	0.7	Cornbrash Formation	6	17.1
TP505	0.5	Kellaways Clay Member	35	3.4
TP507	0.8	Cornbrash Formation	12	19.7

Exploratory Hole	Depth (m bgl)	Stratum	Moisture Content (%)	CBR Value* (%)
TP510	0.6	Cornbrash Formation	12	46.0
TP512	0.5	Cornbrash Formation	23	10.9
TP513	0.4	Made Ground	25	15.4
TP522	1.0	Cornbrash Formation	14	9.5
TP523	0.9	Cornbrash Formation	10	52.2
TP526	0.6	Kellaways Clay Member	15	24.2

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.

4.7.4 Compaction Tests

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/m³)
CP505	0.7	Cornbrash Formation	20	14.5	1.99
TP502	1.0	Cornbrash Formation	19	15.2	1.95
TP505	1.5	Cornbrash Formation	15	15.1	1.90
TP508	1.2	Cornbrash Formation	14	18.3	1.68
TP511	0.9	Cornbrash Formation	10	13.5	1.96
TP521	0.3	Topsoil	12	17.7	1.66
TP522	1.0	Cornbrash Formation	14	11.2	1.63
TP524	1.5	Cornbrash Formation	11	14.7	1.92

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 D** respectively).

5 GEOTECHNICAL ASSESSMENT

5.1 GENERAL

WSPE understand that the central land parcels are to be redeveloped into residential housing plus associated garden and amenity space and a local centre (assumed commercial). 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.

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.

5.2 GROUND CONDITIONS (SUMMARY)

The ground conditions beneath the site are broadly consistent with published information and comprise 0.2 to 1.0m of Made Ground/Topsoil overlying a very variable and discontinuous layer (between 0.25m and 1.45m thick) of Kellaways Clay Member which overlies the Cornbrash Formation and Forest Marble at depth.

As noted, the Kellaways Clay Member was found to be discontinuous across the site outcropping at its thickest (0.5m to 1.45m) in the east of the site with a second thinner layer (0.2m to 1.25m) towards the western boundary.

Groundwater was not encountered during the site investigation works and all of the boreholes remained dry during the post field work monitoring.

5.3 FOUNDATIONS

Made Ground which is not considered a suitable founding stratum due to its inherent variability in composition and state of compaction was encountered in five exploratory holes (CP504, TP513, TP526, TP530, TP532).

Spread foundations may be suitable for lightly loaded structures (low rise residential properties) founding within the firm to stiff Kellaways Clay Member (if present) or into the Cornbrash Formation. However, given its variability and limited thickness, it is recommended that foundations are taken down to found on the Cornbrash Formation at a minimum depth of between 1.25m and 1.5m below existing ground level (foundations must be taken down to 1.5m bgl where completely to highly weathered Cornbrash Formation exists below 1.25m bgl).

Based on the ground conditions encountered and the test results available within the Cornbrash Formation it is anticipated that the minimum foundation depth is anticipated to be 1.5m below existing ground levels. At this foundation depth, the Cornbrash Formation would provide an allowable bearing capacity of 175 to 200kPa for standard spread foundations. Note that due to the clay matrix within the Cornbrash Formation, should construction be carried out in poor weather conditions or winter periods, the allowable bearing capacity may reduce.

With reference to the Local Centre shallow spread foundations may be suitable depending on the structural load parameters and final design founding on the 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.

Test results indicate that the Kellaways Clay Member has modified plasticity indices of between 17% and 41% and the Cornbrash Formation between 14% and 25%. In accordance with NHBC guidance (Chapter 4.2 Building Near Tress 2008) the Kellaways Clay Member and Cornbrash Formation are rated as having a predominantly medium volume change potential.

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.

5.4 GROUND FLOOR CONSTRUCTION

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 and/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 to ensure that the two strata are not spanned by the proposed slab.

Formation levels 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 their recommendations identify a founding depth in excess of 1.5mbgl, or where the formation soils become seasonally desiccated.

If required and 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 in accordance with a detailed earthworks specification to prevent differential or excessive settlements occurring.

5.5 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.

5.5.1 Design Values

California Bearing ratio (CBR) test results indicate that the Kellaways Clay Member has a current CBR value ranging from 3.4% to 24.2% and the Cornbrash Formation between 9.5% and 52.2%.

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 indices across the site, a CBR value of between 2.5% and 4% is anticipated for the Kellaways Clay Member and between 3% and 5% for the Cornbrash Formation anticipated as being available for design purposes. This is based on plasticity indices of between 17% and 41% and 14% and 25% respectively, high water table conditions during construction, average weather conditions and a thin road construction base being adopted.

The notable differences between the laboratory results based on CBR testing and Plasticity Index testing is considered to be based on the nature of the material tested i.e. remoulded samples combining cohesive and granular materials used for the CBR testing versus cohesive materials alone used for the Plasticity Index Testing. 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.

5.5.2 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 sub-base 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 detailed earthworks 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.

5.6 EXCAVATIONS AND GROUND STABILITY

Excavation through the Kellaways Clay Member (where present) 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 1V: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.

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

5.7 REUSE OF EXCAVATED MATERIAL

5.7.1 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 8% and 30%. Optimum moisture content data is not available for this site but based on data from surrounding parcels, it is anticipated 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.

5.7.2 Cornbrash Formation

The majority of the Cornbrash Formation will likely be suitable as Class 1 general 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 or by adopting washing of the Cornbrash to reduce the amount of fines to a satisfactory percentage

WSPE would be able to provide a suitable Earthwork Specifications for each of the above section elements, at request.

5.8 BURIED CONCRETE

Laboratory testing identified soil conditions to be typically neutral to slightly alkaline (pH of 7.11 to 8.80).

Water soluble sulphate concentrations were generally of between <8mg/l and 68.2mg/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).

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 2.3**) 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 (on surrounding land parcels). For completeness, the following table summarises the surrounding exploratory hole locations and samples which have been assessed in parallel with the current dataset from the subject site.

Table 6.1: Environmental samples utilised from surrounding WSPE reports

	WSPE Report Reference	
12370324/001 (December 2009)	12370324/002 (June 2011)	12370399/001 (May 2010)
TP25 [†] @ 0.9m	TP201 @ 1m	TP115 @ 0.5m
TP26 [†] @ 0.2m	TP203 @ 0.5m & 1m	TP117 @ 0.4m
TP28 [†] @ 0.2m	TP206 @0.5m & 1m	TP118 @ 0.2m
TP33 @ 0.2m & 0.4m	TP220 @ 0.8m	TP121 @ 0.2m
TP34 @ 0.4m	TP222 @ 0.8m	TP123 @ 0.6m
TP38 @ 0.8m	WS201 @ 0.7m and 1.7m	TP126 @ 0.6m
TP39 [†] @ 0.9m	WS207 @ 0.6m	TP127 @ 0.5m
TP40 [†] @ 1m	WS208 @ 0.6m and 2m	TP130 @ 0.4m and 0.9m
WS5 @ 0.8-0.9m		WS114 @ 0.1m
		WS115 @ 0.6m
		WS120 @ 0.1m
		WS124 @ 0.3m
		WS126 @ 0.1m & 0.6m
		WS138 @ 0.3m
		WS139 @ 0.4m

^{† -} Trial pits completed on-site as part of previous proposed road investigation.

From the current investigation, a total of twenty nine samples including twenty six of the shallow soils (typically <1.0m bgl), comprising fifteen samples of topsoil, four samples of Kellaways Clay Member and nine samples of Cornbrash Formation were analysed for a range of metal, inorganic and organic determinands. Copies of the analytical results are provided in **Appendix C**.

6.3.2 Metals and Inorganics

With the exception of elevated concentrations of arsenic recorded in nine of the samples, none of the remaining samples tested recorded determinand concentrations above the relevant GAC/SGV considering a residential with plant uptake end use.

It is noteworthy that elevated concentrations of arsenic have also been identified on parcels surrounding the site. **Table 6.2** provides a summary of the arsenic exceedances and their concentrations.

Table 6.2: Arsenic exceedances recorded on and surrounding the site.

Sample	Depth	Stratum	Exceedar	псе
	(m bgl)		Concentration (mg/kg)	GAC/SGV* (mg/kg)
CP501	0.3	Cornbrash Formation	32.8	
WS501	0.2	Topsoil	32.6	
WS503	0.1	Kellaways Clay Member	34	
WS505	0.15	Topsoil	38	
WS507	0.1	Topsoil	38.6	32
WS508	0.1	Topsoil	32.8	02
WS512	0.5	Topsoil	47.8	
WS515	0.15	Cornbrash Formation	39.9	
WS518	0.1	Topsoil	33.8	
TP206**	0.5	Kellaways Clay Member	57.2	
TP38**	0.8	Kellaways Clay Member	35	

Notes:

6.3.3 Organics

None of the samples tested recorded organic determinands above the relevant GAC/SGV considering a residential (with plant uptake) end use.

6.3.4 Herbicides and Pesticides

All determinands were below their respective laboratory limits of detection.

6.4 CONTROLLED WATERS

No groundwater samples were available from the monitoring wells installed on site. Therefore the below is based on previous groundwater data from peripheral boreholes which included:

- CP104, TP115, TP122 and TP129 to the north of the site; and
- WS201 to the south of the site.

6.4.1 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:

^{*} Residential (with gardens) end use

^{**} Off-site data (south)

- 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.

6.4.2 Assessment of the Analytical Results – Controlled Waters

None of the samples tested from peripheral off-site boreholes recorded determinands above the relevant WQS.

6.5 ASSESSMENT OF GROUND GAS

6.5.1 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 (I of gas per hour) = borehole flow rate (I/h) x gas concentration (%). The calculation is carried out for both methane and carbon dioxide and the worst case value adopted.

6.5.2 Assessment of the Results - Ground Gas

Monitoring wells were installed within thirteen boreholes as detailed within the exploratory hole records in **Appendix B**. Ground gas monitoring has been undertaken on three occasions following completion of the works. The results are presented in **Appendix E**. The following table provides a summary of the maximum concentrations observed:

TABLE 6.3: GAS SCREENING VALUES

SCREENED STRATA	METHANE (%V/V) DIOXID Illaways Clay <0.1 1.5 Illaways ay/Cornbrash		FLOW (L/HR)	GAS SCREENING VALUE (L/HR)		
Kellaways Clay	<0.1	1.5	0.1	0.0015		
Kellaways Clay/Cornbrash Formation	<0.1	3.4	0.1	0.0034		
Cornbrash Formation	<0.1	1.4	0.1	0.0014		

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).

Based on the three rounds of ground gas monitoring completed, 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

Based on the data available it is considered that none of the potential on and off-site sources of contamination listed within **Table 2.4** has impacted the site. However, slightly elevated levels of arsenic were recorded within several natural shallow soil samples at the site.

From the information collected to date, no significantly elevated concentrations of ground gas have been identified.

7.2 MIGRATION PATHWAYS

7.2.1 Discounted Pathways

The following pathways have been discounted:

- Ingress into potable water supply pipes;
- Migration via the underlying soils and groundwater;
- Sulphate and built environment; &
- Inhalation of ground gases/volatile vapours

7.2.2 Active Pathways

The following pathways are considered to be active:

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

7.3 RECEPTORS

Potential receptors are considered to comprise the following:.

7.3.1 Active Receptors

- Underlying Secondary A aquifer;
- Land drains/brooks;
- Future site users; and,
- Construction workers.

7.4 PLAUSIBLE POLLUTANT LINKAGE

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.

Detailed development layout drawings were not available at the time of writing. However, it is considered that the concentrations of arsenic recorded in the soil samples can be discounted under 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 suitable imported fill material.

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

8 CONCLUSIONS AND RECOMMENDATIONS

8.1 GROUND INVESTIGATION

The site investigation works were completed between 3rd and 12th August 2011 and included the progression of five cable percussive boreholes, sixteen dynamic (window) sampler boreholes and thirty four trial pits (eight in which soakage tests were 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. Topsoil and localised pockets of Made ground were also encountered across the site.

Groundwater was not encountered during the ground investigation or during post completion monitoring.

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. Once final design layout plans are available, it may be deemed necessary to further assess residential garden areas on a plot by plot basis.

Detailed development layout drawings were not available at the time of writing. However, it is considered that the concentrations of arsenic recorded in the soil samples can be discounted under 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 suitable imported fill material.

8.2.2 Groundwater

Groundwater was not encountered during the site investigation or during post completion monitoring.

It is considered that during the construction phase, site workers may come into contact with groundwater. However, potential 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.

8.2.1 Recommendations

Based on the conclusions, the following recommendation has been made;

 Once final design layout plans are available, the contamination results should be re-appraised with regards to soft standing and/or residential garden areas;

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 ground conditions beneath the site are broadly consistent with published information and comprise 0.2 to 1.0m of Made Ground/Topsoil overlying a very variable and discontinuous layer (between 0.25m and 1.45m thick) of Kellaways Clay Member which overlies the Cornbrash Formation and Forest Marble at depth.

As noted, the Kellaways Clay Member was found to be discontinuous across the site outcropping at its thickest (0.5m to 1.45m) in the east of the site with a second thinner layer (0.2m to 1.25m) towards the western boundary.

Spread foundations, if adopted, have to be taken into the 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 where 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 Local Centre shallow spread foundations may be suitable depending on the structural load parameters and final design founding on the 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.

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.

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 to ensure that the two strata are not spanned by the proposed slab.

8.3.3 Preliminary Pavement Design

It is recommended that a CBR value of between 2.5 to 4% 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 between 3 to 5%.

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. WSPE would be able to provide an appropriate Earthworks Specification on request.

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

Indicative infiltration rates within the Kellaways Clay varied between 1.48 x10⁻⁵ and 5.66 x10⁻⁵ m/s.

Indicative infiltration rates within the Cornbrash Formation varied between 1.14 x10⁻⁴ and 9.11 x10⁻⁵ m/s.

It should be noted that the above infiltration rates are indicative only and should not be used for the detailed design of infiltration drainage. Should infiltration drainage be preferred then further tests in accordance with BRE 365, 2007 should be undertaken based on the final location, invert levels and storage capacities required.

WSP ENVIRONMENT & ENERGY

APPENDIX A FIGURES AND DEVELOPMENT SCHEMATICS

Scale @ A4: 1:50 000





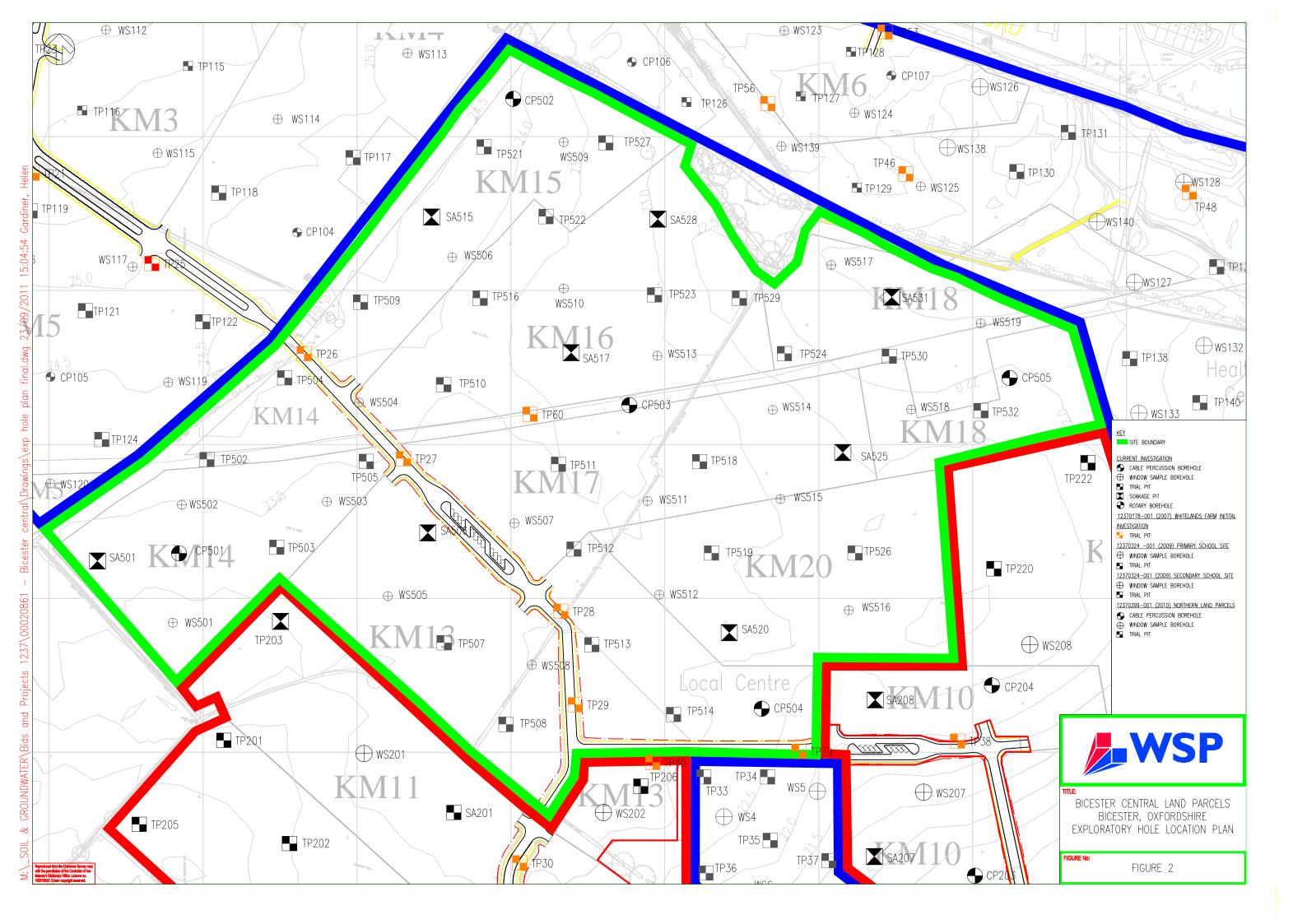
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Designed & Checked : HG

Approved : HB Drawn : HG Date : August 2011





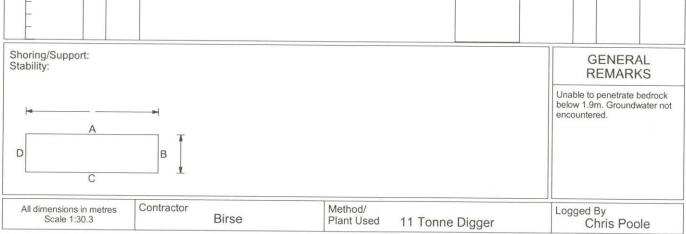


APPENDIX B EXPLORATORY HOLE LOGS



					115	CIAL PI	II LOG					
Pr	oject									TF	RIAL PI	T No
	Biceste	er										_
Jo	b No 123701	78	D	26-04-07 26-04-07	Ground L	_evel (m)	Co-Ordinates ()	62 N 1,057			TP3	8
Sı	pervising Er	ngine	er		1	Client				Shee	et	
	Chris F	Poole	е			Country	side Homes				1 of	1
Water	Depth (thickness)		Red'cd Level		STRATA SAMP			SAMPL	ES	H	SV	
3		No	20101			ESCRIPTION		Legend	Depth	No	Depth	Result kN/m2
	0.00-0.30			TOPSOIL: Crop co	overed stiff to	very stiff des	sicated friable	74 14. 7/11. 7/14. 7				

Depth (thickness)	Red'cd Level	STRATA		SAMPL	ES	Н	SV
No		DESCRIPTION	Legend	Depth	No	Depth	Result kN/m2
0.00-0.30 (0.30)		TOPSOIL: Crop covered stiff to very stiff dessicated friable sandy gravelly SILT/CLAY with abundant rootlets. Sand is fine. Gravel is angular to subrounded fine to medium of limestone. 0.10 Pocket Pentrometer results = 117 kN/m2	11 - 31 12 - 31 14 - 31 14 - 31 14 - 31 14 - 31 14 - 31 14 - 31 14 - 31 14 - 31 14 - 31 14 - 31 14 - 31 14 - 31 14 - 31 14 - 31 14 - 31 14 - 31 14 - 31 14 - 31 14 - 31 14 - 31 14 - 31 14 - 31 14 - 31 14 - 31 14 - 31 14 - 31 14 - 31 14 - 31 14 - 31 14 - 31 14 - 31 14 - 31 14 - 31 14 - 31 14 - 31 14 - 31 14 - 31 14 - 31 14 - 31 14 - 31 14 - 31 14 - 31 14 - 31 14 - 31 14 - 31 14 - 31 14 - 31 14 - 31 14 - 31 14 - 31 14 - 31 14 - 31 14 - 31 14 - 31 14 - 31 14 - 31 14 - 31 14 - 31 14 - 31 14 - 31 14 - 31 14 - 31 14 - 31 14 - 31 14 - 31 14 - 31 14 - 31 14 - 31 14 - 31 14 - 31 14 - 31 14 - 31 14 - 31 14 - 31 14 - 31 14 - 31 14 - 31 14 - 31 14 - 31 14 - 31 14 - 31 14 - 31 14 - 31 14 - 31 14 - 31 14 - 31 14 - 31 14 - 31 14 - 31 14 - 31 14 - 31 14 - 31 14 - 31 14 - 31 14 - 31 14 - 31 14 - 31 14 - 31 14 - 31 14 - 31 14 - 31 14 - 31 14 - 31 14 - 31 14 - 31 14 - 31 14 - 31 14 - 31 14 - 31 14 - 31 14 - 31 14 - 31 14 - 31 14 - 31 14 - 31 14 - 31 14 - 31 14 - 31 14 - 31 14 - 31 14 - 31 14 - 31 14 - 31 14 - 31 14 - 31 14 - 31 14 - 31 14 - 31 14 - 31 14 - 31 14 - 31 14 - 31 14 - 31 14 - 31 14 - 31 14 - 31 14 - 31 14 - 31 14 - 31 14 - 31 14 - 31 14 - 31 14 - 31 14 - 31 14 - 31 14 - 31 14 - 31 14 - 31 14 - 31 14 - 31 14 - 31 14 - 31 14 - 31 14 - 31 14 - 31 14 - 31 14 - 31 14 - 31 14 - 31 14 - 31 14 - 31 14 - 31 14 - 31 14 - 31 14 - 31 14 - 31 14 - 31 14 - 31 14 - 31 14 - 31 14 - 31 14 - 31 14 - 31 14 - 31 14 - 31 14 - 31 14 - 31 14 - 31 14 - 31 14 - 31 14 - 31 14 - 31 14 - 31 14 - 31 14 - 31 14 - 31 14 - 31 14 - 31 14 - 31 14 - 31 14 - 31 14 - 31 14 - 31 14 - 31 14 - 31 14 - 31 14 - 31 14 - 31 14 - 31 14 - 31 14 - 31 14 - 31 14 - 31 14 - 31 14 - 31 14 - 31 14 - 31 14 - 31 14 - 31 14 - 31 14 - 31 14 - 31 14 - 31 14 - 31 14 - 31 14 - 31 14 - 31 14 - 31 14 - 31 14 - 31 14 - 31 14 - 31 14 - 31 14 - 31 14 - 31 14 - 31 14 - 31 14 - 31 14 - 31 14 - 31 14 - 31 14 - 31 14 - 31 14 - 31 14 - 31 14 - 31 14 - 31 14 - 31 14 - 31 14 - 31 14 - 31 14 - 31 14 - 31 14 - 31 14 - 31 14 - 31 14 - 31 14 - 31 14 - 31 14 - 31 14 - 31 14 - 31 14 - 31 14 - 3	0.10 0.10 0.30-0.60	D1 E2 B3	0.10	78
(0.30)		Firm brown to blue grey mottled brown slightly gravelly CLAY with extremely closely spaced partings. Gravel is angular to subangular fine claystones. (KELLAWAYS CLAY)		0.30-0.60	E4	0.00	0.
_0.60-1.60		0.30 - 0.60 Pocket Pentrometer results = 50 kN/m2 Firm dark bluish grey CLAY (KELLAWAYS CLAY)		0.60-1.10	B5		
_		1.00 Pocket Pentrometer results = 66 kN/m2				4.00	_
(1.00)		1.50 FOCKET FERMOMETER TESURS - 00 KN/III2		1.10-1.50 1.10-1.50	B6 E7	1.00	5
100170		D. II.					
_1.60-1.70 _1.70-1.90		Red brown clayey gravelly SAND with small pockets of light grey clay. Sand is fine to coarse. Gravel is subangular to subrounded fine to medium of limestone. (CORNBRASH/KELLAWAYS CLAY TRANSITION)		1.60-1.70 1.70-1.90	E8 D9		
		Extremely to very closely fractured yellow brown LIMESTONE. Fractures are infilled up to 10mm with clayey sand. Recovered as angular to subangularfine to coarse gravel and tabular cobbles and boulders of limestone with matrix of clayey sand. Borderline between highly fractured rock and a soil. (CORNBRASH)					



Mountba	Envir	ouse. I	ental Basino	a View	F	Project			TRIAL I	PIT LO	G		Hole	TP2	06	
Basingsto Telep F	oke, Ha phone: ax: 012	mpshi 01256 256 31	ire RG 3188 8700	621 4H 800	J		W	/hiteland:	s Farm, Sout	h West Bic	ester, Oxf	ord		1 of	1	
Job No	2370	324	-002	2	(Client			Countryside	e Properties	5		Date	9 18-11 18-11		
Contracto	or / Dri	iller			Meth		nt Used		Logged By	jq	Co-Ordina	etes (NGR) E 0.000 N 0.000		Ground Leve	I (m AO	D)
SAM	PLES	& TE	STS	l }						STR	ATA					Install /
Depth	Туре	PID (ppmV)	HSV (kN/m2)	P.Pen (kN/m2)	Water	Elev. (mAOD)	Depth (Thick -ness)	1		Desc	ription			Legend	Geology	
-							(0.30)	subround (TOPSOII	brown slightly sar ed fine to coarse. L)		elly CLAY wi	th rootlets. Gra	avel is	\(\frac{1}{2}\)\(\frac{1}{2}\)\(\frac{1}{2}\)\(\frac{1}{2}\)\(\frac{1}{2}\)\(\frac{1}{2}\)\(\frac{1}{2}\)\(\frac{1}{2}\)\(\frac{1}{2}\)\(\frac{1}{2}\)\(\frac{1}{2}\)\(\frac{1}{2}\)\(\frac{1}{2}\)\(\frac{1}{2}\)\(\frac{1}{2}\)\(\frac{1}{2}\)\(\frac{1}{2}\)\(\frac{1}{2}\)\(\frac{1}{2}\)\(\frac{1}{2}\)\(\frac{1}{2}\)\(\frac{1}{2}\)\(\frac{1}{2}\)\(\frac{1}{2}\)\(\frac{1}{2}\)\(\frac{1}{2}\)\(\frac{1}{2}\)\(\frac{1}{2}\)\(\frac{1}{2}\)\(\frac{1}{2}\)\(\frac{1}{2}\)\(\frac{1}{2}\)\(\frac{1}{2}\)\(\frac{1}{2}\)\(\frac{1}{2}\)\(\frac{1}{2}\)\(\frac{1}{2}\)\(\frac{1}{2}\)\(\frac{1}{2}\)\(\frac{1}{2}\)\(\frac{1}{2}\)\(\frac{1}{2}\)\(\frac{1}{2}\)\(\frac{1}{2}\)\(\frac{1}{2}\)\(\frac{1}{2}\)\(\frac{1}{2}\)\(\frac{1}{2}\)\(\frac{1}{2}\)\(\frac{1}{2}\)\(\frac{1}{2}\)\(\frac{1}{2}\)\(\frac{1}{2}\)\(\frac{1}{2}\)\(\frac{1}{2}\)\(\frac{1}{2}\)\(\frac{1}{2}\)\(\frac{1}{2}\)\(\frac{1}{2}\)\(\frac{1}{2}\)\(\frac{1}{2}\)\(\frac{1}{2}\)\(\frac{1}{2}\)\(\frac{1}{2}\)\(\frac{1}{2}\)\(\frac{1}{2}\)\(\frac{1}{2}\)\(\frac{1}{2}\)\(\frac{1}{2}\)\(\frac{1}{2}\)\(\frac{1}{2}\)\(\frac{1}{2}\)\(\frac{1}{2}\)\(\frac{1}{2}\)\(\frac{1}{2}\)\(\frac{1}{2}\)\(\frac{1}{2}\)\(\frac{1}{2}\)\(\frac{1}{2}\)\(\frac{1}{2}\)\(\frac{1}{2}\)\(\frac{1}{2}\)\(\frac{1}{2}\)\(\frac{1}{2}\)\(\frac{1}{2}\)\(\frac{1}{2}\)\(\frac{1}{2}\)\(\frac{1}{2}\)\(\frac{1}{2}\)\(\frac{1}{2}\)\(\frac{1}{2}\)\(\frac{1}{2}\)\(\frac{1}{2}\)\(\frac{1}{2}\)\(\frac{1}{2}\)\(\frac{1}{2}\)\(\frac{1}{2}\)\(\frac{1}{2}\)\(\frac{1}{2}\)\(\frac{1}{2}\)\(\frac{1}{2}\)\(\frac{1}{2}\)\(\frac{1}{2}\)\(\frac{1}{2}\)\(\frac{1}{2}\)\(\frac{1}{2}\)\(\frac{1}{2}\)\(\frac{1}{2}\)\(\frac{1}{2}\)\(\frac{1}{2}\)\(\frac{1}{2}\)\(\frac{1}{2}\)\(\frac{1}{2}\)\(\frac{1}{2}\)\(\frac{1}{2}\)\(\frac{1}{2}\)\(\frac{1}{2}\)\(\frac{1}{2}\)\(\frac{1}{2}\)\(\frac{1}{2}\)\(\frac{1}{2}\)\(\frac{1}{2}\)\(\frac{1}{2}\)\(\frac{1}{2}\)\(\frac{1}{2}\)\(\frac{1}{2}\)\(\frac{1}{2}\)\(\frac{1}{2}\)\(\frac{1}{2}\)\(\frac{1}{2}\)\(\frac{1}{2}\)\(\frac{1}{2}\)\(\frac{1}{2}\)\(\frac{1}{2}\)\(\frac{1}{2}\)\(\frac{1}{2}\)\(\fra	TS	
0.50-0.50 -0.50-0.50	D ES						- -(0.40) - 0.70	Orange bi GRAVEL. (KELLAW	rown fine to coars		ubangular to	subrounded fir	ne to coars		0	
1.00-1.00	В						-	Stiff dark	grey locally mottle sand sized grains 'AYS CLAY MEMI	s (possibly com	n fissured CL nminuted she	AY with occas	ional shel al roots.			
-1.00-1.00 1.00-1.00	D ES						- -(1.20) -								KLB	
2.00-2.00	D						1.90	17			KLB					
08 WSP TP LOG STANDARD 12370324-002 WHITELANDS FARM SW BICESTER GPJ WSPETEMPLATE; 03:GDT 24/2/11								Orange bi (CORNBF	rown LIMESTONI RASH FORMATIO	E. No Recovery	<i>į.</i>					
							Length		Shoring/Support:			Water	Strikes			
24-002		_	_				2	2.60m		Date	Time	Strike	Minutes	Standing	Re	emarks
3D 123703.		— 2.6 A				T	Width 0).60m -	Stability	_						
P TP LOG STANDAR		С				B 0.6 ▼	1	rees from north	Stability: Stable	·	ated on hard s led with arising	s on completion				
Sc S	ale 1:2	25				dimens lentifica		metres. Log	gs should be read	l in accordance	with the prov	vided Key. Des	criptions a	are based on v	isual and	t t

WS		BOREHOLE LOG Invironmental , Basing View, Basingstoke Project hire, RG21 4HJ e: 01256 318800 Fax: Bicester Central Land Parcels														CP5	01	
Vountbatten H	House, B ampshir ephone:	asing View, e, RG21 4H 01256 318	Basin	gstoke	Proje	ect		В	ices	ster Centra	al Land Pa	arcels		She	et	1 of	1	
Job No	0020	861/00	1		Clie	nt		Cou	ntry	side Prope	rties (Bice	ster) Ltd		Dat		05-08- 05-08-		
Contracto		iller JK Ltd		Met	hod/		t Used ando		L	ogged By S Dur	nstan	E	tes (NGR) 456984.617 222028.261	,	Groui	nd Level	•	OD)
SA	AMPL	ES & TE	STS									STRATA	A					Install Backf
Depth	Туре	Test Result	Old (bbmV)	HSV (kN/m2)	P.Pen (kN/m2)	Water	Elev. (m AOD	Depth (Thick -ness)			De	escription				Legend	Geology	Dia.
-0.10-0.50 -0.30 -0.50-1.00	B ES B							-(1.00)	me	t, dark brown s dium of limesto DRNBRASH FO	ne. Frequent	sandy CLAY. soft light grey	Gravel is sul clay lenses.	bangular, t	fine to		СВ	
-1.00	SPT	0.04.00					72.29	1.00	Out	The beautiful and the second and		OLAN			C			
- - - -		8,21,32 28 N=60/ 0.136(C)					71.59	(0.70) 1.70	to c	f Light grey bro coarse of limest DRNBRASH FO	one.	y gravelly CLA	Y. Gravei is si	ubangular	, fine		СВ	
-1.00-1.45 -1.50-1.70 -1.70	B B SPT	2,60 N=62/					71.00	1.70		ehole termina	ted at 1.70m b	ogl - refusal on	bedrock.			-0		
-		0.075(C)						E										
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				Bori	ing Pr	ogres	SS						Water	Strikes				
Date From 1.7		Time	1	Depth		Casii	ng Dpt	Dia. (n	Minutes	5	Standing	Ca	asing					
From		To		Hours		Т	ool	V Fror		Added To	General Rem	narks ater encountered						
1.7 Sca		1.7		0100														
Sca	ale 1:6	2.5	Not	es: A	II dim dentit	ensic	ons in mo	etres. Lo	ogs s	hould be read i	n accordance	with the provid	led Key. Desc	criptions a	re base	ed on visu	ual and	

WS	SP Env	VSP	ntal					ı	BC	DREHO	DLE LO	OG		Hole	Cl	P50	2	
ountbatten H Ha Tele	louse, Ba ampshire phone:	asing View e, RG21 4H 01256 318 ax:	, Basing IJ 800	jstoke	Proje	ect		В	ices	ster Centra	al Land Pa	arcels		Shee		of ′	1	
Job No	0020	361/00	1		Clier	nt		Cou	ntry	side Prope	rties (Bice	ster) Ltd		Date	05	-08-1 -08-1	1	
Contracto	or / Dri	iller		Met	hod/	Plant	Used		L	ogged By		Co-Ordina	ites (NGR)		Ground I	_evel ((m AC	D)
Gl	over L	JK Ltd				Da	ando			S Dur	nstan		457201.701 222323.623			74.08	33	
SA	AMPLE	ES & TE										STRATA	4					Install Backf
Depth	Туре	Test Result	PID (ppmV)	HSV (kN/m2)	P.Pen (kN/m2)	Water	Elev. (m AOD	Depth (Thick -ness)			De	escription			Le	egend	Geology	Dia. 50 mm
-0.10-0.70 -0.40 -0.70	B ES SPT	10,60					73.38	(0.70)	(TO	nt brown slightl dium of limesto PSOIL) rehole terminat	one. Occasiona	al lenses of da	rk brown and	ular, fine to light grey o	clay.		TS	
		75 N=70/ 0(C)						-	БОП	enoie terriiriat	ed at 0.70m b	gi - Telusal Off	bediock.					
-																		
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_		_			ng Pr							I	Water		_			
Date From 0.6		Time Depth Casing Dpt Dia. (mm) Water Dpt Date Time											Strike	Minutes	Star	nding	Ca	sing
			selling		Water Added Ours Tool From To General Remarks													
From 0.6		To 0.7		Hours 0100		T	ool	Fron										
Sca	ale 1:62	2.5	Note	es: A nual i	II dim dentif	ensio icatio	ns in mo	etres. Lo	ogs sl	hould be read i	n accordance	with the provid	ded Key. Desc	criptions ar	e based o	n visua	al and	

WS	SP Env	BOREHOLE LOG P Environmental puse, Basing View, Basingstoke Project mpshire, RG21 4HJ hone: 01256 318800 Bicester Central Land Parcels												Hole	(CP5(03	
Mountbatten F Hi Tele	House, B ampshire ephone:	asing View e, RG21 4H 01256 318 ax:	, Basing IJ 800	gstoke	Proje	ect	_	В	ices	ster Centra	al Land Pa	arcels		Shee		1 of	1	
Job No	0020	861/00	1		Clier	nt		Cou	ntry	side Prope	rties (Bice	ester) Ltd		Date	()5-08-)5-08-	11 11	
Contract	or / Dr	iller		Met	hod/	Plan	t Used		L	ogged By		Co-Ordina	, ,		Ground	d Level	(m AC	DD)
GI	lover L	JK Ltd				Da	ando			S Dur	nstan		457278.565 222116.571			73.2	244	
Si	AMPLI	ES & TE										STRATA	١	·				Install Backf
Depth	Туре	Test Result	PID (Vmdd)	HSV (kN/m2)	P.Pen (kN/m2)	Water	Elev. (m AOD	Depth (Thick -ness)			De	escription				Legend	Geology	Dia. 50 mm
-0.00-0.40 -0.20	B ES						72.84	- 1	med	k brown slightl dium of limesto PSOIL)	y gravelly sand one. Occasion	dy CLAY. Gra al lenses of ligi	ivel is suband nt brown sand	gular, fine to dy clay.)		TS	
Ē							72.44	0.80	Ligh		andy gravelly	CLAY. Gravel	is angular, fir	ne to coarse	e of	0	СВ	
-0.80 - - - - - -	SPT	10,60 N=70/ 0.075(C)						-	/(CC	ORNBRASH FO		gl - refusal on l	pedrock.		/			
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Bata		T			ng Pr			D:- /-	\	Mata But	Dete	T		Strikes		Mara Para		
Date From 0.7	+	Time		Depth		Casi	ng Dpt	Dia. (m	ım)	Water Dpt	Date	Time	Strike	Minutes	S	Standing	Ca	asing
From		Chis	selling	l Hours		т.	ool	V		Added To	General Rem	narks						
0.7		.8		0100			OUI	<u> </u>										
Sca	ale 1:62	2.5	Notes: All dimensions in metres. Logs should be read in accordance with the properties of the properti											criptions are	e based	d on visu	ial and	

Depth Type Test Depth Type Test Depth Type Test Depth Type Type Test Depth Type Test Depth Type Test Depth Type			VSP							BC	DREHO	DLE LO	OG		Hole I	No. CP5	04	
July	ountbatten H	louse. Ba	asina View.	Basings	stokeF	Proje	ect			Sheet								
Contractor / Driller Glover UK Ltd Dando Dando S Dunstan C-Co-Ordinates (NCR) SAMPLES & TESTS Depth Type Test D S S S S S S S S S S S S S S S S S S	Tele	phone: (01256 3188 ax:	300					В	ices	ster Centra	al Land Pa	arcels			1 of	1	
Samples & TESTS Samples & TESTS Strata S		00208	361/00	1	C	Clier	nt		Cou	ntry	side Prope	erties (Bice	ester) Ltd		Date	05-08 05-08	-11 -11	
SAMPLES & TESTS Dright Type Report Call Services (School Call Call Call Call Call Call Call C	Contracto	or / Dri	ller	1	Meth	nod/l	Plan	t Used		L	ogged By		Co-Ordina	ites (NGR)	G	Fround Leve	l (m A	OD)
Type Test Description Type Test Description Type	GI	over U	IK Ltd				Da	ando			S Dur	nstan				72.	665	
Degeth Type Type	SA	AMPLE	S & TE										STRAT	4				Instal Backt
Consider Consider	Depth	Туре		(ppmV)	HSV (kN/m2)	P.Pen (kN/m2)	Water		(Thick			D	escription			Legend	Geology	Dia. 50 mm
Boring Progress Water Strikes Date Time Depth Casing Dpt Dia. (mm) Water Dpt Date Time Strike Minutes Standing Casing Chiselling Water Added From To Hours Tool From To General Remarks 1.5 1.6 0100 Groundwater encountered.	-1.20	ES D	3,25,25					71.02	(1.45)	Sof to s Firm (KE 1.20 lime Ligh coa (CC	t dark brown slubangular, fine n mottled grey ELLAWAYS CL 0 m bgl Beconestone. In grey brown verse of limestor DRNBRASH FO	ightly gravelly to medium o red brown CL AY MEMBER ning slightly go very clayey gra ne. DRMATION)	f limestone. RAY.) ravelly. Gravelavelly SAND. G	are brick frag is angular, fir	ments. ne to mediur		KLB	
Boring Progress Water Strikes Date Time Depth Casing Dpt Dia. (mm) Water Dpt Date Time Strike Minutes Standing Casing Chiselling Water Added From To Hours Tool From To General Remarks	<u> </u>								-									
	Date		Time	T		ng Pr			Dia (n	nm)	Water Dnt	Date	Time			Standing	-	asino
	Date				ωμιΙ		Casil	ig phr	windles	Statiunig		aoiliy						
	From				ours	ırs Tool 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.		ale 1:62	1.6	0 Note	100 s: All		ensic	ons in me							criptions are	based on vis	ual and	

	P Envir							E	30	REHO	DLE LO	OG				CP5	05	
Mountbatten H Ha Tele	ouse, Bas impshire, I phone: 01 Fax	RĞ21 4H. 1256 3188	J	gstoke	Proje	ect		Bi	ces	ster Centra	al Land Pa	arcels		Sh	eet	1 of	1	
Job No	002086	61/00 ⁻	1		Clier	nt		Cour	ntry	side Prope	erties (Bice	ster) Ltd		Da	ite	05-08- 05-08-		
Contracto	or / Drille over Uk			Meti	hod/		t Used ando		L	ogged By S Dur	nstan	E	ates (NGR) 457524.204 222142.160		Grou	nd Level 72.0		DD)
SA	MPLES	S & TE	STS									STRAT	Α					Install Backfil
Depth	Туре	Test Result	PID (ppmV)	HSV (kN/m2)	P.Pen (kN/m2)	Water	Elev. (m AOD	Depth (Thick -ness)			D	escription				Legend	Geology	Dia.
0.00-0.70 -0.30 -0.70-1.20 -1.00 -1.00 -1.00 -1.00 -1.00 -1.00 -1.00 -1.00 -1.00 -1.00 -1.00 -1.00 -1.00 -1.00 -1.00 -1.00 -1.00 -1.00 -1.00 -1.00 -1.00 -1.00 -1.00 -1.00 -1.00 -1.00 -1.00 -1.00 -1.00 -1.00 -1.00 -1.00 -1.00 -1.00 -1.00 -1.00 -1.00 -1.00 -1.00 -1.00 -1.00 -1.00 -1.00 -1.00 -1.00 -1.00 -1.00 -1.00 -1.00 -1.00 -1.00 -1.00 -1.00 -1.00 -1.00 -1.00 -1.00 -1.00 -1.00 -1.00 -1.00 -1.00 -1.00 -1.00 -1.00 -1.00 -1.00 -1.00 -1.00 -1.00 -1.00 -1.00 -1.00 -1.00 -1.00 -1.00 -1.00 -1.00 -1.00 -1.00 -1.00 -1.00 -1.00 -1.00 -1.00 -1.00 -1.00 -1.00 -1.00 -1.00 -1.00 -1.00 -1.00 -1.00 -1.00 -1.00 -1.00 -1.00 -1.00 -1.00 -1.00 -1.00 -1.00 -1.00 -1.00 -1.00 -1.00 -1.00 -1.00 -1.00 -1.00 -1.00 -1.00 -1.00 -1.00 -1.00 -1.00 -1.00 -1.00 -1.00 -1.00 -1.00 -1.00 -1.00 -1.00 -1.00 -1.00 -1.00 -1.00 -1.00 -1.00 -1.00 -1.00 -1.00 -1.00 -1.00 -1.00 -1.00 -1.00 -1.00 -1.00 -1.00 -1.00 -1.00 -1.00 -1.00 -1.00 -1.00 -1.00 -1.00 -1.00 -1.00 -1.00 -1.00 -1.00 -1.00 -1.00 -1.00 -1.00 -1.00 -1.00 -1.00 -1.00 -1.00 -1.00 -1.00 -1.00 -1.00 -1.00 -1.00 -1.00 -1.00 -1.00 -1.00 -1.00 -1.00 -1.00 -1.00 -1.00 -1.00 -1.00 -1.00 -1.00 -1.00 -1.00 -1.00 -1.00 -1.00 -1.00 -1.00 -1.00 -1.00 -1.00 -1.00 -1.00 -1.00 -1.00 -1.00 -1.00 -1.00 -1.00 -1.00 -1.00 -1.00 -1.00 -1.00 -1.00 -1.00 -1.00 -1.00 -1.00 -1.00 -1.00 -1.00 -1.00 -1.00 -1.00 -1.00 -1.00 -1.00 -1.00 -1.00 -1.00 -1.00 -1.00 -1.00 -1.00 -1.00 -1.00 -1.00 -1.00 -1.00 -1.00 -1.00 -1.00 -1.00 -1.00 -1.00 -1.00 -1.00 -1.00 -1.00 -1.00 -1.00 -1.00 -1.00 -1.00 -1.00 -1.00 -1.00 -1.00 -1.00 -1.00 -1.00 -1.00 -1.00 -1.00 -1.00 -1.00 -1.00 -1.00 -1.00 -1.00 -1.00 -1.00 -1.00 -1.00 -1.00 -1.00 -1.00 -1.00 -1.00 -1.00 -1.00 -1.00 -1.00 -1.00 -1.00 -1.00 -1.00 -1.00 -1.00 -1.00 -1.00 -1.00 -1.00 -1.00 -1.00 -1.00 -1.00 -1.00 -1.00 -1.00 -1.00 -1.00 -1.00 -1.00 -1.00 -1.00 -1.00 -1.00 -1.00 -1.00 -1.00 -1.00 -1.00 -1.00 -1.00 -1.00 -1.00 -1.00 -1.00 -1.00 -1.00 -1.00 -1.00 -1.00 -1.00 -1.00 -1.00 -1.00 -1.00 -1.00 -1.00 -1.00 -1.00 -1.00 -1.00 -1.00 -1.00 -1.00 -1.00 -1.00 -1.00 -1.00 -1.00 -1.		10,15,60 N=60/ D.075(C)					70.84	-(1.20)	Coa (KE 0.70 Light coa (CC	nt brown very s rse of limestor LLAWAYS CL Om bgl Pocke of grey brown s rse of limestor DRNBRASH FO ehole terminat	ne. AY MEMBER ets of light grey slightly clayey : ne. ORMATION)) / clay. sandy GRAVE	L. Gravel is a			00000	KLB	
2 - - - -				Pori	og Dr	oaro		-			T		Water	Strikon				
Date	Т	Гіте	[Borii Depth	ng Pr	ogres Casi	ss ng Dpt	Dia. (m	m)	Water Dpt	Date	Time	Water Strike	Strikes	es	Standing	Ca	asing
No.		To 1.4		Hours 0100	II dim		ool oos in m	From	1	Added To nould be read		iter encountered		crintions	are has	ed on visy	ial and	
≳ Sca	ile 1:62.5	5	mar	es: Ai nual id	dentif	icatio	ກາວ III IIII ທີ່.	ວແ <i>ປ</i> ວ. L0	ys Si	iouiu be lead	iii accordance	with the provi	ueu ney. Desc	onpuons i	are Das	eu on vist	iai ailU	

	 	NS	P						TRIAL I	PIT I O	G		Hole	e No.	SA5	01	
	P Env					<u> </u>				II LO	<u> </u>		Cha				
Mountbatten H Hi Tele	ampshire phone:	e. RĞ2	1 4HJ		stoke	Project		Bio	cester Centr	al Land Pa	arcels		She	еет	1 of	1	
Job No	0020	861/	/001		(Client		Coun	tryside Prope	erties (Bice	ster) Ltd		Dat		10-08- 10-08-		
Contracto	or / Dr		Ltd		Meth	nod/Pla	nt Use		Logged By	ınstan	E	ates (NGR) 456931.458 222023.310		Groun	d Level		DD)
	PLES			<u> </u> }							ATA						Install
Depth		Old (Amdd)			Water	Elev. (m AOD		n			cription				Legend	Geology	Backfill
-						73.14	-ness) - 0.20		vn clayey gravelly ne. Frequent roo	SAND. Grave otlets.	el is angular to	subrounded,	fine to co	arse	1/ 1/ 1/ 1/ 1/ 1/ 1/ 1/ 1/ 1/ 1/ 1/ 1/ 1	TS	
-							(0.40)	Orange/bi (CORNBR	rown clayey sand RASH FORMATIO	y GRAVEL. Gra DN)	avel is angula	fine to coars	se of lime	stone.	0-00	СВ	
0.70	В					72.74	0.60	Dense da	rk yellowish brow ılar, fine to coarse RASH FORMATIO	, limestone.	cobbly GRAV	EL. Gravel a	nd cobble	s of	0.4-0		
							(0.90)					СВ					
D Sca								Trial pit te	erminated at 1.50r	n bgl - refusal d	on bedrock.						
							Length		Shoring/Support:			Water	Strikes				
		— 1.6 А	S —		→	T 0.00	Width).80m	None Stability:	Date	Time	Strike	Minute	es s	Standing	Rei	marks
D		С				B 0.8 <u>▼</u>		ion rees from north	Stability: Stable	General Rem Soil strength b	narks pased on engine	er's observation	ns. No grou	undwater	encounte	red.	
Sca	le 1:31	.25				dimens		metres. Log	gs should be read	in accordance	with the provi	ded Key. Des	criptions a	are base	d on visu	ual and	

	 	NS	P						TRIAL I	PIT LO	G		Hole	e No.	SA5	06	
Mountbatten H	SP Env House, B ampshire	asing V	/iew, E	Basing	stoke [Project							She	eet			
Tele	ephone:	01256 ax:	31880	00				Bi	cester Centr	al Land Pa	arcels				1 of	1	
Job No 0	0020	861/	001		(Client		Coun	tryside Prope	erties (Bice	·		Dat		10-08- 10-08-	-11 -11	
Contract Dav	or / Dr id Bee		Ltd		Meth	nod/Pla J0	nt Use		Logged By S Du	nstan	E	ates (NGR) 457146.606 222041.583		Grour	nd Level		OD)
SAM	PLES	& TE	STS	;						STR	RATA						Install Backfil
Depth	Туре	PID (ppmV)	HSV (kN/m2)	P.Pen (kN/m2)	Water	Elev. (m AOD)	Depth (Thick -ness)			Desc	cription				Legend	Geology	
-						73.17		to mediur	er firm dark browr n of limestone.		gravelly CLA	 ✓. Gravel is s 	ubrounded	d, fine	1/ 1/ 1/ 1/ 1/ 1/	TS	
-						72.87	(0.30) 0.50	Firm oran	0 m bgl Rootlets. ge/brown slightly limestone. RASH FORMATIO	sandy slightly (gravelly CLAY	. Gravel is an	ngular, fine	e to		СВ	
- - - - -							Dense light grey brown, slightly clayey sandy slightly cobbly GRAVEL. Gravel and cobbles of angular, fine to coarse of limestone. (CORNBRASH FORMATION)										
1.40	В					71.57	1.80	Trial pit te									
D Sca																	
							Length		Shoring/Support:	Date	Time	Water Strike	Strikes Minute		Standing	Po	marks
⊢ D		− 1.7 <u>A</u>			→	 B 0.7	Width).70m	None Stability:	Date	Time	Suire	Williate	5	Standing	Re	marks
		С				<u>*</u>		ion rees from north	Stable	General Rem Soil strength b	narks pased on engine	er's observation	ns. No grou	undwater	r encounte	red.	
Sca	ale 1:31	.25				dimens		metres. Log	gs should be read	in accordance	with the provi	ded Key. Des	criptions a	re base	ed on visu	ual and	

	 	NS	P						TRIAL I	PIT LO	G		Hole I	No. SA5	15	
lountbatten F	ampshire ephone:	asing \ e, RG2 01256	View.	Basino	jstoke	Project		Bi	cester Centr				Sheet	t 1 of	1	
Job No	F	ax:				Client							Date			
	0020	861	/00 ⁻	1		Olicit		Cour	ntryside Prope	erties (Bice	ster) Ltd			11-08- 11-08		
Contract Davi	or / Dr id Bee		Ltd		Met	hod/Pla J(nt Use		Logged By S Du	ınstan	E	ates (NGR) 457148.662 222246.803	2	Fround Leve	I (m A	OD)
SAM	PLES	& TE	STS	<u></u> 3						STR	ATA					Install Backf
Depth	Туре	PID (ppmV)	HSV kN/m2)	P.Pen kN/m2)	Water	Elev. (m AOD		ו		Desc	cription			Legend	Geology	
						74.13	-ness) - 0.20	coarse of	er brown clayey g	ravelly SAND. uent rootlets.	Gravel is ang	ular to subro	unded, fine to		- TS	
						73.88	(0.25)	cobbles of	prown slightly clayed angular, fine to	coarse limestor	lightly cobbly (GRAVEL. Gr	avel and		СВ	
						73.53	(0.35)	Dark yello	RASH FORMATION OW brown slightly obbles and gravel RASH FORMATION	clayey slightly s of very angular	andy gravelly f, fine to coarse	COBBLES. \e limestone.	ery angular	/ % `-	СВ	
						70.00	- 0.00	1001111	erminated at 0.80r		on bedrock.					
-							Length		Shoring/Support:			Water	Strikes			
							_	2.08m	None Shoring/Support.	Date	Time	Strike	Minutes	Standing	Re	emarks
 		- 2.0 <u>A</u>	ช —			l 1 ∓	Width									
D						B 0.7).70m	Stability:	General Rem	narks					
D		С				. <u>.</u>		rees from north	Stable	l l	pased on engine	er's observatio	ns. No ground	dwater encounte	ered.	
Sca	ale 1:31	.25				II dimens		metres. Log	gs should be read	in accordance	with the provid	ded Key. Des	criptions are	based on vis	ual and	

WS	SP Env	WS							TRIAL F	PIT LO	G		Hole N	SA51	5A	
Mountbatten H	louse, B ampshir phone:	asing e. RG2	View	, Basino	gstoke	Project		Bi	cester Centra	al Land Pa	ırcels		Sheet	1 of	1	
Job No	0020	861	/00	11		Client		Coun	tryside Prope	erties (Bice	ster) Ltd		Date	11-08- 11-08-		
Contracto	or / Dr		: Ltd	i	Met	hod/Pla	nt Use		Logged By S Du	nstan	E	ates (NGR) 457148.662 222246.803	2	round Leve	I (m A	OD)
SAMI	PLES	& TE	ST	S						STR	ATA					Install Backfi
Depth	Туре	PID (ppmV)	HSV	(KN/m2) P.Pen (KN/m2)	Water	Elev. (m AOD	Depth (Thick -ness)			Desc	cription			Legend	Geology	
						74.13		to coarse	er brown clayey ve of limestone. Abu	ery gravelly SAl	ND. Gravel is	angular to su	brounded, fir	1. 31.	15	
-						73.93		(TOPSOI Orange/b cobbles c	rown slightly clayed angular, fine to c	coarse limestor	lightly cobbly ne.	GRAVEL. Gr	avel and		СВ	
0.70	В						(0.50)	Dark yello	RASH FORMATIC ow brown slightly c angular tabular, fir RASH FORMATIC	clayey slightly s	andy gravelly nestone.	COBBLES. (Cobbles and		СВ	
						73.43	0.90	<u> </u>	erminated at 0.90n		on bedrock.) . 0		1992
Sca							Length		Sharing/Support:			Water	Strikes			
							Length 2	1.08m	Shoring/Support:	Date	Time	Water Strike	Strikes Minutes	Standing	Re	emarks
 		- 2.0 A			-	ł	Width		None							
D						B 0.7	0).70m	Stability:							
		С				<u>↓</u>		rees from	Stable	General Rem Soil strength b		eer's observation	ns. No ground	water encounte	ered.	
Sca	ıle 1:31	1.25				II dimens dentificat		metres. Log	gs should be read	in accordance	with the provi	ided Key. Des	criptions are	based on vis	ual and	

W	SP En		P	tal					TRIAL F	PIT LO	G		Hole N	SA5	17	
ountbatten	House, E Hampshir lephone:	Basing e, RG2	View, 21 4H	Basing J	gstoke	Project		Bi	cester Centr	al Land Pa	arcels		Sheet	1 of	1	
Job No	0020	861	/00 ⁻	1		Client		Coun	ntryside Prope	erties (Bice	•		Date	10-08- 10-08-	-11	
Contrac Dav	tor / Di		Ltd		Met	hod/Pla J(nt Use		Logged By S Du	nstan	E	ates (NGR) 457239.372 222157.841	!	ound Leve 73.	l (m A0 292	OD)
SAN	//PLES	& TE	ST	 S						STR	ATA					Install Backf
Depth	Туре	PID (ppmV)	HSV (kN/m2)	P.Pen (kN/m2)	Water	Elev. (m AOD	Depth (Thick -ness)	ı		Desc	cription			Legend	Geology	
-							(0.40)	of limesto (TOPSOI		ey very gravell	y SAND. Gra	ivel is angular,	fine to coars	e $\frac{1}{\sqrt{2^{1}/2}}$ $\frac{1}{\sqrt{2^{1}/2}}$	TS	
-						72.89	(0.30)	Grey/brov	wn sandy very gra		S. Gravel and	l cobbles of ar	igular, fine to	100	СВ	
-						72.59	0.70	Orange/b	rown slightly clayer, fine to coarse lin	mestone	y gravelly CO	BBLES. Grav	el and cobble) . (0)		
- - -							(0.90)	1.10 m bọ) ()	СВ					
1.50	В					71.69	1.60	,		1.O. 2.O. 1.O.						
							Length		Shoring/Support:			Water				
 		— 2 A			-	ļ . 	Width	2.00m	None	Date	Time	Strike	Minutes	Standing	Re	marks
D		С				B 0.7	Orientat deg	ion rees from	Stability:	General Rem Soil strength b		eer's observation	ns. No ground	vater encounte	ered.	
Sc	ale 1:3	1.25				II dimens dentificat		metres. Log	gs should be read	in accordance	with the provi	ided Key. Des	criptions are I	pased on vis	ual and	

	\	NS	:D)								_		Hole	e No.	0.4		
We	P Env									TRIAL I	PIT LO	G			,	SA5	20	
ountbatten He	ouse, B	asing e. RG2	View	, Bas JJ	ingsto	kePi	roject							She	et			
Telep	ohone:	01256 ax:	318	8800					Bio	cester Centr	al Land Pa	arcels				1 of	1	
Job No			100			С	lient			5				Dat	e	11-08-	.11	
00	0020	861	/00)1					Coun	tryside Prope	erties (Bice	ster) Ltd				11-08-		
Contracto	or / Dr	iller			M	ethc	od/Pla	nt Use	d	Logged By		Co-Ordina	ates (NGR)		Grour	nd Level	(m A	OD)
David	d Bee	croft	Ltd	ł			JC	CB 3C	X	S Du	nstan		457342.305 221976.686			73.4	121	
SAMF	PLES	& TE	EST	S		T					STF	RATA						Install Backfil
Depth	Туре	Ollo pmV)	HSV	V/m2)	(kN/m2)	, ale	Elev. m AOD)	Depth (Thick	1		Desc	cription				Legend	Geology	
		_ <u>_</u>	- 3	<u>\$</u> 0	<u>x</u> x	\$ (\'		-ness)		er soft dark brown	sandy slightly	gravelly CLAY	. Gravel is s	ubangular	, fine		70	
							73.12	(0.30) 0.30	(TOPSOIL	L) 0 m bgl Rootlets:							TS	
									Soft to firm	n red brown sand limestone.		elly CLAY. Gra	vel is subangı	ular, fine to	0			
								(0.60)		AYS CLAY MEM	BER)						KLB	
								-										
0.90	В					H	72.52	0.90		ge/brown mottled	arev slightly sa	andv CLAY.						
•								-	(KELLAW	AYS CLAY MEM	BER)	,						
								(0.60)									KLB	
							71.92	1.50									<u> </u>	
									Dark grey	brown clayey slig	ghtly sandy gra	velly COBBLE	S. Gravel and	d cobbles	of	-0-		
									(CORNBF	RASH FORMATIO	ON)							
								(0.70)	1.50 - 2.20	0 m bgl Becomin	g slightly sand	y and slightly g	ravelly with d	epth.			СВ	
•								-										
						H	71.22	2.20		rminated at 2.20r	n bgl - refusal (on bedrock.						
-																		
-								Length		Shoring/Support:	<u> </u>		Water	Strikes				
								_	.80m		Date	Time	Strike	Minutes	s	Standing	Re	marks
-		– 1.8	8 —			>				None								
		Α				_		Width										
D						В	3 0.7	0).70m	Stability:	1							
		С	:				<u>*</u>	Oriontot	ion		General Rem	narks pased on engine	er's observation	ns No arou	ındwater	encounte	red	
		C								Stable	Son Subrigui I	sacca on engille	o, o observatiol	140 grou	walel	S. ISOUI ILE	. ou.	
Scal	le 1:31	.25					dimens entificat		metres. Log	s should be read	in accordance	with the provi	ded Key. Des	criptions a	re base	ed on visu	ual and	

	WSI	P Env	NS		tal					TRIAL F	PIT LO	G		Hole No	SA5	25	
N	lountbatten Ho Ha	ouse, Ba mpshire phone:	asing \e, RG2	View,	Basing	stoke	Project		Bi	cester Centra	al Land Pa	rcels		Sheet	1 of	1	
	Job No 00 Contracto	0208 or / Dr		/001			Client hod/Pla		d	tryside Prope		Co-Ordina	ates (NGR) 457415.755		11-08- 11-08- ound Level	11 (m A0	DD)
	David	Bee	croft	Ltd			J	CB 3C>	(S Du	nstan		222093.752		72.7	789	
	SAMF				_	_		Depth			STR	ATA					Install / Backfill
	Depth	Туре	PID (ppmV)	HSV (KN/m	P.Pen (kN/m2)	Water	Elev. (m AOD)	(Thick -ness)	Soft dark	brown sandy sligh		ription AY. Abundan	t rootlets.		Legend	Geology	}565P
	- - - - -						72.59 72.19 71.99	- -(0.40) - 0.60	Brown ve limestone (KELLAW	L) ry clayey gravelly	SAND. Gravel BER)	is subangula	r, fine to medio		0	KLB KLB	
	- - - - -						77.00		(KELLAW Firm oran coarse of	/AYS CLAY MEM ge/brown mottled limestone. /AYS CLAY MEM	grey sandy gra	velly CLAY.	Gravel is suba	ngular, fine to		KLB	
08 WSP TP LOG STANDARD 00020861 BICESTER CLP NEW.GPJ WSPETEMPLATE1.03.GDT 30/9/11	- 1.50 				71.24		to coarse (CORNBI	v brown sandy gra limestone. RASH FORMATIC erminated at 1.60n	N)					СВ			
CESTER								Length 2	.00m	Shoring/Support:	Date	Time	Water Strike	Strikes Minutes	Standing	Rei	marks
TP LOG STANDARD 00020861 BIC	D		2 A			-	B 0.7	Width 0 Orientati	.70m	None Stability: Stable	General Rem	arks		s. No groundwa			
08 WSP	Scale	e 1:31	.25				II dimens dentificat		metres. Lo	gs should be read	in accordance	with the provi	ded Key. Desc	criptions are ba	ased on visu	ual and	

			NS							TRIAL I	PIT LO	G		Но	le No.	SA5	28	
	WSP ten Hou Ham Teleph	ise, Ba pshire one:	asing \e, RG2	View, 21 4HJ	Basing	gstoke	Project		Bi	cester Centr	al Land Pa	arcels		Sh	eet	1 of	1	
Job N	000		861/	/001			Client			ntryside Prope	erties (Bice	,	4.400	Da		11-08- 11-08-	11	
Contr	actor David			Ltd		Met	hod/Pla J(ont Use		Logged By S Du	ınstan	E	ates (NGR) 457295.872 222245.159		Grour	nd Level	•	טט)
S	AMPL	ES	& TE	STS	3						STF	RATA						Install / Backfill
Dep	oth	Туре	PID (ppmV)	HSV (kN/m2)	P.Pen (kN/m2)	Water	Elev. (m AOD	Depth (Thick -ness)			Desc	cription				Legend	Geology	,
							72.74		Firm dark	k brown sandy gra	velly CLAY with	h abundant ro	otlets.			Z1 18 Z1 1	TS	
-							70.00	(0.45)	(KELLAV	k brown slightly sa VAYS CLAY MEM	ndy slightly gra IBER)	ivelly CLAY.					KLB	
- - - - -							72.29	-(0.80)	Soft to fin subangul (KELLAV	m mottled orange. ar, fine to coarse VAYS CLAY MEM 10 m bgl Becomin	of limestone . IBER)		avelly CLAY. G	Gravel is			KLB	
		В					71.49	(0.70)	Soft to fir Gravel is (CORNB	m grey, occasiona subangular, fine t RASH FORMATIO	o coarse of lim	nge/brown sa estone.	indy very grave	elly CLA	Υ.		СВ	
								Length		Shoring/Support:	Date	Time	Water S		95	Standina	De	marke
			- 2.0 A	2 —		-	B 0.73	Width	.02m	None Stability:	Date	Time	Strike	Minut	es	Standing	Rei	marks
			С				<u>↓</u>	Orientati degi	rees from	Stable	General Rem Soil strength I		eer's observation	s. No gro	oundwater	· encounte	ered.	
	Scale	1:31	.25				II dimens		metres. Lo	gs should be read	in accordance	with the prov	ided Key. Desc	riptions	are base	d on visu	ual and	

		WS							TRIAL I	PIT LO	G		Но	le No.	SA53	31	
Mountbatter	Hampshir elephone:	Basing 'e, RG2	View, 21 4HJ	Basing	stoke	Project		Bi	cester Centr	al Land Pa	arcels		Sh	eet	1 of	1	
Job No	00020		/001			Client	unt I loo		ntryside Propo	erties (Bice		ates (NGR)	Da	1	11-08- 11-08- d Level	11	20)
	vid Bee		Ltd		wet		CB 3C			ınstan	E	457447.742 222194.863		Ground	a Levei 71.3		(טכ)
SAI	MPLES									STF	RATA						Install / Backfill
Depth	Туре	PID (bpmV)	HSV (kN/m2)	P.Pen (kN/m2)	Water	Elev. (m AOD	Depth (Thick -ness)			Desc	cription				Legend	Geology	,
						71.16		Firm dark	k brown sandy gra IL)	velly CLAY. Al	bundant rootle	ets.			711/	TS	
- - -							(0.45)	(KELLAV	k brown slightly sa VAYS CLAY MEM	ndy slightly gra IBER)	velly CLAY.					KLB	
- - - - -						70.71	0.60 - - - -(0.80) -	Soft to fir subangul (KELLAV	m mottled orange lar, fine to coarse VAYS CLAY MEN 40 m bgl Becomin	of limestone. IBER)		avelly CLAY. (Gravel is			KLB	
2.00	В					69.91	- - -(0.80) - -	Soft to fir Gravel is (CORNB	m grey occasiona subangular, fine t RASH FORMATIO	o coarse of lim	nge/brown san estone.	dy very gravel	ly CLAY.		0 0	СВ	
							Length	1	Shoring/Support:			Water					
D		— 1.8 <u>A</u>			-	Т В 0.7	Width	.80m 0.70m	None Stability:	Date	Time	Strike	Minute	es S	Standing	Rer	marks
		С				B 0.7	Orientat deg	rees from	Stable Stable	General Rem Soil strength I		eer's observation	s. No gro	oundwater (encounte	red.	
S	cale 1:3	1.25				II dimens		metres. Lo	gs should be read	in accordance	with the provi	ded Key. Desc	criptions	are based	d on visu	ial and	

									TRIAL I	PIT LO	G		Hol	le No.	TP5()2	
ountbatten	lampshir ephone:	asing \e, RG2	View, 21 4HJ	Basing I	jstoke	Project		Bi	cester Centr	al Land Pa	arcels		Sh	eet	1 of	1	
Job No	0020	861	/001	<u> </u>		Client		Cour	ntryside Prope	erties (Bice	ester) Ltd		Da		04-08- 04-08-	11 11	
Contrac	tor / Dr		Ltd		Met	hod/Pla	nt Use		Logged By A Li	nnell	E	ates (NGR) 457002.669 222090.084		Grour	nd Level 73.8		OD)
SAN	1PLES	& TE	STS	3						STR	RATA						Install /
Depth	Туре	PID (ppmV)	HSV (kN/m2)	P.Pen (kN/m2)	Water	Elev. (m AOD)	Depth (Thick -ness)			Desc	cription				Legend	Geology	
0.20	В						-(0.40)	coarse of (TOPSOI	le dark brown grav Flimestone. L)	elly CLAY. Gr	ravel is suban	gular to subrou	ınded, fir	ne to	11 1/2 1/1/2 1/2 1/2 1/2 1/2 1/2 1/2 1/2	TS	
1.00	В					73.45	- 0.40 (1.00) 	Yellow br	own very sandy gr e. Gravel is angul RASH FORMATIO	ar, fine to coar	ES. Cobbles se of limestor	are of strong a ne.	ingular ta	abular		СВ	
D						72.45	1.40		erminated at 1.40r	n bgl - refusal d	on bedrock.						
							Length		Shoring/Support:	Detr	T:	Water			Ctor di		ma-1-
⊢ -		− 2.1 A	I —		→	■ B 0.67	Width	10m 67m	None Stability:	Date	Time	Strike	Minute	es	Standing	Re	marks
		С				<u> </u>		rees from north	Stable		based on engine	eer's observation	_				
Sc	ale 1:31	.25				II dimens dentificat		metres. Lo	gs should be read	in accordance	with the provi	ded Key. Desc	criptions	are base	ed on visu	ial and	

Sheet 1 of 1 1 of 1 of		13	TP50	Hole No.		G	PIT LO	TRIAL F					WSP Environmental										
Contractor / Driller David Beecroft Ltd Method/Plant Used JCB 3CX Logged By A Linnell STRATA STRATA STRATA Depth Type Res FESTS Depth Type Res Res Res Res Res Res Res Res Res Re		1	1 of	Sheet		rcels	al Land Pa	ester Centra	Bio		Project	stoke	Basing J	View, E	asing \ e, RG2 01256	ouse, Ba mpshire phone:	untbatten Ho Ha	Moi					
David Beecroft Ltd JCB 3CX A Linnell E 457048.178 N 222032.196 73.532 SAMPLES & TESTS Depth Type Q Set 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2		11	04-08-			•	rties (Bices	ryside Prope	Coun		Client		1	/001	861/	0208		J					
Depth Type Depth Depth Depth Description Des	D)			Grou	457048.178	E	nnell					Met		Ltd				C					
Depth Type (2008) (2009) (m ACO) (Thick closes) (m ACO) (Thick closes) (see an arrange to the control of the co	Install /					ATA	STR						3	STS	& TE	PLES	SAMF						
Table Trial pit terminated at 1.60m bgl - refusal on bedrock. Ts Ts Ts Ts Ts Ts Ts T		Geology	Legend			ription	Desc			(Thick		Water	P.Pen (kN/m2)	HSV (kN/m2)	PID (ppmV)	Туре	Depth						
CS Commonweight		TS								(0.25)	73.28												
tabular of limestone. Gravel is angular, fine to coarse of limestone. (CORNBRASH FORMATION) 71.93 1.60 Trial pit terminated at 1.60m bgl - refusal on bedrock.		СВ				AY. DN)	ange brown Cl SH FORMATIO	closely fissured of RED CORNBRA	Soft dark (WEATHE	_(0.25)						В	0.30	c					
		СВ		ai iguici	f limestone.	e to coarse o	el is angular, fir N)	imestone. Grav ASH FORMATIC	tabular of (CORNBF	- - -	71.93												
Length Shoring/Support: Water Strikes 2 00m Date Time Strike Minutes Standing R	narks	Der	Standing			Time	Date	Shoring/Support:		-													
2.00m None Strike Minutes Standing Ro	iai KS	Ker	Stariumg	nii lules	Suike					Width	■ B 0.68	>	A										
Length 2.00m None Shoring/Support: Water Strikes						ased on engine	Soil strength b		ees from orth	degr r		es: A	Note	D C									

	 \	NS	P						TRIAL I	PIT LO	G		Hole I	No. TP5	04	
ountbatten H	SP Envoluse, Bampshire	asina \	√iew. I	Basino	stoke	Project							Sheet			
Tele	ampshire phone: F	01256 ax:	3188	00				Bio	cester Centr	al Land Pa	arcels			1 of	1	
Job No O	0020	861/	001			Client		Coun	tryside Prope	erties (Bice	ster) Ltd		Date	04-08- 04-08-	-11 -11	
Contracto	or / Dr	iller			Met	hod/Pla	nt Use	ed	Logged By			ites (NGR)		Fround Leve	I (m A	OD)
Davi	d Bee	croft	Ltd			JO	CB 3C	X	A Li	nnell		457059.58° 222129.70		73.	903	
SAMI	PLES									STR	RATA		,			Install Backfi
Depth	Туре	PID (ppmV)	HSV (kN/m2)	P.Pen (kN/m2)	Water	Elev. (m AOD	Depth (Thick -ness)	1		Desc	cription				Geology	/
<u>-</u>						73.60	(0.30)	limestone	vn very clayey GF . Gravel is angu L)	RAVEL. Occasi lar, fine to coar	ional cobbles of se of limeston	of strong, ang e.	jular tabular	1/2 - 2/1 /2 - 2/1	TS	
-0.25 - -	В					70.00	0.50	Yellow bro	own very sandy g angular, fine to co RASH FORMATIO	parse of limesto	ES of strong a one.	ngular tabula	r limestone.	0 0		
0.70	В						-									
-							-(1.00)							Do 0.	СВ	
-							-							0.0		
-						72.60	1.30		erminated at 1.30r	m bal - refusal d	on bedrock.			101		1552
D Sca																
	1	1	ı	1		1	Length		Shoring/Support:				Strikes		<u>' </u>	1
 		- 2.1	5 —		-	ł	2	2.15m	None	Date	Time	Strike	Minutes	Standing	Re	marks
		Α				T	Width) 67m								
D						B 0.67).67m	Stability:	General Rem	narks					
		С						ion rees from north	Stable		pased on engine	er's observatio	ns. No ground	dwater encounte	ered.	
Sca	le 1:31	.25				II dimens		metres. Log	gs should be read	in accordance	with the provid	ded Key. Des	criptions are	based on vis	ual and	

WSP Environmental Mountbatten House, Basing New, Basingstoke Project Hampshire, R62r1 4HJ Telephone: 01256 318800 Fax: Job No 00020861/001 Client Countryside Properties (Bicester) Ltd Contractor / Driller David Beecroft Ltd SAMPLES & TESTS Depth Type Q (•	05	
Contractor / Driller David Beecroft Ltd Method/Plant Used JCB 3CX A Linnell SAMPLES & TESTS Depth Type Depth Type Depth Type Depth Type Depth Type Depth Type Depth Type Depth Type Depth Type Depth Type Depth Type Depth Type Depth Type Depth Type Depth Type Depth Type Depth Type Depth Type Depth Type Depth Type Depth Type Depth Type Depth Type Depth Type Depth Type Depth Type Depth Type Depth Type Depth Type Depth Type Depth Type Depth Type Depth Type Depth Type Depth Type Depth Type Depth Type Depth Type Depth Type Depth Type Depth Type Depth Type Depth Type Depth Type Depth Type Depth Type Depth Type Depth Type Depth Type Depth Type Depth Type Depth Type Depth Type Depth Type Depth Type Depth Type Depth Type Depth Type Depth Type Depth Type Depth Type Depth Type Depth Type Depth Type Depth Type Depth Type Depth Type Depth Type Depth Type Depth Type Depth Type Depth Type Depth Type Depth Type Depth Type Depth Type Depth Type Depth Type Depth Type Depth Type Depth Type Depth Type Depth Type Depth Type Depth Type Depth Type Depth Type Depth Type Depth Type Depth Type Depth Type Depth Type Depth Type Depth Type Depth Type Depth Type Depth Type Depth Type Depth Type Depth Type Depth Type Depth Type Depth Type Depth Type Depth Type Depth Type Depth Type Depth Type Depth Type Depth Type Depth Type Depth Type Depth Type Depth Type Depth Type Depth Type Depth Type Depth Type Depth Type Depth Type Depth Type Depth Type Depth Type Depth Type Depth Type Depth Type Depth Type Depth Type Depth Type Depth Type Depth Type Depth Type Depth Type Depth Type Depth Type Depth Type Depth Type Depth Type Depth Type Depth Type Depth Type Depth Type Depth Type Depth Type Depth Type Depth Type Depth Type Depth Type Depth Type Depth Type Depth Type Depth Type Depth Type Depth Type Depth Type Depth Type Depth Type Depth Type Depth Type Depth Type Depth Type Depth Type Depth Type Depth Type Depth Type Depth Type Depth Type Depth Type Depth Type Depth Type Depth Type Depth Type Depth Type Depth Type Depth Type Depth Type Depth Type	Sheet	t 1 of	1	
David Beecroft Ltd JCB 3CX A Linnell E 457106.493 N 222088.494 SAMPLES & TESTS Depth Type Depth Type Depth Type Depth Type Depth Type Depth Type Depth Type Depth Type Depth Type Depth Type Depth Type Depth Type Depth Type Depth Type Description Soft dark brown slightly gravelly CLAY. Gravel is angular to subangular, coarse of limestone. TOPSOIL Soft closely fissured orange brown CLAY. (WEATHERED CORNBRASH FORMATION) Very light yellow brown slightly sand, gravelly COBBLES of strong angular limestone. (CORNBRASH FORMATION) 1.50 B T1.75 1.80	Date	04-08- 04-08-	-11 -11	
Depth Type	G	Fround Leve		DD)
Soft dark brown slightly gravelly CLAY. Gravel is angular to subangular, coarse of limestone. (TOPSOIL) Soft closely fissured orange brown CLAY. (WEATHERED CORNBRASH FORMATION) Very light yellow brown slightly sand, gravelly COBBLES of strong angular limestone. Gravel is angular, fine to coarse of limestone. (CORNBRASH FORMATION) 1.50 B 71.75 1.80				Install Backfil
Soft dark brown slightly gravelly CLAY. Gravel is angular to subangular, coarse of limestone. (TOPSOIL) Soft closely fissured orange brown CLAY. (WEATHERED CORNBRASH FORMATION) Very light yellow brown slightly sand, gravelly COBBLES of strong angula limestone. Gravel is angular, fine to coarse of limestone. (CORNBRASH FORMATION) 1.50 B 71.75 1.80		Legend	Geology	
O.50 B Continue C	fine to	7/ 1/2/ 1//	TS	
Very light yellow brown slightly sand, gravelly COBBLES of strong angula limestone. Gravel is angular, fine to coarse of limestone. (CORNBRASH FORMATION) 1.50 B 71.75 1.80		<u> </u>	СВ	
71.75 1.80	ar tabular		СВ	
Length 1.80m None Length 1.80m None Length 1.80m None Stability: General Remarks Soil strength based on engineer's observations. Scale 1:31.25 Notes: All dimensions in metres. Logs should be read in accordance with the provided Key. Descripmanual identification.	ikes Minutes	Standing	Re	marks
B 0.69 Orientation degrees from north Stabile Stable Stable Stable General Remarks Soil strength based on engineer's observations. Stable Stable Stable Stable Stable General Remarks Soil strength based on engineer's observations.	_			

	 \	NS	P						TRIAL I	PIT LO	G		Hole	TP:	507	
lountbatten H	P Envlouse, Bampshire phone:	asing	View.	Basino	stoke	Project		5:		-11 :=			She			
Tele	phone: F	01256 ax:	3188	300				Віс	cester Centr	al Land Pa	arcels			1 o	† 1	
Job No O(0020	861	/00 ⁻	1		Client		Coun	tryside Prope	erties (Bice	ster) Ltd		Date	04-08 04-08	8-11 8-11	
Contracto	or / Dr	iller			Met	hod/Pla	nt Use	d	Logged By			ates (NGR)		Ground Lev	el (m A	OD)
Davi	d Bee	croft	Ltd			JO	CB 3CX	X	A Li	nnell	E N	457156.962 221970.372	2	73	3.455	
SAMI								1		STR	RATA		·			Install / Backfill
Depth	Туре	PID (ppmV)	HSV (kN/m2)	P.Pen (kN/m2)	Water	Elev. (m AOD)	Depth (Thick -ness)			Desc	cription			Leger	d Geology	y
-						73.26		(TODOO!	brown CLAY.					7/1/X	TS	
- Ī						73.20	(0.30)	Soft orang	gish brown CLAY YAYS CLAY MEM	IBER)				<u>// . x</u> · /	KLB	
0.40	В					72.96	F` '		own sandy GRAV		fine to coarse	of limestone	Occasion	al °000		
- -							-	cobbles of	f strong, angular RASH FORMATION	tabular limestor	ne.	or innestone.	Occasion	0 1	0	
0.80	В						-	,		,				0.7	0	
-							-							000	0	
-							(1.40)							000	° CB	
							-							1. 0.	0	
-							-							00	0	
							-							00	0	
-						71.56	1.90		rminated at 1.90r	n bgl - refusal o	on bedrock.			o à	٥	500 ₇
-							F									
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				_			Length		Shoring/Support:	D-4:	Time		Strikes	01		ma-l-
			_				1	.75m	None	Date	Time	Strike	Minutes	Standin	y Re	emarks
—		1.7 – A	5 —		-		Width									
						T).67m	01-1-77	1						
D						B 0.67			Stability:	General Rem	narks					
		С					Orientati		Stable		pased on engine	er's observatio	ns. No grou	ndwater encour	ntered.	
								rees from north								
				Not	۷۱ ، ۵۶	II dimeno			s should be read	in accordance	with the provi	ded Key Doo	crintions o	e hased on v	igual and	
Sca	le 1:31	.25				dentificat		menes. LOG	jo onoulu be ledu	iii accordance	with the brown	aca Ney. Des	onphonis al	C Dascu UII V	Judi di IU	

									TRIAL I	PIT LO	G		Но	ole No.	TP50	08	
vountbatten	lampshir ephone:	asing	View,	Basing	jstoke	Project		Bi	cester Centr	al Land Pa	arcels		Sh	eet	1 of	1	
Job No	0020	861	/001	l		Client		Coun	itryside Prope	erties (Bice	ester) Ltd		Da	ate	04-08- 04-08-		
Contrac Dav	tor / Dr		Ltd		Met	hod/Pla J0	nt Use		Logged By A Li	nnell	E	ates (NGR) 457197.177 221917.574		Groui	nd Level 73.1		OD)
SAM	1PLES	& TE	STS	3						STF	RATA						Install /
Depth	Туре	PID (ppmV)	HSV (kN/m2)	P.Pen (kN/m2)	Water	Elev. (m AOD	Depth (Thick -ness)			Desc	cription				Legend	Geology	
-						72.92	(0.25)	medium o	brown slightly gra of limestone. L)	velly CLAY. G	Gravel is angul	ar to subangul	ar, fine t	0	1/ 1//	TS	
0.40	В						(0.55)	Stiff widel	ly fissured light brown of the MAYS CLAY MEM	own mottled bli BER)	ue grey CLAY					KLB	
						72.37	0.80	Yellow bro	own sandy GRAV al cobbles of stroi RASH FORMATIO	ng angular tabu			of limes	stone.	0000		
1.20	В						- -(1.20) - -									СВ	
								Trial pit te	erminated at 2.00r	m bgl - refusal (on bedrock.						
	<u> </u>			•		•	Length		Shoring/Support:		_	Water			·		
⊢ -		− 2.1 A	I —		>	 В 0.67	Width	.10m	None Stability:	Date	Time	Strike	Minut	tes	Standing	Rei	marks
D		С				B 0.67 <u>↓</u>	Orientat degi	rees from	Stability.	General Rem Soil strength I		eer's observation	s. No gro	oundwate	r encounte	red.	
Sc	ale 1:31	.25				II dimens		metres. Log	gs should be read	in accordance	with the provi	ded Key. Desc	criptions	are base	ed on visu	ial and	

Contractor / Driller David Beecroft Ltd Method/Plant Used JCB 3CX Logged By A Linnell E457126.843 N 222188.252 SAMPLES & TESTS Depth Type Q V V V V V V V V V V V V V V V V V V	1 of 04-08-04-08-04-08-04-08-04-08-04-08-04-08-04-08-04-08-04-08-04-08-04-08-04-08-04-08-04-08-04-08-04-08-04-08-04-08-04-08-04-08-04-08-04-08-04-08-04-08-04-08-04-08-04-08-04-08-04-08-04-08-04-08-04-08-04-08-04-08-04-08-04-08-04-08-04-08-04-08-04-08-04-08-04-08-04-08-04-08-04-08-04-08-04-08-04-08-04-08-04-08-04-08-04-08-04-08-04-08-04-08-04-08-04-08-04-08-04-08-04-08-04-08-04-08-04-08-04-08-04-08-04-08-04-08-04-08-04-08-04-08-04-08-04-08-04-08-04-08-04-08-04-08-04-08-04-08-04-08-04-08-04-08-04-08-08-08-08-08-08-08-08-08-08-08-08-08-	11 11 (m A	Install /
Countryside Properties (Bicester) Ltd Contractor / Driller David Beecroft Ltd Method/Plant Used JCB 3CX Logged By A Linnell E 457126.843 N 222188.252 SAMPLES & TESTS Depth Type Depth Type Depth Type Depth Type Depth Type Depth Type Depth Type Depth Type Depth Type Depth Type Depth Type Depth Type Depth Type Depth Type Depth Type Depth Type Depth Type Depth Type Depth Type Depth Type Depth Type Depth Type Depth Type Depth Type Depth Type Depth Type Depth Type Depth Type Depth Type Depth Type Depth Type Depth Type Depth Type Depth Type Depth Type Depth Type Depth Type Depth Type Depth Type Depth Type Depth Type Depth Type Depth Type Depth Type Depth Type Depth Type Depth Type Depth Type Depth Type Depth Type Depth Type Depth Type Depth Type Depth Type Depth Type Depth Type Depth Type Depth Type Depth Type Depth Type Depth Type Depth Type Depth Type Depth Type Depth Type Depth Type Depth Type Depth Type Depth Type Depth Type Depth Type Depth Type Depth Type Depth Type Depth Type Depth Type Depth Type Depth Type Depth Type Depth Type Depth Type Depth Type Depth Type Depth Type Depth Type Depth Type Depth Type Depth Type Depth Type Depth Type Depth Type Depth Type Depth Type Depth Type Depth Type Depth Type Depth Type Depth Type Depth Type Depth Type Depth Type Depth Type Depth Type Depth Type Depth Type Depth Type Depth Type Depth Type Depth Type Depth Type Depth Type Depth Type Depth Type Depth Type Depth Type Depth Type Depth Type Depth Type Depth Type Depth Type Depth Type Depth Type Depth Type Depth Type Depth Type Depth Type Depth Type Depth Type Depth Type Depth Type Depth Type Depth Type Depth Type Depth Type Depth Type Depth Type Depth Type Depth Type Depth Type Depth Type Depth Type Depth Type Depth Type Depth Type Depth Type Depth Type Depth Type Depth Type Depth Type Depth Type Depth Type Depth Type Depth Type Depth Type Depth Type Depth Type Depth Type Depth Type Depth Type Depth Type Depth Type Depth Type Depth Type Depth Type Depth Type Depth Type Depth Type Depth Type Depth Type Depth Type	04-08-7 nd Level 74.2 Legend	(m Al	Install /
David Beecroft Ltd SAMPLES & TESTS Depth Type Q Q Q Q Q Q Q Q Q	74.2	230 Geology	Install /
SAMPLES & TESTS Depth Type			Backfill
Depth Type Q Set			
Soft dark brown gravelly CLAY. Gravel is angular to subrounded, fine to coarse of filtra and limestone. (TOPSOIL) 73.83		TS	
Dense yellow brown very sandy gravelly COBBLES of strong angular tabular limestone. Gravel is angular, fine to coarse of limestone. (CORNBRASH FORMATION) 1.00 B 72.83 1.40 Trial pit terminated at 1.40m BGL - refusal on bedrock.			
Trial pit terminated at 1.40m BGL - refusal on bedrock. Trial pit terminated at 1.40m BGL - refusal on bedrock. Trial pit terminated at 1.40m BGL - refusal on bedrock.		CB	
Length 2.00m Shoring/Support: None Date Time Strike Minutes Strike Orientation degrees from north Stabile Scale 1:31.25 Notes: All dimensions in metres. Logs should be read in accordance with the provided Key. Descriptions are base manual identification.			
Length Shoring/Support: Water Strikes 2 00m Date Time Strike Minutes S	Standing	Re	marks
A Width B 0.68 Stability: Constab Paradia	Starraing		
General Remarks Soil strength based on engineer's observations. No groundwater degrees from north Stable Scale 1:31.25 Notes: All dimensions in metres. Logs should be read in accordance with the provided Key. Descriptions are based			

MC		NS		1 _1					TRIAL I	PIT LO	G		Hole	No.	510	
Mountbatten H	mpshire ohone:	asina \	View.	Basino	ıstoke	Project		Bio	cester Centr	al Land Pa	arcels		She		of 1	
Job No	00208	861/	/001			Client			tryside Prope	erties (Bice	·		Date	04-0 04-0)8-11)8-11	
Contracto	or / Dri d Bee		Ltd		Met	hod/Pla J0	nt Use		Logged By A Li	nnell	E	ates (NGR) 457156.587 222137.450	1	Ground Le	vel (m '3.511	AOD)
SAME	PLES	& TE	STS	3						STR	ATA					Install / Backfill
Depth	Туре	PID (ppmV)	HSV (kN/m2)	P.Pen (kN/m2)	Water	Elev. (m AOD)	Depth (Thick -ness)	1		Desc	cription			Lege	end Geole	
-						73.16	_(0.35)	limestone (TOPSOII	brown slightly gra L)	avelly CLAY. G	ravel is suban	gular, fine to	medium of	f _o_	ō TS	;
0.30	ВВВ					75.10	(1.00)	Dense yel Gravel is	llow brown sandy angular, fine to co RASH FORMATIO	parse of limesto	BLES of strong one.	angular tabu	lar limesto			3
-						72.16	- - 1.35		erminated at 1.35r	m bgl - refusal d	on bedrock.			0		
Salar in Food Statement of the Figure 1 of the																
							Length	. 45	Shoring/Support:	Date	Time	Water Strike	Strikes	s Standi	na	Remarks
D D		- 2.1: A	5 —		>	B 0.67	Width Corientat	ion rees from	None Stability:	General Rem						TOTIGITAS
Scal	e 1:31	.25				II dimens	ions in	north metres. Log	gs should be read	in accordance	with the provi	ded Key. Des	criptions a	re based on	visual ar	nd

	 	NS	P						TRIAL I	PIT LO	G		Hole	e No.	TP51	11	
ountbatten H	ampshire	asing \	View, 21.4H√	Basing J	stoke	Project				-11 :=			She	et			
Tele	phone:	01256 ax:	3188	00				Bio	cester Centr	al Land Pa	arcels				1 of	1	
Job No O(0020	861	/00 [^]	1		Client		Coun	tryside Prope	erties (Bice	ster) Ltd		Dat	(05-08- 05-08-	11	
Contracto	or / Dr	iller			Met	hod/Pla	nt Use	ed	Logged By			ates (NGR)		Groun	d Level	(m AC	DD)
Davi	d Bee	croft	Ltd			J	CB 3C	X	A Li	nnell	N N	457231.094 222085.863	3		73.4	157	
SAMI								1		STR	RATA						Install / Backfill
Depth	Туре	PID (ppmV)	HSV (kN/m2)	P.Pen (kN/m2)	Water	Elev. (m AOD	Depth (Thick -ness)				cription				Legend	Geology	
- -0.15	В					73.26			brown slightly gra of limestone. L)	velly CLAY. G	ravel is angula	ar to subround	ded, fine to	,		TS	
- - -							(0.40)	Soft orang	ge brown CLAY w ERED CORNBRA	rith occasional	cobbles of stro ON)	ong angular ta	abular lime	stone.		СВ	
 						72.86	0.60	Yellow an	d orange brown s	andy gravelly (COBBLES of s	trong angular	r tabular		8		
-							-	(CORNBF	. Gravel is angul RASH FORMATION	ar, fine to coars DN)	se of limestone	2.			0 (
0.90	В						(0.90)									СВ	
-							-								0.0		
-						71.96	1.50		erminated at 1.50r) 0		
D																	
							Length		Shoring/Support:	Date	Time		Strikes		Standina	De-	marke
 		- 1.8	3 —		-		1	1.80m	None	Date	Time	Strike	Minutes	,	Standing	Ker	marks
_		Α				T	Width).69m	0.1.17								
D		С				B 0.69 <u>▼</u>	Orientat	iion	Stable	General Rem Soil strength b	narks based on engine	er's observatio	ns. No grou	ındwater	encounte	red.	
								rees from north	Stable								
Sca	le 1:31	.25				II dimens		metres. Log	gs should be read	in accordance	with the provi	ded Key. Des	criptions a	re base	d on visu	ual and	

	<u>\</u>	NS	P						TDIAL				Hole		DE4	12	
WS	P En		-	al					TRIAL I	PII LO	G			11	P51	12	
lountbatten H	ouse, B ampshire phone:	asina \	View. I	Basina	stoke	Project		Bio	cester Centr	al Land Pa	arcels		Shee		of	1	
Job No O(0020	861/	/001			Client		Coun	tryside Prope	erties (Bice	ester) Ltd		Date	05	5-08- 5-08-	11 11	
Contracto	or / Dr	iller			Met	hod/Pla	nt Use	ed	Logged By		Co-Ordina	ates (NGR)		Ground I	Level	(m AC	DD)
Davi	d Bee	croft	Ltd			JO	CB 3C	X	A Li	nnell		457240.996 222030.993			73.3	314	
SAMI										STF	RATA		<u>'</u>				Install / Backfill
Depth	Туре	PID (ppmV)	HSV (kN/m2)	P.Pen (kN/m2)	Water	Elev. (m AOD)	Depth (Thick -ness)	ו		Desc	cription			Le	egend	Geology	
-						73.01	(0.30)	(TOPSOIL	brown CLAY. L)					1.	1 _y \(\frac{1}{y}\)	TS	
0.50	В					73.01		Soft yellov subrounde	w brown and oran ed, fine to coarse RASH FORMATIO	of limestone.	elly CLAY. G	ravel is angul	ar to)	СВ	
-						72.46	ļ` <i>′</i>								<u></u>	02	
- - -						72.40	- 0.63	Yellow bro	own sandy gravel f, fine to coarse of RASH FORMATIO	f limestone.	f strong angula	ar tabular lime	estone. Gra	b'	300		
- -							- (4.45)							D.		0.0	
- -							(1.15)) c . (CB	
1.80	В													Þ	୍ଦ କ ହ		
-						71.31	2.00		erminated at 2.00r	m bgl - refusal o	on bedrock.			. () (C		1998
D																	
-							<u> </u>		Obseries (O	T		144.4	01-2				
							Length 1	1.75m	Shoring/Support:	Date	Time	Water Strike	Strikes Minutes	Sta	nding	Rer	marks
 		- 1.7 A	5 —		>	T	Width		None								
D							С).67m	Stability:								
		С				<u> </u>			Stable	General Rem Soil strength I	narks based on engine	er's observation	ns. No grour	ndwater en	counter	red.	
Sca	le 1:31	.25				Il dimens dentificat		metres. Log	gs should be read	in accordance	with the provi	ded Key. Des	criptions ar	e based o	n visu	al and	

		۰V	VS	P						TRIAL I	PIT LO	G		Hol	le No.	Γ P 51	13	
	WSP	ise. Ba	asina '	View.	Basino	ıstoke	Project							She	eet			
	Ham Teleph	ipshire ione: (e, RG2 01256 ax:	1 4H. 3188	00				Bi	cester Centr	al Land Pa	rcels				1 of	1	
Job N)208	361	/001	l		Client		Coun	tryside Prope	erties (Bice	ster) Ltd		Da	0)5-08-)5-08-	11 11	
	ractor David			I td		Met	hod/Pla	nt Use		Logged By	nnell	E	ates (NGR) 457252.491 221968.705		Ground	d Level	•	DD)
	AMPL					<u> </u>						ATA	221900.700					Install /
Dep				_	P.Pen (kN/m2)	Water	Elev.					cription				Legend	Geology	Backfill
-				=	, – 3		73.01	-ness) (0.30) 0.30	coarse of	brown slightly gra limestone.	avelly CLAY. G	ravel is angula	ar to subangu	lar, fine to)		MG	
- - - -							73.01	(0.70)	(MADE G	ROUND) iff dark grey CLA	Y, with occasion	nal fragments	of red piping.				MG	
							72.31	1.00	Light yello Gravel is	ow brown sandy g	parse of limesto	ES of strong a	ıngular tabula	r limeston	ne.) 0 0		
								(0.90)	CORNE	RAŠH FORMATIO	JN)						СВ	
_							71.41	1.90		erminated at 1.90r) 0		
D																		
	Le									Shoring/Support:			Water	Strikes				
Ŧ	2.1 → V							2 Width	2.10m	None	Date	Time	Strike	Minute	es S	Standing	Rei	marks
D	<u> </u>								ion rees from north	Stability:	General Rem Soil strength b	narks based on engine	er's observation	ns. No gro	undwater e	encounte	red.	
	Scale	1:31	.25				II dimens		metres. Log	gs should be read	in accordance	with the provi	ded Key. Des	criptions a	are based	on visu	ual and	

		W								TRIAL I	PIT LO	G		Но	le No.	TP5′	14	
Mountbatte	WSP E en House, Hampsh Telephone	Basin ire, R	ng Viev G21 4 256 31	w, Bas IHJ	ings	toke	Project		Bi	cester Centr	al Land Pa	arcels		Sh	eet	1 of	1	
Job N	o 0002	086	1/00	01		(Client		Cour	ntryside Prope	erties (Bice	ster) Ltd		Da	ate	05-08- 05-08-	11	
	actor / [avid Be			td	N	Лeth	nod/Pla J0	nt Use		Logged By A Li	nnell	E	ates (NGR) 457305.308 221922.997		Groun	d Level		OD)
SA	AMPLE:	S & ⁻	TES	TS	İ						STR	RATA						Install / Backfill
Dept	th Typ	e G	(ppmV)	(kN/m2) P.Pen	(kN/m2)	Water	Elev. (m AOD)	Depth (Thick -ness)	ו		Desc	cription				Legend	Geology	
0.20	В						70.05	(0.40)	(TOPSO	brown slightly gra IL)	velly CLAY. G	ravel is subar	igular, fine of li	imestone	e.	11/2 11/2 11/2 11/2 11/2 11/2 11/2 11/2	TS	
	В						72.65	- 0.40 (1.20) 	Stiff blue	grey CLAY with o VAYS CLAY MEM	ccasional pock BER)	ets of orange	brown sand.				KLB	
							71.45		Light yell limestone (CORNB	ow brown sandy ge. Gravel is angu RASH FORMATIC erminated at 1.80r	lar, fine to coa DN)	rse of limesto	ong angular ta ne.	bular			СВ	
	2							Width C Orientat degi	rees from	Shoring/Support: None Stability:	Date General Rem Soil strength t		Water Strike	Minut		Standing		marks
	Scale 1:	31.25	<u> </u>				l dimens	ions in	north	gs should be read	in accordance	with the provi	ded Key. Desc	criptions	are base	d on visı	ual and	

	 	NS	P						TRIAL I	PIT LO	G		Hole No	TP5′	16	
ountbatten F	SP Env	asina '	View.	Basino	stoke	Project							Sheet			
H; Tele	ampshire phone:	e, RĞ2 01256 ax:	21 4H. 3188	J 800		•		Bi	cester Centr	al Land Pa	arcels			1 of	1	
Job No O	0020	861	/00 ⁻	1		Client		Coun	tryside Prope	erties (Bice	ster) Ltd		Date	08-08- 08-08-	-11 -11	
Contract	or / Dr	iller			Met	hod/Pla	nt Use	ed	Logged By		Co-Ordina	ates (NGR)	Gr	ound Level	(m A	DD)
Davi	d Bee	croft	Ltd			J(CB 3C	X	A Li	nnell		457180.393 222193.950		73.6	669	
SAM	PLES			_					•	STR	RATA		·		1	Install Backf
Depth	Туре	PID ()	HSV KN/m2)	P.Pen (kN/m2)	Water	Elev. (m AOD		וו		Desc	cription			Legend	Geology	,
							(0.30)	(TOPSOI	brown CLAY. L)					1/ 1/1/ 1/1/ 2/ 1/2 1/1/	TS	
0.40	В					73.37		Firm oran	ge brown CLAY v /AYS CLAY MEM	vith occasional	yellow brown,	sandy pocke	ts.		KLB	
0.40	В					73.17	0.50	Yellow broangular, f	own sandy gravel ine to coarse of li RASH FORMATION	ly COBBLES of mestone.	f strong angula	ar tabular lime	estone. Gravel	lis o	СВ	
0.80	В					72.77	L` ´	,	erminated at 0.90r	,					35	
-																
-							- - - - - - - - - - - - 2 Length	2.15m	Shoring/Support:	Date	Time	Water Strike	Strikes Minutes	Standing	Re	marks
 		- 2.1	5 —		-			10111	None							
		Α				T	Width).67m								
D		С				B 0.67 <u>↓</u>	Orientat degi		Stability: Stable	er's observatio	ns. No groundw	vater encounte	red.			
D	le 1:31	.25				Il dimens		metres. Log	gs should be read	in accordance	with the provid	ded Key. Des	criptions are b	ased on visu	ual and	

		WS							TRIAL I	PIT LO	G		Hole	* No. TP5	18	
Mountbatten H	ampshire phone:	Basing Se. RG2	View, 21 4H	Basing J	stoke	Project		Bi	cester Centr	al Land Pa	arcels		She	et 1 of	1	
Job No	0020	861	/00 ⁻	1		Client		Coun	tryside Propo	erties (Bice	ester) Ltd		Date	e 05-08- 05-08-	-11 -11	
Contracto Davi	or / Dr d Bee		Ltd		Met	hod/Pla J0	nt Use		Logged By A Li	nnell	E	ates (NGR) 457322.779 222087.860	9	Ground Leve		OD)
SAMI	PLES	& TE	STS	 S						STF	RATA					Install a
Depth	Туре	PID (ppmV)	HSV (kN/m2)	P.Pen (kN/m2)	Water	Elev. (m AOD)	Depth (Thick -ness)	ו		Desc	cription			Legend	Geology	
0.20	В					72.88	(0.30)	(TOPSOI	brown gravelly Cl L)	LAY. Gravel is	angular, fine t	o coarse of li	mestone.	1/2 1/1/2	TS	
							(0.40)	Soft orang	ge brown clayey (RASH FORMATIO	GRAVEL of fine ON)	e to coarse ano	gular limestor	ne.	0 - 0 0 - 0 0 - 0 0 - 0	CD	
-						72.48	0.70 - - - -(0.80)	Yellow bro	own sandy GRAV al cobbles of ang RASH FORMATIO	ular limestone.		tabular limes	tone.			
1.30	В					71.68	71.68 1.50 Trial pit terminated at 1.50m bgl - refusal on bedrock.									
D Sca																
							Length	1.80m	Shoring/Support:	Date	Time	Water Strike	Strikes Minutes	s Standing	Re	marks
D D		— 1.8 <u>A</u>			>	B 0.69	Width (Orientat	0.69m tion rees from	None Stability: Stable	General Rem Soil strength I		er's observatio	ns. No grou	indwater encounte	ered.	
Sca	le 1:31	1.25				II dimens	ions in	metres. Log	gs should be read	in accordance	with the provi	ded Key. Des	scriptions a	re based on vis	ual and	

Enviror e, Basing shire, RG ne: 0125 Fax: 20861 Driller	g View G21 4H 56 318	Racina	stokeF	Project										
20861 Driller	1/00		- 1			Bio	cester Centra	al Land Pa	rcels		Shee	t 1 of	1	
	r			Client nod/Pla	nt I Isa		tryside Prope	erties (Bice	·	ates (NGR)	Date	05-08- 05-08- Ground Leve	·11	וחו
			weu		B 3C		A Lir	nnell	E	457330.458 222029.119		73.		JD)
ES & T	ΓEST	s						STR	ATA					Install a
/ре 🚨	(Vmqq)	(kN/m2) P.Pen (kN/m2)	Water	Elev. (m AOD)				Desc	ription			Legend	Geology	
В				72 76	(0.30)	coarse of	limestone.	velly CLAY. G	ravel is angula	ar to subround	ed, fine to	1/ 1/1/ 1/1/ 2/ 1/2 - 2/ 1/	TS	
В			•		(1.30)	Light brov	vn,sandy GRAVEL	_ of angular to : N)	subangular, fi	ne to coarse li	mestone.		СВ	
					-	75 m	Shoring/Support:	Date	Time			Standing	Re	marks
A	Α		>	None Width 0.67m Stability: General Remarks Soil strength based on engineer										
	1	3	1.75	-1.75	72.76 71.46 71.46 1.75 A B 0.67 C	71.46 (0.30) 72.76 (0.30) 72.76 (0.30) 72.76 (1.30) 71.46 (1.60) 71.46 (1.60) 71.46 (1.60) 71.46 (1.60) 71.46 (1.60) 71.46 (1.60) 71.46 (1.60) 71.46 (1.60) 71.46 (1.60) 71.46 (1.60) 71.46 (1.60) 71.46 (1.60) 71.46 (1.60) 71.46 (1.60) 71.46 (1.60) 71.46 (1.60) 71.46 (1.60) 71.46 (1.60) 71.46 (1.60) 71.46 (1.60) 71.46 (1.60) 71.46 (1.60) 71.46 (1.60)	Soft dark coarse of (TOPSO) 72.76 (0.30) 72.76 Light brow (CORNB) 71.46 1.60 Trial pit te	Trial pit terminated at 1.60n 71.46 1.60 71.46 1.60 71.46 1.60 Trial pit terminated at 1.60n C Soft dark frown slightly gravelly CLAY. G. (0.30) Soft dark frown slightly gravelly CLAY. G. (0.30) TOPSOIL. [1.30] 71.46 1.60 71.46 1.60 Trial pit terminated at 1.60m bgl - refusal of the control of the cont	Soft dark brown slightly gravelly CLAY. Gravel is angular to subangular, fit (0.30) 72.78	Soft dark brown slightly gravelly CLAY. Gravel is angular to subround coarse of limestone. (70 PSOIL) 1,030	Trial pit terminated at 1.60m bgl - refusal on bedrock. Constitution Constit	Soft dark brown slight gravely CLAY. Gravel is angular to subrounded, fine to coarse limestone. (CORNBRASH FORMATION) Light brown, sandy GRAVEL of angular to subangular, fine to coarse limestone. (CORNBRASH FORMATION) 71.46 1.60 71.45 1.60 Trial pit terminated at 1.60m bgl - refusal on bedrock. Trial pit terminated at 1.60m bgl - refusal on bedrock. Stability: Coentation degrees from Stability: Ceneration degrees from Stability: General Remarks Soil strength based on engineer's observations. No groundwater encounter degrees from Stability: Coentation degrees from Stability: General Remarks Soil strength based on engineer's observations. No groundwater encounter degrees from stability: Stability: General Remarks Soil strength based on engineer's observations. No groundwater encounter degrees from stability: Stability: General Remarks Soil strength based on engineer's observations. No groundwater encounter degrees from stability: Stability: General Remarks Soil strength based on engineer's observations. No groundwater encounter degrees from stability: Stability: Coentral contral contr	Solidark brown slightly gravely CLAY. Gravel is angular to subrounded, fine to coarse limestone. (0.30) 1.77 (CORNISPASH FORMATION) Light brown, sandy GRAVEL of angular to subangular, fine to coarse limestone. (CORNISPASH FORMATION) To a company of the coarse limestone. (1.30) To a coarse (imestone) (CORNISPASH FORMATION) To a coarse (imestone) To a coarse (imestone) To a coarse (imestone) To a coar	

	 	NS	P						TRIAL I	PIT I O	G		Hole		P52	<u> </u>	
	P En					Dunin at							Shee				
Mountbatten H Ha Tele	ampshire phone:	e. RĞ2	21 4HJ	J	jstoke	Project		Bio	cester Centr	al Land Pa	arcels		Silet		of	1	
Job No	0020	861	/001	1		Client		Coun	tryside Prope	erties (Bice	ster) Ltd		Date	08-	-80 -08-	11 11	
Contracto			144		Met	hod/Pla			Logged By		E	ates (NGR) 457183.09	1	Ground L			DD)
	d Bee					J(CB 3C	<u> </u>	ALI	nnell		222292.394	4		74.2	97	1
SAMI	PLES					Fla	Depth	1		STF	RATA						Install a Backfil
Depth	Туре	Old (Vmdd)	HSV (KN/m	P.Pe (kN/m	Water	Elev. (m AOD	(Thick -ness)				cription					Geology	
-							(0.40)	Cobbles of (TOPSOII	brown gravelly co of strong angular t L)	obbly CLAY. G tabular limestor	ravel is angula ne.	ır, fine to coaı	rse of limes	4	, <u>, , , , , , , , , , , , , , , , , , </u>	TS	
0.30	В					73.90	0.40	Yellow bro	own sandy GRAV al cobbles of stroi RASH FORMATIO	ng, angular tab	angular, fine to ular limestone	o coarse of lin	nestone.	0 2	300		
1.10	В						(1.20)							00	0000	СВ	
- -						72 70	1.20 - 1.60 m bgl Abundant cobbles. 72.70 1.60 Trial pit terminated at 1.60m bgl - refusal on bedrock.								3000		
D Sca																	
							Length		Shoring/Support:	Data	Timo		Strikes	Ston	dina	Por	marka
la D	2.1 A						Width	2.10m 0.67m	None Stability:	Date	Time	Strike	Minutes	s Stan	uing	Rer	marks
		С				B 0.67 <u>↓</u>		ion rees from north	Stable Stable	General Rem Soil strength I	l narks pased on engine	er's observatio	ns. No groui	ndwater enc	ounter	ed.	
Sca	le 1:31	.25				II dimens		metres. Log	gs should be read	in accordance	with the provi	ded Key. Des	criptions ar	e based or	ı visu	al and	

Ws	SP En		P						TRIAL F	PIT LO	G		Hole N	TP5	22	
Mountbatten H	House, E lampshir ephone:	Basing e. RG	View 21 4H	ı, Basiı HJ	ngstok	Project		Bi	cester Centra	al Land Pa	arcels		Sheet	1 of	1	
Job No 0	0020		/00)1		Client		Coun	ntryside Prope	erties (Bice	ster) Ltd		Date	08-08- 08-08-	-11 -11	
Contract Dav	or / Dr		t Ltc	d	Me	thod/Pla	nt Use		Logged By A Lir	nnell	E	ates (NGR) 457222.917 222247.231		round Leve	I (m A	OD)
SAM	PLES	& TI	EST	s						STR	ATA					Install Backfi
Depth	Туре	PID (ppmV)	HSV	(kN/m2) P.Pen	(KIN/IIIZ)	Elev. (m AOD	Depth (Thick -ness)			Desc	cription			Legend	Geology	
0.20	В					73.29	_(0.35)	coarse of (TOPSOI	brown slightly gra limestone. Occas L)	velly CLAY. G sional cobbles	ravel is angul of strong, ang	ar to subangul ular tabular lir	ar, fine to nestone.	1/ 1/2 1/1/ 1/ 1/1/	TS	
1.00	В					72.44		Yellow br is angula (CORNB	own sandy gravell r, fine to coarse of RASH FORMATIC	limestone. Sai	f strong angul nd is fine.	ar tabular lime	estone. Grav			
							Trial pit terminated at 1.20m bgl - refusal on bedrock.									
						Length Shoring/Support: Water Strike 2.00m Date Time Strike Mi						Strikes Minutes	Standing	Re	marks	
D		— 2 A				B 0.68	Width	.00m .68m	None Stability:	General Rem		Juine	WIIIUUES	Stanting	, inc	
		С	;			Orientation Stable degrees from north Stable								water encounte	ered.	
Sca	ale 1:31	1.25				II dimens		metres. Lo	gs should be read	in accordance	with the provi	ded Key. Des	criptions are	based on vis	ual and	

	/-V	NS	P						TRIAL I		G		Hole I	No. TP5	23	
	P Env								INALI	-II LO	<u> </u>		Ch a at			
Vountbatten H Ha Tele	ampshire phone:	asing \ e, RG2 01256 ax:	View, I 1 4HJ 3188	Basing	stoke	Project		Bio	cester Centr	al Land Pa	arcels		Sheet	1 of	1	
Job No	0020	861/	001			Client		Coun	tryside Prope	erties (Bice	ster) Ltd		Date	08-08- 08-08-	-11 -11	
Contracto	or / Dr	iller			Metl	hod/Pla	nt Use	ed	Logged By		Co-Ordina	ates (NGR)	G	round Leve	I (m A	OD)
Davi	d Bee	croft	Ltd			J	CB 3C	x	A Li	nnell		457293.636 222195.769		73.	083	
SAMI	PLES						Depth			STR	RATA					Install / Backfill
Depth	Туре	PID (ppmV)	HSV (kN/m2)	P.Pen (kN/m2)	Water	Elev. (m AOD		1		Desc	cription			Legend	Geology	/
-0.05	В					72.88		(TOPSOI						1, 11,	TS	
0.90	В						- - - -(1.20) - -	is angular	llow brown sandy , fine to coarse of RASH FORMATIO	flimestone. Sa	BLES of angula and is fine.	ar tabular lime	estone. Grav		СВ	
						71.68	71.68 1.40 Trial pit terminated at 1.40m bgl - refusal on bedrock.									
D Sca																
							Length		Shoring/Support:			Water	Strikes			
 		- 2.1 A	5 —		>	I I ∓	Width	2.15m 2.67m	None	Date	Time	Strike	Minutes	Standing	Re	marks
D		С				B 0.67 <u>↓</u>	Orientat deg		Stability: Stable	General Rem Soil strength b	narks pased on engine	er's observatio	ns. No ground	water encounte	ered.	
Sca	le 1:31	.25				II dimens		metres. Log	gs should be read	in accordance	with the provi	ded Key. Des	criptions are	based on vis	ual and	

\A(r)	P P P P P P P P P P								TRIAL I	PIT LO	G		Но	le No.	TP52	24	
Mountbatten F	Hampshir lephone:	asing \e, RG2	View, I 21 4HJ	Basing	stoke	Project		Bi	cester Centr	al Land Pa	arcels		Sh	eet	1 of	1	
Job No	0020	861	/001			Client		Cour	ntryside Prop	erties (Bice	ester) Ltd		Da	(08-08- 08-08-	11 11	
Contrac	tor / Dr		Ltd		Meti	hod/Pla	nt Use		Logged By A Li	nnell	E	ates (NGR) 457376.786 222163.117		Groun	d Level		OD)
SAM	/IPLES	& TE	STS	 -						STF	RATA						Install /
Depth	Туре	PID (ppmV)	HSV (kN/m2)	P.Pen (kN/m2)	Water	Elev. (m AOD	Depth (Thick -ness)	1		Des	cription				Legend	Geology	
0.10	В					71.92	(0.25)	limestone (TOPSOI		ar, fine to coars	e of limestone) .			<u> </u>	TS	
1.50	В					70.37	- (1.55) - (1.55) - (1.55) - (1.55) - (1.55)	Yellow br angular, 1 (CORNB	erminated at 1.80	mestone. DN)		lar limestone.	Gravel i	s		СВ	
							Length		Shoring/Support:	Dati	T:	Water			Otor all · ·		mod
→ D		— 1.8 <u>A</u>			>	■ B 0.69	Width).69m	None Stability:	Date	Time	Strike	Minute	es S	Standing	Rei	marks
		С				± 0.00	Orientat deg	ion rees from north	Stable	General Ren Soil strength		eer's observatior	ns. No gro	oundwater	encounte	red.	
Sc	ale 1:31	.25				II dimens		metres. Lo	gs should be read	in accordance	with the provi	ded Key. Desc	criptions	are base	d on visu	ial and	

10/9	SP En			lal					TRIAL I	PIT LO	G		Но	le No.	TP52	26	
Mountbatten I	House, E lampshir ephone:	asing \e, RG2	View, I 21 4HJ	Basing	jstoke	Project		Ві	icester Centr	al Land Pa	ırcels		Sh	eet	1 of	1	
Job No	0020	861	/001			Client		Cour	ntryside Prope	erties (Bice	ster) Ltd		Da		05-08- 05-08-		
Contract	tor / Dr	iller			Met	hod/Pla	nt Use	d	Logged By		Co-Ordina	ates (NGR)		Groun	d Level	(m A	OD)
Dav	id Bee	croft	Ltd			J	CB 3C>	<	A Li	nnell		457423.814 222028.448			72.5	590	
SAM	IPLES	_	1	1						STR	ATA						Install / Backfill
Depth	Туре	Old (Vmdd)	HSV (kN/m2)	P.Pen (kN/m2)	Water	Elev. (m AOD	Depth (Thick -ness)			Desc	cription				Legend	Geology	,
-						72.29	(0.30)	Soft dark	GROUND) t brown CLAY with	occasional red	pipe fragmer	nts.				MG	
-							(0.50)	Firm orar	nge brown CLAY. VAYS CLAY MEM	BER)						KLB	
0.60	В					71.79	[
						71.79		Dense ye Occasion	ellow brown sandy nal cobbles of angu RASH FORMATIC	ular tabular lime	llar, fine to coa estone.	arse tabular lir	nestone.				
- - - 2.00	В					70.29	2.30		erminated at 2.30r	m bgl - refusal c	on bedrock.						
Scale							- - - - - - - - - - - - - - - - - - -		Shoring/Support:			Water	Strikes				
							_	.75m	Snoring/Support:	Date	Time	Strike	Strikes Minut	es	Standing	Re	marks
	1.75 A							.67m	None Stability:	_							
		С		Niet		B 0.67	r	ees from north	Stable		ased on engine	eer's observation	_				
Sca	ale 1:31	1.25				ll dimens dentificat		metres. Lo	gs should be read	ın accordance	with the provi	aea Key. Desi	criptions	are base	a on visu	iai and	

									TRIAL I	PIT LO	G		Но	le No.	ГР52	27	
Vountbatten	lampshir ephone:	asing be. RG2	View, 21 4HJ	Basing J	gstoke	Project		Bi	cester Centr	al Land Pa	arcels		Sh	eet	1 of	1	
Job No	0020	861	/001	l		Client		Coun	ntryside Prope	erties (Bice	ester) Ltd		Da	(08-08- 08-08-	11	
Contract Day	tor / Dr		Ltd		Met	hod/Pla	int Use		Logged By	nnell	E	ates (NGR) 457261.893 222295.274		Groun	d Level	•	OD)
SAM	1PLES	& TE	STS	3						STF	RATA						Install / Backfill
Depth	Туре	PID (ppmV)	HSV (kN/m2)	P.Pen (kN/m2)	Water	Elev. (m AOD	Depth (Thick -ness)			Des	cription				Legend	Geology	
0.10	В					73.11	_	(TOPSOI	brown gravelly Cl L) brown gravelly ve						<u> </u>	TS	
- -							(0.50)	limestone	e. Cobbles of stro RASH FORMATIO	ng, angular tab	oular limestone	e.	coarse o)I		СВ	
- - -						72.61	0.70	Dense ye	ellow brown sandy angular, fine to co			g, angular tabu	lar limes	tone.	0		
-							(0.70)		RAŠH FORMATIO							СВ	
1.30	В					71.91		Firm yello				СВ					
-							(0.30) (clay band within CORNBRASH FORMATION) 71.61 1.70 Dense yellow brown sandy gravelly COBBLES of strong, angular tabular Gravel is angular, fine to coarse of limestone. (CORNBRASH FORMATION) Trial pit terminated at 1.90m bgl - refusal on bedrock.									СВ	
							Length		Shoring/Support:	Date	Time	Water Strike	Strikes Minute	00 0	Standing	Rer	marks
D		– 2.′ <u>A</u>			-	B 0.67	Width	2.10m 2.67m	None Stability:	Date	Time	Suike	iviinuti	сэ <u>(</u>	ocanuing	Ker	marks
		С				B 0.67		ion rees from north	Stable Stable	General Ren Soil strength		eer's observation	s. No gro	oundwater	encounte	red.	
Sc	ale 1:31	1.25				II dimens		metres. Log	gs should be read	in accordance	with the prov	ided Key. Desc	criptions	are base	d on visu	ual and	

	<u>\</u>	NS	P						TDIAL I				Hole		'D <i>E'</i>	20	
ws	P En			tal					TRIAL I	PII LO	G			ı	'P52	29	
ountbatten H Ha Tele	ampshire phone:	e. RĞ2	21 4HJ	1	stoke	Project		Bio	cester Centr	al Land Pa	arcels		She		1 of	1	
Job No	0020	861	/001			Client		Coun	tryside Prope	erties (Bice	ster) Ltd		Date	0	8-08- 8-08-	11 11	
Contracto	or / Dr	iller			Met	hod/Pla	nt Use	d	Logged By		Co-Ordina	ates (NGR)		Ground	Level	(m AC	DD)
Davi	d Bee	croft	Ltd			JO	CB 3CX	K	A Li	nnell		457348.715 222194.144			72.3	303	
SAMI	PLES	& TE	STS	3						STF	RATA						Install /
Depth	Туре	PID (bbmV)	HSV kN/m2)	P.Pen (kN/m2)	Water	Elev. (m AOD)				Desc	cription				Legend	Geology	,
						72.00	(0.30) (0.30)	limestone	brown slightly gra and occasional f L)	avelly CLAY. G lint.	ravel is angula	ar, fine to med	dium of	1.	<u>, , , , , , , , , , , , , , , , , , , </u>	TS	
-0.25 -	В					72.00	0.30	Dense yel Gravel is	llow brown sandy angular, fine to co RASH FORMATIO	parse of limesto	BLES of strong one. Sand is f	, angular tabuine.	ular limesto	þ			
							(0.90)							P		СВ	
						71.10	1.20)			
-							-	tabular lim	llow brown mottle nestone. RASH FORMATIO		rown clayey C	OBBLES of s	strong angu	ılar			
							-(0.80) -							2	9 4 d	СВ	
1.90	В					70.30	2.00		rminated at 2.00r	n bgl - refusal (on bedrock.				<u></u>		508
D Sca																	
							<u> </u>		0								
							Length 2	.00m	Shoring/Support:	Date	Time	Water Strike	Strikes Minutes	St	anding	Rei	marks
 		— 2 A			>		Width		None								
D						B 0.68	0	.68m	Stability:								
		С				J <u>*</u>			Stable	General Rem Soil strength I	narks pased on engine	er's observation	ns. No grou	ndwater e	ncounte	red.	
Sca	le 1:31	.25				II dimens		metres. Log	s should be read	in accordance	with the provi	ded Key. Des	criptions ar	re based	on visu	ual and	

	 								TRIAL I	PIT LO	G		Hol	le No.	TP5	30	
Mountbatten I	lampshir ephone:	asing be, RG2	View, 21 4H	Basing J	gstoke	Project		Bi	cester Centr	al Land Pa	arcels		She	eet	1 of	1	
Job No	0020	861	/00 ²	1		Client		Cour	ntryside Prope	erties (Bice	ster) Ltd		Da	(08-08- 08-08-	11	
Contract	or / Dr		Ltd		Met	hod/Pla J0	nt Use		Logged By A Li	nnell	E	ates (NGR) 457446.658 222149.290		Groun	d Level	•	DD)
SAM	IPLES	& TE	ESTS	 3						STF	ATA						Install /
Depth	Туре	PID (ppmV)	HSV (KN/m2)	P.Pen (kN/m2)	Water	Elev. (m AOD)	Depth (Thick -ness)			Desc	cription				Legend	Geology	Backfill
0.20	В					71 41	-(0.36)	Soft dark medium f	GROUND) brown CLAY with flint, limestone and	occasional grad red brick.	avel of angula	r to subrounded	d, fine to	1		MG	
0.50	В					71.41	(0.54)	Soft yello fine to me limestone			CLAY. Gravel	is subangular	to subro	unded ,		KLB	
- - - -						70.87	0.90	Dense lig	ght yellow brown si e. Gravel is angul RASH FORMATIO	ar, fine to coars	avelly COBBL se of limeston	ES of strong a e.	ngular ta	abular		СВ	
- - - - - - - - - - - - - - - - - - -						70.17	- - - - - - - - - -		erminated at 1.60r	n bgl - refusal (on bedrock.						
							- - - - - - - - -										
							- - - - - - -										
							Length		Shoring/Support:	Date	Time	Water		95	Standing	Por	marke
		- 2.1 <u>A</u>				T	Width	.15m .67m	None	Date	Time	Strike	Minute	сэ ;	Standing	Ker	marks
D		С				B 0.67 <u>↓</u>	Orientat degi	rees from	Stability: Stable	General Rem Soil strength I		eer's observation	s. No gro	oundwater	encounte	red.	
Sca	ale 1:31	.25				II dimens		metres. Lo	gs should be read	in accordance	with the provi	ded Key. Desc	riptions	are base	d on visu	ual and	

100									TRIAL I	PIT LO	G		Hol	le No.	Γ P 53	32	
ountbatten	łampshir ephone:	asing be, RG2	View, 21 4HJ	Basing	jstoke	Project		Bio	cester Centr	al Land Pa	arcels		She	eet	1 of	1	
	0020		/001			Client			tryside Prope	erties (Bice		(1000)	Da	(08-08- 08-08-	11	
Contract Dav	tor / Dr rid Bee		Ltd		Met	hod/Pla J(nt Use CB 3C		Logged By A Li	nnell	E	ates (NGR) 457505.719 222120.889		Groun	d Level 72.2		OD)
SAM	IPLES	& TE	STS	3						STF	RATA			1			Install Backfil
Depth	Туре	PID (ppmV)	HSV (kN/m2)	P.Pen (kN/m2)	Water	Elev. (m AOD	Depth (Thick -ness)			Desc	cription				Legend	Geology	
						71.92	(0.30)	a alia £	ROUND) brown CLAY with lint, limestone and	occasional gra	avel of angula	r to subrounde	d, fine to	1		MG	
-0.25	В					71.32	_(0.55)	Moderate limestone (CORNBI	ly dense yellow bi e. Gravel is angul RASH FORMATIO	rown,sandy gra	velly COBBLE se of limeston	ES of strong ar e.	ngular tab	bular		СВ	
-						71.57	- - - - - -(0.85)	Firm yello	ow brown mottled e. F MARBLE FORM		AY. Cobbles	of strong, ang	ular tabul	lar		FMB	
1.70	В					70.52	1.70		erminated at 1.70r	m bgl - refusal (on bedrock.						
									Shoring/Support:			Water	Strikes				
							_	.80m	Snoring/Support:	Date	Time	Water Strike	Strikes Minute	es S	Standing	Rei	marks
 		— 1.8 <u>A</u>	3 —		-	T T T T T T T T T T T T T T T T T T T	Width	1.69m	None Stability:	-							
D		С				B 0.69		rees from north	Stability: Stable		pased on engine	eer's observation					
Sc	ale 1:31	1.25				II dimens dentificat		metres. Log	gs should be read	in accordance	with the provi	ded Key. Desc	criptions a	are base	d on visu	ial and	

14/0		VSP	ıtal				,	WIN	ID	OW SA	AMPLI	E LOG		Hole	e No.	WS5	01	
lountbatten H	ouse, Bampshire phone:	rironmen asing View, e, RG21 4H 01256 3188 ax:	Basino	gstoke	Proje	ect		Ві	ices	ster Centra	al Land Pa	arcels		She	eet	1 of	1	
Job No		361/00	1		Clie	nt		Cour	ntrys	side Prope	rties (Bice	ester) Ltd		Da	te	05-08- 05-08-	11 11	
Contracto				Meth	hod/		Used		Lo	ogged By			ites (NGR) 456980.530)	Groui	nd Level		DD)
		JK Ltd	0.70			16	errier			S Dur	ıstarı		221983.126	5		72.9	<i>7</i> 11	Install /
	Τ	ES & TE	_	> (2	n2)	-ia	Elev.	Depth				STRATA	4					Backfill Dia.
Depth	Туре	Result	PID (ppmV)	HSV (kN/m2)	R.P.	Water	(m AOD)	(Thick -ness)	0 - 11	ded become		escription	0	C		Legend	Geology	mm
_0.20	ES	-					72.66	F	med (TO	lium of limesto PSOIL)	one.	ravelly CLAY.			/	1, 11,	TS	
		18,34,25					72.31	0.60	angi (CC	ular, fine to co DRNBRASH F	arse of limeston (ORMATION)	sandy slightly one. .60m bgl - refi				8000	СВ	
Depth	(C) 16,34,25 N=85/ 0.075.																	
	Hole	Diamete	r					Recov	ery				Water	Strikes				<u></u>
Depth		meter (mm)	_	emark	cs	Core 7	Гор (т)	Core Bas		% Recovery	Date	Time	Strike	Minute	es .	Standing	Ca	asing
	Scale 1:37.5 Notes: All dimensions in metres manual identification.									nould be read i		ater encountered		criptions a	are base	ed on visu	ual and	

14/0		VSP	ato!				,	WIN	ID	OW SA	AMPLE	LOG		Hole	No. WS5	502	
ountbatten H	ouse, Bampshire phone:	rironmer asing View, e, RG21 4H 01256 3188 ax:	Basino	gstoke	Proje	ect		В	ices	ster Centra	ıl Land Pa	arcels		Shee	et 1 of	1	
Job No O(0020	361/00	1		Clie	nt		Cour	ntrys	side Prope	rties (Bice	ster) Ltd		Date	05-08 05-08	-11 -11	
Contracto	or / Dr	iller		Met	hod/	Plan	t Used		L	ogged By		Co-Ordina	, ,		Ground Leve	el (m A	OD)
Gle	over L	JK Ltd				Te	errier			S Dun	ıstan		456986.861 222059.741		73.	.519	
SA	MPLI	ES & TE							•			STRATA	1	·			Install Backfil
Depth	Туре	Test Result	PID (ppmV)	HSV (kN/m2)	P.Pen (kN/m2)	Water	Elev. (m AOD)	Depth (Thick -ness)			D	escription			Legend	Geology	Dia. / mm
- - -0.25	ES						73.42 73.17	0.10	mec (TO	dium of limesto PSOIL)	one. Frequer		Gravel is ang	jular, fine to	/==-	KLB	
- - - - -								(0.85)	(KE	f red brown slig LLAWAYS CL nt grey brown s to coarse of lir	AY MEMBER		RAVEL. Grav RMATION)	vel is angul	lar,	СВ	
_1.00	ES (C)	3,5,16 4,15,25 N=60.					72.32	1.20	Win	k	Ø ×	0					
Depth																	
Depth		Diamete neter (mm	_	emark	ks	Core -	Гор (т)	Recov Core Bas		% Recovery	Date	Time	Water Strike	Strikes Minutes	Standing	C	asing
			Note		II dian	- naia		otroo I o	ago ob			iter encountered.	ad Kay Daga	viotione ov			
Sca	ale 1:37	7.5				ensic ficatio		etres. Lo	gs sh	nould be read i	n accordance	with the provid	ed Key. Desc	criptions are	e based on vis	sual and	

		VSP	ntal				,	WIN	ID	OW SA	AMPLE	ELOG	İ			WS5	03	
Mountbatten H Ha Tele _l	ampshire phone: (asing View , RG21 4H 01256 318 ax:	I J	gstoke	Proje	ect		В	ices	ster Centra	al Land Pa	arcels		She	et	1 of	1	
Job No	00208	361/00	1		Clier	nt		Cou	ntrys	side Prope	rties (Bice	ster) Ltd		Dat		05-08- 05-08-		
Contracto	or / Dri over U			Met	hod/		t Used errier		L	ogged By S Dur	nstan	E	ates (NGR) 457080.468 222061.715		Grour	nd Level		DD)
SA	AMPLE	ES & TE	STS									STRAT	Α					Install Backfii
Depth	Туре	Test Result	PID (ppmV)	HSV (kN/m2)	P.Pen (kN/m2)	Water	Elev. (m AOD	Depth)(Thick -ness)			De	escription				Legend	Geology	Dia.
0.10	ES						73.33	(0.30)	\fine \(TC	k brown clayey to medium of OPSOIL)	limestone.		avel is subang	ular to ano	gular,	\[\frac{1}{2} \frac{1}{2} \cdot \frac{1}{2} \cdot \frac{1}{2} \cdot \frac{1}{2} \cdot \frac{1}{2} \cdot \frac{1}{2} \cdot \frac{1}{2} \cdot \frac{1}{2} \cdot \frac{1}{2} \cdot \frac{1}{2} \cdot \frac{1}{2} \cdot \frac{1}{2} \cdot \frac{1}{2} \cdot \frac{1}{2} \cdot \frac{1}{2} \cdot \frac{1}{2} \cdot \frac{1}{2} \cdot \frac{1}{2} \cdot \frac{1}{2} \cdot \frac{1}{2} \cdot \frac{1}{2} \cdot \frac{1}{2} \cdot \frac{1}{2} \cdot \frac{1}{2} \cdot \frac{1}{2} \cdot \frac{1}{2} \cdot \frac{1}{2} \cdot \frac{1}{2} \cdot \frac{1}{2} \cdot \frac{1}{2} \cdot \frac{1}{2} \cdot \frac{1}{2} \cdot \frac{1}{2} \cdot \frac{1}{2} \cdot \frac{1}{2} \cdot \frac{1}{2} \cdot \frac{1}{2} \cdot \frac{1}{2} \cdot \frac{1}{2} \cdot \frac{1}{2} \cdot \frac{1}{2} \cdot \frac{1}{2} \cdot \frac{1}{2} \cdot \frac{1}{2} \cdot \frac{1}{2} \cdot \frac{1}{2} \cdot \frac{1}{2} \cdot \frac{1}{2} \cdot \frac{1}{2} \cdot \frac{1}{2} \cdot \frac{1}{2} \cdot \frac{1}{2} \cdot \frac{1}{2} \cdot \frac{1}{2} \cdot \frac{1}{2} \cdot \frac{1}{2} \cdot \frac{1}{2} \cdot \frac{1}{2} \cdot \frac{1}{2} \cdot \frac{1}{2} \cdot \frac{1}{2} \cdot \frac{1}{2} \cdot \frac{1}{2} \cdot \frac{1}{2} \cdot \frac{1}{2} \cdot \frac{1}{2} \cdot \frac{1}{2} \cdot \frac{1}{2} \cdot \frac{1}{2} \cdot \frac{1}{2} \cdot \frac{1}{2} \cdot \frac{1}{2} \cdot \frac{1}{2} \cdot \frac{1}{2} \cdot \frac{1}{2} \cdot \frac{1}{2} \cdot \frac{1}{2} \cdot \frac{1}{2} \cdot \frac{1}{2} \cdot \frac{1}{2} \cdot \frac{1}{2} \cdot \frac{1}{2} \cdot \frac{1}{2} \cdot \frac{1}{2} \cdot \frac{1}{2} \cdot \frac{1}{2} \cdot \frac{1}{2} \cdot \frac{1}{2} \cdot \frac{1}{2} \cdot \frac{1}{2} \cdot \frac{1}{2} \cdot \frac{1}{2} \cdot \frac{1}{2} \cdot \frac{1}{2} \cdot \frac{1}{2} \cdot \frac{1}{2} \cdot \frac{1}{2} \cdot \frac{1}{2} \cdot \frac{1}{2} \cdot \frac{1}{2} \cdot \frac{1}{2} \cdot \frac{1}{2} \cdot \frac{1}{2} \cdot \frac{1}{2} \cdot \frac{1}{2} \cdot \frac{1}{2} \cdot \frac{1}{2} \cdot \frac{1}{2} \cdot \frac{1}{2} \cdot \frac{1}{2} \cdot \frac{1}{2} \cdot \frac{1}{2} \cdot \frac{1}{2} \cd	TS KLB	
-							73.03	(0.30)		redd brown sl LLAWAYS CL it grey brown v					/	0000	СВ	
0.70		60 N=60/ 0.03.	_	Remark	KS I	CCore *	72.73	Recor Core Bas	very	estone. RNBRASH FO	ORMATION)		isal on bedroo			Standing	Ca	asing
												ter encountered						
Sca	ale 1:37	.5	Not mai	es: A nual i	ll dim dentif	ensic	ons in m	etres. Lo	gs sh	nould be read i	n accordance	with the provi	ded Key. Des	criptions a	re base	ed on visu	ual and	

	WSF		VSP	ntal				1	WIN	ID	OW SA	AMPLE	E LOG	i	Hole No	WS5	04	
Mount	batten Ho Har	ouse, Ba mpshire shone: (asing View RG21 4F 01256 318 ax:	, Basing	gstoke	Proje	ect		В	ices	ster Centra	al Land Pa	arcels		Sheet	1 of	1	
Jok	00 No	0208	361/00	1		Clie	nt		Cour	ntrys	side Prope	erties (Bice	ester) Ltd		Date	05-08- 05-08-		
Coi	ntracto Glo		ller IK Ltd		Met	hod/		t Used errier		L	ogged By A Lir	nnell	E	ates (NGR) 457109.655 222123.333	;	ound Level		OD)
	SA	MPLE	ES & TE	STS									STRAT	A				Install Backfi
[Depth	Туре	Test Result	PID ppmV)	HSV (kN/m2)	P.Pen kN/m2)	Water	Elev. (m AOD	Depth (Thick			De	escription			Legend	Geology	Dia.
08 WSP WINDOW SAMPLE LOG 00020861 BICESTER CLP NEW GPJ WSPETEMPLATE1.03.G971 30/9/11	0	ES (C) (C)	6,10,8 9,13,25 N=55. 60 N=60/ 0.03.					73.44	- - -(1.00)	fine (TO Very to co (CO	dark brown si of limestone. PSOIL) y dense yellow oarse limestone RNBRASH FO	brown and or ne. ORMATION)	ange/brown s	andy GRAVEL	. of angular, fil	ne 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	СВ	
SESTER		Hole	Diamete	er					Recov	/ery				Water	Strikes		<u> </u>	
861 BIC	Depth	Diar	neter (mm	ı) R	emark	(S	Core	Top (m)	Core Bas		% Recovery	Date	Time	Strike	Minutes	Standing	Ca	asing
IDOW SAMPLE LOG 00020												General Rem No Groundwa	narks ater encountered	i.				
08 WSP WIN	Scal	le 1:37	'.5 		es: A nual i				etres. Lo	gs sh	nould be read	in accordance	with the provi	ded Key. Desc	criptions are b	ased on visu	ual and	

Wei		VSP	stol.				1	WIN	D	OW SA	AMPLI	E LOG		Но	ole No.	WS5	05	
lountbatten Ho	ouse, Ba mpshire bhone: (ironmer asing View, RG21 4H 01256 3188 ax:	Basino	gstoke	Proje	ect		Bi	ces	ter Centra	al Land Pa	arcels		Sh	ieet	1 of	1	
Job No	0208	361/00	1		Clier	nt		Cour	ntrys	side Prope	rties (Bice	ester) Ltd		Da	ate	05-08- 05-08-	11	
Contracto	r / Dri over U			Meti	hod/		Used		Lo	ogged By S Dur	nstan	E	ates (NGR) 457120.148 222000.515		Grou	ind Level		DD)
SA	MPLE	ES & TE	STS									STRATA						Install /
Depth	Туре	Test Result	PID (ppmV)	HSV (kN/m2)	P.Pen (kN/m2)	Water	Elev. (m AOD)	Depth (Thick -ness)			D	escription				Legend	Geology	Dia.
-0.15 	ES						72.91	- 0.25	fine (TOI 0.00 Very angu	of limestone. PSOIL) 0 - 0.10 m bgl	Rootlets note rey brown slig arse of limesto	htly clayey ver					СВ	
	(C)	60 N=60/ 0.03.					72.16		Win	dow sample h	ole terminated	d at 1.00m bgl	- refusal on b	pedrock.		0 1 0		
Depth		Diamete neter (mm	_	emark	(S	Core 7	Гор (m)	Recov Core Base	_	Strike	Strikes Minut	tes	Standing	Ca	asing			
Sca	le 1:37	·.5				ensio		etres. Lo	gs sh	nould be read i	ded Key. Des	criptions	are bas	sed on visu	ual and			

	 \	VSP					1	WIN	ID	OW SA	AMPLE	E LOG		Hol	e No.	WS5	06	
WS Mountbatten H		rironmer		rotokol	Droid	not.								She	eet .			
l Ha	ampshire phone:	e, RG21 4H 01256 318 ax:	IJ	STOKE	гюје	3 01		В	ices	ster Centra	al Land Pa	arcels			561	1 of	1	
Job No	0020	361/00	1	(Clier	nt		Coui	ntrys	side Prope	rties (Bice	ster) Ltd		Da		05-08- 05-08-		
Contracto	or / Dri	iller		Meth	nod/l	Plan	t Used		Lo	ogged By		Co-Ordina	ates (NGR)		Grour	nd Level	(m A	OD)
	over L						errier			A Lir	inell	E	457162.142 222220.639			74.		- ,
SA	AMPLE	ES & TE	STS									STRAT	A					Install Backfi
Depth	Туре	Test Result	PID (ppmV)	HSV (kN/m2)	P.Pen (kN/m2)	Water	Elev. (m AOD)	Depth (Thick -ness)			De	escription				Legend	Geology	Dia.
-0.15	ES						73.96		lime	t dark brown sl estone. PSOIL)	ightly gravelly	CLAY. Grave	el is angular, fi	ne to med	dium of	0000	TS	
-								-(0.60)	Very	y dense yellow estone. DRNBRASH FO		GRAVEL of a	ngular, fine to	coarse ta	abular	0000	CB	
0.80		17,13,60					73.36	0.80	·	ndow sample h		1 at 0 00m hal	rofugal on b	o dro ole		0.00		200
Depth																		
Denth		Diamete	_	emark	e (Core -	Ton (m)	Recov		% Recovery	Date	Time	Water		ae .	Standing	C	esina
Depth	Diar	neter (mm) K	emark	s	Core	Гор (т)	Core Bas	se (m)	% Recovery	Date General Rem No Groundwa	Time narks ter encountered	Strike .	Minute	es	Standing	Ca	asing
			N		Lati			-4		and the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of t			dad IZ 5		1-			
Sca	ale 1:37	7.5		es: Al nual id				etres. Lo	ogs sh	hould be read i	n accordance	with the provi	aea Key. Des	criptions a	are base	ed on visu	iai and	

	intbatten Ho Ha Telep	ouse Ba		ıtal	L			\	VVIN	יטו	OW SA	AMPLE	ELOG				NS5	U <i>1</i>	
J	- I- NI-	onone: F	asing View, e, RG21 4H 01256 3188 ax:	Basino	gstoke	Proje	ect		В	ices	ster Centra	al Land Pa	rcels		She	eet	1 of	1	
	ob No 00	020	861/00	1		Clier	nt		Cour	ntrys	side Prope	rties (Bice	ster) Ltd		Da		05-08- 05-08-	11 11	
С	ontracto		iller JK Ltd		Meti	hod/		t Used errier		Lo	ogged By A Lin	ınell	E	ates (NGR) 457202.414 222047.824		Groun	id Level		OD)
F			ES & TE	СТС									STRATA						Install
	Depth	Туре	Test Result		HSV (kN/m2)	P.Pen kN/m2)	Water	Elev. (m AOD)				De	escription	1			Legend	Geology	Backfi Dia.
0.	.10	ES						70.00	-ness) - -(0.40)	lime	t dark brown sl estone. PSOIL)	ightly gravelly	CLAY. Grave	l is angular, fii	ne to coa	rse of		TS	
-								72.82	0.40 - - - -(0.80)	to co	nse light yellow oarse tabular li DRNBRASH F	of angula	ar, fine						
1.	.20	(C)	10,20,60 N=60/ 0.075.					72.02	1.20	Win	ndow sample h	edrock.		0000					
36 WORLWINDOW SAMPLE LOG UUUZUGO BICCS) EK CLP NEW GP3 WORFE EMPLAIE (1935) U																			
3			Diameter	_		Recovery Water S													
	Depth	Diar	meter (mm)) R	emark	(S	s Core Top (m) Core Base (m) % Recovery Date Time Strike General Remarks									es :	Standing	Ca	asing
אייהט איטטאוואי אפא	Ç	le 1:37	7.5	Not	es: A	II dim	General Remarks No Groundwater encountered. I dimensions in metres. Logs should be read in accordance with the provided Key. Describentification.										d on visi	ual and	

WO		VSP	-4-1				1	WIN	ID	OW SA	MPLI	E LOG		Hole I	WS5	08	
lountbatten H Ha	louse, Bampshire phone:	vironmer asing View e, RG21 4H 01256 318 ax:	, Basing IJ	jstoke	Proje	ect		В	ices	ster Centra	al Land Pa	arcels		Sheet	1 of	1	
Job No O(0020	861/00	1		Clier	nt		Cou	ntrys	side Prope	rties (Bice	ester) Ltd		Date	06-08- 06-08-	.11 .11	
Contracto				Met	hod/		t Used		Lo	ogged By	-4	E	ites (NGR) 457217.157	7	Ground Level	·	DD)
	over L	ES & TE	ете				errier			S Dur	istan	STRATA	221954.177	7	73.	174	Install
Depth	Type	Test	_	ISV Vm2)	P.Pen (kN/m2)	Water	Elev.	Depth			D	escription	1		Legend	Geology	Backfill Dia.
0.10	ES	Result	H (g)	<u></u>	교 출		72.97	-ness)	Soft	to firm dark b	rown sandy gr	ravelly CLAY.	Gravel is sub	angular, fine		TS	mm
								_(0.35)	(TO Stiff	PSOIL) grey mottled to	orown CLAY.				/ <u></u>	KLB	
1.00		7,8,8					72.62	- 0.55 - - - -	Ligh	EĂTĤERED CO nt grey brown s rse of limeston PRNBRASH FO	L. Gravel is a f orange/brow	angular, fine <i>ı</i> n sandy cla	y. 8				
1.40	(C) ES (C)	7,4,5 N=24.						_ _(1.45) _ _								1	
- - - - -		0.03.					71.17	2.00	Win	dow sample h	ole terminated	d at 2.00m bgl	- refusal on b	pedrock.	\$\\ \text{\text{\$\phi_j} \cdot \text{\$\phi_j}{\text{\$\phi_j} \cdot \text{\$\phi_j}{\text{\$\phi_j} \cdot \text{\$\phi_j}{\text{\$\phi_j} \cdot \text{\$\phi_j}{\text{\$\phi_j} \cdot \text{\$\phi_j}{\text{\$\phi_j} \cdot \text{\$\phi_j}{\text{\$\phi_j} \cdot \text{\$\phi_j} \cdot \text{\$\phi_j}{\text{\$\phi_j} \cdot \text{\$\phi_j} \cdot \text{\$\phi_j} \text{\$\phi_j} \text{\$\phi_j} \text{\$\phi_j} \text{\$\phi_j} \text{\$\phi_j} \text{\$\phi_j} \text{\$\phi_j} \text{\$\phi_j} \text{\$\phi_j} \text{\$\phi_j} \text{\$\phi_j} \text{\$\phi_j} \text{\$\phi_j} \text{\$\phi_j} \text{\$\phi_j} \text{\$\phi_j} \text{\$\phi_j} \text{\$\phi_j} \text{\$\phi_j} \text{\$\phi_j} \text{\$\phi_j} \text{\$\phi_j} \text{\$\phi_j} \text{\$\phi_j} \text{\$\phi_j} \text{\$\phi_j} \text{\$\phi_j} \text{\$\phi_j} \text{\$\phi_j} \text{\$\phi_j} \text{\$\phi_j} \text{\$\phi_j} \text{\$\phi_j} \text{\$\phi_j} \text{\$\phi_j} \text{\$\phi_j} \text{\$\phi_j} \text{\$\phi_j} \text{\$\phi_j} \text{\$\phi_j} \text{\$\phi_j} \text{\$\phi_j} \text{\$\phi_j} \text{\$\phi_j} \text{\$\phi_j} \text{\$\phi_j} \text{\$\phi_j} \text{\$\phi_j} \text{\$\phi_j} \text{\$\phi_j} \text{\$\phi_j} \text{\$\phi_j} \text{\$\phi_j} \text{\$\phi_j} \text{\$\phi_j} \text{\$\phi_j} \text{\$\phi_j} \text{\$\phi_j} \text{\$\phi_j} \text{\$\phi_j} \text{\$\phi_j} \text{\$\phi_j} \text{\$\phi_j} \text{\$\phi_j} \text{\$\phi_j} \text{\$\phi_j} \text{\$\phi_j} \text{\$\phi_j} \text{\$\phi_j} \text{\$\phi_j} \text{\$\phi_j} \text{\$\phi_j} \text{\$\phi_j} \text{\$\phi_j} \text{\$\phi_j} \text{\$\phi_j} \text{\$\phi_j} \text{\$\phi_j} \text{\$\phi_j} \text{\$\phi_j} \text{\$\phi_j} \text{\$\phi_j} \text{\$\phi_j} \text{\$\phi_j} \text{\$\phi_j} \text{\$\phi_j} \text{\$\phi_j} \text{\$\phi_j} \text{\$\phi_j} \text{\$\phi_j} \text{\$\phi_j} \text{\$\phi_j} \text{\$\phi_j} \text{\$\phi_j} \text{\$\phi_j} \text{\$\phi_j} \text{\$\phi_j} \text{\$\phi_j} \text{\$\phi_j} \text{\$\phi_j} \text{\$\phi_j} \text{\$\phi_j} \text{\$\phi_j} \text{\$\phi_j} \text{\$\phi_j} \text{\$\phi_j} \text{\$\phi_j} \text{\$\phi_j} \text{\$\phi_j} \text{\$\phi_j} \text{\$\phi_j} \text{\$\phi_j} \text{\$\phi_j} \$\phi		
- - - - - -								-									
- - - - - -								- - - - -									
- - -								- - - -									
- - - - -								-									
								- - -									
Depth		Diamete	_	emarl	(e	Core -	Гор (m)	Recov		% Recovery	Date	Time	Water Strike	Strikes Minutes	Standing	Ca	asing
Depth	Diai	neter (min		ciliair		Core	TOP (III)	COI E Das	se (III)	// Necovery	General Ren	narks	Strike	iviliutes	Startung		asiliy_
Sca	ale 1:37	7.5			II dim			etres. Lo	ogs sh	nould be read i		with the provide	ded Key. Des	criptions are	based on visu	ual and	

		NSP					1	WIN	ID	OW SA	AMPLE	E LOG	İ	Hol	le No.	WS5	09	
Mountbatten H	louse, Bampshire phone:	vironmer asing View e, RG21 4F 01256 318 ax:	, Basing	jstoke	Proje	ect		В	ices	ster Centra	al Land Pa	arcels		She	eet	1 of	1	
Job No		861/00	1	(Clier	nt		Cou	ntrys	side Prope	rties (Bice	ster) Ltd		Da	ite	06-08- 06-08-		
Contracto	or / Dr			Meth	nod/		t Used errier		L	ogged By S Dur	nstan	E	ates (NGR) 457234.643 222295.636		Grou	nd Level	•	OD)
SA	AMPLI	ES & TE	STS									STRAT	Α					Install Backfi
Depth	Туре	Test Result	PID (bpmV)	HSV (kN/m2)	P.Pen (kN/m2)	Water	Elev. (m AOD)	Depth (Thick -ness)			De	escription				Legend	Geology	Dia.
0.10	ES	-					73.40	-	sub	ss over firm to angular to ang PSOIL)	stiff dark brov ular, fine to m	vn sandy grave edium of limes	elly CLAY. Go stone. Occasio	ravel is onal rootle	ets.	1/ 1//	TS	
								- - -(0.65)	ang	nse light grey c ular, fine to co PRNBRASH FO	arse of limesto	sandy slightly one.	cobbly GRAV	EL. Grave	el is		СВ	
0.90	(C)	13,17,19 60 N=79/ 0.075.					72.75	0.90	Win	oedrock.								
-								-										
-								- - -										
-								- - - -										
-								- - - -										
11/8/00								-										
								- - -										
								- - -										
								- - -										
3- -								-										
Depth		Diamete	_	emark		Core -	Ton (m)	Recov Core Bas		% Recovery	Date	Time	Water Strike	Strikes	20	Standing	Ca	asing
Dopart Spart	Didi	(11111	7 1	rui N		2010	- ~P (111)	50.0 Das	- (111)	, a coovery	240	Time	Suno	Tearlotte		Standing		19
Depth		General Remarks No Groundwater encountered.											l.					
Sca	ale 1:37	7.5		es: Al nual id				etres. Lo	ogs sh	nould be read i	n accordance	with the provi	ded Key. Des	criptions a	are bas	ed on visu	ıal and	

140		VSP					1	WIN	DOW S	AMPLE	E LOG		Hol	e No.	/S5 ⁻	10	
ountbatten H	ouse, Ba ampshire phone: (ironmer asing View , RG21 4F 01256 318 ax:	. Basino	gstoke	Proje	ect		Bio	cester Centr	al Land Pa	arcels		She		1 of	1	
Job No	00208	361/00	1		Clie	nt		Coun	tryside Prope	erties (Bice	ster) Ltd		Da	0	6-08- 6-08-		
Contracto	or / Dri			Met	hod/		t Used errier		Logged By	nstan	E	ates (NGR) 457234.573 222200.320		Ground	Level		DD)
SA	AMPLE	S & TE	STS								STRATA						Install /
Depth	Туре	Test Result	PID (ppmV)	HSV (kN/m2)	P.Pen kN/m2)	Water	Elev. (m AOD)	Depth (Thick -ness)		D	escription			l	_egend	Geology	Dia.
	(C)	30 N=30/ 0.03.					73.16 72.96 72.61	- 0.35	Very soft dark brogravel is subang (TOPSOIL) Stiff orange/brow (KELLAWAYS C Light grey brown coarse of limesto (CORNBRASH F Window sample I	ular, fine to me n sandy CLAY. LAY MEMBER slightly clayey : ne. ORMATION)	dium of limest	one. L. Gravel is a	angular, fir			TS KLB CB	
								-									
Denth		Diamete	_	emark	(8	Core 7	Ton (m)	Recove		Date	Time		Strikes	ng C+	anding	C	asing
Depth		Diamete neter (mm	_	emark	KS .	Core 1	Тор (т)	Recove Core Base		Date General Rem No Groundwa	Time narks ter encountered	Strike	Strikes Minute	es Sta	anding		Ca

WS	SP Env	VSP	ntal				1	WIN	ID	OW SA	AMPLE	E LOG		Hole	e No.	WS5	11	
Mountbatten F	House, Balampshire ephone:		Basino	gstoke	Proj	ect		В	ices	ster Centra	al Land Pa	arcels		She	et	1 of	1	
Job No	00208	861/00	1		Clie	nt		Coui	ntrys	side Prope	rties (Bice	ster) Ltd		Dat	te	05-08- 05-08-		
Contract	or / Dri			Met	hod/		t Used errier		L	ogged By A Lir	nnell	E	ates (NGR) 457289.080 222062.281		Grou	ind Level		DD)
S	AMPI F	ES & TE	STS									STRAT						Install
Depth	Туре	Test Result		HSV (kN/m2)	P.Pen (kN/m2)	Water	Elev. (m AOD)				D	escription				Legend	Geology	Backfi Dia. mm
							72.95	-ness) - _(0.33) - 0.33	Stiff (TO	f dark brown sl PSOIL)	ightly gravelly	CLAY. Grave	l is angular, fi	ne of lime	stone.	1/ 1/1/ 1/1/	TS	
	ES (C)	11,7,8 8,7,8 N=31.					7 2.00	(1.27)	to c	dium dense to oarse limestor DRNBRASH F	ie.	llow/brown sai	ndy GRAVEL	of angular	r, fine			
- - - - - - - -	(C)	60 N=60/ 0.03.					71.68	1.60	Win	ndow sample to	erminated at 1	.60m bgl - ref	usal on bedro	ck.		0 0 0		
- - - - -								-										
- - - - -								-										
								-										
								-										
- - - - - -	Llele	Diamete						- -					Water	Strikes				
Depth		meter (mm	_	emark	ks	Core	Гор (т)	Recov Core Bas		% Recovery	Date	Time	Strike	Minute	s	Standing	Ca	asing
Depth											General Ren No Groundwa	narks ater encountered						
Sca	ale 1:37	7.5	Not	es: A	II dim	ensio	ons in me	etres. Lo	ogs sh	nould be read i	n accordance	with the provi	ded Key. Des	criptions a	ire bas	ed on visu	ial and	

WS	SP Env	VSP	ntal				\	WIN	ID	OW SA	AMPLE	E LOG		Hole	e No. WS5	12	
lountbatten H	House, B ampshire phone:		, Basin	gstoke	Proj	ect		В	ices	ster Centra	al Land Pa	arcels		She	eet 1 of	1	
Job No	0020	861/00	1		Clie	nt		Cou	ntry	side Prope	rties (Bice	ster) Ltd		Dat	te 05-08 05-08		
Contract	or / Dr			Met	hod/		t Used		L	ogged By A Lir	ınell	E	ates (NGR) 457296.474 222001.478		Ground Leve	I (m A0	OD)
	ΔΜΡΙ Ι	ES & TE	272			<u> </u>						STRATA		,			Instal
Depth	Туре	Test Result		HSV (kN/m2)	P.Pen kN/m2)	Water	Elev. (m AOD				D	escription	1		Legend	Geology	Backf Dia.
- - -								-ness) - - -(0.54)	lime	f dark brown sl estone. PSOIL)	ightly gravelly	CLAY. Grave	l is subangula	ar, fine of	1/ · 7/ · 1/	TS	
0.50	ES						72.65	- 0.54		0 m bgl Becon			L.II	DAVEL - 6	71/2/1		
- - -		·						- - -	ang	dium dense to ular, fine to co DRNBRASH FO	arse limestone	llow/brown slig e.	intly sandy Gi	RAVEL OF			
_1.00 - -	(C)	6,8,10 9,8,7 N=34.						_ _(1.46)								CB	
- - -								- - -	1.60	0 - 1.80 m bgl	Becoming ver	ry sandy.			0 0 0		
	(C)	60 N=60/ 0.03.					71.19	2.00		ndow sample te		.00m bgl - ref	usal on bedro	ck	0000		
- - - -								- - -									
- - -								-									
- - - -								- - -									
- - -								- - -									
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- - - -								- - -									
- - -								- -									
-								-									
- - -								- - -									
Depth		Diamete		Remark	40	Core	Top (m)	Recov		% Recovery	Date	Time	Water Strike	Strikes	s Standing		asing
Depth	Diai	neter (min	,	Cirian		0010	TOP (III)	OOIC Das	5C (III)	70 recovery	Date	Time	Guine	Williac	3 Clariding		asing
											General Rem No Groundwa	narks iter encountered					
	olo 4 °	7.5	Not	es: A	ll dim	ensir	ons in m	etres. Lo	le apo	hould be read i	n accordance	with the provi	ded Kev. Des	criptions a	are based on vis	ual and	
50	ale 1:37		mai	nual i	denti	fication	on.						, ,,				

140		NSP					1	WIN	ID	ow s	AMPLE	E LOG		Но	le No.	WS5	13	
Mountbatten H Ha Tele	louse, Ba ampshire phone:	vironmer asing View e, RG21 4H 01256 318 fax:	1 (a) , Basings IJ 800	stokeF	Proje	ect		В	ices	ter Centra	al Land Pa	arcels		Sh	eet	1 of	1	
Job No	0020	861/00	1	C	Clien	nt		Cour	ntrys	side Prope	rties (Bice	ster) Ltd		Da	ate	06-08- 06-08-	11 11	
Contracto	or / Dri	iller	ı	Meth	od/F	Plant	Used		Lo	ogged By		Co-Ordina	ates (NGR)		Grou	nd Level	(m AC	DD)
Gle	over L	JK Ltd				Te	errier			S Dur	nstan		457295.484 222156.650			73.′	118	
SA	AMPLE	ES & TE										STRATA	Ą					Install Backfi
Depth	Туре	Test Result	Old (Dludd)	(kN/m2)	P.Pen (kN/m2)	Water	Elev. (m AOD)	Depth (Thick -ness)			De	escription				Legend	Geology	Dia. mm
0.10 - - - - - - - - -	(C)	60 N=60/ 0.03.					72.42	(0.45)	fine (TO) 0.15 Ligh of lir (CO	to medium of PSOIL) 5 m bgl Becon t grey brown on mestone. RNBRASH FO	limestone. ning stiff. clayey sandy G DRMATION)	RAVEL. Gravelly CL	vel is angular,	fine to c	/	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	TS CB	
<u> </u>	Hala	Diamata	<u> </u>		$\frac{1}{1}$			Poss	(OP)				\\/ata-	Strikes				
Depth		Diamete meter (mm	1	marks	3 (Core 7	Гор (m)	Recov Core Bas		% Recovery	Date	Time	Water Strike	Strikes Minut	es	Standing	Ca	asing
THOOM SAMITEE ECO GOODOO											General Rem No Groundwa	narks ter encountered						
Sca	ale 1:37	7.5		s: All ual id				etres. Lo	gs sh	ould be read i	n accordance	with the provid	ded Key. Desc	criptions	are bas	ed on visu	ıal and	

WS	P Env	VSP					1	WIN	ID	OW SA	AMPLI	E LOG	i			WS5	14	
lountbatten H Ha	ouse, Ba ampshire phone: (, Basin	gstoke	Proje	ect		В	ices	ster Centra	al Land Pa	arcels		She	eet	1 of	1	
Job No	00208	861/00	1		Clier	nt		Cou	ntrys	side Prope	rties (Bice	ester) Ltd		Da	te	06-08- 06-08-		
Contracto		iller JK Ltd		Met	hod/		t Used errier		L	ogged By S Dur	nstan	E	ates (NGR) 457370.529 222121.313		Grou	nd Level		DD)
SA	AMPLE	ES & TE	STS									STRAT						Instal
Depth	Туре	Test Result	PID (ppmV)	HSV (kN/m2)	P.Pen (kN/m2)	Water	Elev. (m AOD)	Depth (Thick -ness)			D	escription				Legend	Geology	Backf Dia. mm
	ES ES (C)	. 60 N=60/ 0.03.					71.81	0.20	to m (TC Ligh lime (CO 0.50	t becoming firm redium of lime OPSOIL) It grey brown of setone. OPSOIL of the province of the province of the province of the province of the province of the province of the province of the province of the province of the province of the province of the province of the province of the province of the province of the province of the province of the province of the province of the province of the province of the province of the province of the province of the province of the province of the province of the province of the province of the province of the province of the province of the province of the province of the province of the province of the province of the province of the province of the province of the province of the province of the province of the province of the province of the province of the province of the province of the province of the province of the province of the province of the province of the province of the province of the province of the province of the province of the province of the province of the province of the province of the province of the province of the province of the province of the province of the province of the province of the province of the province of the province of the province of the province of the province of the province of the province of the province of the province of the province of the province of the province of the province of the province of the province of the province of the province of the province of the province of the province of the province of the province of the province of the province of the province of the province of the province of the province of the province of the province of the province of the province of the province of the province of the province of the province of the province of the province of the province of the province of the province of the province of the province of the province of the province of the province of the province of the province of the province of the province of the province of the province of the province of the	stone. Occas clayey sandy (DRMATION) ning very claye	ional rootlets. GRAVEL. Grav	vel is angular,	fine to coa		/°=°0	СВ	
	Hole	Diamete	er		<u> </u>			Recov	verv				Water	Strikes				
Depth		meter (mm	_	Remark	(S	Core ⁻	Top (m)	Core Bas		% Recovery	Date	Time	Strike	Minute	es	Standing	Ca	sing
											General Ren No Groundwa	narks atter encountered	1 .					
Sca	ale 1:37	7.5		es: Al				etres. Lo	ogs sh	hould be read	in accordance	with the provi	ided Key. Des	criptions a	are bas	ed on visu	ıal and	

	V	VSP					1	WIN	ID	OW SA	AMPLE	E LOG		Hole		VS5	15	
WS Mountbatten H		ironmer		retokol	Droid	oct								Shee	<u>-</u> t			
l Ha	ampshire phone: (e, RG21 4H 01256 318 ax:	IJ	JSIONE	гюје	eci.		В	ices	ster Centra	al Land Pa	arcels		Once		1 of	1	
Job No	0208	361/00	1	(Clier	nt		Cou	ntrys	side Prope	rties (Bice	ester) Ltd		Date	C)6-08-)6-08-		
Contracto	or / Dri	ller		Meth	nod/l	Plan	t Used		L	ogged By		Co-Ordina	ates (NGR)		Ground	d Level	(m AC	DD)
Glo	over U	IK Ltd				Te	errier			S Dur	nstan		457375.199 222063.287			72.9	913	•
SA	MPLE	ES & TE	STS									STRAT	A					Install Backf
Depth	Туре	Test Result	PID (bpmV)	HSV (kN/m2)	P.Pen (kN/m2)	Water	Elev. (m AOD	Depth (Thick -ness)			D	escription				Legend	Geology	Dia. mm
-0.15	ES						72.76	,	sub	ss over dark b angular, fine to PSOIL)	rown very clay coarse of lim	ey gravelly SA estone. Abur	AND. Gravel i dant rootlets.	s angular to	/		TS	
	(C)	4,7,8 8,9,10						- - -(1.25)	Ligh	nt grey brown or rse of limestor PRNBRASH FO	ie.	sandy GRAVE	EL. Gravel is a	angular, fine	- to		СВ	
-		N=35.					71.51	1.40		idow sample h						. <u> </u>		
Depth		N=60/ 0.																
i	Hole	Diamete	r					Recov	very				Water	Strikes				
Depth		neter (mm	_	emark	s	Core -	Top (m)			% Recovery	Date	Time	Strike	Minutes	S	Standing	Ca	asing
											General Rem No Groundwa	narks ter encountered						
Sca	ale 1:37	'.5		es: Al nual id				etres. Lo	ogs sh	nould be read	in accordance	with the provi	ded Key. Desc	criptions are	e based	d on visu	ial and	

		VSP	ntal				7	WIN	ID	OW SA	AMPLE	E LOG		Но	ole No.	WS5	16	
ountbatten Ho	ouse, Ba ampshire phone: (Basings	stoke	Proje	ect		В	ices	ster Centra	al Land Pa	arcels		Sh	neet	1 of	1	
Job No 00	00208	861/00	1	(Clie	nt		Cou	ntrys	side Prope	rties (Bice	ester) Ltd		Di	ate	06-08- 06-08-	11 11	
Contracto	or / Dri	ller	1	Meth	nod/	Plan	t Used		L	ogged By			ates (NGR)		Grou	ınd Level	(m A	DD)
Glo	over U	K Ltd				Te	errier			S Dur	nstan		457419.636 221991.204			72.6	35	
SA	MPLE	S & TE										STRAT	4					Install Backf
Depth	Туре	Test Result	Old (bpmV)	HSV (kN/m2)	P.Pen (kN/m2)	Water	Elev. (m AOD	Depth (Thick -ness)			D	escription				Legend	Geology	Dia. / mm
	(C)	6,24,30 60 N=90/					71.64	-(1.00)	Light coal	f brown sandy IPSOIL) 0 - 1.00 m bgl ant grey brown serse of limestor IRNBRASH FO	Poor recovery		L. Gravel is a	ıngular,	fine to		CB	
- - _1.40		0.075. 60					71.24	1.40	,	Idow sample h		d at 1.40m bgl	- refusal on be	edrock.		0000		
Depth																		
Depth		Diamete neter (mm	1	mark	s	Core -	Гор (т)	Reco		% Recovery	Date	Time	Water Strike	Strikes Minu	tes	Standing		asing
	- 1011						- : \(\(\cdot \)	- 200	- (***)		General Rem					3		3
Sca	ale 1:37	.5	Note	s: All	I dim	ensic	ons in me	etres. Lo	ogs sh	nould be read i	n accordance	with the provi	ded Key. Desc	criptions	are bas	sed on visu	ıal and	

		VSP					1	WIN	ID	OW SA	AMPLE	E LOG		Hole No	WS5	17	
Mountbatten H	louse, Ba ampshire phone:	vironmer asing View e, RG21 4F 01256 318 ax:	, Basing IJ	jstoke	Proje	ect		В	ices	ster Centra	al Land Pa	arcels		Sheet	1 of	1	
Job No	0020	861/00	1	(Clier	nt		Cou	ntrys	side Prope	rties (Bice	ester) Ltd		Date	06-08- 06-08-	 -11 -11	
Contracto	or / Dri			Meth	nod/		t Used errier		Lo	ogged By S Dur	nstan	E	ates (NGR) 457407.947 222208.790		ound Level	•	OD)
SA	AMPLE	ES & TE	STS									STRAT	Α	l			Install Backfi
Depth	Туре	Test Result	PID (ppmV)	HSV (kN/m2)	P.Pen (kN/m2)	Water	Elev. (m AOD)	Depth)(Thick -ness)				escription				Geology	Dia.
- 1.000 - 1.200 - 1.200 - 1.200 - 1.200 - 1.200 - 1.200 - 1.200 - 1.200 - 1.200 - 1.200 - 1.200 - 1.200 - 1.200 - 1.200 - 1.200 - 1.200 - 1.200 - 1.200 - 1.200 - 1.200 - 1.200 - 1.200 - 1.200 - 1.200 - 1.200 - 1.200 - 1.200 - 1.200 - 1.200 - 1.200 - 1.200 - 1.200 - 1.200 - 1.200 - 1.200 - 1.200 - 1.200 - 1.200 - 1.200 - 1.200 - 1.200 - 1.200 - 1.200 - 1.200 - 1.200 - 1.200 - 1.200 - 1.200 - 1.200 - 1.200 - 1.200 - 1.200 - 1.200 - 1.200 - 1.200 - 1.200 - 1.200 - 1.200 - 1.200 - 1.200 - 1.200 - 1.200 - 1.200 - 1.200 - 1.200 - 1.200 - 1.200 - 1.200 - 1.200 - 1.200 - 1.200 - 1.200 - 1.200 - 1.200 - 1.200 - 1.200 - 1.200 - 1.200 - 1.200 - 1.200 - 1.200 - 1.200 - 1.200 - 1.200 - 1.200 - 1.200 - 1.200 - 1.200 - 1.200 - 1.200 - 1.200 - 1.200 - 1.200 - 1.200 - 1.200 - 1.200 - 1.200 - 1.200 - 1.200 - 1.200 - 1.200 - 1.200 - 1.200 - 1.200 - 1.200 - 1.200 - 1.200 - 1.200 - 1.200 - 1.200 - 1.200 - 1.200 - 1.200 - 1.200 - 1.200 - 1.200 - 1.200 - 1.200 - 1.200 - 1.200 - 1.200 - 1.200 - 1.200 - 1.200 - 1.200 - 1.200 - 1.200 - 1.200 - 1.200 - 1.200 - 1.200 - 1.200 - 1.200 - 1.200 - 1.200 - 1.200 - 1.200 - 1.200 - 1.200 - 1.200 - 1.200 - 1.200 - 1.200 - 1.200 - 1.200 - 1.200 - 1.200 - 1.200 - 1.200 - 1.200 - 1.200 - 1.200 - 1.200 - 1.200 - 1.200 - 1.200 - 1.200 - 1.200 - 1.200 - 1.200 - 1.200 - 1.200 - 1.200 - 1.200 - 1.200 - 1.200 - 1.200 - 1.200 - 1.200 - 1.200 - 1.200 - 1.200 - 1.200 - 1.200 - 1.200 - 1.200 - 1.200 - 1.200 - 1.200 - 1.200 - 1.200 - 1.200 - 1.200 - 1.200 - 1.200 - 1.200 - 1.200 - 1.200 - 1.200 - 1.200 - 1.200 - 1.200 - 1.200 - 1.200 - 1.200 - 1.200 - 1.200 - 1.200 - 1.200 - 1.200 - 1.200 - 1.200 - 1.200 - 1.200 - 1.200 - 1.200 - 1.200 - 1.200 - 1.200 - 1.200 - 1.200 - 1.200 - 1.200 - 1.200 - 1.200 - 1.200 - 1.200 - 1.200 - 1.200 - 1.200 - 1.200 - 1.200 - 1.200 - 1.200 - 1.200 - 1.200 - 1.200 - 1.200 - 1.200 - 1.200 - 1.200 - 1.200 - 1.200 - 1.200 - 1.200 - 1.200 - 1.200 - 1.200 - 1.200 - 1.200 - 1.200 - 1.200 - 1.200 - 1.200 - 1.200 - 1.200 - 1.200 - 1.200 - 1.200 - 1.200 - 1.200 - 1.200 - 1.200 - 1.200 - 1.20	(C) (C)	6,10,8 9,7,6 N=30.					71.42 70.97 70.17	0.10 - (0.45) - 0.55 - (0.80) - 1.35	Eight Coal (CO) Dari to co (CO) 1.90	y soft dark broves of psoul.) n orange brown of gravel RNBRASH FOut grey brown of gravel of limestors of limestors of limestors of limestors of limestors of limestors of limestors of limestors of limestors of limestors of limestors of limestors of limestors of limestors of limestors of limestors of limestors of limestors of limestors of limestors of limestors of limestors of limestors of limestors of limestors of limestors of limestors of limestors of limestors of limestors of limestors of limestors of limestors of limestors of limestors of limestors of limestors of limestors of limestors of limestors of limestors of limestors of limestors of limestors of limestors of limestors of limestors of limestors of limestors of limestors of limestors of limestors of limestors of limestors of limestors of limestors of limestors of limestors of limestors of limestors of limestors of limestors of limestors of limestors of limestors of limestors of limestors of limestors of limestors of limestors of limestors of limestors of limestors of limestors of limestors of limestors of limestors of limestors of limestors of limestors of limestors of limestors of limestors of limestors of limestors of limestors of limestors of limestors of limestors of limestors of limestors of limestors of limestors of limestors of limestors of limestors of limestors of limestors of limestors of limestors of limestors of limestors of limestors of limestors of limestors of limestors of limestors of limestors of limestors of limestors of limestors of limestors of limestors of limestors of limestors of limestors of limestors of limestors of limestors of limestors of limestors of limestors of limestors of limestors of limestors of limestors of limestors of limestors of limestors of limestors of limestors of limestors of limestors of limestors of limestors of limestors of limestors of limestors of limestors of limestors of limestors of limestors of limestors of limestors of limestors of limestors of limestors of limestors of limestors of limestors of lim	n slightly sand is subangular DRMATION) clayey very gra le. DRMATION) brown very clatone. DRMATION)	ly sightly grave r, fine to mediu avelly SAND.	elly CLAY with um of limeston Gravel is angu RAVEL. Grave wn.	black e. dlar, fine to		СВ	
								-									
Depth		Diamete	_	emark	s	Core .	Top (m)	Recov Core Bas		% Recovery	Date	Time	Water Strike	Strikes Minutes	Standing		asing
Deptil	Diar	netel (MM	n K	emark	3	Core	op (iii)	OUE BAS	oc (III)	70 Necuvery	General Ren			will lutes	Standing		asıı IY
Sca	ale 1:37	7.5		es: Al nual id				etres. Lo	ogs sh	nould be read i	in accordance	with the provi	ded Key. Desc	criptions are ba	ased on visi	ual and	

		VSP	ntal					WIN	ID	OW S	AMPLE	ELOG		Hole N	。 WS5	18	
ountbatten H Ha Tele	louse, Ba ampshire phone: (asing View, , RG21 4H 01256 3188 ax:	Basing J 300	stoke	Proj	ect		В	ices	ter Centra	al Land Pa	arcels		Sheet	1 of	1	
Job No O(361/00	1		Clie	nt		Cou	ntrys	side Prope	erties (Bice	ster) Ltd		Date	06-08 06-08	-11 -11	
Contracto	or / Dri	ller		Met	hod/	Plant	t Used		L	ogged By		Co-Ordina	ates (NGR)	Gr	ound Leve	l (m A0	OD)
Gle	over U	K Ltd				Te	errier			S Dui	nstan		457460.204 222121.716		72.	077	
SA	AMPLE	ES & TE	STS									STRAT	A				Install Backfi
Depth	Туре	Test Result	PID (ppmV)	HSV (kN/m2)	P.Pen (kN/m2)	Water	Elev. (m AOD	Depth (Thick -ness)			D	escription			Legend	Geology	Dia.
0.10	ES						71.93	1 1	Very	/ soft dark bro PSOIL)	wn very sandy	gravelly CLA	Y. Frequent root	lets.	71 N 71	TS	
		12,10,7					71.38	-	Stiff coai (CO Ligh coai (CO	red brown sa se of limestor RNBRASH Fo t grey brown of se of limestor RNBRASH FO	ne. ORMATION) clayey very sar ne.	ndy GRAVEL.	Gravel is subangu Gravel is angula				
	(C)	7,8,9 N=31.						(0.90)	0.70	ill bgi Beco	ming very grav	reny.			0 0	СВ	
							70.48	1.60							0 0		
								-									
		Diamete	т —		Ī			Recov					Water Stri				
Depth	Diar	neter (mm) Re	emarl	KS .	Core 1	Гор (т)	Core Bas	se (m)	% Recovery	Date	Time	Strike	Minutes	Standing	Ca	asing
											General Rem No Groundwa	narks ter encountered	I.				

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

Scale 1:37.5

		NSP					1	WIN	ID	OW SA	MPLE	E LOG		Hole	e No.	WS5	19	
lountbatten H Ha	ouse, B ampshire phone:	/ironmer asing View, e, RG21 4H 01256 318 ax:	, Basino	gstoke	Proj	ect		В	ices	ster Centra	al Land Pa	arcels		She	et	1 of	1	
Job No O(0020	861/00	1		Clie	nt		Cou	ntrys	side Prope	rties (Bice	ester) Ltd		Dat		06-08- 06-08-	·11 ·11	
Contracto	or / Dr	iller		Met	thod/	Plan	t Used		L	ogged By		Co-Ordina	` ,		Grour	nd Level	I (m A	OD)
Glo	over L	JK Ltd				Te	errier			S Dur	nstan		157504.306 222179.257			71.5	559	
SA	MPLI	ES & TE	_						,			STRATA						Install Backfii
Depth	Туре	Test Result	Old (bbmV)	HSV (kN/m2)	P.Pen (kN/m2)	Water	Elev. (m AOD)	-ness)				escription					Geology	Dia. mm
-							71.46	0.10	fine (TO	to medium of PSOIL)	limestone. Fr	slightly gravelly requent rootlets	-			\(\frac{1}{2\psi \psi \cdot \frac{1}{2\psi \psi \cdot \frac{1}{2\psi \psi \cdot \frac{1}{2\psi TS KB		
-							71.01	-	ang (KE	ular to subrour LLAWAYS CL	nded, fine to c AY MEMBER	sandy slightly groorse of limesto oarse of limesto ogressively more	one.	. Gravel is	s /	- · · · ·	КВ	
_0.70 -	ES						70.66	0.90	Soft (KE	t red brown sai	ndy CLAY. AY MEMBER)			/	0000		
_1.00 - -	(C)	4,4,6 8,10,11 N=35.						(0.70)	coa	nt grey brown s rse of limeston DRNBRASH FO	ie.	sandy GRAVEL	Gravel is a	ingular, fir	ne to	0 0 0	СВ	
- -							69.96	1.60		n mottled light		avelly CLAY. 0	Gravel is suba	angular, fir	ne to	0 0 0		
	ES	12,9,4						(0.70)		PRNBRASH FO							СВ	
- - 2.30	(C)	5,4,7 N=20. 60					69.26	2.30	10/:		-1- 4	d at 2.30m bgl -						
	Hole	Diamete	r					Reco	very				Water	Strikes				
Depth	Dia	meter (mm) R	emari	ks	Core -	Гор (т)	Core Bas	se (m)	% Recovery	Date General Ren		Strike	Minutes	5	Standing	Ci	asing
Sca	ale 1:37	7.5				nensio		etres. Lo	ogs sh	hould be read i		e with the provid	ed Key. Desc	criptions a	re base	ed on visu	ual and	



Unit 7-8 Hawarden Business Park Manor Road (off Manor Lane) Hawarden

Deeside CH5 3US Tel: (01244) 528700

Fax: (01244) 528701 email: mkt@alcontrol.com Website: www.alcontrol.com

WSP Environmental Mountbatten House Basing View Baskingstoke Hampshire RG21 4HJ

Attention: Helen Gardiner

CERTIFICATE OF ANALYSIS

 Date:
 26 August 2011

 Customer:
 H_WSP_BAS

 Sample Delivery Group (SDG):
 110812-132

Your Reference:

Location: Bicetser Central Eastern Land Parcels

Report No: 147189

We received 33 samples on Tuesday August 09, 2011 and 29 of these samples were scheduled for analysis which was completed on Friday August 26, 2011. Accredited laboratory tests are defined within 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 the data sections alone.

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

Approved By:





Operations Manager







Validated

SDG: Job: Client Reference: 110812-132 H_WSP_BAS-9 Location: Customer: Attention: Bicetser Central Eastern Land Parcels
WSP Environmental

WSP Environmental
Helen Gardiner

Order Number: Report Number: Superseded Report:

147189

Received Sample Overview

Lab Sample No(s)	Customer Sample Ref.	AGS Ref.	Depth (m)	Sampled Date
4095375	Customer Sample Ker. CP501	ES	0.30	Sampled Date
4095376	CP502	ES	0.20	
4095377	CP503	ES	0.10	
4095378	CP504	ES	0.40	
4095380	CP505	ES	0.20	
4095349	WS501	ES	0.20	04/08/2011
4095368	WS502	ES	0.25	04/08/2011
4095381	WS502	ES	1.00	04/08/2011
4095382	WS503	ES	0.10	04/08/2011
4095383	WS504	ES	0.70	
4095385	WS505	ES	0.15	04/08/2011
4105310	WS506		0.15	
4105311	WS506		0.20	
4095386	WS507	ES	0.10	
4095387	WS508	ES	0.10	04/08/2011
4095388	WS508	ES	1.40	04/08/2011
4095350	WS509	ES	0.10	05/08/2011
4105138	WS509		0.20	
4095351	WS510	ES	0.10	05/08/2011
4095352	WS511	ES	0.70	08/08/2011
4095353	WS512	ES	0.50	
4095354	WS513	ES	0.10	05/08/2011
4105140	WS513		0.10	
4095356	WS514	ES	0.10	05/08/2011
4095358	WS514	ES	0.60	05/08/2011
4095360	WS515	ES	0.15	05/08/2011
4095364	WS516	ES	0.00 - 1.00	08/08/2011
4095367	WS516	ES	1.00	08/08/2011
4095370	WS517	ES	0.10	05/08/2011
4095371	WS517	ES	1.20	05/08/2011
4095372	WS518	ES	0.10	
4095373	WS519	ES	0.70	05/08/2011
4095374	WS519	ES	1.80	05/08/2011

Only received samples which have had analysis scheduled will be shown on the following pages.

Validated

Bicetser Central Eastern Land Parcels 110812-132 Location: Order Number: H_WSP_BAS-9 WSP Environmental **Customer:**

SDG: 147189 Job: Report Number: Client Reference: Attention: Helen Gardiner Superseded Report:

Client Reference:	-	Attention		icici	i Gardi	1101							erseaea			_	_	_		_
SOLID Results Legend X Test	Lab Sample	No(s)	4095375	4095349	4095376	4095368	4095350	4095351	4095352	4095353	4095354	4095356	4095358	4095360	4095364	4095367		4095372 4095371	000	4095374 4095373
N Determination Possible	Custome Sample Refe		CP501	WS501	CP502	WS502	WS509	WS510	WS511	WS512	WS513	WS514	WS514	W & B	WS516	WS516	14.00	WS518 WS517		WS519
	AGS Refere	ence	ES	ES	S	S	ES	ES	ES	ES	ES	ES	ES	т	n m	ES	ה ס	ES	[ES S
	Depth (m	1)	0.30	0.20	0.20	0.25	0.10	0.10	0.70	0.50	0.10	0.10	0.60	0.15	0.00 - 1.00	1.00	2	0.10		1.80 0.70
	Containe	er	250g Amber Jar (Al 1kg TUB	250g Amber Jar (Al 1kg TUB	60g VOC (ALE215) 250g Amber Jar (Al 1kg TUB	60g VOC (ALE215) 250g Amber Jar (AL 1kg TUB	250g Amber Jar (Al 1kg TUB	60g VOC (ALE215) 250g Amber Jar (AL 1kg TUB	250g Amber Jar (Al 1kg TUB	60g VOC (ALE215) 250g Amber Jar (AL 1kg TUB	250g Amber Jar (Al 1kg TUB	1kg TUB	250g Amber Jar (Au 1kg TUB	250g Amber Jar (Al 1kg TUB	250g Amber Jar (Al 60g VOC (ALE215)	250g Amber Jar (Al 1kg TUB	1kg TUB 60g VOC (ALE215)			
Ammoniacal N as NH4 in 2:1 extract Anions by Kone (soil)	All	NDPs: 0 Tests: 8 NDPs: 0	x	X				x				x				×				
Asbestos Identification (Soil)	All	Tests: 7 NDPs: 0 Tests: 5							X							X	×			X
Cyanide Comp/Free/Total/Thiocyanate	All	NDPs: 0 Tests: 7		X	X			X		X		X		×		×	·		X	
EPH CWG (Aliphatic) GC (S)	All	NDPs: 0 Tests: 4				X							X							X
EPH CWG (Aromatic) GC (S)	All	NDPs: 0 Tests: 4				X							x							X
GRO by GC-FID (S)	All	NDPs: 0 Tests: 4				x							x							x
Metals by iCap-OES (Soil)	Arsenic	NDPs: 0 Tests: 29 NDPs: 0	x	x	x	X	X	×	x	x	X	X	X	x	X	x x	(X	X	X	×
	Chromium	NDPs: 0 Tests: 29 NDPs: 0 Tests: 29	X	X	X	×	×	X	X	X	X	X	X	X	X	XX	×	X	x	X
	Copper	NDPs: 0 Tests: 29	X			x	x		X		X	x x		x		x x				X
	Lead	NDPs: 0 Tests: 29	x			X	X		X		X	×	X	X		x x				X
	Mercury	NDPs: 0 Tests: 29	x	X	x	x	x	×	X	x	x	x	x	x	X	x x	· x	x	X	x
	Nickel Selenium	NDPs: 0 Tests: 29 NDPs: 0	x	X	X	X	X	×	X	x	X	×	X	X	X	x x	· x	X	X	×
		Tests: 29	X	X	x	×	X	X	X	X	X	X	X	X	X	XX	(X	X	X	X

Validated

110812-132 H_WSP_BAS-9 Bicetser Central Eastern Land Parcels SDG: Location: Order Number: WSP Environmental Job: **Customer:** Report Number:

147189 Client Reference: Attention: Helen Gardiner Superseded Report:

Olletti ixeletetice.		Attention	••	IICIC	00	ai (aii								ciocac	u itop	٠						
SOLID Results Legend X Test	Lab Sample	Lab Sample No(s)				4095376	4095368	4095350	4095351	4095352	4095353		4095356	4095358		4095364 4095360	4095367	1005270	4095371	4095372	408040	4095374
No Determination Possible	Custome Sample Refe		CP501	WS501		CP502	WS502	WS509	WS510	WS511	WS512		WS514	WS514		WS516 WS515	WS516	14/0547	WS517	WS518	W G G	WS519
	AGS Refere	ence	ES	ES		ES	m S	ES	ES	ES	ES	[n m	ES	[E S	ES C	П	ES	ES	П	n Ei
	Depth (m	1)	0.30	0.20		0.20	0.25	0.10	0.10	0.70	0.50	9	0.10	0.60	9	0.00 - 1.00	1.00	5	1.20	0.10	c. c	1.80
	Containe	er	250g Amber Jar (AL 1kg TUB	250g Amber Jar (AL 1kg TUB	250g Amber Jar (AL 1kg TUB	60g VOC (ALE215)	60g VOC (ALE215) 250g Amber Jar (AL 1kg TUB	250g Amber Jar (AL 1kg TUB	60g VOC (ALE215) 250g Amber Jar (AL 1kg TUB	250g Amber Jar (AL 1kg TUB	1kg TUB	1kg TUB	1kg TUB	60g VOC (ALE215) 250g Amber Jar (AL	250g Amber Jar (AL	250g Amber Jar (AL	1kg TUB					
Metals by iCap-OES (Soil)	Zinc	NDPs: 0 Tests: 29	X				X	X					X		X		X)		X	X	X	X
OC, OP Pesticides and Triazine Herb	All	NDPs: 0 Tests: 8						x		X		x					X >	K				
PAH by GCMS	All	NDPs: 0 Tests: 11						x		x					X	+			X			
рН	All	NDPs: 0 Tests: 29	X	X	x		x	X	X	x	X	X	X	X	X	×	X >	x x		x x	×	X
Sample description	All	NDPs: 0 Tests: 29	x	X	×	(X	x	X	X	x	x	x	X	X	×	X >	K	X	X	X	X
Semi Volatiles in soils by GC-MS	All	NDPs: 0 Tests: 9		x	×	(x		X		_	X				x	
Total Organic Carbon	All	NDPs: 0 Tests: 20	x		×	(×	X	X	X		x	X	X	+	X		X	X	x	X
TPH c6-40 Value of soil	All	NDPs: 0 Tests: 16	x	×				×		X		x			X	+	X		X	X	X	
TPH CWG GC (S)	All	NDPs: 0 Tests: 4					X							X		+						X
VOC MS (S)	All	NDPs: 0 Tests: 13				X	X						K	x		x	X		×	<u>.</u>	7	x x

Validated

 SDG:
 110812-132
 Location:
 Bicetser Central Eastern Land Parcels
 Order Number:

 Job:
 H_WSP_BAS-9
 Customer:
 WSP Environmental
 Report Number:
 147189

 Client Reference:
 Attention:
 Helen Gardiner
 Superseded Report:

	1															_	=	_	_			
SOLID Results Legend X Test	Lab Sample I	No(s)		1000001	1005381	4095377	4095382	4095378		4095383		4095380		4095385	4095386)	4095387		4095388			
No Determination Possible	Customer Sample Reference						CP503 WS502		WS503 CP503		CP504	WS504			CP505		WS505	WS507		WS508		WS508
	AGS Refere	nce		ū	П	ES	S	ES		ES		C.	1	ES	ιτ (1	ES		ES			
	Depth (m	1)				0.10		0.40		0.70		0.20		0.15	0.10		0.10		1.40			
	Containe	r	1kg TUB	250g Amber Jar (AL	1kg TUB	250g Amber Jar (AL	250g Amber Jar (AL 1kg TUB	250g Amber Jar (AL	1kg TUB	60g VOC (ALE215)	1kg TUB	250g Amber Jar (AL	1kg TUB	250g Amber Jar (AL	250g Amber Jar (AL 1kg TUB	1kg TUB	250g Amber Jar (AL	250g Amber Jar (AL 1kg TUB	60g VOC (ALE215)			
Ammoniacal N as NH4 in 2:1 extract	All	NDPs: 0 Tests: 8					X				X					X						
Anions by Kone (soil)	All	NDPs: 0 Tests: 7		X)	()	(
Asbestos Identification (Soil)	All	NDPs: 0 Tests: 5				X									×	C C						
Cyanide Comp/Free/Total/Thiocyanate	All	NDPs: 0 Tests: 7					X								X			<u> </u>				
EPH CWG (Aliphatic) GC (S)	All	NDPs: 0 Tests: 4		X														<u> </u>				
EPH CWG (Aromatic) GC (S)	All	NDPs: 0 Tests: 4		x														<u> </u>				
GRO by GC-FID (S)	All	NDPs: 0 Tests: 4)	K													+				
Metals by iCap-OES (Soil)	Arsenic	NDPs: 0 Tests: 29		X		X	X	X)	(x		X	X	<u> </u>	X)	<u>(</u>			
	Cadmium	NDPs: 0 Tests: 29		X		X	X	X)	(X		X	×	<u>.</u>	X)	<u>(</u>			
	Chromium	NDPs: 0 Tests: 29		X		X	X	X)	(X		X	×	<u>.</u>	X)	(
	Copper	NDPs: 0 Tests: 29		X		X	X	X)	(X		X	×	<u> </u>	X)	(
	Lead	NDPs: 0 Tests: 29		X		X	X	X)	(x		x	×	<u>.</u>	X)	(
	Mercury	NDPs: 0 Tests: 29		X		X	×	X)	(x		x	×	<u>.</u>	X)	(
	Nickel	NDPs: 0 Tests: 29		X		X	X	X)	(X		X	×	2	X)	(
	Selenium	NDPs: 0 Tests: 29		X		X	X	X)	(X		X	×	<u> </u>	X)	(

Validated

 SDG:
 110812-132
 Location:
 Bicetser Central Eastern Land Parcels
 Order Number:

 Job:
 H_WSP_BAS-9
 Customer:
 WSP Environmental
 Report Number:
 147189

 Client Reference:
 Attention:
 Helen Gardiner
 Superseded Report:

Client Reference:		Attention		110	ien	Gair	ullik	υI						_	_	_	_	Supe
SOLID Results Legend X Test	Lab Sample		4095381	4095377		4095382	1005378		4095383		4095380	+09000	4000000	4095386		4095387	4095388	
No Determination Possible	Custome Sample Refe			WS502	CP503		WS503	000		WS504		CP505	***	1A/OEOE	WS507		WS508	WS508
	AGS Refere	nce		ES	r.	3 ;	E C	ם ס	ļ	ES		ES	Ç	ПО	ES		ES	ES
	Depth (m	1)		1.00			0.40		;	0.70		0.20	<u>.</u>) 1	0.10		0.10	1.40
	Containe	r	1kg TUB	60g VOC (ALE215)	250g Amber Jar (AL 1kg TUB	1kg TUB	250g Amber Jar (AL	1kg TUB	250g Amber Jar (AL	1kg IUB 60a VOC (ALE215)	250g Amber Jar (AL	60g VOC (ALE215)	1kg TUB	IKG IOB	250g Amber Jar (AL	1kg TUB	250g Amber Jar (AL	60g VOC (ALE215) 250g Amber Jar (AL
Metals by iCap-OES (Soil)	Zinc	NDPs: 0 Tests: 29)		×	Ш	x >		X		X			K	X		X	X
OC, OP Pesticides and Triazine Herb	All	NDPs: 0 Tests: 8	,	(,	K				X
PAH by GCMS	All	NDPs: 0 Tests: 11)	(×	<u>.</u>	X		X		X		,	K	X			
pH	All	NDPs: 0 Tests: 29	X		X	X)	(X		×	<u> </u>		X	×	(X)	<u>(</u>
Sample description	All	NDPs: 0 Tests: 29)	(×	2	x >	(X		X		2	K	X		X	X
Semi Volatiles in soils by GC-MS	All	NDPs: 0 Tests: 9					X								X			X
Total Organic Carbon	All	NDPs: 0 Tests: 20)	()	(X		X		2	K				X
TPH c6-40 Value of soil	All	NDPs: 0 Tests: 16			×	<u>.</u>	x		x		X		2	K				X
TPH CWG GC (S)	All	NDPs: 0 Tests: 4)	(
VOC MS (S)	All	NDPs: 0 Tests: 13		X						x		X						X

Validated

110812-132 SDG: Job:

H_WSP_BAS-9

Bicetser Central Eastern Land Parcels Location: **Customer:** WSP Environmental Attention: Helen Gardiner

Order Number: Report Number: Superseded Report:

147189

Sample Descriptions

Grain Sizes

Client Reference:

very fine	<0.0	63mm	fine	0.06	3mm - 0.1mm	m	edium	0.1mn	n - 2mm	coai	rse 2mm -	10mm	very coar	rse >10m				
Lab Sample I	No(s)	Custome	er Sample F	Ref.	Depth (m)		Co	lour	Descript	ion	Grain size	Incl	usions	Inclusions 2				
4095375	i	(CP501		0.30		Light	Brown	Clay Lo	am	<0.063 mm	N	one	None				
4095376	i	(CP502		0.20		Light	Brown	Sandy C Loam	•	0.1 - 2 mm	Sto	ones	None				
4095377		(CP503		0.10		Dark	Brown	Silty Clay I		0.063 - 0.1 mm	Veg	etation	Stones				
4095378	•	(CP504		0.40		Light	Brown	Clay		<0.063 mm	Sto	ones	None				
4095380	1	(CP505		0.20		Light	Brown	Silty Cla	ay	0.063 - 0.1 mm	Sto	ones	None				
4095349	1	V	WS501		0.20		Dark	Brown	Silty Cla	ay	0.063 - 0.1 mm	Sto	ones	N/A				
4095368		V	WS502		0.25		Light	Brown	Silty Cla	ay	0.063 - 0.1 mm	Sto	ones	N/A				
4095381		V	NS502		1.00		Light	Brown	Silty Cla	ay	0.063 - 0.1 mm	Sto	ones	N/A				
4095382	!	V	WS503		0.10		Light	Brown	Silty Cla	ay	0.063 - 0.1 mm	١	N/A	N/A				
4095383		V	NS504		0.70		Light	Brown	Silty Cla	ay	0.063 - 0.1 mm	Sto	ones	N/A				
4095385	•	V	NS505		0.15		Light	Brown	Sandy Silt	Loam	0.063 - 0.1 mm	Sto	ones	N/A				
4095386	i	V	NS507		0.10		Dark	Brown	Silty Clay I	Loam	0.063 - 0.1 mm	Sto	ones	Vegetation				
4095387		WS508		WS508		WS508			0.10		Dark	Brown	Silt Loa	ım	0.063 - 0.1 mm	Sto	ones	N/A
4095388		V	NS508		1.40		Light	Brown	Sandy Silt Loam		0.063 - 0.1 mm	Sto	ones	N/A				
4095350		V	WS509		0.10		Light	Brown	Silty Cl	ay	0.063 - 0.1 mm	Sto	ones	None				
4095351		V	WS510		0.10		Dark	Brown	Silt Loa	ım	0.063 - 0.1 mm	Sto	ones	N/A				
4095352		V	WS511		0.70		Light	Brown	Silty Sa	nd	0.063 - 0.1 mm	١	N/A	Stones				
4095353		V	WS512		0.50		Dark	Brown	Silty Clay I	Loam	0.063 - 0.1 mm	N	one	None				
4095354		V	NS513		0.10		Dark	Brown	Silty Cla	ay	0.063 - 0.1 mm	Sto	ones	N/A				
4095356		V	NS514		0.10		Dark	Brown	Silty Cla	ay	0.063 - 0.1 mm	Sto	ones	N/A				
4095358		V	NS514		0.60		Light	Brown	Silty Cla	ay	0.063 - 0.1 mm	١	N/A	Stones				
4095360		V	NS515		0.15		Dark	Brown	Silty Clay I	Loam	0.063 - 0.1 mm	Sto	ones	None				
4095364		V	WS516		0.00 - 1.00		Dark	Brown	Clay		<0.063 mm	N	one	None				
4095367		V	WS516		1.00		Υe	ellow	Sandy C	lay	0.1 - 2 mm	Sto	ones	None				
4095370		V	NS517		0.10		Light	Brown	Chalk	(<0.063 mm	Veg	etation	None				
4095371		V	WS517		1.20		Light	Brown	Silty Sa	nd	0.063 - 0.1 mm	Sto	ones	N/A				
4095372		V	WS518		0.10		Dark	Brown	Silty Cla	ay	0.063 - 0.1 mm	١	N/A	Stones				
4095373		V	WS519		0.70		Dark	Brown	Silty Clay I	Loam	0.063 - 0.1 mm	N	one	None				
4095374		V	WS519		1.80		Light	Brown	Sandy C	lay	0.1 - 2 mm	N	one	None				

These descriptions are only intended to act as a cross check if sample identities are questioned, and to provide a log of sample matrices with respect to MCERTS validation. They are not intended as full geological descriptions.

We are accredited to MCERTS for sand, clay and loam/topsoil, or any of these materials - whether these are derived from naturally ocurring soil profiles, or from fill/made ground, as long as these materials constitute the major part of the sample.

Other coarse granular materials such as concrete, gravel and brick are not accredited if they comprise the major part of the sample.

110812-132

SDG:

CERTIFICATE OF ANALYSIS

Location: Bicetser Central Eastern Land Parcels Order Number:

Validated

# ISO17025 accredited. M mCERTS accredited.	Cus	stomer Sample R	CP501		CP502		CP503	CP504		CP505	WS501
§ Deviating sample. aq Aqueous / settled sample.		Depth (m)	0.30		0.20		0.10	0.40		0.20	0.20
diss.filt Dissolved / filtered sample. tot.unfilt Total / unfiltered sample.		Sample Type Date Sampled	Soil/Solid -		Soil/Solid -		Soil/Solid -	Soil/Solid		Soil/Solid -	Soil/Solid 04/08/2011
* Subcontracted test. ** % recovery of the surrogate standar	rd to	Date Received	09/08/2011		09/08/2011		09/08/2011	09/08/2011		09/08/2011	09/08/2011
check the efficiency of the method. results of individual compounds with	The	SDG Ref ab Sample No.(s)	110812-132 4095375		110812-132 4095376		110812-132 4095377	110812-132 4095378		110812-132 4095380	110812-132 4095349
samples aren't corrected for the rec		AGS Reference	ES		ES		ES	ES		ES	ES
(F) Trigger breach confirmed Component	LOD/Units	Method									
Moisture content ratio	%	PM024			10						13
Soil Organic Matter (SOM)	<0.35 %	TM132	2.74	.,	1.49			2.29		1 ,,	
pH	1 pH	TM133	8.12	#	8.61	#	8.29	8.11	#	# 8.51	8.29
рн	Units	1101133	0.12	М	0.01	М	6.29 M	0.11	М	6.51 M	0.29 M
Cyanide, Total	<1 mg/kg	TM153			<1						<1
						М					M
TPH >C6-C8	<10	TM154	<10				<10			<10	<10
TPH >C12-C16	mg/kg <10	TM154	<10				<10			<10	<10
111111111111111111111111111111111111111	mg/kg	1101	110				10			10	110
TPH >C16-C21	<10	TM154	<10				<10			<10	<10
TDU. 004 040	mg/kg	T14454	.10				25.5			-10	151
TPH >C21-C40	<10 mg/kg	TM154	<10				85.5			<10	151
TPH >C6-C40	<10	TM154	<10				89			<10	160
	mg/kg			#			#			#	#
TPH >C8-12	<10	TM154	<10				<10			<10	<10
Araonia	mg/kg	TM181	32.8		15.9		26.9	24.2		10.5	32.6
Arsenic	<0.6 mg/kg	TIMITOT	32.8	М	15.9	М	26.9 M	24.2	М	10.5 M	32.6 M
Cadmium	<0.02	TM181	0.942		0.491		0.872	0.972	141	0.253	0.639
	mg/kg			М		М	M		М	M	M
Chromium	<0.9	TM181	34.2		13.3		23.1	26.7		10.4	32.4
Copper	mg/kg <1.4	TM181	19.2	М	9.72	М	18.9	20.2	M	5.63	17.5
Copper	mg/kg	TIVITOT	19.2	М	9.72	М	16.9 M	20.2	М	5.03 M	17.5 M
Lead	<0.7	TM181	346		14.8		26.9	27		7.14	29
	mg/kg			М		М	М		M	M	M
Mercury	<0.14	TM181	<0.14	B.4	<0.14	N.4	<0.14	<0.14		<0.14	<0.14
Nickel	mg/kg <0.2	TM181	29.5	М	13.3	М	26.6	30.1	M	8.56	29.4
THORE	mg/kg	1111101	20.0	М	10.0	М	20.0 M	00.1	М	M	M
Selenium	<1 mg/kg	TM181	<1		<1		<1	<1		<1	<1
7:	-11.0	TN404	CO 0	#	33.8	#	70.0	91.4	#	47.0	75.4
Zinc	<1.9 mg/kg	TM181	69.2	М	33.8	М	72.9 M	91.4	М	17.2 M	75.4 M
Ammoniacal N as NH4 in	<0.0003	TM248	<0.0003							<0.0003	<0.0003
2:1 extract BRE	g/l									§	§
N-Nitrosodimethylamine	<1.3	TM322			<1.3						<1.3
Pyridine	mg/kg <1.3	TM322			<1.3	§					\$ <1.3
1 yndine	mg/kg	TWOZZ			11.0	§					§
2-Picoline	<1.3	TM322			<1.3						<1.3
NI Nitanana and the death of the death of the death of the death of the death of the death of the death of the death of the death of the death of the death of the death of the death of the death of the death of the death of the death of the death of the death of the death of the death of the death of the death of the death of the death of the death of the death of the death of the death of the death of the death of the death of the death of the death of the death of the death of the death of the death of the death of the death of the death of the death of the death of the death of the death of the death of the death of the death of the death of the death of the death of the death of the death of the death of the death of the death of the death of the death of the death of the death of the death of the death of the death of the death of the death of the death of the death of the death of the death of the death of the death of the death of the death of the death of the death of the death of the death of the death of the death of the death of the death of the death of the death of the death of the death of the death of the death of the death of the death of the death of the death of the death of the death of the death of the death of the death of the death of the death of the death of the death of the death of the death of the death of the death of the death of the death of the death of the death of the death of the death of the death of the death of the death of the death of the death of the death of the death of the death of the death of the death of the death of the death of the death of the death of the death of the death of the death of the death of the death of the death of the death of the death of the death of the death of the death of the death of the death of the death of the death of the death of the death of the death of the death of the death of the death of the death of the death of the death of the death of the death of the death of the death of the death of the death of the death of the death of th	mg/kg	T14000			.4.0	§					§
N-Nitrosomethylethylamine	<1.3 mg/kg	TM322			<1.3	§					<1.3 §
Methyl Methanesulfonate	<1.3	TM322			<1.3	3					<1.3
,	mg/kg					§					§
N-Nitrosodiethylamine	<1.3	TM322			<1.3	٠					<1.3
Ethyl Methanesulfonate	mg/kg <1.3	TM322			<1.3	§					\$ <1.3
_ary mornanosanonate	mg/kg	1111022			-1.5	§					\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\
Phenol	<1.3	TM322			<1.3						<1.3
A or Uliman	mg/kg	T1 1000				§					§
Aniline	<1.3 mg/kg	TM322			<1.3	§					<1.3 §
Pentachloroethane	<1.3	TM322			<1.3	3					<1.3
	mg/kg					§					§
Bis(2-chloroethyl)ether	<1.3	TM322			<1.3						<1.3
2-Chlorophenol	mg/kg	TM322			<1.3	§					\$ <1.3
2-GHIOTOPHEHOI	<1.3 mg/kg	i IVIOZZ			\$1.3	§					<1.3 §
1,3-Dichlorobenzene	<1.3	TM322			<1.3	J					<1.3
·	mg/kg					§					§
1,4-Dichlorobenzene	<1.3	TM322			<1.3	٠					<1.3
Benzyl Alcohol	mg/kg <1.3	TM322			<1.3	§					\$ <1.3
23/12/17/100/101	mg/kg	1111022			-1.5	§					\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\

Validated

SDG: 110812-132 Location: Bicetser Central Eastern Land Parcels Order Number:

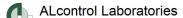
Describe Lawrence				2224	22222		2222	1112221
Results Legend # ISO17025 accredited.	C	ustomer Sample R	CP501	CP502	CP503	CP504	CP505	WS501
M mCERTS accredited. § Deviating sample.								
aq Aqueous / settled sample.		Depth (m) Sample Type	0.30 Soil/Solid	0.20 Soil/Solid	0.10 Soil/Solid	0.40 Soil/Solid	0.20 Soil/Solid	0.20 Soil/Solid
tot.unfilt Total / unfiltered sample.		Date Sampled	-	-	-	-	-	04/08/2011
* Subcontracted test. ** % recovery of the surrogate standa	rd to	Date Received SDG Ref	09/08/2011 110812-132	09/08/2011 110812-132	09/08/2011 110812-132	09/08/2011 110812-132	09/08/2011 110812-132	09/08/2011 110812-132
check the efficiency of the method. results of individual compounds wi		Lab Sample No.(s)	4095375	4095376	4095377	4095378	4095380	4095349
samples aren't corrected for the rec		AGS Reference	ES	ES	ES	ES	ES	ES
(F) Trigger breach confirmed	LOD/Units	s Method						
Component 1,2-Dichlorobenzene	<1.3	TM322		<1.3				<1.3
1,2-Dichioloberizerie	mg/kg	TIVIOZZ		\$ S				§
2-Methylphenol	<1.3	TM322		<1.3				<1.3
	mg/kg			§				§
Bis(2-chloroisopropyl)ether	<1.3	TM322		<1.3				<1.3
NI NPtos	mg/kg	T14000		\$ <1.3				§
N-Nitrosopyrrolidine	<1.3 mg/kg	TM322		\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \				<1.3 §
3+4-Methylphenol	<1.3	TM322		<1.3				<1.3
, , , , , , , , , , , , , , , , , , , ,	mg/kg	1		§				§
Acetophenone	<1.3	TM322		<1.3				<1.3
	mg/kg			§				§
N-Nitroso-di-N-propylamin	<1.3	TM322		<1.3				<1.3
e o-Toluidine	mg/kg <1.3	TM322		\$ <1.3				\$ <1.3
o rolalane	mg/kg	TWOZZ		§ §				§
Hexachloroethane	<1.3	TM322		<1.3				<1.3
	mg/kg			§				§
Nitrobenzene	<1.3	TM322		<1.3				<1.3
N. N	mg/kg	T1 1000		§				§
N-Nitrosopiperidine	<1.3	TM322		<1.3 §				<1.3 §
Isophorone	mg/kg <1.3	TM322		<1.3				<1.3
Isophorone	mg/kg	TWOZZ		\$ §				§ §
2-Nitrophenol	<1.3	TM322		<1.3				<1.3
	mg/kg			§				§
2,4-Dimethylphenol	<1.3	TM322		<1.3				<1.3
Dis (O althous these) as all as	mg/kg	T14000		§				§
Bis(2-chloroethoxy)methan e	<1.3 mg/kg	TM322		<1.3 §				<1.3 §
2,4-Dichlorophenol	<1.3	TM322		<1.3				<1.3
2, 1 2 (6 (10)	mg/kg			§				e §
1,2,4-Trichlorobenzene	<1.3	TM322		<1.3				<1.3
	mg/kg			§				§
3+4-Chlorophenol	<1.3	TM322		<1.3				<1.3
Naphthalene	mg/kg <1.3	TM322		\$ <1.3				\$ <1.3
Naphinalene	mg/kg	TWOZZ		§				§
p-Chloroaniline	<1.3	TM322		<1.3				<1.3
	mg/kg			§				§
2,6-Dichlorophenol	<1.3	TM322		<1.3				<1.3
Llovachlaranranana	mg/kg <1.3	TM322		\$ <1.3				<1.3
Hexachloropropene	mg/kg	1101322		\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \				<1.5 §
Hexachlorobutadiene	<1.3	TM322		<1.3				<1.3
	mg/kg			§				§
N-Nitroso-di-N-butylamine	<1.3	TM322		<1.3				<1.3
4 Chloro 2 Mathedala and	mg/kg	TMACCO		§				§
4-Chloro-3-Methylphenol	<1.3 mg/kg	TM322		<1.3 §				<1.3 8
Safrole	<1.3	TM322		<1.3				\$ <1.3
	mg/kg	522		\$ §				§
2-Methylnaphthalene	<1.3	TM322		<1.3				<1.3
10157: :: :	mg/kg			§				§
1,2,4,5-Tetrachlorobenzen	<1.3	TM322		<1.3				<1.3
e Hexachlorocyclopentadien	mg/kg <1.3	TM322		<1.3				\$ <1.3
e	mg/kg	110022		\1.5 §				\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\
2,4,5-Trichlorophenol	<1.3	TM322		<1.3				<1.3
·	mg/kg			§				§
2,4,6-Trichlorophenol	<1.3	TM322		<1.3				<1.3
Isosafrole	mg/kg	TM322		\$ <1.3				\$ <1.3
ISUSAIIUIC	<1.3 mg/kg	I IVIOZZ		<1.3 §				<1.3 §
2-Chloronaphthalene	<1.3	TM322		<1.3				<1.3
<u> </u>	mg/kg			§				§
2-Nitroaniline	<1.3	TM322		<1.3				<1.3
1.4 Nonhthamilian	mg/kg	TM4000		§				§
1,4-Naphthoquinone	<1.3	TM322		<1.3 §				<1.3
	mg/kg			3				§



Validated

SDG: 110812-132 Location: Bicetser Central Eastern Land Parcels Order Number:

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Colonitroburence		mg/kg			§				§
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A-Nitroaniline	5-Nitro-o-toluidine	1	TM322		<1.3				
A-Nitroaniline		1							
Methyl-4,6-dinitrophenol	4-Nitroaniline	T	TM322						
2-Methyl-4,6-dinitrophenol		1							
Diphenylamine	2-Methyl-4 6-dinitrophenol		TM322						
Diphenylamine	2 Wearly 4,0 dimitopriches		TIVIOZZ						
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Name	Azobonzono		TM222						<1.2
1,3,5-Trinitrobenzene <1,3 mg/kg	AZODENZENE		1 1/13/2/2						
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Pronamide									
Pronamide <1.3 mg/kg mg/kg	Pentachlorophenol	1	1M322						
mg/kg Mg/kg Mg/kg Mg/kg Mg/kg Mg/kg Mg/kg Mg/kg Mg/kg Mg/kg Mg/kg Mg/kg Mg/kg Mg/kg Mg/kg Mg/kg Mg/kg Mg/kg Mg/kg Mg/kg Mg/kg Mg/kg Mg/kg Mg/kg Mg/kg Mg/kg Mg/kg Mg/kg Mg/kg Mg/kg Mg/kg Mg/kg Mg/kg Mg/kg Mg/kg Mg/kg Mg/kg Mg/kg Mg/kg Mg/kg Mg/kg Mg/kg Mg/kg Mg/kg Mg/kg Mg/kg Mg/kg Mg/kg Mg/kg Mg/kg Mg/kg Mg/kg Mg/kg Mg/kg Mg/kg Mg/kg Mg/kg Mg/kg Mg/kg Mg/kg Mg/kg Mg/kg Mg/kg Mg/kg Mg/kg Mg/kg Mg/kg Mg/kg Mg/kg Mg/kg Mg/kg Mg/kg Mg/kg Mg/kg Mg/kg Mg/kg Mg/kg Mg/kg Mg/kg Mg/kg Mg/kg Mg/kg Mg/kg Mg/kg Mg/kg Mg/kg Mg/kg Mg/kg <th< td=""><td></td><td></td><td> _</td><td></td><td></td><td></td><td></td><td></td><td></td></th<>			 _						
Pentachloronitrobenzene <1.3 mg/kg	Pronamide	1	TM322						
mg/kg Mg/kg Mg/kg Mg/kg Mg/kg Mg/kg Mg/kg Mg/kg Mg/kg Mg/kg Mg/kg Mg/kg Mg/kg Mg/kg Mg/kg Mg/kg Mg/kg Mg/kg Mg/kg Mg/kg Mg/kg Mg/kg Mg/kg Mg/kg Mg/kg Mg/kg Mg/kg Mg/kg Mg/kg Mg/kg Mg/kg Mg/kg Mg/kg Mg/kg Mg/kg Mg/kg Mg/kg Mg/kg Mg/kg Mg/kg Mg/kg Mg/kg Mg/kg Mg/kg Mg/kg Mg/kg Mg/kg Mg/kg Mg/kg Mg/kg Mg/kg Mg/kg Mg/kg Mg/kg Mg/kg Mg/kg Mg/kg Mg/kg Mg/kg Mg/kg Mg/kg Mg/kg Mg/kg Mg/kg Mg/kg Mg/kg Mg/kg Mg/kg Mg/kg Mg/kg Mg/kg Mg/kg Mg/kg Mg/kg Mg/kg Mg/kg Mg/kg Mg/kg Mg/kg Mg/kg Mg/kg Mg/kg Mg/kg Mg/kg Mg/kg Mg/kg Mg/kg Mg/kg <th< td=""><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>§</td></th<>									§
Phenanthrene <1.3 mg/kg mg/kg	Pentachloronitrobenzene	1	TM322						
mg/kg May 1 Sample of the property of the property of the property of the property of the property of the property of the property of the property of the property of the property of the property of the property of the property of the property of the property of the property of the property of the property of the property of the property of the property of the property of the property of the property of the property of the property of the property of the property of the property of the property of the property of the property of the property of the property of the property of the property of the property of the property of the property of the property of the property of the property of the property of the property of the property of the property of the property of the property of the property of the property of the property of the property of the property of the property of the property of the property of the property of the property of the property of the property of the property of the property of the property of the property of the property of the property of the property of the property of the property of the property of the property of the property of the property of the property of the property of the property of the property of the property of the property of the property of the property of the property of the property of the property of the property of the property of the property of the property of the property of the property of the property of the property of the property of the property of the property of the property of the property of the property of the property of the property of the property of the property of the property of the property of the property of the property of the property of the property of the property of the property of the property of the property of the property of the property of the property of the property of the property of the property of the property of the property of the property of the property of the property of									
Anthracene <1.3 TM322 <1.3 \$ <1.3 \$ <1.3 \$ <1.3 \$ <1.3 \$ <1.3 \$ <1.3 \$ <a <="" href="#" td=""><td>Phenanthrene</td><td></td><td>TM322</td><td></td><td></td><td></td><td></td><td></td><td></td>	Phenanthrene		TM322						
mg/kg % \$ \$ Dinoseb <1.3 mg/kg									
Dinoseb <1.3 mg/kg	Anthracene	<1.3	TM322						
mg/kg \$ \$ Carbazole <1.3									
Carbazole <1.3 TM322 <1.3 <1.3 <1.3	Dinoseb	<1.3	TM322						
mg/kg §	Carbazole		TM322						
		mg/kg			<u> </u>				§



Validated

SDG: 110812-132 Location: Bicetser Central Eastern Land Parcels Order Number:

 Job:
 H_WSP_BAS-9
 Customer:
 WSP Environmental
 Report Number:
 147189

 Client Reference:
 Attention:
 Helen Gardiner
 Superseded Report:

Customer Sample R CP501 CP502 CP503 CP504 CP505 WS501 ISO17025 accredited.

mCERTS accredited.

Deviating sample.

Aqueous / settled sample. Depth (m) 0.20 0.10 0.40 0.20 0.20 0.30 Sample Type Soil/Solid Soil/Solid 04/08/2011 diss.filt Dissolved / filtered sample tot.unfilt Total / unfiltered sample Date Sampled Subcontracted test 09/08/2011 09/08/2011 09/08/2011 09/08/2011 09/08/2011 09/08/2011 Subcontracted test.

% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery Trigger breach confirmed SDG Ref 110812-132 110812-132 110812-132 110812-132 110812-132 110812-132 4095375 4095377 4095378 4095380 4095349 Lab Sample No.(s) ES ES ES ES ES ES AGS Reference (F) Component LOD/Units Method Di-N-butyl Phthalate <1.3 TM322 <1.3 <1.3 mg/kg Isodrin <1.3 TM322 <13 <13 § mg/kg Fluoranthene TM322 <1.3 <1.3 <1.3 mg/kg Ş Benzidine <1.3 TM322 <1.3 <1.3 mg/kg Pyrene <1.3 TM322 <1.3 <1.3 mg/kg § § p-Dimethylaminoazobenze <1.3 TM322 <1.3 <1.3 mg/kg ne Chlorobenzilate TM322 <1.3 <1.3 <1.3 § § mg/kg 3,3-Dimethylbenzidine TM322 <1.3 <13 <13 mg/kg § TM322 <1.3 <1.3 Kepone <1.3 mg/kg § Butyl Benzyl Phthalate TM322 <1.3 <1.3 <1.3 § mg/kg § 2-Acetylaminofluorene <1.3 TM322 <1.3 <1.3 8 mg/kg Benzo(a)anthracene TM322 <1.3 <1.3 <1.3 mg/kg 3,3-Dichlorobenzidine TM322 <1.3 <1.3 <1.3 § § mg/kg Chrysene TM322 <1.3 <13 <13 mg/kg TM322 <1.3 <1.3 Bis(2-ethylhexyl)phthalate <1.3 § § mg/kg Di-n-octylphthalate TM322 <13 <13 <1.3 mg/kg § Benzo(b)fluoranthene TM322 <1.3 <1.3 <1.3 mg/kg ξ § 7,12-Dimethylbenz(a)anthr TM322 <13 <13 <1.3 § § mg/kg acene Benzo(k)fluoranthene <1.3 TM322 <1.3 <1.3 mg/kg § TM322 Benzo(a)pyrene <13 <13 <1.3 mg/kg 3-Methylcholanthrene TM322 <1.3 <1.3 <1.3 § § mg/kg TM322 Indeno(1,2,3-c,d)pyrene <1.3 <1.3 <1.3 mg/kg Dibenzo(a,h)anthracene TM322 <1.3 <1.3 <1.3 § § mq/kq TM322 Benzo(g,h,i)perylene <1.3 <1.3 <13 § mg/kg

Validated

Order Number:

 SDG:
 110812-132
 Location:
 Bicetser Central Eastern Land Parcels

 Job:
 H_WSP_BAS-9
 Customer:
 WSP Environmental

Results Legend # ISO17025 accredited.	Cus	stomer Sample R	WS502		WS502		WS503		WS504		WS505		WS507
M mCERTS accredited.													
§ Deviating sample. aq Aqueous / settled sample.		Depth (m)	0.25		1.00		0.10		0.70		0.15		0.10
		Sample Type	Soil/Solid		Soil/Solid								
diss.filt Dissolved / filtered sample. tot.unfilt Total / unfiltered sample.		Date Sampled	04/08/2011		04/08/2011		04/08/2011		-		04/08/2011		-
* Subcontracted test.		Date Received	09/08/2011		09/08/2011		09/08/2011		09/08/2011		09/08/2011		09/08/2011
** % recovery of the surrogate standa	rd to		110812-132				110812-132		110812-132				
check the efficiency of the method.	The	SDG Ref			110812-132						110812-132		110812-132
results of individual compounds wi		ab Sample No.(s)	4095368		4095381		4095382		4095383		4095385		4095386
samples aren't corrected for the rec		AGS Reference	ES		ES								
(F) Trigger breach confirmed													
Component	LOD/Units	Method											
Component								_					
Moisture content ratio	%	PM024			13				10				
2 11 2 1 11 11 12 12 12 13	2 2 2 2 4												
Soil Organic Matter (SOM)	<0.35 %	TM132			1.58				0.553		2.33		
						#				#		#	
-11	4 1.1	T14400	0.0		0.40		0.04		0.0		0.0		0.50
pН	1 pH	TM133	8.2		8.49		8.31		8.8		8.2		8.52
	Units			M		M		M		М		M	M
Cyanida Tatal		TM153					<1						<1
Cyanide, Total	<1 mg/kg	1101100											
								M					M
TPH >C6-C8	<10	TM154							<10		<10		
1111700-00		1101137							~10		110		
	mg/kg												
TPH >C12-C16	<10	TM154							<10		<10		
											l 'Ŭ		
	mg/kg	_											
TPH >C16-C21	<10	TM154							<10		21.9		
	mg/kg												
TDU. 004 040		T1117							-10		100		
TPH >C21-C40	<10	TM154							<10		138		
	mg/kg												
TDU >C6 C40		TN4454					00.0		-10		400		
TPH >C6-C40	<10	TM154					80.2		<10		168		
	mg/kg							#		#		#	
TPH >C8-12	<10	TM154							<10		<10		
11 11 2 00 12		1 101 1 34							~10		ار		
	mg/kg												
Arsenic	<0.6	TM181	28.1		15.8		34		13.9		38		38.6
	mg/kg			М		М		М		М		М	М
	T			IVI		IVI		IVI		IVI		IVI	
Cadmium	<0.02	TM181	0.486		0.238		0.703		0.248		0.688		1.16
	mg/kg			M		M		M		М		М	M
Chromium	<0.9	TM181	39.6		12		32.5		7.81		23		26.4
Cilionilani		1101101	39.0		12				7.01		23		
	mg/kg			M		M		M		М		М	M
Copper	<1.4	TM181	13.2		6.55		19.6		5.56		18.8		18.9
Coppo.				М	0.00	М		М	0.00	М		М	M
	mg/kg			IVI		IVI		IVI		IVI		IVI	
Lead	<0.7	TM181	18.6		7.32		29.6		4.49		24.3		24.5
	mg/kg			M		М		М		М		М	M
Maraumi	<0.14	TM181	<0.14		<0.14		<0.14		<0.14		<0.14	- 111	<0.14
Mercury		1 101 10 1	<0.14		<0.14				<0.14		<0.14		
	mg/kg			M		М		М		М		М	M
Nickel	<0.2	TM181	30.2		11.3		32.6		8.37		33.5		34.8
1 1101101			00.2	М		Ν.4		М	0.0.	М	00.0	М	M
	mg/kg			IVI		M		IVI		IVI		IVI	
Selenium	<1 mg/kg	TM181	<1		<1		<1		<1		<1		<1
				#		#		#		#		#	#
				π		π	/	π		π		π	
Zinc	<1.9	TM181	62.9		18.7		79.1		12.7		94		89
	mg/kg			M		M		M		М		М	M
Water Soluble Sulphate as		TM243			0.0156				0.0116			- 111	
	<0.008	1101243			0.0156				0.0116				
SO4 2:1 Extract	g/l					М				М			
Ammoniacal N as NH4 in	<0.0003	TM248					< 0.0003						
								2					
2:1 extract BRE	g/l							§					
N-Nitrosodimethylamine	<1.3	TM322					<1.3						<1.3
	mg/kg							§					§
Puriding	T	TM322					<1.3	J					
Pyridine	<1.3	1 IVI 322											<1.3
	mg/kg							§					§
2-Picoline	<1.3	TM322					<1.3						<1.3
	1							§					
	mg/kg							3					§
N-Nitrosomethylethylamine	<1.3	TM322					<1.3						<1.3
	mg/kg							§					§
Methyl Methanesulfonate	<1.3	TM322					<1.3	-					<1.3
welly wellanesullollate		I IVIOZZ											
	mg/kg							§					§
N-Nitrosodiethylamine	<1.3	TM322					<1.3						<1.3
								§					
	mg/kg							3					§
Ethyl Methanesulfonate	<1.3	TM322					<1.3						<1.3
	mg/kg							§					§
Phonol	1	TM200						J					
Phenol	<1.3	TM322					<1.3						<1.3
	mg/kg							§					§
Aniline	<1.3	TM322					<1.3						<1.3
, umino		IVIOZZ											
	mg/kg							§					§
Pentachloroethane	<1.3	TM322					<1.3						<1.3
								§					
- · · · · · · · · · · · · · · · · · · ·	mg/kg							3					§
Bis(2-chloroethyl)ether	<1.3	TM322					<1.3						<1.3
	mg/kg	1						§					§
2-Chlorophenol	<1.3	TM322					<1.3	_					<1.3
2-Chlorophenol		I IVIOZZ											
	mg/kg							§					§
1,3-Dichlorobenzene	<1.3	TM322					<1.3						<1.3
,	mg/kg							§					§
4.4 Diable 1		T1 1000						3					
1,4-Dichlorobenzene	<1.3	TM322					<1.3						<1.3
	mg/kg							§					§
	,			_				_		_			3



Validated

110812-132 Ricetser Central Fastern Land Parcels SDG Location:

Job: H_WSP_BAS-9 **Customer:** WSP Environmental Client Reference: Attention: Helen Gardiner

Order Number: Report Number:

147189 Superseded Report:

Customer Sample R WS502 WS502 WS503 WS504 WS505 WS507 ISO17025 accredited.

mCERTS accredited.

Deviating sample.

Aqueous / settled sample. Depth (m) 0.10 0.70 0.15 0.10 0.25 1.00 Sample Type diss.filt Dissolved / filtered sample 04/08/2011 04/08/2011 04/08/2011 04/08/2011 tot.unfilt Total / unfiltered sample Date Sampled Subcontracted test 09/08/2011 09/08/2011 09/08/2011 09/08/2011 09/08/2011 09/08/2011 Subcontracted test.

% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery Trigger breach confirmed SDG Ref 110812-132 110812-132 110812-132 110812-132 110812-132 110812-132 4095383 4095385 4095386 4095368 4095382 Lab Sample No.(s) ES ES ES ES ES ES AGS Reference (F) Component LOD/Units Method Benzyl Alcohol <1.3 TM322 <1.3 <1.3 mg/kg 1.2-Dichlorobenzene <1.3 TM322 <13 <13 mg/kg § § TM322 <1.3 2-Methylphenol <1.3 <1.3 mg/kg Ş Bis(2-chloroisopropyl)ether <1.3 TM322 <13 <1.3 mg/kg N-Nitrosopyrrolidine <1.3 TM322 <1.3 <1.3 § § mg/kg 3+4-Methylphenol <1.3 TM322 <1.3 <1.3 mg/kg § TM322 <1.3 Acetophenone <1.3 <1.3 § § mg/kg N-Nitroso-di-N-propylamin TM322 <1.3 <13 <13 § mg/kg o-Toluidine TM322 <1.3 <1.3 <1.3 mg/kg § Hexachloroethane TM322 <1.3 <1.3 <1.3 mg/kg § § Nitrobenzene TM322 <1.3 <1.3 <1.3 8 mg/kg N-Nitrosopiperidine TM322 <13 <1.3 <1.3 § mg/kg Isophorone TM322 <1.3 <1.3 <1.3 § § mg/kg TM322 2-Nitrophenol <1.3 <13 < 1.3 § mg/kg TM322 <1.3 2,4-Dimethylphenol <1.3 <1.3 § § mg/kg TM322 Bis(2-chloroethoxy)methan <1.3 <13 <1.3 mg/kg § 2,4-Dichlorophenol TM322 <1.3 <1.3 <1.3 mq/kq 8 ξ 1,2,4-Trichlorobenzene TM322 <1.3 <13 <1.3 § § mg/kg 3+4-Chlorophenol <1.3 TM322 <1.3 <1.3 § mg/kg TM322 Naphthalene <1.3 <13 <1.3 mg/kg § p-Chloroaniline TM322 <1.3 <1.3 <1.3 § § mg/kg TM322 2,6-Dichlorophenol <1.3 <1.3 <1.3 mg/kg § Hexachloropropene TM322 <1.3 <1.3 <1.3 § § mg/kg TM322 Hexachlorobutadiene <1.3 <1.3 <13 mg/kg § N-Nitroso-di-N-butylamine TM322 <1.3 <1.3 <1.3 § mg/kg 4-Chloro-3-Methylphenol TM322 <13 <13 <1.3 § mg/kg § Safrole <1.3 TM322 <1.3 <1.3 § mg/kg TM322 <1.3 2-Methylnaphthalene <1.3 <1.3 mg/kg § 1,2,4,5-Tetrachlorobenzen <1.3 TM322 <1.3 <1.3 § § ma/ka TM322 <1.3 Hexachlorocyclopentadien <13 <1.3 mg/kg 2,4,5-Trichlorophenol <1.3 TM322 <13 <13 § § mq/kq 2,4,6-Trichlorophenol TM322 <1.3 <1.3 <1.3 mg/kg § Isosafrole <1.3 TM322 <1.3 <1.3 § ma/ka TM322 2-Chloronaphthalene <1.3 <1.3 <13 § mg/kg 2-Nitroaniline <1.3 TM322 <1.3 <1.3 mg/kd



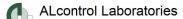
Validated

110812-132 Bicetser Central Eastern Land Parcels SDG: Location: Order Number: Job:

H_WSP_BAS-9 WSP Environmental **Customer:** Client Reference: Attention: Helen Gardiner

147189 Report Number: Superseded Report:

#	Results Legend ISO17025 accredited.	С	ustomer Sample R	WS502	WS502	WS503	WS504	WS505	WS507
§ aq diss.filt tot.unfilt *	mCERTS accredited. Deviating sample. Aqueous / settled sample. Dissolved / filtered sample. Total / unfiltered sample. Subcontracted test. % recovery of the surrogate standacheck the efficiency of the method. results of individual compounds with samples aren't corrected for the re-	The ithin	Depth (m) Sample Type Date Sampled Date Received SDG Ref Lab Sample No.(s) AGS Reference	0.25 Soil/Solid 04/08/2011 09/08/2011 110812-132 4095368 ES	1.00 Soil/Solid 04/08/2011 09/08/2011 110812-132 4095381 ES	0.10 Soil/Solid 04/08/2011 09/08/2011 110812-132 4095382 ES	0.70 Soil/Solid - 09/08/2011 110812-132 4095383 ES	0.15 Soii/Solid 04/08/2011 09/08/2011 110812-132 4095385 ES	0.10 Soil/Solid 09/08/2011 110812-132 4095386 ES
	Trigger breach confirmed	LOD/Units	s Method						
Compor 1,4-Na	phthoquinone	<1.3	TM322			<1.3			<1.3
Dimoth	ul Dhthalata	mg/kg	TM322			<1.3			\$ <1.3
Dimetri	yl Phthalate	<1.3 mg/kg	1101322			§			§
Acenar	ohthylene	<1.3 mg/kg	TM322			<1.3 §			<1.3 §
2,6-Din	itrotoluene	<1.3 mg/kg	TM322			<1.3 §			<1.3 §
1,3-Din	itrobenzene	<1.3 mg/kg	TM322			<1.3 §			<1.3 §
3-Nitro	aniline	<1.3 mg/kg	TM322			<1.3 §			<1.3 §
Acenar	ohthene	<1.3 mg/kg	TM322			<1.3 §			<1.3 §
2,4-Din	itrophenol	<1.3	TM322			<1.3			<1.3
4-Nitro	phenol	mg/kg <1.3	TM322			<1.3			<1.3
Dibenz	ofuran	mg/kg <1.3	TM322			<1.3			<1.3
Pentac	hlorobenzene	mg/kg <1.3	TM322			<1.3			<1.3
2,4-Din	itrotoluene	mg/kg <1.3	TM322			<1.3			<1.3
1-Naph	ithylamine	mg/kg <1.3	TM322			<1.3			\$ <1.3
	thylamine	mg/kg <1.3	TM322			\$ <1.3			\$ <1.3
	-Tetrachlorophenol	mg/kg <1.3	TM322			<1.3			<1.3
		mg/kg <1.3	TM322			<1.3 §			<1.3 <1.3
	Phthalate	mg/kg				§			§
Fluorer		<1.3 mg/kg	TM322			<1.3 §			<1.3 §
	rophenylphenylether	<1.3 mg/kg	TM322			<1.3 §			<1.3 §
5-Nitro	-o-toluidine	<1.3 mg/kg	TM322			<1.3 §			<1.3 §
4-Nitro	aniline	<1.3 mg/kg	TM322			<1.3 §			<1.3 §
2-Meth	yl-4,6-dinitrophenol	<1.3 mg/kg	TM322			<1.3 §			<1.3 §
Diphen	ylamine	<1.3 mg/kg	TM322			<1.3 §			<1.3 §
Azober	nzene	<1.3 mg/kg	TM322			<1.3 §			<1.3 §
1,3,5-T	rinitrobenzene	<1.3	TM322			<1.3			<1.3
Diallate	•	mg/kg <1.3	TM322			<1.3			<1.3
4-Brom	ophenylphenylether	mg/kg <1.3	TM322			<1.3			<1.3
Phenad	cetin	mg/kg <1.3	TM322			<1.3			<1.3
Hexach	nlorobenzene	mg/kg <1.3	TM322			<1.3			<1.3
4-Amin	obiphenyl	mg/kg <1.3	TM322			<1.3			<1.3
Pentac	hlorophenol	mg/kg <1.3	TM322			<1.3			<1.3
Pronan	·	mg/kg <1.3	TM322			\$ <1.3			\$ <1.3
	hloronitrobenzene	mg/kg <1.3	TM322			\$ <1.3			\$ <1.3
	nthrene	mg/kg <1.3	TM322			<1.3 §			<1.3 §
		mg/kg				<1.3 §			§
Anthra		<1.3 mg/kg	TM322			§			<1.3 §
Dinose	D	<1.3 mg/kg	TM322			<1.3 §			<1.3 §



Validated

110812-132 Bicetser Central Eastern Land Parcels SDG: Location: Order Number: Job: H_WSP_BAS-9 WSP Environmental **Customer:** Report Number:

147189 Client Reference: Attention: Helen Gardiner Superseded Report:

	Results Legend		Customer Sample R	WS502	WS502	WS503	WS504	WS505	WS507
# M	ISO17025 accredited. mCERTS accredited.								
§	Deviating sample.		Depth (m)	0.25	1.00	0.10	0.70	0.15	0.40
aq	Aqueous / settled sample.		Sample Type	0.25 Soil/Solid	1.00 Soil/Solid	0.10 Soil/Solid	0.70 Soil/Solid	0.15 Soil/Solid	0.10 Soil/Solid
diss.filt tot.unfilt	Dissolved / filtered sample. Total / unfiltered sample.		Date Sampled	04/08/2011	04/08/2011	04/08/2011	- 3011/3011u	04/08/2011	3011/3011u
*	Subcontracted test.		Date Received	09/08/2011	09/08/2011	09/08/2011	09/08/2011	09/08/2011	09/08/2011
**	% recovery of the surrogate standa		SDG Ref	110812-132	110812-132	110812-132	110812-132	110812-132	110812-132
	check the efficiency of the method. results of individual compounds wi		Lab Sample No.(s)	4095368	4095381	4095382	4095383	4095385	4095386
	samples aren't corrected for the rec		AGS Reference	ES	ES	ES	ES	ES	ES
(F)	Trigger breach confirmed	· 1							
Compo	nent	LOD/U	nits Method						
Carba	zole	<1.3	3 TM322			<1.3			<1.3
		mg/k				§			§ S
Di N b	outyl Phthalate	<1.3				<1.3			<1.3
DI-IN-L	outyl i illialate					§			\$1.5 §
La a statu	-	mg/k							
Isodrir	1	<1.0				<1.3			<1.3
		mg/k				§			§
Fluora	inthene	<1.3				<1.3			<1.3
		mg/k	g			§			§
Benzio	dine	<1.3	3 TM322			<1.3			<1.3
		mg/k	a			§			§
Pyren	e	<1.3				<1.3			<1.3
, ,	-	mg/k				§			§
n-Dim	ethylaminoazobenze	<1.3				<1.3			<1.3
1.	CarylaniiilOazUDEIIZE								
ne	h!late	mg/k				§			§
Uniord	benzilate	<1.3				<1.3			<1.3
		mg/k				§			§
3,3-Di	methylbenzidine	<1.3	3 TM322			<1.3			<1.3
		mg/k	g			§			§
Kepon	ne	<1.0				<1.3			<1.3
"		mg/k				§ §			§
Butvl F	Benzyl Phthalate	<1.3				<1.3			<1.3
Butyit	Sonzyi i intralato	mg/k				§			§ S
2 100	tylaminofluorene	<1.3				<1.3			<1.3
Z-ACE	tylarillioliuorene								
_	() (1	mg/k				§			§
Benzo	(a)anthracene	<1.0				<1.3			<1.3
		mg/k				§			§
3,3-Di	chlorobenzidine	<1.3	3 TM322			<1.3			<1.3
		mg/k	g			§			§
Chrys	ene	<1.3	3 TM322			<1.3			<1.3
'		mg/k				§			§
Bis(2-	ethylhexyl)phthalate	<1.3				<1.3			<1.3
Dio(2)	oury moxy rypmunalato	mg/k				§			§ S
Dino	ctylphthalate	<1.3				<1.3			<1.3
DI-II-0	Ctylphthalate								
D	/h \fl	mg/k				§			§
Benzo	(b)fluoranthene	<1.0				<1.3			<1.3
		mg/k				§			§
7,12-0	Dimethylbenz(a)anthr	<1.3				<1.3			<1.3
acene		mg/k				§			§
Benzo	(k)fluoranthene	<1.3	3 TM322			<1.3			<1.3
		mg/k	g			§			§
Benzo	(a)pyrene	<1.3	3 TM322			<1.3			<1.3
		mg/k				 §			§
3-Metl	hylcholanthrene	<1.3				<1.3			<1.3
""	.,	mg/k				§			\$ 1.5
Indos	n/1 2 3 o d\nyrana	111g/k				<1.3			<1.3
muent	o(1,2,3-c,d)pyrene					<1.3 §			
D:h -	70/0 h)onth	mg/k				<1.3			\$ <1.3
טוטen:	zo(a,h)anthracene	<1.3							
_	(1 1)	mg/k				§			§
Benzo	(g,h,i)perylene	<1.0				<1.3			<1.3
		mg/k	g			§			§
			-						
		-			-				
L									
		1			T. Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Con			I .	

Validated

110812-132 Ricetser Central Fastern Land Parcels SDG Location: Job: H_WSP_BAS-9

Customer: WSP Environmental Attention: Helen Gardiner

Order Number: Report Number:

147189 Superseded Report:

Client Reference: Customer Sample R WS509 WS511 WS512 WS508 WS508 WS510 ISO17025 accredited mCERTS accredited Deviating sample Depth (m) 0.10 1.40 0.10 0.10 0.70 0.50 Aqueous / settled sample Aqueous / settled sample.
Dissolved / filtered sample.
Total / unfiltered sample.
Subcontracted test.
% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery dies filt Sample Type Soil/Solid Soil/Solid Soil/Solid Soil/Solid Soil/Solid Soil/Solid Date Sampled 04/08/2011 04/08/2011 05/08/2011 05/08/2011 08/08/2011 09/08/2011 09/08/2011 09/08/2011 09/08/2011 Date Received 09/08/2011 09/08/2011 110812-132 4095353 SDG Ref 110812-132 110812-132 110812-132 110812-132 110812-132 4095350 4095351 4095352 Lab Sample No.(s) 4095387 4095388 ES ES ES ES ES ES AGS Reference (F) Trigger breach confirmed LOD/Units Method Component PM024 13 5.8 Moisture content ratio Soil Organic Matter (SOM) <0.35 % TM132 0.476 2.62 2.6 0.51 1.12 # рΗ 1 pH TM133 8 26 8 61 8 16 8 14 8 81 8 42 Units M M M М M M Cyanide, Total TM153 <1 <1 mg/kg Μ TPH >C6-C8 <10 TM154 <10 <10 <10 mg/kg TPH >C12-C16 TM154 <10 <10 <10 <10 ma/ka TPH >C16-C21 TM154 <10 22 2 <10 <10 mg/kg TPH >C21-C40 TM154 <10 237 <10 <10 mq/kq TPH >C6-C40 TM154 259 <10 <10 <10 mg/kg # TPH >C8-12 <10 TM154 <10 <10 <10 ma/ka TM181 32.8 7.49 27.7 47.8 Arsenic 22 8 24 6 < 0.6 mg/kg M М M M M M Cadmium <0.02 TM181 0.808 0.115 0.805 0.649 0.487 1.08 Μ Μ Μ М Μ М ma/ka Chromium TM181 29.7 6.62 23.5 23 7.51 43.5 < 0.9 mg/kg M M M M M M Copper <1.4 TM181 24.6 3.85 18.8 18.2 5.33 23.1 Μ Μ Μ Μ ma/ka M M Lead TM181 31.1 3.95 33.8 27.5 4.83 19.9 < 0.7 М Μ М mg/kg Μ M M Mercury < 0.14 TM181 < 0.14 < 0.14 <0.14 < 0.14 < 0.14 < 0.14 Μ Μ Μ Μ Μ ma/ka M Nickel TM181 35 5 47 24.3 26.6 12 50.8 < 0.2 М mg/kg M M M M M Selenium <1 mg/kg TM181 <1 <1 <1 <1 <1 <1 Zinc <1.9 TM181 108 8.58 67.9 73.4 14.8 107 M M M M М mg/kg M Water Soluble Sulphate as <0.008 TM243 0.0156 <0.008 М SO4 2:1 Extract a/l M TM248 <0.0003 <0.0003 Ammoniacal N as NH4 in < 0.0003 2:1 extract BRE g/l § N-Nitrosodimethylamine <1.3 TM322 <1.3 mg/kg Pyridine TM322 <1.3 <1.3 § mg/kg 2-Picoline <1.3 TM322 <1.3 mg/kg TM322 <1.3 N-Nitrosomethylethylamine <1.3 mg/kg § Methyl Methanesulfonate <1.3 TM322 <1.3 mg/kg § N-Nitrosodiethylamine TM322 <1.3 <1.3 mg/kg Ethyl Methanesulfonate <1.3 TM322 <1.3 § mg/kg Phenol TM322 <1.3 <1.3 mg/kg Aniline <1.3 TM322 <1.3 mg/kg Pentachloroethane TM322 <1.3 <1.3 § mg/kg Bis(2-chloroethyl)ether <1.3 TM322 <1.3 mg/kg 2-Chlorophenol <1.3 TM322 <1.3 § mg/kg 1,3-Dichlorobenzene <1.3 TM322 <1.3 mg/kg §

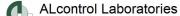
1,4-Dichlorobenzene

<1.3

mg/kg

TM322

<1.3



Validated

SDG: 110812-132 Location: Bicetser Central Eastern Land Parcels Order Number:

 Job:
 H_WSP_BAS-9
 Customer:
 WSP Environmental
 Report Number:
 147189

 Client Reference:
 Attention:
 Helen Gardiner
 Superseded Report:

Customer Sample R WS508 WS508 WS509 WS510 WS511 WS512 ISO17025 accredited.

mCERTS accredited.

Deviating sample.

Aqueous / settled sample. Depth (m) 0.10 0.10 0.10 0.70 0.50 1.40 Sample Type Soil/Solid Soil/Solid 05/08/2011 diss.filt Dissolved / filtered sample 04/08/2011 04/08/2011 05/08/2011 08/08/2011 tot.unfilt Total / unfiltered sample Date Sampled Subcontracted test 09/08/2011 09/08/2011 09/08/2011 09/08/2011 09/08/2011 09/08/2011 Subcontracted test.

% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery Trigger breach confirmed SDG Ref 110812-132 110812-132 110812-132 110812-132 110812-132 110812-132 4095351 4095350 4095352 4095353 4095387 Lab Sample No.(s) ES ES ES ES AGS Reference (F) Component LOD/Units Method Benzyl Alcohol <1.3 TM322 <1.3 mg/kg 1.2-Dichlorobenzene <1.3 TM322 <13 mg/kg § TM322 2-Methylphenol <1.3 <1.3 mg/kg Ş Bis(2-chloroisopropyl)ether <1.3 TM322 <1.3 mg/kg N-Nitrosopyrrolidine <1.3 TM322 <1.3 § mg/kg 3+4-Methylphenol <1.3 TM322 <1.3 mg/kg TM322 <1.3 Acetophenone <1.3 § mg/kg TM322 N-Nitroso-di-N-propylamin <1.3 <13 mg/kg § o-Toluidine TM322 <1.3 <1.3 mg/kg § Hexachloroethane TM322 <1.3 <13 § mg/kg Nitrobenzene TM322 <1.3 <1.3 8 mg/kg N-Nitrosopiperidine TM322 <1.3 <1.3 mg/kg Isophorone TM322 <1.3 <1.3 § mg/kg TM322 2-Nitrophenol <1.3 <13 mg/kg TM322 <1.3 2,4-Dimethylphenol <1.3 § mg/kg TM322 Bis(2-chloroethoxy)methan <1.3 <1.3 mg/kg § 2,4-Dichlorophenol TM322 <1.3 <1.3 mq/kq ξ 1,2,4-Trichlorobenzene TM322 <13 <1.3 § mg/kg 3+4-Chlorophenol <1.3 TM322 <1.3 § mg/kg TM322 Naphthalene <13 <1.3 mg/kg § p-Chloroaniline TM322 <1.3 <1.3 § mg/kg TM322 2,6-Dichlorophenol <1.3 <1.3 mg/kg Hexachloropropene TM322 <1.3 <1.3 § mg/kg TM322 Hexachlorobutadiene <1.3 <13 mg/kg § N-Nitroso-di-N-butylamine TM322 <1.3 <1.3 mg/kg Ş 4-Chloro-3-Methylphenol TM322 <13 <1.3 § mg/kg Safrole <1.3 TM322 <1.3 § mg/kg TM322 2-Methylnaphthalene <1.3 <1.3 mg/kg § 1,2,4,5-Tetrachlorobenzen <1.3 TM322 <1.3 § mg/kg TM322 Hexachlorocyclopentadien <13 <1.3 mg/kg 2,4,5-Trichlorophenol <1.3 TM322 <1.3 § mq/kq 2,4,6-Trichlorophenol TM322 <1.3 <1.3 mg/kg § Isosafrole <1.3 TM322 <1.3 ma/ka TM322 2-Chloronaphthalene <13 <13 § mg/kg TM322 2-Nitroaniline <1.3 <1.3 mg/kd

Order Number:

Validated

147189

SDG: 110812-132 Location: Bicetser Central Eastern Land Parcels

Job: H WSP BAS-9 Customer: WSP Environmental

 Job:
 H_WSP_BAS-9
 Customer:
 WSP Environmental
 Report Number:

 Client Reference:
 Attention:
 Helen Gardiner
 Superseded Report:

Customer Sample R WS508 WS508 WS509 WS510 WS511 WS512 ISO17025 accredited.

mCERTS accredited.

Deviating sample.

Aqueous / settled sample. Depth (m) 0.10 0.10 0.10 0.70 0.50 1.40 Sample Type Soil/Solid Soil/Solid 05/08/2011 Soil/Solid 08/08/2011 diss.filt Dissolved / filtered sample 04/08/2011 04/08/2011 05/08/2011 tot.unfilt Total / unfiltered sample Date Sampled Subcontracted test 09/08/2011 09/08/2011 09/08/2011 09/08/2011 09/08/2011 09/08/2011 Subcontracted test.

% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery Trigger breach confirmed SDG Ref 110812-132 110812-132 110812-132 110812-132 110812-132 110812-132 4095350 4095351 4095352 4095353 4095387 Lab Sample No.(s) ES ES ES ES AGS Reference (F) Component LOD/Units Method 1,4-Naphthoquinone <1.3 TM322 <1.3 mg/kg Dimethyl Phthalate <1.3 TM322 <13 mg/kg § TM322 Acenaphthylene <1.3 <1.3 mg/kg Ş 2.6-Dinitrotoluene <1.3 TM322 <1.3 mg/kg 1,3-Dinitrobenzene <1.3 TM322 <1.3 § mg/kg 3-Nitroaniline <1.3 TM322 <1.3 mg/kg Acenaphthene TM322 <1.3 <1.3 § mg/kg 2,4-Dinitrophenol TM322 <1.3 <13 mg/kg § 4-Nitrophenol TM322 <1.3 <1.3 mg/kg § TM322 Dibenzofuran <1.3 <1.3 § mg/kg Pentachlorobenzene TM322 <1.3 <1.3 8 mg/kg 2.4-Dinitrotoluene TM322 <1.3 <1.3 mg/kg 1-Naphthylamine TM322 <1.3 <1.3 § mg/kg TM322 2-Naphthylamine <1.3 <13 mg/kg TM322 <1.3 2,3,4,6-Tetrachlorophenol <1.3 § mg/kg Diethyl Phthalate TM322 <13 <1.3 mg/kg § <1.3 TM322 Fluorene <1.3 mq/kq ξ TM322 4-Chlorophenylphenylether <13 <1.3 § mg/kg 5-Nitro-o-toluidine <1.3 TM322 <1.3 § mg/kg 4-Nitroaniline TM322 <13 <1.3 mg/kg 2-Methyl-4,6-dinitrophenol TM322 <1.3 <1.3 § mg/kg TM322 Diphenylamine <1.3 <1.3 mg/kg Azobenzene TM322 <1.3 <1.3 § mg/kg 1.3.5-Trinitrobenzene TM322 <1.3 <13 mg/kg § Diallate TM322 <1.3 <1.3 Ş mg/kg 4-Bromophenylphenylether TM322 <13 <1.3 § mg/kg Phenacetin <1.3 TM322 <1.3 § mg/kg TM322 Hexachlorobenzene <1.3 <1.3 mg/kg § 4-Aminobiphenyl <1.3 TM322 <1.3 § mg/kg Pentachlorophenol TM322 <13 <1.3 mg/kg Pronamide <1.3 TM322 <1.3 § mq/kq Pentachloronitrobenzene TM322 <1.3 <1.3 mg/kg §

Phenanthrene

Anthracene

Dinoseb

<1.3

ma/ka

<13

mg/kg

<1.3

mg/kd

TM322

TM322

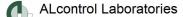
TM322

<1.3

<13

<1.3

§



Validated

Bicetser Central Eastern Land Parcels SDG: 110812-132 Location: Order Number:

H_WSP_BAS-9 WSP Environmental 147189 Job: **Customer:** Report Number:

Client Reference: Attention: Helen Gardiner Superseded Report:

Results Legend		Customer Sample R	WS508	WS508	WS509	WS510	WS511	WS512
# ISO17025 accredited. M mCERTS accredited.								
§ Deviating sample.		Depth (m)	0.10	1.40	0.10	0.10	0.70	0.50
aq Aqueous / settled sample. diss.filt Dissolved / filtered sample.		Sample Type	Soil/Solid	Soil/Solid	Soil/Solid	Soil/Solid	Soil/Solid	Soil/Solid
tot.unfilt Total / unfiltered sample.		Date Sampled	04/08/2011	04/08/2011	05/08/2011	05/08/2011	08/08/2011	-
* Subcontracted test. ** % recovery of the surrogate standa	rd to	Date Received SDG Ref	09/08/2011 110812-132	09/08/2011 110812-132	09/08/2011 110812-132	09/08/2011 110812-132	09/08/2011 110812-132	09/08/2011 110812-132
check the efficiency of the method. results of individual compounds wi		Lab Sample No.(s)	4095387	4095388	4095350	4095351	4095352	4095353
samples aren't corrected for the red		AGS Reference	ES	ES	ES	ES	ES	ES
(F) Trigger breach confirmed	1.00///							
Component Carbazole	LOD/Un <1.3			<1.3				
Carbazole	mg/kg			\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \				
Di-N-butyl Phthalate	<1.3			<1.3				
	mg/kg			§				
Isodrin	<1.3	3 TM322		<1.3				
	mg/kg			§				
Fluoranthene	<1.3			<1.3				
Benzidine	mg/kg <1.3			<1.3				
Benziulie	mg/kg			\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \				
Pyrene	<1.3			<1.3				
, ,,,,,,,	mg/kg			§				
p-Dimethylaminoazobenze	<1.3			<1.3				
ne	mg/kg	g		§				
Chlorobenzilate	<1.3			<1.3				
2.2 Dimothy the are idea.	mg/kg			§				
3,3-Dimethylbenzidine	<1.3 mg/kg			<1.3 §				
Kepone	<1.3			<1.3				
Nopolie	mg/kg			\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\				
Butyl Benzyl Phthalate	<1.3			<1.3				
, ,	mg/kg			§				
2-Acetylaminofluorene	<1.3	3 TM322		<1.3				
	mg/kg			§				
Benzo(a)anthracene	<1.3			<1.3				
2.2 Diablanahannidia	mg/kg			§				
3,3-Dichlorobenzidine	<1.3			<1.3 §				
Chrysene	mg/kg <1.3			<1.3				
Onlysene	mg/kg			§ §				
Bis(2-ethylhexyl)phthalate	<1.3			<1.3				
, , , , , ,	mg/kg			§				
Di-n-octylphthalate	<1.3	3 TM322		<1.3				
	mg/kg			§				
Benzo(b)fluoranthene	<1.3			<1.3				
7 12 Dimethylbenz(e)enthr	mg/kg			<1.3				
7,12-Dimethylbenz(a)anthr acene	<1.3 mg/kg			\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \				
Benzo(k)fluoranthene	<1.3			<1.3				
	mg/kg			§				
Benzo(a)pyrene	<1.3			<1.3				
	mg/kg	g		§				
3-Methylcholanthrene	<1.3			<1.3				
1 1 (100)	mg/kg	g		§				
Indeno(1,2,3-c,d)pyrene	<1.3			<1.3 §				
Dibenzo(a,h)anthracene	mg/kg <1.3			<1.3				
5525(&,11)@1101100010	mg/kg			§ §				
Benzo(g,h,i)perylene	<1.3			<1.3				
· · · · ·	mg/kg			§				
				<u> </u>			<u> </u>	

Validated

110812-132 SDG Job:

H_WSP_BAS-9

Ricetser Central Fastern Land Parcels Location: **Customer:**

WSP Environmental Helen Gardiner

Order Number: Report Number:

147189

Client Reference: Attention: Superseded Report: Customer Sample R WS514 WS516 WS516 WS513 WS514 WS515 ISO17025 accredited mCERTS accredited Deviating sample Depth (m) 0.10 0.10 0.60 0.15 0.00 - 1.00 1.00 Aqueous / settled sample Aqueous / settled sample.
Dissolved / filtered sample.
Total / unfiltered sample.
Subcontracted test.
% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery dies filt Sample Type Soil/Solid Soil/Solid Soil/Solid Soil/Solid Soil/Solid Soil/Solid Date Sampled 05/08/2011 05/08/2011 05/08/2011 05/08/2011 08/08/2011 08/08/2011 09/08/2011 09/08/2011 Date Received 09/08/2011 09/08/2011 09/08/2011 09/08/2011 SDG Ref 110812-132 110812-132 110812-132 110812-132 110812-132 110812-132 4095364 4095367 Lab Sample No.(s) 4095354 4095356 4095358 4095360 ES ES ES ES ES ES AGS Reference (F) Trigger breach confirmed LOD/Units Method Component PM024 11 10 Moisture content ratio Soil Organic Matter (SOM) <0.35 % TM132 2.4 0.846 2.91 0.9 рΗ 1 pH TM133 8 1 8 52 8 71 8 14 8 06 8 64 Units M M M M M M Cyanide, Total TM153 <1 <1 mg/kg Μ TPH >C6-C8 <10 TM154 <10 <10 <10 mg/kg TPH >C12-C16 TM154 <10 <10 <10 <10 ma/ka TPH >C16-C21 <10 TM154 <10 <10 <10 mg/kg TPH >C21-C40 TM154 94.9 85 <10 <10 mq/kq TPH >C6-C40 TM154 94.9 89.9 <10 <10 # mg/kg TPH >C8-12 <10 TM154 <10 <10 <10 ma/ka TM181 27.9 14.4 10.3 7.87 Arsenic 22 9 39 9 < 0.6 mg/kg M М M M M M Cadmium <0.02 TM181 0.585 0.683 0.256 1.11 0.268 0.243 Μ Μ Μ М Μ М ma/ka Chromium TM181 27.9 16 34.3 38.8 19.7 18.1 < 0.9 mg/kg M M M M M M Copper <1.4 TM181 23.9 16.7 8.28 24.1 15.4 9.89 Μ Μ Μ Μ Μ ma/ka M Lead TM181 24.5 29.1 56.5 38.3 < 0.7 Μ М mg/kg M M Mercury < 0.14 TM181 < 0.14 < 0.14 <0.14 < 0.14 <0.14 < 0.14 Μ Μ Μ Μ Μ ma/ka M Nickel TM181 21.8 24 4 13.5 34 7 20.7 23 1 < 0.2 Μ mg/kg M M M M M <1 mg/kg Selenium TM181 <1 <1 <1 <1 <1 <1 Zinc <1.9 TM181 63.8 67.5 18.2 93 55.8 38.3 M M M М M mg/kg M Water Soluble Sulphate as <0.008 TM243 0.0136 Μ SO4 2:1 Extract a/l TM248 <0.0003 Ammoniacal N as NH4 in < 0.0003 2:1 extract BRE g/l N-Nitrosodimethylamine <1.3 TM322 <1.3 <1.3 <1.3 mg/kg Pyridine TM322 <1.3 <1.3 <1.3 <1.3 § § § mg/kg 2-Picoline <1.3 TM322 <1.3 <1.3 <1.3 mg/kg TM322 <1.3 <1.3 N-Nitrosomethylethylamine <1.3 <1.3 § mg/kg § Methyl Methanesulfonate <1.3 TM322 <1.3 <13 <1.3 mg/kg § § § N-Nitrosodiethylamine TM322 <1.3 <1.3 <1.3 <1.3 mg/kg Ethyl Methanesulfonate <1.3 TM322 <1.3 <1.3 <1.3 § § mg/kg § Phenol TM322 <1.3 <1.3 <1.3 <1.3 § mg/kg Ş Aniline <1.3 TM322 <1.3 <1.3 <1.3 mg/kg § Pentachloroethane TM322 <1.3 <1.3 <1.3 <1.3 § § § mg/kg Bis(2-chloroethyl)ether <1.3 TM322 <1.3 <1.3 <1.3 mg/kg TM322 2-Chlorophenol <1.3 <1.3 <1.3 <1.3 § 8 § mg/kg 1,3-Dichlorobenzene <1.3 TM322 <1.3 <1.3 <1.3 mg/kg § § 1,4-Dichlorobenzene <1.3 TM322 <1.3 <1.3 <1.3

mg/kg

8

8

Validated

110812-132 Bicetser Central Eastern Land Parcels SDG: Location: Order Number: Job:

H_WSP_BAS-9 WSP Environmental 147189 **Customer:** Report Number: Client Reference: Attention: Helen Gardiner Superseded Report:

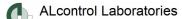
	Results Legend		Customer Sample R	WS513	WCE14	WCE1A	WS515	WS516	WS516
#	ISO17025 accredited.	·	oustomer sample K	VV 2013	WS514	WS514	W2515	VVSSTO	W2510
M §	mCERTS accredited. Deviating sample.		Donth (m)	0.40	0.40	0.00	0.45	0.00 4.00	4.00
aq	Aqueous / settled sample.		Depth (m) Sample Type	0.10 Soil/Solid	0.10 Soil/Solid	0.60 Soil/Solid	0.15 Soil/Solid	0.00 - 1.00 Soil/Solid	1.00 Soil/Solid
diss.filt tot.unfilt	Dissolved / filtered sample. Total / unfiltered sample.		Date Sampled	05/08/2011	05/08/2011	05/08/2011	05/08/2011	08/08/2011	08/08/2011
*	Subcontracted test. % recovery of the surrogate standar	d to	Date Received	09/08/2011	09/08/2011	09/08/2011	09/08/2011	09/08/2011	09/08/2011
	check the efficiency of the method.	The	SDG Ref Lab Sample No.(s)	110812-132 4095354	110812-132 4095356	110812-132 4095358	110812-132 4095360	110812-132 4095364	110812-132 4095367
	results of individual compounds wit samples aren't corrected for the rec		AGS Reference	ES	ES	ES	ES	ES	ES
(F)	Trigger breach confirmed	,							
Compo	nent	LOD/Unit	ts Method						
Benzy	l Alcohol	<1.3	TM322	<1.3		<1.3			<1.3
		mg/kg		§		§			§
1,2-Di	chlorobenzene	<1.3	TM322	<1.3		<1.3			<1.3
		mg/kg		§		§			§
2-Met	hylphenol	<1.3	TM322	<1.3		<1.3			<1.3
		mg/kg		<u>§</u>		§			§
Bis(2-	chloroisopropyl)ether	<1.3	TM322	<1.3		<1.3			<1.3
		mg/kg		§		§			§
N-Nitro	osopyrrolidine	<1.3	TM322	<1.3		<1.3			<1.3
		mg/kg		§		§			§
3+4-M	lethylphenol	<1.3	TM322	<1.3		<1.3			<1.3
A 1	ala a a a a a	mg/kg		§§		§			§
Aceto	phenone	<1.3	TM322	<1.3		<1.3			<1.3
NI NI:4-	ooo di N propulantia	mg/kg	TM322	<1.3		\$ <1.3			\$ <1.3
	oso-di-N-propylamin	<1.3	1 IVI322	<1.3 §		<1.3 §			<1.3 §
e o-Tolu	iidina	mg/kg <1.3	TM322	<1.3		<1.3			\$ <1.3
0-1010	nun le	<1.3 mg/kg		<1.3 §		<1.3 §			<1.3 §
Hoyac	chloroethane	<1.3	TM322	<1.3		<1.3			<1.3
i iexac	A HOLOCUIDITE	<1.3 mg/kg		<1.3 §		<1.3 §			<1.3 §
Nitrob	enzene	<1.3	TM322	<1.3		<1.3			<1.3
Titleob	CHECHIC	mg/kg		§		§ §			§
N-Nitro	osopiperidine	<1.3	TM322	<1.3		<1.3			<1.3
11111111	осоріропаніо	mg/kg		8		§			§
Isopho	orone	<1.3	TM322	<1.3		<1.3			<1.3
'''		mg/kg		8		§			§
2-Nitro	phenol	<1.3	TM322	<1.3		<1.3			<1.3
		mg/kg		§		§			§
2,4-Di	methylphenol	<1.3	TM322	<1.3		<1.3			<1.3
	· ·	mg/kg		§		§			§
Bis(2-	chloroethoxy)methan	<1.3	TM322	<1.3		<1.3			<1.3
е	·	mg/kg		§		§			§
2,4-Di	chlorophenol	<1.3	TM322	<1.3		<1.3			<1.3
		mg/kg		§		§			§
1,2,4-	Trichlorobenzene	<1.3	TM322	<1.3		<1.3			<1.3
		mg/kg		§		§			§
3+4-C	hlorophenol	<1.3	TM322	<1.3		<1.3			<1.3
		mg/kg		§		§			§
Napht	halene	<1.3	TM322	<1.3		<1.3			<1.3
. 01:1:		mg/kg		§		§			§
p-Cnic	proaniline	<1.3	TM322	<1.3		<1.3			<1.3
26 D:	chlorophenol	mg/kg <1.3	TM322	<1.3		\$ <1.3			\$ <1.3
2,0-01	omoropinenoi			<1.3 §					I
Hayaa	chloropropene	mg/kg <1.3	TM322	<1.3		\$ <1.3			\$ <1.3
i icxac	and optopolic	mg/kg		\1.3 §		\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\			\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\
Hexac	chlorobutadiene	<1.3	TM322	<1.3		<1.3			<1.3
		mg/kg		§		§			§ §
N-Nitro	oso-di-N-butylamine	<1.3	TM322	<1.3		<1.3			<1.3
		mg/kg		§		§			§
4-Chlo	oro-3-Methylphenol	<1.3	TM322	<1.3		<1.3			<1.3
	· ·	mg/kg		§		§			§
Safrol	e	<1.3	TM322	<1.3		<1.3			<1.3
		mg/kg		§		§			§
2-Metl	hylnaphthalene	<1.3	TM322	<1.3		<1.3			<1.3
		mg/kg		§		§			§
1,2,4,5	5-Tetrachlorobenzen	<1.3	TM322	<1.3		<1.3			<1.3
е		mg/kg		§		§			§
Hexac	chlorocyclopentadien	<1.3	TM322	<1.3		<1.3			<1.3
е		mg/kg		§		§			§
2,4,5-	Trichlorophenol	<1.3	TM322	<1.3		<1.3			<1.3
		mg/kg		§		§			§
2,4,6-	Trichlorophenol	<1.3	TM322	<1.3		<1.3			<1.3
le : -		mg/kg		§		§			§
Isosaf	roie	<1.3	TM322	<1.3		<1.3			<1.3
2.057	rononhth -l	mg/kg		<1.3		\$ <1.3			§
Z-Unio	oronaphthalene	<1.3	TM322	<1.3 §		<1.3 §			<1.3 8
2-Nitro	paniline	mg/kg <1.3	TM322	<1.3		<1.3			\$ <1.3
Z-141(1)	Janiiiii	mg/kg		<1.3 §		\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \			<1.3 §
		mg/kg		3		3			3

Validated

110812-132 Bicetser Central Eastern Land Parcels SDG: Location: Order Number: Job: H_WSP_BAS-9 WSP Environmental **Customer:**

147189 Report Number: Client Reference: Attention: Helen Gardiner Superseded Report:

Results Legend	C	ustomer Sample R	WS513	WS514	WS514	WS515	WS516	WS516
# ISO17025 accredited.	Ĭ	astomer Gample IX	W3313	W3514	W3514	W3515	W3510	W3310
M mCERTS accredited. § Deviating sample.		Depth (m)	0.10	0.10	0.60	0.15	0.00 - 1.00	1.00
aq Aqueous / settled sample. diss.filt Dissolved / filtered sample.		Sample Type	0.10 Soil/Solid	0.10 Soil/Solid	0.60 Soil/Solid	0.15 Soil/Solid	0.00 - 1.00 Soil/Solid	1.00 Soil/Solid
tot.unfilt Total / unfiltered sample.		Date Sampled	05/08/2011	05/08/2011	05/08/2011	05/08/2011	08/08/2011	08/08/2011
* Subcontracted test. ** % recovery of the surrogate standar	rd to	Date Received	09/08/2011	09/08/2011	09/08/2011 110812-132	09/08/2011 110812-132	09/08/2011	09/08/2011
check the efficiency of the method.	The	SDG Ref Lab Sample No.(s)	110812-132 4095354	110812-132 4095356	4095358	4095360	110812-132 4095364	110812-132 4095367
results of individual compounds wit samples aren't corrected for the rec		AGS Reference	ES	ES	ES	ES	ES	ES
(F) Trigger breach confirmed	,							
Component	LOD/Units	s Method						
1,4-Naphthoquinone	<1.3	TM322	<1.3		<1.3			<1.3
	mg/kg		§		§			§
Dimethyl Phthalate	<1.3	TM322	<1.3		<1.3			<1.3
	mg/kg		§		§			§
Acenaphthylene	<1.3	TM322	<1.3		<1.3			<1.3
0.0 5: 11 1.1	mg/kg	T14000	§		§			§
2,6-Dinitrotoluene	<1.3	TM322	<1.3		<1.3			<1.3
1,3-Dinitrobenzene	mg/kg <1.3	TM322	<1.3		\$ <1.3			\$ <1.3
1,3-Dillitioberizerie	mg/kg	1101322	\1.5 §		\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \			\1.5 §
3-Nitroaniline	<1.3	TM322	<1.3		<1.3			<1.3
o Miloumine	mg/kg	TIVIOZZ	§ .		§			§
Acenaphthene	<1.3	TM322	<1.3		<1.3			<1.3
	mg/kg		§		§			§
2,4-Dinitrophenol	<1.3	TM322	<1.3		<1.3			<1.3
·	mg/kg		§		§			§
4-Nitrophenol	<1.3	TM322	<1.3		<1.3			<1.3
	mg/kg		§		§			§
Dibenzofuran	<1.3	TM322	<1.3		<1.3			<1.3
	mg/kg		§		§			§
Pentachlorobenzene	<1.3	TM322	<1.3		<1.3			<1.3
	mg/kg		§		§			§
2,4-Dinitrotoluene	<1.3	TM322	<1.3		<1.3			<1.3
A Nicolatha Israela s	mg/kg	T14000	§		§			§
1-Naphthylamine	<1.3	TM322	<1.3		<1.3			<1.3
2-Naphthylamine	mg/kg <1.3	TM322	<1.3		\$ <1.3			\$ <1.3
2-Napriuryiariline	mg/kg	1101322	\1.5 §		\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\			\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \
2,3,4,6-Tetrachlorophenol	<1.3	TM322	<1.3		<1.3			<1.3
2,0,4,0 10110101010101	mg/kg	TIVIOZZ	§ .		§ §			§
Diethyl Phthalate	<1.3	TM322	<1.3		<1.3			<1.3
,	mg/kg		§		§			§
Fluorene	<1.3	TM322	<1.3		<1.3			<1.3
	mg/kg		§		§			§
4-Chlorophenylphenylether	<1.3	TM322	<1.3		<1.3			<1.3
	mg/kg		§		§			§
5-Nitro-o-toluidine	<1.3	TM322	<1.3		<1.3			<1.3
4 8 12	mg/kg	T1 1000	§		§			§
4-Nitroaniline	<1.3	TM322	<1.3 §		<1.3			<1.3
2-Methyl-4,6-dinitrophenol	mg/kg <1.3	TM322	<1.3		\$ <1.3			\$ <1.3
2-ivietifyi-4,0-diffitiopfierior	mg/kg	1101322	\1.5 §		\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \			\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\
Diphenylamine	<1.3	TM322	<1.3		<1.3			<1.3
2.p.16.1,10.1	mg/kg		s §		§			§
Azobenzene	<1.3	TM322	<1.3		<1.3			<1.3
	mg/kg		§		§			§
1,3,5-Trinitrobenzene	<1.3	TM322	<1.3		<1.3			<1.3
	mg/kg		§		§			§
Diallate	<1.3	TM322	<1.3		<1.3			<1.3
15	mg/kg		§		§			§
4-Bromophenylphenylether	<1.3	TM322	<1.3		<1.3			<1.3
Phonocotic	mg/kg	TM322	<1.3		\$ <1.3			\$ <1.3
Phenacetin	<1.3	1101322						
Hexachlorobenzene	mg/kg <1.3	TM322	<1.3		\$ <1.3			\$ <1.3
I IGAGOIIIOI ODGIIZGIIC	mg/kg	I IVIJZZ	<1.3 §		<1.5 §			<1.5 §
4-Aminobiphenyl	<1.3	TM322	<1.3		<1.3			<1.3
	mg/kg		§		§			§
Pentachlorophenol	<1.3	TM322	<1.3		<1.3			<1.3
	mg/kg		§		§			§
Pronamide	<1.3	TM322	<1.3		<1.3			<1.3
	mg/kg		§		§			§
Pentachloronitrobenzene	<1.3	TM322	<1.3		<1.3			<1.3
Dharasath	mg/kg	711000	§		§			§
Phenanthrene	<1.3	TM322	<1.3		<1.3			<1.3
Anthropono	mg/kg	TMOOO	§ -1.3		§ <1.2			§ <1.2
Anthracene	<1.3 mg/kg	TM322	<1.3 §		<1.3 §			<1.3 §
Dinoseb	<1.3	TM322	<1.3		<1.3			<1.3
	mg/kg	110022	\1.5 §		\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \			\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\
1	g/ng		3		<u>. 3</u>			. 3



Validated

110812-132 H_WSP_BAS-9 Bicetser Central Eastern Land Parcels SDG: Location: Order Number:

Job: WSP Environmental Report Number: 147189 **Customer:** Client Reference: Attention: Helen Gardiner Superseded Report:

	Results Legend	C	ustomer Sample R	WS513	WS514	WS514	WS515	WS516	WS516
# M	ISO17025 accredited. mCERTS accredited.								
§	Deviating sample.		Domath (mr)	0.40	0.40	0.00	0.45		
aq	Aqueous / settled sample.		Depth (m) Sample Type	0.10 Soil/Solid	0.10 Soil/Solid	0.60 Soil/Solid	0.15 Soil/Solid	0.00 - 1.00 Soil/Solid	1.00 Soil/Solid
diss.filt tot.unfilt	Dissolved / filtered sample. Total / unfiltered sample.		Date Sampled	05/08/2011	05/08/2011	05/08/2011	05/08/2011	08/08/2011	08/08/2011
*	Subcontracted test.		Date Received	09/08/2011	09/08/2011	09/08/2011	09/08/2011	09/08/2011	09/08/2011
**	% recovery of the surrogate standa		SDG Ref	110812-132	110812-132	110812-132	110812-132	110812-132	110812-132
	check the efficiency of the method. results of individual compounds wi		Lab Sample No.(s)	4095354	4095356	4095358	4095360	4095364	4095367
	samples aren't corrected for the red		AGS Reference	ES	ES	ES	ES	ES	ES
(F)	Trigger breach confirmed								
Compo	nent	LOD/Units	Method						
Carba	zole	<1.3	TM322	<1.3		<1.3			<1.3
		mg/kg		§		§			§
Di N h	utyl Phthalate	<1.3	TM322	<1.3		<1.3			<1.3
DI-IN-D	utyi Fiitiiaiate		1101322						\1.5 §
To a distri		mg/kg	T14000	§		§			
Isodrir	1	<1.3	TM322	<1.3		<1.3			<1.3
		mg/kg		<u>§</u>		§			§
Fluora	nthene	<1.3	TM322	<1.3		<1.3			<1.3
		mg/kg		§		§			§
Benzio	dine	<1.3	TM322	<1.3		<1.3			<1.3
		mg/kg		§		§			§
Pyrene	2	<1.3	TM322	<1.3		<1.3			<1.3
Fyrein	5		1101322			\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\			
- D:		mg/kg	T14000	§					§
	ethylaminoazobenze	<1.3	TM322	<1.3		<1.3			<1.3
ne		mg/kg		§.		§			§
Chloro	benzilate	<1.3	TM322	<1.3		<1.3			<1.3
		mg/kg		§		§			§
3,3-Dii	methylbenzidine	<1.3	TM322	<1.3		<1.3			<1.3
3,3 5		mg/kg	111022	\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\		§			\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\
Var-		_	TM4200						
Kepon	e	<1.3	TM322	<1.3		<1.3			<1.3
		mg/kg		§		§			§
Butyl E	Benzyl Phthalate	<1.3	TM322	<1.3		<1.3			<1.3
		mg/kg		§		§			§
2-Acet	ylaminofluorene	<1.3	TM322	<1.3		<1.3			<1.3
	,	mg/kg		§		§			§
Renzo	(a)anthracene	<1.3	TM322	<1.3		<1.3			<1.3
Delizo	(a)antinacene		TIVIOZZ						
0.0.0:		mg/kg	T14000	§		§			§
3,3-Di	chlorobenzidine	<1.3	TM322	<1.3		<1.3			<1.3
		mg/kg		§		§			§
Chryse	ene	<1.3	TM322	<1.3		<1.3			<1.3
		mg/kg		§		§			§
Bis(2-6	ethylhexyl)phthalate	<1.3	TM322	<1.3		<1.3			<1.3
D.O(2 \	outy in exyripricial acto	mg/kg	IIIIOZZ	§		§			§
Di u	-4-1-1-4-1-4-	_	T14000						
DI-n-o	ctylphthalate	<1.3	TM322	<1.3		<1.3			<1.3
		mg/kg		§		§			§
Benzo	(b)fluoranthene	<1.3	TM322	<1.3		<1.3			<1.3
		mg/kg		§		§			§
7,12-D	imethylbenz(a)anthr	<1.3	TM322	<1.3		<1.3			<1.3
acene		mg/kg	1 1	§		§			§
	(k)fluoranthene	<1.3	TM322	<1.3		<1.3			<1.3
DCI120	(K)Hadrammene		TIVIOZZ	§		§			
_		mg/kg	T14000						§
Benzo	(a)pyrene	<1.3	TM322	<1.3		<1.3			<1.3
		mg/kg		§		§			§
3-Meth	nylcholanthrene	<1.3	TM322	<1.3		<1.3			<1.3
		mg/kg		§		§			§
Indend	o(1,2,3-c,d)pyrene	<1.3	TM322	<1.3		<1.3			<1.3
	··· -	mg/kg		§		§			§
Diben	zo(a,h)anthracene	<1.3	TM322	<1.3		<1.3			<1.3
	. (,	mg/kg		§		§ §			§
Bonza	(a h i)nordono	<1.3	TM322	<1.3		<1.3			<1.3
Denzo	(g,h,i)perylene		I IVIOZZ						I I
<u> </u>		mg/kg	+	<u>§</u>		§			§
			T						
			 						
			+						
		_	+						
			 						
			+						
1									

Validated

110812-132 Ricetser Central Fastern Land Parcels SDG Location: Job: H_WSP_BAS-9

Customer: WSP Environmental Order Number: Report Number:

147189

Client Reference: Attention: Helen Gardiner Superseded Report: Customer Sample R WS518 WS519 WS517 WS517 WS519 ISO17025 accredited mCERTS accredited Deviating sample Depth (m) 0.10 1.20 0.10 0.70 1.80 Aqueous / settled sample Aqueous / settled sample.
Dissolved / filtered sample.
Total / unfiltered sample.
Subcontracted test.
% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery dies filt Sample Type Soil/Solid Soil/Solid Soil/Solid Soil/Solid Soil/Solid Date Sampled 05/08/2011 05/08/2011 05/08/2011 05/08/2011 09/08/2011 09/08/2011 09/08/2011 09/08/2011 Date Received 09/08/2011 SDG Ref 110812-132 110812-132 110812-132 110812-132 110812-132 4095372 4095374 Lab Sample No.(s) 4095370 4095371 4095373 ES ES ES ES ES AGS Reference (F) Trigger breach confirmed LOD/Units Method Component PM024 4.6 12 Moisture content ratio Soil Organic Matter (SOM) <0.35 % TM132 <0.35 2.93 0.896 0.524 # рΗ Hq 1 TM133 8 17 8 69 7 94 8 4 8 57 Units # M M M M Cyanide, Total TM153 <1 <1 mg/kg TPH >C6-C8 <10 TM154 <10 <10 <10 mg/kg TPH >C12-C16 TM154 <10 <10 <10 <10 ma/ka TPH >C16-C21 TM154 <10 13 8 <10 <10 mg/kg TPH >C21-C40 TM154 <10 152 <10 <10 mq/kq TPH >C6-C40 TM154 165 <10 <10 <10 mg/kg # # TPH >C8-12 <10 TM154 <10 <10 <10 ma/ka TM181 24.2 Arsenic 13 3 33 8 20.8 18 < 0.6 mg/kg М M M M Cadmium <0.02 TM181 0.832 0.342 0.842 0.731 0.195 # Μ Μ М Μ ma/ka Chromium TM181 28.2 6.33 45.2 23.8 10.3 < 0.9 mg/kg M M M M Copper <1.4 TM181 16.6 4.01 42.6 11.4 5.97 Μ Μ Μ ma/ka M Lead TM181 36.1 5.06 39.6 15.1 < 0.7 # М Μ mg/kg M Mercury < 0.14 TM181 <0.14 < 0.14 <0.14 < 0.14 <0.14 Μ Μ Μ M ma/ka Nickel TM181 24 2 129 32 1 21.5 114 < 0.2 # М Μ mg/kg M M Selenium <1 mg/kg TM181 <1 <1 <1 <1 <1 Zinc <1.9 TM181 70.8 16.8 96.5 54.1 14.1 М M M M mg/kg Water Soluble Sulphate as <0.008 TM243 0.0092 0.0682 Μ SO4 2:1 Extract a/l M TM248 <0.0003 Ammoniacal N as NH4 in < 0.0003 2:1 extract BRE g/l N-Nitrosodimethylamine <1.3 TM322 <1.3 mg/kg § Pyridine TM322 <1.3 <1.3 § mg/kg 2-Picoline <1.3 TM322 <1.3 mg/kg TM322 <1.3 N-Nitrosomethylethylamine <1.3 § mg/kg Methyl Methanesulfonate <1.3 TM322 <1.3 mg/kg § N-Nitrosodiethylamine TM322 <1.3 <1.3 mg/kg Ş Ethyl Methanesulfonate <1.3 TM322 <1.3 § mg/kg Phenol TM322 <1.3 <1.3 § mg/kg Aniline <1.3 TM322 <1.3 mg/kg § TM322 Pentachloroethane <1.3 <1.3 § mg/kg Bis(2-chloroethyl)ether <1.3 TM322 <1.3 mg/kg TM322 2-Chlorophenol <1.3 <1.3 § mg/kg 1,3-Dichlorobenzene <1.3 TM322 <1.3 mg/kg § TM322 1,4-Dichlorobenzene <1.3 <1.3

mg/kg

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Validated

110812-132 Bicetser Central Eastern Land Parcels SDG: Location: Order Number:

Report Number:

Job: H_WSP_BAS-9 WSP Environmental 147189 **Customer:** Client Reference: Attention: Helen Gardiner Superseded Report:

				_	_			
# ISO17025 accredited.		Customer Sample R	WS517	WS517	WS518	WS519	WS519	
M mCERTS accredited.								
§ Deviating sample. aq Aqueous / settled sample.		Depth (m)	0.10	1.20	0.10	0.70	1.80	
diss.filt Dissolved / filtered sample.		Sample Type	Soil/Solid	Soil/Solid	Soil/Solid	Soil/Solid	Soil/Solid	
tot.unfilt Total / unfiltered sample.		Date Sampled	05/08/2011	05/08/2011	-	05/08/2011	05/08/2011	
* Subcontracted test. ** % recovery of the surrogate standar	rd to	Date Received	09/08/2011	09/08/2011	09/08/2011	09/08/2011	09/08/2011	
check the efficiency of the method.	The	SDG Ref	110812-132 4095370	110812-132 4095371	110812-132 4095372	110812-132 4095373	110812-132 4095374	
results of individual compounds wit		Lab Sample No.(s) AGS Reference	4095370 ES	4095371 ES	4095372 ES	4095373 ES	4095374 ES	
samples aren't corrected for the rec (F) Trigger breach confirmed	overy	AGS Reference	20		20	20	20	
Component	LOD/Uni	ts Method						
	<1.3	TM322				<1.3		
Benzyl Alcohol								
	mg/kg					§		
1,2-Dichlorobenzene	<1.3	TM322				<1.3		
	mg/kg					§		
2-Methylphenol	<1.3	TM322				<1.3		
	mg/kg					§		
Bis(2-chloroisopropyl)ether	<1.3	TM322				<1.3		
	mg/kg					§		
N-Nitrosopyrrolidine	<1.3	TM322				<1.3		
	mg/kg					§		
3+4-Methylphenol	<1.3	TM322				<1.3		
o i metryphener	mg/kg					§ §		
Acetophenone	<1.3	TM322				<1.3		
, socioprioriorie	mg/kg					\1.3 §		
N Nitrogo di N propulamia								
N-Nitroso-di-N-propylamin	<1.3	TM322				<1.3 ء		
e Talvidia a	mg/kg					§		
o-Toluidine	<1.3	TM322				<1.3		
	mg/kg					§		
Hexachloroethane	<1.3	TM322				<1.3		
	mg/kg					§		
Nitrobenzene	<1.3	TM322				<1.3		
	mg/kg					§		
N-Nitrosopiperidine	<1.3	TM322				<1.3		
	mg/kg					§		
Isophorone	<1.3	TM322				<1.3		
Isopriorone	mg/kg					§		
2 Nitrophonol	T	TM322				<1.3		
2-Nitrophenol	<1.3							
	mg/kg					§		
2,4-Dimethylphenol	<1.3	TM322				<1.3		
	mg/kg					§		
Bis(2-chloroethoxy)methan	<1.3	TM322				<1.3		
е	mg/kg					§		
2,4-Dichlorophenol	<1.3	TM322				<1.3		
·	mg/kg					§		
1,2,4-Trichlorobenzene	<1.3	TM322				<1.3		
	mg/kg					§		
3+4-Chlorophenol	<1.3	TM322				<1.3		
o i omorophonor	mg/kg					§		
Naphthalene	<1.3	TM322				<1.3		
Napritrialerie						\1.5 §		
n Chlana anilina	mg/kg							
p-Chloroaniline	<1.3	TM322				<1.3 ء		
O.C. Diable and beauty	mg/kg					§		
2,6-Dichlorophenol	<1.3	TM322				<1.3		
l	mg/kg					§		
Hexachloropropene	<1.3	TM322				<1.3		
	mg/kg					§		
Hexachlorobutadiene	<1.3	TM322				<1.3		
	mg/kg					§		
N-Nitroso-di-N-butylamine	<1.3	TM322				<1.3		
	mg/kg					§		
4-Chloro-3-Methylphenol	<1.3	TM322				<1.3		
,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	mg/kg					§		
Safrole	<1.3	TM322				<1.3		
	mg/kg					§		
2-Methylnaphthalene	<1.3	TM322				<1.3		
_ monymaphinalone	mg/kg					\1.5 §		
1,2,4,5-Tetrachlorobenzen	<1.3	TM322				<1.3		
	mg/kg					\1.3 §		
e Hexachlorocyclopentadien	mg/kg <1.3	TM322				<1.3		
The state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the s								
e O 4.5 Triable contract	mg/kg					§		
2,4,5-Trichlorophenol	<1.3	TM322				<1.3		
	mg/kg					§		
2,4,6-Trichlorophenol	<1.3	TM322				<1.3		
	mg/kg					§		
Isosafrole	<1.3	TM322				<1.3		
	mg/kg					§		
2-Chloronaphthalene	<1.3	TM322				<1.3		
	mg/kg					§		
2-Nitroaniline	<1.3	TM322				<1.3		
	mg/kg					 §		
I				-		<u> </u>		

Client Reference:

CERTIFICATE OF ANALYSIS

Validated

 SDG:
 110812-132
 Location:

 Job:
 H_WSP_BAS-9
 Customer

ocation: Bicetser Central Eastern Land Parcels
Ustomer: WSP Environmental

Customer: WSP Environment Attention: Helen Gardiner

Order Number: Report Number:

147189

Superseded Report:

#	Results Legend ISO17025 accredited.		Customer Sample R	WS517	WS517	WS518	WS519	WS519	
M §	mCERTS accredited. Deviating sample.		_						
aq	Aqueous / settled sample.		Depth (m) Sample Type	0.10 Soil/Solid	1.20 Soil/Solid	0.10 Soil/Solid	0.70 Soil/Solid	1.80 Soil/Solid	
diss.filt tot.unfilt	Dissolved / filtered sample. Total / unfiltered sample.		Date Sampled	05/08/2011	05/08/2011	- Soli/Solid	05/08/2011	05/08/2011	
:	Subcontracted test. % recovery of the surrogate standa	rd to	Date Received	09/08/2011	09/08/2011	09/08/2011	09/08/2011	09/08/2011	
	check the efficiency of the method.	The	SDG Ref	110812-132 4095370	110812-132 4095371	110812-132 4095372	110812-132 4095373	110812-132 4095374	
	results of individual compounds wire samples aren't corrected for the received for the rece		Lab Sample No.(s) AGS Reference	ES	ES	ES	ES	ES	
(F)	Trigger breach confirmed	,							
Compo		LOD/Un	its Method						
1,4-Na	phthoquinone	<1.3	TM322				<1.3		
		mg/kg					§		
Dimet	nyl Phthalate	<1.3					<1.3		
<u> </u>		mg/kg					§		
Acena	phthylene	<1.3					<1.3		
0.0.0	- Marchaltana	mg/kg					§		
2,6-DII	nitrotoluene	<1.3					<1.3 §		
1.3 Dia	nitrobenzene	mg/kg <1.3					<1.3		
1,3-01	IIIIODENZENE	mg/kg					\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\		
3_Nitro	paniline	<1.3					<1.3		
O I VIIII C	ariiii i c	mg/kg					§		
Acena	phthene	<1.3					<1.3		
	r	mg/kg					§ §		
2,4-Dii	nitrophenol	<1.3					<1.3		
L	In	mg/kg					§		<u> </u>
4-Nitro	phenol	<1.3					<1.3		
	•	mg/kg	1				§		
Dibenz	zofuran	<1.3					<1.3		
		mg/kg	1				§		
Penta	chlorobenzene	<1.3	TM322				<1.3		
		mg/kg					§		
2,4-Di	nitrotoluene	<1.3	TM322				<1.3		
		mg/kg					§		
1-Nap	hthylamine	<1.3					<1.3		
		mg/kg					§		
2-Nap	hthylamine	<1.3					<1.3		
2016	\ 	mg/kg					§		
2,3,4,6	3-Tetrachlorophenol	<1.3					<1.3		
Diothy	I Dhthalata	mg/kg <1.3					\$ <1.3		
Diethy	l Phthalate	mg/kg					\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \		
Fluore	na	<1.3					<1.3		
I luoic		mg/kg					§		
4-Chlo	rophenylphenylether	<1.3					<1.3		
		mg/kg					§		
5-Nitro	o-o-toluidine	<1.3					<1.3		
		mg/kg					§		
4-Nitro	aniline	<1.3	TM322				<1.3		
		mg/kg	1				§		
2-Meth	nyl-4,6-dinitrophenol	<1.3	TM322				<1.3		
		mg/kg					§		
Dipher	nylamine	<1.3					<1.3		
		mg/kg					§		
Azobe	nzene	<1.3					<1.3		
125	Frinitrobenzene	mg/kg					\$ <1.3		
1,3,5-	i i i i i i i i i i i i i i i i i i i	<1.3 mg/kg					<1.3 §		
Diallat		mg/kg					<1.3		
ומוומו	•	mg/kg					<1.5 §		
4-Bron	nophenylphenylether	<1.3					<1.3		
		mg/kg					\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\		
Phena	cetin	<1.3					<1.3		
		mg/kg					§ §		
Hexac	hlorobenzene	<1.3					<1.3		
L		mg/kg					se		
4-Amii	nobiphenyl	<1.3					<1.3		
		mg/kg					§		
Penta	chlorophenol	<1.3	TM322				<1.3		
		mg/kg					§		
Prona	mide	<1.3					<1.3		
		mg/kg					§		
Penta	chloronitrobenzene	<1.3					<1.3		
Dis	mathema and a	mg/kg					§		
Phena	nthrene	<1.3					<1.3		
- مالم	nono	mg/kg					§ -1.2		
Anthra	CEITE	<1.3					<1.3 §		
Dinose	-h	mg/kg <1.3					<1.3		
ווט	~~	mg/kg					\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \		
		i iig/KC	1				3		



Validated

SDG: 110812-132 Location: Bicetser Central Eastern Land Parcels Order Number:

 Job:
 H_WSP_BAS-9
 Customer:
 WSP Environmental
 Report Number:
 147189

 Client Reference:
 Attention:
 Helen Gardiner
 Superseded Report:

Customer Sample R WS517 WS517 WS518 WS519 WS519 Results Legend
ISO17025 accredited.
mCERTS accredited.
Deviating sample.
Aqueous / settled sample.
Dissolved / filtered sample. Depth (m) 0.10 1.20 0.10 0.70 1.80 aq diss.filt Sample Type Soil/Solid 05/08/2011 Soil/Solid 05/08/2011 05/08/2011 05/08/2011 tot.unfilt Total / unfiltered sample Date Sampled Subcontracted test 09/08/2011 09/08/2011 09/08/2011 09/08/2011 09/08/2011 Subcontracted test.

% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery Trigger breach confirmed SDG Ref 110812-132 110812-132 110812-132 110812-132 110812-132 4095372 4095373 4095374 Lab Sample No.(s) AGS Reference ES ES ES ES ES (F) Component LOD/Units Method Carbazole <1.3 TM322 <1.3 ξ mg/kg TM322 Di-N-butyl Phthalate <1.3 <13 § mg/kg Isodrin TM322 <1.3 <1.3 § mg/kg TM322 Fluoranthene <1.3 <1.3 § mg/kg Benzidine <1.3 TM322 <1.3 § mg/kg Pyrene <1.3 TM322 <1.3 § mg/kg TM322 <1.3 p-Dimethylaminoazobenze <1.3 § mg/kg TM322 Chlorobenzilate <1.3 <13 mg/kg 3,3-Dimethylbenzidine TM322 <1.3 <1.3 mg/kg § TM322 <1.3 Kepone <1.3 § mg/kg Butyl Benzyl Phthalate <1.3 TM322 <1.3 § mg/kg 2-Acetylaminofluorene TM322 <1.3 <1.3 mg/kg Benzo(a)anthracene TM322 <1.3 <1.3 § mg/kg 3,3-Dichlorobenzidine TM322 <1.3 <1.3 mg/kg § TM322 <1.3 Chrysene <1.3 § mg/kg TM322 Bis(2-ethylhexyl)phthalate <1.3 <1.3 mg/kg Di-n-octylphthalate TM322 <1.3 <1.3 § mg/kg Benzo(b)fluoranthene TM322 <1.3 <1.3 § mg/kg 7,12-Dimethylbenz(a)anthr <1.3 TM322 <1.3 § mg/kg acene TM322 Benzo(k)fluoranthene <1.3 <1.3 § mg/kg Benzo(a)pyrene TM322 <1.3 <1.3 § mg/kg TM322 3-Methylcholanthrene <1.3 <1.3 mg/kg § Indeno(1,2,3-c,d)pyrene TM322 <1.3 <1.3 § mq/kq TM322 Dibenzo(a,h)anthracene <1.3 <13 mg/kg § Benzo(g,h,i)perylene <1.3 TM322 <1.3 § ma/ka

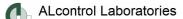
Validated

147189

110812-132 Bicetser Central Eastern Land Parcels SDG: Location: Order Number:

H_WSP_BAS-9 WSP Environmental Job: **Customer:** Report Number: Attention: Helen Gardiner Superseded Report:

Clier	it Reference:			Attention:	Helen Gardiner		Superseded Repo	ort:	
OC, O	P Pesticides and	Triazine							
# M §	Results Legend ISO17025 accredited. mCERTS accredited. Deviating sample.		Customer Sample R	WS502	WS505	WS508	WS509	WS511	WS513
aq diss.filt tot.unfilt * **	Aqueous / settled sample. Dissolvod / filtered sample. Total / unfiltered sample. Subcontracted test. % recovery of the surrogate stands check the efficiency of the method results of individual compounds w samples aren't corrected for the re Trigger breach confirmed	. The ithin	Depth (m) Sample Type Date Sampled Date Received SDG Ref Lab Sample No.(s) AGS Reference	1.00 Soil/Solid 04/08/2011 09/08/2011 110812-132 4095381 ES	0.15 Soil/Solid 04/08/2011 09/08/2011 110812-132 4095385 ES	1.40 Soil/Solid 04/08/2011 09/08/2011 110812-132 4095388 ES	0.10 Soil/Solid 05/08/2011 09/08/2011 110812-132 4095350 ES	0.70 Soil/Solid 08/08/2011 09/08/2011 110812-132 4095352 ES	0.10 Soil/Solid 05/08/2011 09/08/2011 110812-132 4095354 ES
Mevin		<0.05	5 TM073	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Dichlo	rvos	mg/kg <0.05 mg/kg	5 TM073	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Hexac	hlorobenzene	<0.05 mg/kg	5 TM073	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Tecna	zene	<0.05 mg/kg	5 TM073	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
	Hexachlorocyclohex ICH / Lindane)	<0.05 mg/kg	5 TM073	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Triflura		<0.05 mg/kg	5 TM073	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Diazin	on	<0.05 mg/kg	5 TM073	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Quinto	zene (PCNB)	<0.05 mg/kg		<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Etrimp	hos	<0.05 mg/kg		<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Trialla	te	<0.05 mg/kg		<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
_	a-Hexachlorocycloh (HCH / Lindane)	<0.05 mg/kg		<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Hepta	chlor	<0.05 mg/kg	1	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
·	amphos	<0.05 mg/kg	1	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Dimet	noate	<0.05 mg/kg	1	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
· ·	yriphos methyl	<0.05 mg/kg	1	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
	thalonil	<0.05 mg/kg	1	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Aldrin		<0.05 mg/kg	1	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
ne (HC	lexachlorocyclohexa CH / Lindane)	<0.05 mg/kg	1	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
·	phos-methyl	<0.05 mg/kg	1	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Telodr		<0.05 mg/kg	1	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
·	yriphos	<0.05 mg/kg	1	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Isodrir		<0.05 mg/kg	1	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Í	parathion	<0.05 mg/kg	1	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Malath		<0.05 mg/kg	1	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Fenthi		<0.05 mg/kg	1	<0.05	<0.05	<0.05 <0.05	<0.05	<0.05 <0.05	<0.05 <0.05
Fenitro		<0.05 mg/kg	1	<0.05	<0.05	<0.05	<0.05	<0.05	
Triadir		<0.05 mg/kg	1	<0.05	<0.05		<0.05		<0.05
Parath	chlor epoxide	<0.05 mg/kg <0.05	1	<0.05	<0.05 <0.05	<0.05 <0.05	<0.05 <0.05	<0.05 <0.05	<0.05 <0.05
	methalin	<0.05 mg/kg <0.05	1	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
	envinphos	mg/kg <0.05	1	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
o,p-D[•	mg/kg <0.05	1	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
·	chlordane	mg/kg	1	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
	ulphan I	mg/kg	1	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
p,p-D[·	mg/kg	1	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
F/F 51		mg/kg							



Validated

110812-132 Bicetser Central Eastern Land Parcels SDG: Location: Order Number: Job:

H_WSP_BAS-9 WSP Environmental **Customer:** Report Number: Attention:

Client Reference:

Helen Gardiner

147189 Superseded Report:

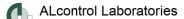
OC, C	OC, OP Pesticides and Triazine Herb										
#	Results Legend ISO17025 accredited.		Customer Sample R	WS502	WS505	WS508	WS509	WS511	WS513		
M § aq diss.filt tot.unfilt	mCERTS accredited. Deviating sample. Aqueous / settled sample. Dissolved / filtered sample.		Depth (m) Sample Type Date Sampled Date Received	1.00 Soil/Solid 04/08/2011 09/08/2011	0.15 Soil/Solid 04/08/2011 09/08/2011	1.40 Soil/Solid 04/08/2011 09/08/2011	0.10 Soil/Solid 05/08/2011 09/08/2011	0.70 Soil/Solid 08/08/2011 09/08/2011	0.10 Soil/Solid 05/08/2011 09/08/2011		
** (F)	% recovery of the surrogate standar check the efficiency of the method. results of individual compounds wit samples aren't corrected for the rec Trigger breach confirmed	The thin	SDG Ref Lab Sample No.(s) AGS Reference	110812-132 4095381 ES	110812-132 4095385 ES	110812-132 4095388 ES	110812-132 4095350 ES	110812-132 4095352 ES	110812-132 4095354 ES		
Compo		LOD/Un		40.05	10.05	10.05	40.05	40.05	40.0F		
CIS-CI	llordane	<0.08 mg/kg		<0.05	<0.05	<0.05	<0.05	<0.05	<0.05		
	DE (DDD)	<0.09 mg/kg	q	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05		
Dieldr		<0.09 mg/kg	q	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05		
o,p-D[<0.09 mg/kg	g	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05		
Endrir	1	<0.09 mg/kg	q	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05		
Ethion		<0.09 mg/kg	g	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05		
	DE (DDD)	<0.08 mg/kg	q	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05		
p,p-D[<0.09 mg/kg	g	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05		
Endos	sulphan II	<0.09 mg/kg	5 TM073	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05		
o,p-M	ethoxychlor	<0.09 mg/kg	5 TM073	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05		
Carbo	phenothion	<0.09 mg/kg	5 TM073	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05		
p,p-M	ethoxychlor	<0.08 mg/kg		<0.05	<0.05	<0.05	<0.05	<0.05	<0.05		
Triazo	phos	<0.08 mg/kg	5 TM073	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05		
Perme	ethrin I	<0.09 mg/kg	5 TM073	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05		
Endos	sulphan sulphate	<0.09 mg/kg	5 TM073	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05		
Perme	ethrin II	<0.09 mg/kg	5 TM073	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05		
Phosa	llone	<0.09 mg/kg	5 TM073	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05		
Azinpl	nos-ethyl	<0.09 mg/kg	5 TM073	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05		
Azinpl	nos-methyl	<0.09 mg/kg		<0.05	<0.05	<0.05	<0.05	<0.05	<0.05		

Validated

Bicetser Central Eastern Land Parcels SDG: Location: Order Number:

110812-132 H_WSP_BAS-9 Job: WSP Environmental 147189 **Customer:** Report Number: Client Reference: Attention: Helen Gardiner Superseded Report:

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Sodrin	Chlorpyriphos			<0.05	<0.05						
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Parathion	Heptachlor epoxide			<0.05	<0.05						
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o,p-DDE <0.05 mg/kg		1									
Trans-chlordane <0.05 mg/kg	o,p-DDE	<0.05	TM073	<0.05	<0.05						
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p,p-DDE	Endosulphan I			<0.0E	<0.0E						
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	p,p-DDE			<0.05	<0.05						
		mg/kg									



Validated

110812-132 Bicetser Central Eastern Land Parcels SDG: Location: Order Number:

H_WSP_BAS-9 WSP Environmental 147189 Job: **Customer:** Report Number: Attention: Helen Gardiner Superseded Report:

Client Reference:

OC. OP Pesticides and Triazine Herb

OC, OP Pesticides and	Triazine					
# ISO17025 accredited.		Customer Sample R	WS516	WS517		
M mCERTS accredited.						
§ Deviating sample. aq Aqueous / settled sample.		Depth (m)	1.00	0.10		
diss.filt Dissolved / filtered sample.		Sample Type	Soil/Solid	Soil/Solid		
tot.unfilt Total / unfiltered sample. * Subcontracted test.		Date Sampled Date Received	08/08/2011 09/08/2011	05/08/2011 09/08/2011		
** % recovery of the surrogate stand		SDG Ref	110812-132	110812-132		
check the efficiency of the method results of individual compounds w		Lab Sample No.(s)	4095367	4095370		
samples aren't corrected for the re		AGS Reference	ES	ES		
(F) Trigger breach confirmed						
Component	LOD/Ur					
cis-Chlordane	<0.0		<0.05	<0.05		
	mg/kg					
o,p-TDE (DDD)	<0.0		<0.05	<0.05		
D: 11:	mg/kg		2.05	2.05		
Dieldrin	<0.0		<0.05	<0.05		
227	mg/kg		0.05	2.05		
o,p-DDT	<0.0		<0.05	<0.05		
Ende	mg/kg		-0.05	-0.05		
Endrin	<0.0		<0.05	<0.05		
Fully	mg/kg		-0.05	-0.05		
Ethion	<0.0		<0.05	<0.05		
n n TDE (DDD)	mg/kg		>0 OF	-0.0F		
p,p-TDE (DDD)	<0.0		<0.05	<0.05		
n n DDT	mg/kg		40.0F	-0.05		
p,p-DDT	<0.0		<0.05	<0.05		
Endoughbon	mg/kg		>0 OF	-0.0F		
Endosulphan II	<0.0		<0.05	<0.05		
o n Mothor relation	mg/kg		40.0F	-0.05		
o,p-Methoxychlor	<0.0		<0.05	<0.05		
Carbonhonathian	mg/kg		>0 OF	-0.0F		
Carbophenothion	<0.0		<0.05	<0.05		
a a Mathematika	mg/kg		-0.05	-0.05		
p,p-Methoxychlor	<0.0		<0.05	<0.05		
	mg/kg		0.05	2.05		
Triazophos	<0.0		<0.05	<0.05		
	mg/kg					
Permethrin I	<0.0		<0.05	<0.05		
	mg/kg					
Endosulphan sulphate	<0.0		<0.05	<0.05		
5 " ' "	mg/kg		2.05	2.05		
Permethrin II	<0.0		<0.05	<0.05		
Dharalana	mg/kg		-0.05	-0.05		
Phosalone	<0.0		<0.05	<0.05		
Aminus le non national	mg/kg		-0.05	40.05		
Azinphos-ethyl	<0.0		<0.05	<0.05		
Azinphos-methyl	mg/kg		-0.05	<0.05		
Aziriprios-metriyi	<0.0		<0.05	<0.05		
	mg/kg	y				
				+		
		_				
		_				
		_				
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Validated

110812-132 Bicetser Central Eastern Land Parcels SDG: Location: Order Number:

Job: H_WSP_BAS-9 WSP Environmental **Customer:**

147189 Report Number: Client Reference: Attention: Helen Gardiner Superseded Report:

Olletti Reference.			Attention. The	deri Gardinei		ouperseuca repo		
PAH by GCMS								
Results Legend		Customer Sample R	CP503	CP505	WS502	WS503	WS504	WS505
# ISO17025 accredited. M mCERTS accredited.								
§ Deviating sample.		Depth (m)	0.10	0.20	1.00	0.10	0.70	0.15
aq Aqueous / settled sample. diss.filt Dissolved / filtered sample.		Sample Type	Soil/Solid	Soil/Solid	Soil/Solid	Soil/Solid	Soil/Solid	Soil/Solid
tot.unfilt Total / unfiltered sample.		Date Sampled	-	-	04/08/2011	04/08/2011	-	04/08/2011
* Subcontracted test. ** % recovery of the surrogate stand		Date Received	09/08/2011	09/08/2011	09/08/2011	09/08/2011	09/08/2011	09/08/2011
check the efficiency of the metho		SDG Ref	110812-132	110812-132	110812-132	110812-132	110812-132	110812-132
results of individual compounds	within	Lab Sample No.(s)	4095377 ES	4095380 ES	4095381 ES	4095382 ES	4095383 ES	4095385 ES
samples aren't corrected for the r (F) Trigger breach confirmed	ecovery	AGS Reference		E3	E3	E3	E3	E3
Component	LOD/U	nits Method						
Naphthalene-d8 %	% %		72.2	95.9	99.7	99.1	95.9	97.6
,	70	I IVIZ 10	12.2	95.9	99.1	99.1	95.9	97.0
recovery** Acenaphthene-d10 %	%	TM218	70.6	92.6	97.7	96.5	93.5	95.7
	70	1 IVIZ 10	70.6	92.0	97.7	90.5	93.5	95.7
recovery**		=1.10.10					212	
Phenanthrene-d10 %	%	TM218	71.6	91	95.4	94.6	91.9	94
recovery**								
Chrysene-d12 %	%	TM218	72.9	85.3	89.7	88.3	87.6	88.5
recovery**								
Perylene-d12 % recovery**	%	TM218	75.1	82.9	89.2	87.1	88.6	88.1
Naphthalene	<0.00	09 TM218	0.0115	<0.009	<0.009	<0.009	<0.009	<0.009
	mg/k	g	M	M	M	M	M	M
Acenaphthylene	<0.0	12 TM218	<0.012	<0.012	<0.012	<0.012	<0.012	<0.012
	mg/k	g	M	M	M	M	М	M
Acenaphthene	<0.00	08 TM218	<0.008	<0.008	<0.008	<0.008	<0.008	<0.008
	mg/k		M	M	М	M	М	М
Fluorene	<0.0		<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
	mg/k		M	М	М	М	М	М
Phenanthrene	<0.0		0.019	<0.015	<0.015	<0.015	<0.015	0.0204
	mg/k		M	M	M	M	M	M
Anthracene	<0.0°		<0.016	<0.016	<0.016	<0.016	<0.016	<0.016
7	mg/k		M	M	M	M	M	M
Fluoranthene	<0.0		0.0378	<0.017	0.0335	0.03	<0.017	0.0338
Tuorantilene	mg/k		0.0370 M	40.017 M	0.0000 M	0.03 M	νο.στ <i>γ</i> Μ	0.0000 M
Pyrene	<0.0		0.0315	<0.015	0.0268	0.0241	<0.015	0.028
Fylene			0.0313 M	<0.015 M	0.0208 M	0.0241 M	<0.013 M	0.026 M
Danz/a)anthragana	mg/k		0.0313	<0.014	0.0209	<0.014	<0.014	<0.014
Benz(a)anthracene	<0.0		0.0313 M	<0.014 M		<0.014 M	<0.014 M	
Characa	mg/k				M			M
Chrysene	<0.0		0.0223	<0.01	0.0185	<0.01	<0.01	<0.01
5 (1)5 (1	mg/k	1	M	M	M	M	M	M
Benzo(b)fluoranthene	<0.0		0.0405	<0.015	0.0294	0.0273	<0.015	0.0291
- 0.5	mg/k		M	M	M	M	M	M
Benzo(k)fluoranthene	<0.0		<0.014	<0.014	<0.014	<0.014	<0.014	<0.014
	mg/k		M	M	M	M	M	M
Benzo(a)pyrene	<0.0		0.0263	<0.015	<0.015	<0.015	<0.015	<0.015
	mg/k		M	M	M	M	M	M
Indeno(1,2,3-cd)pyrene	<0.0		<0.018	<0.018	<0.018	<0.018	<0.018	<0.018
	mg/k		M	M	M	M	М	M
Dibenzo(a,h)anthracene	<0.02		<0.023	<0.023	<0.023	<0.023	<0.023	<0.023
	mg/k	g	M	M	M	M	M	M
Benzo(g,h,i)perylene	<0.02	24 TM218	<0.024	<0.024	<0.024	<0.024	<0.024	<0.024
	mg/k		M	M	M	M	M	M
PAH, Total Detected	<0.1	18 TM218	0.22	<0.118	0.129	<0.118	<0.118	<0.118
USEPA 16	mg/k	g						
	+							
	+							
	+							
	+							
	+							
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110812-132 Bicetser Central Eastern Land Parcels SDG: Location: H_WSP_BAS-9 WSP Environmental Job:

Customer: Attention: Helen Gardiner Order Number: Report Number:

Superseded Report:

147189

PAH by GCMS									
Results Legend # ISO17025 accredited.		Customer Sample R	WS507	WS509	WS511	WS515	WS517		
M mCERTS accredited. § Deviating sample.									
aq Aqueous / settled sample. diss.filt Dissolved / filtered sample.		Depth (m) Sample Type	0.10 Soil/Solid	0.10 Soil/Solid	0.70 Soil/Solid	0.15 Soil/Solid	1.20 Soil/Solid		
tot.unfilt Total / unfiltered sample.		Date Sampled	-	05/08/2011	08/08/2011	05/08/2011	05/08/2011		
* Subcontracted test. ** % recovery of the surrogate standar		Date Received SDG Ref	09/08/2011 110812-132	09/08/2011 110812-132	09/08/2011 110812-132	09/08/2011 110812-132	09/08/2011 110812-132		
check the efficiency of the method. results of individual compounds wit		Lab Sample No.(s)	4095386	4095350	4095352	4095360	4095371		
samples aren't corrected for the rec (F) Trigger breach confirmed		AGS Reference	ES	ES	ES	ES	ES		
Component	LOD/Uni	ts Method							
Naphthalene-d8 %	%	TM218	98.4	95.3	96.4	96.9	94.9		
recovery**	0/	TM040	07.7	00.0	04.0	00.4	00.0		
Acenaphthene-d10 % recovery**	%	TM218	97.7	92.3	94.2	98.4	92.3		
Phenanthrene-d10 %	%	TM218	96	90.4	92.2	96.8	90.4		
recovery**									
Chrysene-d12 %	%	TM218	94.4	84.4	88.5	98.1	85.1		
recovery** Perylene-d12 % recovery**	%	TM218	99.9	83.5	89.9	106	83.9		
recovery	/0	1101210	99.9	00.0	09.9	100	00.9		
Naphthalene	<0.009	9 TM218	0.0141	<0.009	<0.009	0.0129	<0.009		
	mg/kg		M	M	M	M	M		
Acenaphthylene	<0.012		<0.012 M	<0.012 M	<0.012 M	<0.012 M	<0.012 M		
Acenaphthene	mg/kg <0.008		<0.008	<0.008	<0.008	<0.008	<0.008		
,	mg/kg		M	М	M	M	M		
Fluorene	<0.01		<0.01	<0.01	<0.01	<0.01	<0.01		
Dhanashuana	mg/kg		M 40.015	M	M	M	M 40.045		
Phenanthrene	<0.015 mg/kg		<0.015 M	0.0202 M	<0.015 M	0.0184 M	<0.015 M		
Anthracene	<0.016		<0.016	<0.016	<0.016	<0.016	<0.016		
	mg/kg		M	M	M	M	M		
Fluoranthene	<0.017		0.0307	0.0338	<0.017	0.0362	<0.017		
Pyrene	mg/kg <0.015		0.0255	0.0291	<0.015	0.0309	<0.015		
1 yrene	mg/kg		0.0233 M	0.0231 M	40.013 M	0.0303 M	10.015 M		
Benz(a)anthracene	<0.014		<0.014	0.0223	<0.014	0.0388	<0.014		
	mg/kg		M	M	M	M	M		
Chrysene	<0.01 mg/kg		0.0135 M	0.0203 M	<0.01 M	0.0232 M	<0.01 M		
Benzo(b)fluoranthene	<0.015		0.0355	0.0345	<0.015	0.0417	<0.015		
. ,	mg/kg		M	М	M	M	M		
Benzo(k)fluoranthene	<0.014		<0.014	<0.014	<0.014	<0.014	<0.014		
Benzo(a)pyrene	mg/kg <0.015		0.0216	<0.015	<0.015	0.0288	<0.015		
Benzo(a)pyrene	mg/kg		0.0210 M	10.010 M	40.010 M	0.0200 M	10.010 M		
Indeno(1,2,3-cd)pyrene	<0.018		<0.018	<0.018	<0.018	<0.018	<0.018		
Dihanna(a h)anthuanana	mg/kg		M	M	M	M	M		
Dibenzo(a,h)anthracene	<0.023 mg/kg		<0.023 M	<0.023 M	<0.023 M	<0.023 M	<0.023 M		
Benzo(g,h,i)perylene	<0.024		<0.024	<0.024	<0.024	<0.024	<0.024		
	mg/kg		M	М	M	M	M		
PAH, Total Detected	<0.118			0.16	<0.118	0.231	<0.118		
USEPA 16 PAH, Total Detected	mg/kg <0.118		0.141						
USEPA 16	mg/kg		5.111						
		+							
		_							
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		+							
	-	-							

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110812-132 H_WSP_BAS-9 Bicetser Central Eastern Land Parcels SDG: Location: Job: WSP Environmental

Customer: Attention: Helen Gardiner Order Number: Report Number: Superseded Report:

147189

TPH	CWG	(S)
IFII		101

- Ciloti	it Reference:			Attention: He	eien Gardiner		Superseded Repo	•••	
TPH C	WG (S)								
	Results Legend		Customer Sample R	WS502	WS502	WS514	WS519		
#	ISO17025 accredited.		Guotomor Gumpio It	W0302	VV0302	W0014	W0019		
М	mCERTS accredited.								
	Deviating sample.		Depth (m)	0.25	1.00	0.60	1.80		
	Aqueous / settled sample. Dissolved / filtered sample.		Sample Type	Soil/Solid	Soil/Solid	Soil/Solid	Soil/Solid		
	Total / unfiltered sample.		Date Sampled	04/08/2011	04/08/2011	05/08/2011	05/08/2011		
	Subcontracted test.		Date Received	09/08/2011	09/08/2011	09/08/2011	09/08/2011		
	% recovery of the surrogate standar	rd to		110812-132	110812-132	110812-132	110812-132		
	check the efficiency of the method.		SDG Ref						
	results of individual compounds wit	thin	Lab Sample No.(s)	4095368	4095381	4095358	4095374		
	samples aren't corrected for the rec	covery	AGS Reference	ES	ES	ES	ES		
(F)	Trigger breach confirmed								
Compor	nent	LOD/Ur	nits Method						
	Surrogate %	%		111	120	120	122		
		70	1 101009	111	120	120			
recove	ry**						§		
GRO >	C5-C12	< 0.04	14 TM089	< 0.044	<0.044	<0.044	<0.044		
		mg/k					§		
Methyl	tertiary butyl ether	<0.00	05 TM089	<0.005	<0.005	<0.005	<0.005		
(MTBE	:)	mg/k	a	#	#	#	§ #		
		_					<0.01		
Aliphat	tics >C5-C6	<0.0		<0.01	<0.01	<0.01			
		mg/k	g				§		
Aliphat	tics >C6-C8	<0.0	1 TM089	<0.01	<0.01	<0.01	<0.01		
, inprior				0.0.	0.01	0.0 .			
		mg/k					§		
Aliphat	tics >C8-C10	<0.0	1 TM089	<0.01	<0.01	<0.01	<0.01		
1		mg/k	a l				§		
Alimbert	tion >C10 C12	1		ZO 01	ZO 04	0.04			
Allphat	tics >C10-C12	<0.0		<0.01	<0.01	<0.01	<0.01		
		mg/k	g L				§		
Alinhat	tics >C12-C16	<0.1		0.358	2.44	<0.1	13.6		
Ziihiiqi	100 - 012-010	1		0.550	4.77	~∪.1	13.0		
		mg/k							
Aliphat	tics >C16-C21	<0.1	1 TM173	<0.1	2.03	<0.1	3.77		
				J		U	U		
		mg/k							
Aliphat	tics >C21-C35	<0.1	1 TM173	1.88	8.53	<0.1	3.56		
1		mg/k							
A lim to a f	tion > C2E C44			-0.4	2.50	-0.4	0.004		
Aliphat	tics >C35-C44	<0.1	1 TM173	<0.1	3.52	<0.1	0.831		
1		mg/k	g						l
Total A	Aliphatics >C12-C44	<0.		2.24	16.5	<0.1	21.7		
TOtal A	dipriatics >C12-C44	1		2.24	10.5	~ 0.1	21.7		
		mg/k	g						
Aroma	tics >EC5-EC7	<0.0	1 TM089	<0.01	<0.01	<0.01	<0.01		
7 11 011101	200 20.			0.0.	0.01	0.0 .	§		
		mg/k							
Aroma	tics >EC7-EC8	<0.0	1 TM089	<0.01	<0.01	<0.01	<0.01		
		mg/k	a				§		
		_		2.24	2.24	2.24			
Aroma	tics >EC8-EC10	<0.0	1 TM089	<0.01	<0.01	<0.01	<0.01		
		mg/k	g				§		
Aromat	tics >EC10-EC12	<0.0	1 TM089	<0.01	<0.01	<0.01	<0.01		
, a oma	1103 - 2010 2012	1		40.01	40.01	10.01			
		mg/k					§		
Aroma	tics >EC12-EC16	<0.1	1 TM173	3.43	2.72	<0.1	15.8		
		mg/k	a						
		1		1.00	2.22	0.4	. ==		
Aroma	tics >EC16-EC21	<0.1		1.39	2.33	<0.1	4.55		
		mg/k	g						<u> </u>
Aromo	tics >EC21-EC35	<0.1		4.43	7.61	0.248	4.28		
Aioilia	1103 /LUZ I-EU33			4.43	1.01	U. ∠4 0	4.20		
		mg/k							
Aroma	tics >EC35-EC44	<0.1	1 TM173	2.14	1.3	<0.1	1.01		
		mg/k					-		
	# FO 12 FO : :			0.00=	0.015	2.4	2.2		
Aroma	tics >EC40-EC44	<0.1		0.867	0.345	<0.1	0.2		
1		mg/k	g						
Total A	Aromatics	<0.		11.4	14	0.248	25.7		
		1		11.4	I*	0.240	20.1		
	2-EC44	mg/k							
Total A	Aliphatics &	<0.1	1 TM173	13.6	30.5	0.249	47.4		
	tics >C5-C44	mg/k							
				0.04	40	.0.4	20.0		
i otal A	Aliphatics >C5-35	<0.1		2.24	13	<0.1	20.9		
	<u></u>	mg/k	g L						
Total A	Aromatics >C5-35	<0.1		9.25	12.7	0.249	24.7		
I otal A		1		0.20	14.1	J.27J	4 7.1		
		mg/k							
Total A	Aliphatics &	<0.1	1 TM173	11.5	25.7	0.249	45.6		
	tics >C5-35	mg/k							
, aoma		mg/K	M						
			_						
			_						
			_						

Validated

110812-132 Bicetser Central Eastern Land Parcels SDG: Location: Order Number: Job:

H_WSP_BAS-9 WSP Environmental 147189 **Customer:** Report Number: Client Reference: Attention: Helen Gardiner Superseded Report:

VOC MS (S)									
Results Legend # ISO17025 accredited.		Customer Sample R	CP502	CP505	WS502	WS502	WS504	WS508	
M mCERTS accredited.									
§ Deviating sample. aq Aqueous / settled sample.		Depth (m) Sample Type	0.20 Soil/Solid	0.20 Soil/Solid	0.25 Soil/Solid	1.00 Soil/Solid	0.70 Soil/Solid	1.40 Soil/Solid	
diss.filt Dissolved / filtered sample. tot.unfilt Total / unfiltered sample.		Date Sampled	-	-	04/08/2011	04/08/2011	-	04/08/2011	
* Subcontracted test. ** % recovery of the surrogate	standard to	Date Received SDG Ref	09/08/2011 110812-132	09/08/2011 110812-132	09/08/2011 110812-132	09/08/2011 110812-132	09/08/2011 110812-132	09/08/2011 110812-132	
check the efficiency of the m results of individual compou		Lab Sample No.(s)	4095376	4095380	4095368	4095381	4095383	4095388	
samples aren't corrected for (F) Trigger breach confirmed	the recovery	AGS Reference	ES	ES	ES	ES	ES	ES	
Component	LOD/U	nits Method							
Dibromofluoromethane**	%	TM116	37.2	46.9		40.6	42.8	37.9	
Toluene-d8**	%	5 TM116	101	101		99.5	100	102	
Toluelle-do	/	, INTIO	101	101		99.5	100	102	
4-Bromofluorobenzene**	%	TM116	111	106		103	103	105	
Dishlass difference the second	-0.0	D4 TN440	-0.004	10.004		10.004	-0.004	-0.004	
Dichlorodifluoromethane	<0.0 mg/l		<0.004 M	<0.004 M		<0.004 M	<0.004 M	<0.004 M	
Chloromethane	<0.0		<0.007	<0.007		<0.007	<0.007	<0.007	
	mg/l		#	#		#	#	#	
Vinyl Chloride	<0.0 mg/l		<0.01	<0.01 #		<0.01 #	<0.01 #	<0.01 #	
Bromomethane	<0.0		<0.013	<0.013		<0.013	<0.013	<0.013	
	mg/l		M	М		M	M	М	
Chloroethane	<0.0		<0.014	<0.014		<0.014	<0.014	<0.014	
Trichlorofluorormethane	mg/l <0.0		<0.006	<0.006		<0.006	<0.006	<0.006	
	mg/l		M	M		M	M	M	
1.1-Dichloroethene	<0.0		<0.01	<0.01		<0.01	<0.01	<0.01	
Carbon Disulphide	mg/l <0.0		<0.007	*		<0.007	<0.007	*	
Carbon Discipline	mg/l		40.007 M	10.007 M		10.007 M	νο.σο <i>τ</i> Μ	40.007 M	
Dichloromethane	<0.0		<0.01	<0.01		<0.01	<0.01	<0.01	
Mathed Tartians Detail Etha	mg/l		# #	# #		# #	#	#	
Methyl Tertiary Butyl Ethe	er <0.0 mg/l		<0.011 M	<0.011 M		<0.011 M	<0.011 M	<0.011 M	
trans-1-2-Dichloroethene	<0.0		<0.011	<0.011		<0.011	<0.011	<0.011	
	mg/l		M	M		M	M	М	
1.1-Dichloroethane	<0.0 mg/l		<0.008 M	<0.008 M		<0.008 M	<0.008 M	<0.008 M	
cis-1-2-Dichloroethene	<0.0		<0.005	<0.005		<0.005	<0.005	<0.005	
	mg/l		M	M		M	M	М	
2.2-Dichloropropane	<0.0		<0.012 M	<0.012 M		<0.012 M	<0.012 M	<0.012 M	
Bromochloromethane	mg/l <0.0		<0.014	<0.014		<0.014	<0.014	<0.014	
	mg/l	κg	M	М		M	M	М	
Chloroform	<0.0		<0.008	<0.008 M		<0.008 M	<0.008 M	<0.008	
1.1.1-Trichloroethane	mg/l <0.0		<0.007	<0.007		<0.007	<0.007	<0.007	
	mg/l		М	M		M	M	M	
1.1-Dichloropropene	<0.0		<0.011	<0.011		<0.011	<0.011	<0.011	
Carbontetrachloride	mg/l <0.0		<0.014	<0.014		<0.014	<0.014	<0.014	
Carbonionadinonad	mg/l		М.	М		м.	M	M	
1.2-Dichloroethane	<0.0		<0.005	<0.005		<0.005	<0.005	<0.005	
Benzene	mg/l <0.0		<0.009	<0.009	<0.009	<0.009	<0.009	<0.009	
Delizerie	mg/l		40.009 M	10.003 M	10.003 M	10.009 M	10.003 M	40.009 M	
Trichloroethene	<0.0	09 TM116	<0.009	<0.009		<0.009	<0.009	<0.009	
1.2-Dichloropropane	mg/l <0.0		<0.012	<0.012		<0.012	<0.012	<0.012	
1.2-Dichioloproparie			<0.012 M	<0.012 M		<0.012 M	<0.012 M	<0.012 M	
Dibromomethane	<0.0		<0.009	<0.009		<0.009	<0.009	<0.009	
5 "11 "	mg/l		M	M		M	M	M	
Bromodichloromethane	<0.0 mg/l		<0.007 M	<0.007 M		<0.007 M	<0.007 M	<0.007 M	
cis-1-3-Dichloropropene	<0.0		<0.014	<0.014		<0.014	<0.014	<0.014	
	mg/l	κg	M	M		М	M	М	
Toluene	<0.0		<0.005 M	<0.005 M	<0.005 M	<0.005 M	<0.005 M	<0.005 M	
trans-1-3-Dichloropropene	mg/l e <0.0		<0.014	<0.014	IVI	<0.014	<0.014	<0.014	
	mg/l	κg							
1.1.2-Trichloroethane	<0.0		<0.01	<0.01		<0.01	<0.01	<0.01	
1.3-Dichloropropane	mg/l <0.0		<0.007	<0.007		<0.007	<0.007	<0.007	
Distribioproparie	mg/l		40.007	~0.007 #		~0.00 <i>1</i> #	~0.00 <i>1</i> #	~0.00 <i>1</i> #	
Tetrachloroethene	<0.0	05 TM116	<0.005	<0.005		<0.005	<0.005	<0.005	
Dibromochloromethane	mg/l <0.0		<0.013	<0.013		<0.013	<0.013	<0.013	
Dibromodificionethane	mg/l		<0.013 M			<0.013 M	<0.013 M	<0.013 M	
D									

Helen Gardiner

Validated

Superseded Report:

147189

110812-132 Bicetser Central Eastern Land Parcels SDG: Location: Order Number: Job: H_WSP_BAS-9 WSP Environmental **Customer:** Report Number: Attention:

VOC MS (S)									
Results Legend		Customer Sample R	CP502	CP505	WS502	WS502	WS504	WS508	
M mCERTS accredited.									
§ Deviating sample. aq Aqueous / settled sample.		Depth (m)	0.20	0.20	0.25 Soil/Solid	1.00 Soil/Solid	0.70	1.40 Soil/Solid	
diss.filt Dissolved / filtered sample. tot.unfilt Total / unfiltered sample.		Sample Type Date Sampled	Soil/Solid -	Soil/Solid -	04/08/2011	04/08/2011	Soil/Solid -	04/08/2011	
* Subcontracted test. ** % recovery of the surrogate standa	rd to	Date Received SDG Ref	09/08/2011 110812-132	09/08/2011 110812-132	09/08/2011 110812-132	09/08/2011 110812-132	09/08/2011 110812-132	09/08/2011 110812-132	
check the efficiency of the method. results of individual compounds wi		Lab Sample No.(s)	4095376	4095380	4095368	4095381	4095383	4095388	
samples aren't corrected for the rec (F) Trigger breach confirmed		AGS Reference	ES	ES	ES	ES	ES	ES	
Component	LOD/Uni	ts Method							
1.2-Dibromoethane	<0.01		<0.012	<0.012		<0.012	<0.012	<0.012	
Chlorobenzene	mg/kg <0.00		<0.005	<0.005		<0.005	<0.005	<0.005	
Chlorobenzene	mg/kg		<0.005 M	<0.005 M		<0.005 M	<0.005 M	<0.005 M	
1.1.1.2-Tetrachloroethane	<0.01		<0.01	<0.01		<0.01	<0.01	<0.01	
E0. 0	mg/kg		M	M	2 224	M	M	M	
Ethylbenzene	<0.004 mg/kg		<0.004 M	<0.004 M	<0.004 M	<0.004 M	<0.004 M	<0.004 M	
p/m-Xylene	<0.01		<0.014	<0.014	<0.014	<0.014	<0.014	<0.014	
	mg/kg		#	#	#	#	#	#	
o-Xylene	<0.01 mg/kg		<0.01 M	<0.01 M	<0.01 M	<0.01 M	<0.01 M	<0.01 M	
Styrene	<0.01		<0.01	<0.01	IVI	<0.01	<0.01	<0.01	
•	mg/kg		M	М		M	M	M	
Bromoform	<0.01		<0.01	<0.01		<0.01	<0.01	<0.01	
Isopropylbenzene	mg/kg <0.00		<0.005	<0.005		<0.005	<0.005	<0.005	
loopropyiborizorio	mg/kg		М	М		М	М	M	
1.1.2.2-Tetrachloroethane	<0.01		<0.01	<0.01		<0.01	<0.01	<0.01	
1.2.3-Trichloropropane	mg/kg <0.01		<0.017	*		<0.017	*	<0.017	
1.2.5-Thomoropropane	mg/kg		<0.017 M	<0.017 M		\\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \	<0.017 M	~0.017 M	
Bromobenzene	<0.01	TM116	<0.01	<0.01		<0.01	<0.01	<0.01	
Describerance	mg/kg		M	M		M	M	M	
Propylbenzene	<0.01 mg/kg		<0.011 M	<0.011 M		<0.011 M	<0.011 M	<0.011 M	
2-Chlorotoluene	<0.009		<0.009	<0.009		<0.009	<0.009	<0.009	
1057: " "	mg/kg		M	M		M	M	M	
1.3.5-Trimethylbenzene	<0.008 mg/kg		<0.008 #	<0.008 #		<0.008	<0.008 #	<0.008 #	
4-Chlorotoluene	<0.012		<0.012	<0.012		<0.012	<0.012	<0.012	
	mg/kg		M	M		M	M	M	
tert-Butylbenzene	<0.012 mg/kg		<0.012 #	<0.012 #		<0.012 #	<0.012 #	<0.012 #	
1.2.4-Trimethylbenzene	<0.009		<0.009	<0.009		<0.009	<0.009	<0.009	
	mg/kg		#	#		#	#	#	
sec-Butylbenzene	<0.01 mg/kg		<0.01 M	<0.01 M		<0.01 M	<0.01 M	<0.01 M	
4-Isopropyltoluene	<0.01		<0.011	<0.011		<0.011	<0.011	<0.011	
	mg/kg		M	М		M	M	M	
1.3-Dichlorobenzene	<0.000 mg/kg		<0.006 M	<0.006 M		<0.006 M	<0.006 M	<0.006 M	
1.4-Dichlorobenzene	<0.00		<0.005	<0.005		<0.005	<0.005	<0.005	
	mg/kg		M	М		M	М	M	
n-Butylbenzene	<0.01		<0.01 M	<0.01 M		<0.01	<0.01 M	<0.01	
1.2-Dichlorobenzene	mg/kg <0.01		<0.012	<0.012		<0.012	<0.012	<0.012	
	mg/kg		M	М		M	М	M	
1.2-Dibromo-3-chloropropa	<0.01		<0.014	<0.014		<0.014	<0.014	<0.014	
ne Tert-amyl methyl ether	mg/kg <0.01		<0.015	<0.015	<0.015	<0.015	<0.015	<0.015	
. Sit dinyi mounyi ouloi	mg/kg		-0.010	-0.010	.0.010	-0.010	.0.010	-0.010	
1.2.4-Trichlorobenzene	<0.000		<0.006	<0.006		<0.006	<0.006	<0.006	
Hexachlorobutadiene	mg/kg <0.01		<0.012	# <0.012		<0.012	* <0.012	<0.012	
Hexacillorobutatiene	mg/kg		<0.012	<0.012		<0.012	<0.012	<0.012	
Naphthalene	<0.01	3 TM116	<0.013	<0.013		<0.013	<0.013	<0.013	
1.2.2 Trichlorohonzono	mg/kg		M <0.006	<0.006		M <0.006	M <0.006	M	
1.2.3-Trichlorobenzene	<0.000 mg/kg		<0.006 M	<0.006 M		<0.006 M	<0.006 M	<0.006 M	
							.41		

Validated

110812-132 Bicetser Central Eastern Land Parcels SDG: Location: H_WSP_BAS-9 Job: **Customer:**

WSP Environmental Attention: Helen Gardiner

Order Number: 147189 Report Number: Superseded Report:

VOC MS (S)									
# ISO17025 accredited. M mCERTS accredited.		Customer Sample R	WS513	WS514	WS515	WS516	WS517	WS519	
M mCERTS accredited. § Deviating sample.		Donth (m)	0.40	0.00	0.45	4.00	4.00	0.70	
aq Aqueous / settled sample. diss.filt Dissolved / filtered sample.		Depth (m) Sample Type	0.10 Soil/Solid	0.60 Soil/Solid	0.15 Soil/Solid	1.00 Soil/Solid	1.20 Soil/Solid	0.70 Soil/Solid	
tot.unfilt Total / unfiltered sample. * Subcontracted test.		Date Sampled	05/08/2011 09/08/2011	05/08/2011	05/08/2011	08/08/2011	05/08/2011	05/08/2011 09/08/2011	
** % recovery of the surrogate standa		Date Received SDG Ref	09/08/2011 110812-132	09/08/2011 110812-132	09/08/2011 110812-132	09/08/2011 110812-132	09/08/2011 110812-132	09/08/2011 110812-132	
check the efficiency of the method. results of individual compounds wi	thin	Lab Sample No.(s)	4095354	4095358	4095360	4095367	4095371	4095373	
samples aren't corrected for the rec (F) Trigger breach confirmed	covery	AGS Reference	ES	ES	ES	ES	ES	ES	
Component	LOD/Unit	s Method							
Dibromofluoromethane**	%	TM116	68.4		97.1	36.3	39.9	107	
Toluene-d8**	%	TM116	99.7		99.4	\$ 103 §	102	100	
4-Bromofluorobenzene**	%	TM116	120		125	110 §	100	110	
Dichlorodifluoromethane	<0.004 mg/kg	TM116	<0.004 M		<0.004 M	<0.004 § M	<0.004 M	<0.004 M	
Chloromethane	<0.007 mg/kg	TM116	<0.007 #		<0.007 #	<0.007 §#	<0.007 #	<0.007 #	
Vinyl Chloride	<0.01 mg/kg	TM116	<0.01 #		<0.01 #	<0.01 §#	<0.01 #	<0.01 #	
Bromomethane	<0.013 mg/kg	TM116	<0.013 M		<0.013 M	<0.013 § M	<0.013 M	<0.013 M	
Chloroethane	<0.014 mg/kg	TM116	<0.014 M		<0.014 M	<0.014 § M	<0.014 M	<0.014 M	
Trichlorofluorormethane	<0.006 mg/kg		<0.006 M		<0.006 M	<0.006 § M	<0.006 M	<0.006 M	
1.1-Dichloroethene	<0.01 mg/kg	TM116	<0.01		<0.01	<0.01 § #	<0.01	<0.01	
Carbon Disulphide	<0.007 mg/kg		<0.007 M		<0.007 M	<0.007 § M	<0.007 M	<0.007 M	
Dichloromethane	<0.01 mg/kg	TM116	<0.01 #		<0.01 #	<0.01 §#	<0.01 #	<0.01 # <0.011	
Methyl Tertiary Butyl Ether trans-1-2-Dichloroethene	<0.011 mg/kg <0.011		<0.011 M <0.011		<0.011 M <0.011	<0.011 § M <0.011	<0.011 M <0.011	<0.011 M	
1.1-Dichloroethane	mg/kg <0.008		<0.011 M		<0.011 M	<0.011 § M	<0.011 M	<0.011 M	
cis-1-2-Dichloroethene	mg/kg <0.005		<0.005 M		<0.008 M	<0.008 § M	<0.008 M	<0.008 M	
2.2-Dichloropropane	mg/kg <0.012		<0.012		<0.012	<0.000 § M	<0.012	<0.000 M	
Bromochloromethane	mg/kg <0.014		<0.014		<0.014	\$ M	<0.014	<0.014	
Chloroform	mg/kg <0.008	TM116	<0.008		<0.008	§ M <0.008	<0.008	<0.008	
1.1.1-Trichloroethane	mg/kg <0.007	TM116	<0.007		<0.007	§ M <0.007	<0.007	<0.007	
1.1-Dichloropropene	mg/kg <0.011	TM116	<0.011		<0.011	§ M <0.011	<0.011	<0.011	
Carbontetrachloride	mg/kg <0.014	TM116	<0.014		<0.014	§ M <0.014	<0.014	<0.014	
1.2-Dichloroethane	mg/kg <0.005	TM116	<0.005		<0.005	§ M <0.005	<0.005	<0.005	
Benzene	mg/kg <0.009	TM116	<0.009	<0.009	<0.009	<0.009	<0.009	<0.009	
Trichloroethene	mg/kg <0.009	TM116	<0.009	M	<0.009	<0.009	<0.009	<0.009	
1.2-Dichloropropane	mg/kg <0.012	: TM116	<0.012		<0.012	<0.012	<0.012	<0.012	
Dibromomethane	mg/kg <0.009	TM116	<0.009 M		<0.009	<0.009 8 M	<0.009 M	<0.009 M	
Bromodichloromethane	mg/kg <0.007 mg/kg	TM116	<0.007 M		<0.007 M	§ M <0.007 § M	<0.007 M	<0.007 M	
cis-1-3-Dichloropropene	<0.014 mg/kg	TM116	<0.014 M		<0.014 M	<0.014 § M	<0.014 M	<0.014 M	
Toluene	<0.005 mg/kg	TM116	<0.005	<0.005 M	0.00752 M	<0.005 § M	<0.005 M	<0.005 M	
trans-1-3-Dichloropropene	<0.014 mg/kg	TM116	<0.014		<0.014	<0.014 §	<0.014	<0.014	
1.1.2-Trichloroethane	<0.01 mg/kg	TM116	<0.01 M		<0.01 M	<0.01 § M	<0.01 M	<0.01 M	
1.3-Dichloropropane	<0.007 mg/kg	TM116	<0.007 #		<0.007 #	<0.007 §#	<0.007 #	<0.007 #	
Tetrachloroethene	<0.005 mg/kg		<0.005 M		<0.005 M	<0.005 § M	<0.005 M	<0.005 M	
Dibromochloromethane	<0.013 mg/kg	TM116	<0.013 M		<0.013 M	<0.013 § M	<0.013 M	<0.013 M	

Helen Gardiner

Validated

110812-132 H_WSP_BAS-9 Bicetser Central Eastern Land Parcels SDG: Location: Job: WSP Environmental **Customer:**

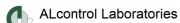
Attention:

Order Number:

Report Number:

147189 Superseded Report:

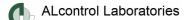
VOC MS (S)									
Results Legend # ISO17025 accredited.		Customer Sample R	WS513	WS514	WS515	WS516	WS517	WS519	
M mCERTS accredited. § Deviating sample. aq Aqueous / settled sample. diss.filt tot.unfilt Total / unfiltered sample. * Subcontracted test. * % recovery of the surrogate stan check the efficiency of the methoresults of individual compounds	d. The	Depth (m) Sample Type Date Sampled Date Received SDG Ref Lab Sample No.(s)	0.10 Soil/Solid 05/08/2011 09/08/2011 110812-132 4095354	0.60 Soil/Solid 05/08/2011 09/08/2011 110812-132 4095358	0.15 Soil/Solid 05/08/2011 09/08/2011 110812-132 4095360	1.00 Soil/Solid 08/08/2011 09/08/2011 110812-132 4095367	1.20 Soil/Solid 05/08/2011 09/08/2011 110812-132 4095371	0.70 Soil/Solid 05/08/2011 09/08/2011 110812-132 4095373	
samples aren't corrected for the (F) Trigger breach confirmed	recovery	AGS Reference	ES	ES	ES	ES	ES	ES	
Component 1.2-Dibromoethane	LOD/Uni <0.012		<0.012		<0.012	<0.012	<0.012	<0.012	
	mg/kg		М		M	§ M	M	М	
Chlorobenzene	<0.005 mg/kg		<0.005 M		<0.005 M	<0.005 § M	<0.005 M	<0.005 M	
1.1.1.2-Tetrachloroethane	<0.01 mg/kg		<0.01 M		<0.01 M	<0.01 § M	<0.01 M	<0.01 M	
Ethylbenzene	<0.004 mg/kg		<0.004 M	<0.004 M	<0.004 M	<0.004 § M	<0.004 M	<0.004 M	
p/m-Xylene	<0.014 mg/kg	4 TM116	<0.014 #	<0.014	<0.014 #	<0.014 §#	<0.014 #	<0.014	
o-Xylene	<0.01	TM116	<0.01 M	<0.01 M	<0.01 M	<0.01 § M	<0.01 M	<0.01 M	
Styrene	mg/kg <0.01	TM116	<0.01	IVI	<0.01	<0.01	<0.01	<0.01	
Bromoform	mg/kg <0.01		<0.01		<0.01	<0.01	<0.01	<0.01	
Isopropylbenzene	mg/kg <0.005		<0.005		<0.005	§ M <0.005	<0.005	<0.005	
1.1.2.2-Tetrachloroethane	mg/kg <0.01		<0.01		<0.01	§ M <0.01	<0.01	<0.01	
1.2.3-Trichloropropane	mg/kg <0.017		<0.017		<0.017	<0.017 \$#	<0.017	<0.017	
	mg/kg		M		M	§ M	М	M	
Bromobenzene	<0.01 mg/kg		<0.01 M		<0.01 M	<0.01 § M	<0.01 M	<0.01 M	
Propylbenzene	<0.011 mg/kg		<0.011 M		<0.011 M	<0.011 § M	<0.011 M	<0.011 M	
2-Chlorotoluene	<0.009 mg/kg		<0.009 M		<0.009 M	<0.009 § M	<0.009 M	<0.009 M	
1.3.5-Trimethylbenzene	<0.008 mg/kg		<0.008 #		<0.008	<0.008 §#	<0.008 #	<0.008	
4-Chlorotoluene	<0.012 mg/kg	2 TM116	<0.012 M		<0.012 M	<0.012 § M	<0.012 M	<0.012 M	
tert-Butylbenzene	<0.012 mg/kg	2 TM116	<0.012		<0.012	<0.012 §#	<0.012	<0.012	
1.2.4-Trimethylbenzene	<0.009 mg/kg	9 TM116	<0.009 #		<0.009	<0.009 §#	<0.009 #	<0.009	
sec-Butylbenzene	<0.01 mg/kg	TM116	<0.01 M		<0.01 M	<0.01 § M	<0.01 M	<0.01 M	
4-Isopropyltoluene	<0.011	1 TM116	<0.011		<0.011	<0.011	<0.011	<0.011	
1.3-Dichlorobenzene	mg/kg <0.006	6 TM116	<0.006		<0.006	<0.006	<0.006	<0.006	
1.4-Dichlorobenzene	mg/kg <0.005	5 TM116	<0.005		<0.005	< 0.005	<0.005	<0.005	
n-Butylbenzene	mg/kg <0.01		<0.01		<0.01	<0.01	<0.01	<0.01	
1.2-Dichlorobenzene	mg/kg <0.012		<0.012		<0.012	§ M <0.012	<0.012	<0.012	
1.2-Dibromo-3-chloropropa	mg/kg <0.014		<0.014		<0.014	§ M <0.014	<0.014	<0.014	
ne Tert-amyl methyl ether	mg/kg <0.015		<0.015	<0.015	<0.015	§ M <0.015	<0.015	<0.015	
1.2.4-Trichlorobenzene	mg/kg <0.006		<0.006		<0.006	<0.006	<0.006	<0.006	
Hexachlorobutadiene	mg/kg <0.012		<0.012		<0.012	<0.012 § #	<0.012	<0.012	
	mg/kg					<0.012 §			
Naphthalene	<0.013 mg/kg		<0.013 M		<0.013	§ M	<0.013 M	<0.013 M	
1.2.3-Trichlorobenzene	<0.006 mg/kg		<0.006 M		<0.006 M	<0.006 § M	<0.006 M	<0.006 M	



Validated

110812-132 Bicetser Central Eastern Land Parcels SDG: Location: Order Number: Job: H_WSP_BAS-9 WSP Environmental 147189 **Customer:** Report Number: Client Reference: Attention: Helen Gardiner Superseded Report:

VOC I	MS (S)						
	Results Legend	C	Customer Sample R	WS519			
# M	ISO17025 accredited. mCERTS accredited.						
§ aq	Deviating sample. Aqueous / settled sample.		Depth (m)	1.80			
diss.filt	Dissolved / filtered sample.		Sample Type	Soil/Solid			
	Total / unfiltered sample. Subcontracted test.		Date Sampled Date Received	05/08/2011 09/08/2011			
**	% recovery of the surrogate standar check the efficiency of the method.	The	SDG Ref	110812-132			
	results of individual compounds with	thin	Lab Sample No.(s) AGS Reference	4095374 ES			
(F)	samples aren't corrected for the rec Trigger breach confirmed	overy	AGS Reference				
Compo		LOD/Units					
Benze	ne	<0.009	TM116	<0.009			
Toluer		mg/kg	TM116	<0.005			
Toluel	ie	<0.005 mg/kg	1101110	<0.005 § M			
Ethylb	enzene	<0.004	TM116	<0.004			
		mg/kg		§ M			
p/m-X	ylene	<0.014	TM116	<0.014			
- V I		mg/kg	T1440	§ #			
o-Xyle	ne	<0.01	TM116	<0.01 § M			
Tert-a	myl methyl ether	mg/kg <0.015	TM116	<0.015			
. 5.11 01		mg/kg		\0.013 §		 	
			+				
			+				
			+				



SDG:

110812-132

CERTIFICATE OF ANALYSIS

on: Bicetser Central Eastern Land Parcels Order Number:

Job: H_WSP_BAS-9 Customer: WSP Environmental Client Reference: Attention: Helen Gardiner

Location: Bicetser Central Eastern Land Part Customer: WSP Environmental

Report Number: Superseded Report:

147189

Validated

Asbestos Identification

Aspestos identification											
	,	Date of Analysis	Analysed By	Comments	Amosite (Brown) Asbestos	Chrysotile (White) Asbestos	Crocidolite (Blue) Asbestos	Fibrous Actinolite	Fibrous Anthrophyllite	Fibrous Tremolite	Non-Asbestos Fibre
Customer Sample Ref. Depth (m) Sample Type Date Sampled Date Receieved SDG Original Sample Method Number	CP503 ES Z 0.10 SOLID 110812-132 4,095,377 TM048	22/08/2011	Tomasz Pawlikowski	No Asbestos Detected	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected
Customer Sample Ref. Depth (m) Sample Type Date Sampled Date Receieved SDG Original Sample Method Number	WS507 ES Z 0.10 SOLID 110812-132 4,095,386 TM048	22/08/2011	Tomasz Pawlikowski	No Asbestos Detected	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected
Customer Sample Ref. Depth (m) Sample Type Date Sampled Date Receieved SDG Original Sample Method Number	WS512 ES Z 0.50 SOLID 110812-132 4,095,353 TM048	22/08/2011	Tomasz Pawlikowski	No Asbestos Detected	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected
Customer Sample Ref. Depth (m) Sample Type Date Sampled Date Sampled Date Receieved SDG Original Sample Method Number	WS515 ES Z 0.15 SOULD 05/08/2011 00:00:00 110812-132 4,095,360 TM048	22/08/2011	Tomasz Pawlikowski	No Asbestos Detected	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected
Customer Sample Ref. Depth (m) Sample Type Date Sampled Date Receieved SDG Original Sample Method Number	WS519 ES Z 0.70 SOLID 05/08/2011 00:00:00 110812-132 4,095,373 TM048	22/08/2011	Tomasz Pawlikowski	No Asbestos Detected	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected

Validated

SDG: 110812-132 **Job:** H_WSP_BAS-9

Client Reference:

Location: Customer: Attention: Bicetser Central Eastern Land Parcels WSP Environmental Helen Gardiner

Order Number: Report Number: Superseded Report:

147189

Notification of Deviating Samples

	Notification of Deviating Samples									
Sample Number	Customer Sample Ref.	Depth (m)	Matrix	Test Name	Component Name	Comment				
4108202	WS516 ESZ	1.00	SOLID	Semi Volatiles in soils by GC-MS	1,2,4,5-Tetrachlorobenzene	Sample holding time exceeded				
4108202	WS516 ESZ	1.00	SOLID	Semi Volatiles in soils by GC-MS	1,2,4-Trichlorobenzene	Sample holding time exceeded				
4108202	WS516 ESZ	1.00	SOLID	Semi Volatiles in soils by GC-MS	1,2-Dichlorobenzene	Sample holding time exceeded				
4108202	WS516 ESZ	1.00	SOLID	Semi Volatiles in soils by GC-MS	1,3,5-Trinitrobenzene	Sample holding time exceeded				
4108202	WS516 ESZ	1.00	SOLID	Semi Volatiles in soils by GC-MS	1,3-Dichlorobenzene	Sample holding time exceeded				
4108202	WS516 ESZ	1.00	SOLID	Semi Volatiles in soils by GC-MS	1,3-Dinitrobenzene	Sample holding time exceeded				
4108202	WS516 ESZ	1.00	SOLID	Semi Volatiles in soils by GC-MS	1,4-Dichlorobenzene	Sample holding time exceeded				
4108202	WS516 ESZ	1.00	SOLID	Semi Volatiles in soils by GC-MS	1,4-Naphthoquinone	Sample holding time exceeded				
4108202	WS516 ESZ	1.00	SOLID	Semi Volatiles in soils by GC-MS	1-Naphthylamine	Sample holding time exceeded				
4108202	WS516 ESZ	1.00	SOLID	Semi Volatiles in soils by GC-MS	2,3,4,6-Tetrachlorophenol	Sample holding time exceeded				
4108202	WS516 ESZ	1.00	SOLID	Semi Volatiles in soils by GC-MS	2,4,5-Trichlorophenol	Sample holding time exceeded				
4108202	WS516 ESZ	1.00	SOLID	Semi Volatiles in soils by GC-MS	2,4,6-Trichlorophenol	Sample holding time exceeded				
4108202	WS516 ESZ	1.00	SOLID	Semi Volatiles in soils by GC-MS	2,4-Dichlorophenol	Sample holding time exceeded				
4108202	WS516 ESZ	1.00	SOLID	Semi Volatiles in soils by GC-MS	2,4-Dimethylphenol	Sample holding time exceeded				
4108202	WS516 ESZ	1.00	SOLID	Semi Volatiles in soils by GC-MS	2,4-Dinitrophenol	Sample holding time exceeded				
4108202	WS516 ESZ	1.00	SOLID	Semi Volatiles in soils by GC-MS	2,4-Dinitrotoluene	Sample holding time exceeded				
4108202	WS516 ESZ	1.00	SOLID	Semi Volatiles in soils by GC-MS	2,6-Dichlorophenol	Sample holding time exceeded				
4108202	WS516 ESZ	1.00	SOLID	Semi Volatiles in soils by GC-MS	2,6-Dinitrotoluene	Sample holding time exceeded				
4108202	WS516 ESZ	1.00	SOLID	Semi Volatiles in soils by GC-MS	2-Acetylaminofluorene	Sample holding time exceeded				
4108202	WS516 ESZ	1.00	SOLID	Semi Volatiles in soils by GC-MS	2-Chloronaphthalene	Sample holding time exceeded				
4108202	WS516 ESZ	1.00	SOLID	Semi Volatiles in soils by GC-MS	2-Chlorophenol	Sample holding time exceeded				
4108202	WS516 ESZ	1.00	SOLID	Semi Volatiles in soils by GC-MS	2-Methyl-4,6-dinitrophenol	Sample holding time exceeded				
4108202	WS516 ESZ	1.00	SOLID	Semi Volatiles in soils by GC-MS	2-Methylnaphthalene	Sample holding time exceeded				
4108202	WS516 ESZ	1.00	SOLID	Semi Volatiles in soils by GC-MS	2-Methylphenol	Sample holding time exceeded				
4108202	WS516 ESZ	1.00	SOLID	Semi Volatiles in soils by GC-MS	2-Naphthylamine	Sample holding time exceeded				
4108202	WS516 ESZ	1.00	SOLID	Semi Volatiles in soils by GC-MS	2-Nitroaniline	Sample holding time exceeded				
4108202	WS516 ESZ	1.00	SOLID	Semi Volatiles in soils by GC-MS	2-Nitrophenol	Sample holding time exceeded				
4108202	WS516 ESZ	1.00	SOLID	Semi Volatiles in soils by GC-MS	2-Picoline	Sample holding time exceeded				
4108202	WS516 ESZ	1.00	SOLID	Semi Volatiles in soils by GC-MS	3,3-Dichlorobenzidine	Sample holding time exceeded				
4108202	WS516 ESZ WS516 ESZ	1.00	SOLID	Semi Volatiles in soils by GC-MS	3,3-Dimethylbenzidine	Sample holding time exceeded				
4108202	WS516 ESZ	1.00	SOLID	Semi Volatiles in soils by GC-MS	3+4-Chlorophenol	Sample holding time exceeded				
4108202	WS516 ESZ	1.00	SOLID	Semi Volatiles in soils by GC-MS	3+4-Methylphenol	Sample holding time exceeded				
4108202 4108202	WS516 ESZ	1.00	SOLID	Semi Volatiles in soils by GC-MS	3-Methylcholanthrene 3-Nitroaniline	Sample holding time exceeded				
4108202	WS516 ESZ	1.00	SOLID	Semi Volatiles in soils by GC-MS Semi Volatiles in soils by GC-MS	4-Aminobiphenyl	Sample holding time exceeded Sample holding time exceeded				
4108202	WS516 ESZ	1.00	SOLID	Semi Volatiles in soils by GC-MS	4-Bromophenylphenylether	Sample holding time exceeded				
4108202	WS516 ESZ	1.00	SOLID	Semi Volatiles in soils by GC-MS	4-Chloro-3-Methylphenol	Sample holding time exceeded				
4108202	WS516 ESZ	1.00	SOLID	Semi Volatiles in soils by GC-MS	4-Chlorophenylphenylether	Sample holding time exceeded				
4108202	WS516 ESZ	1.00	SOLID	Semi Volatiles in soils by GC-MS	4-Nitroaniline	Sample holding time exceeded				
4108202	WS516 ESZ	1.00	SOLID	Semi Volatiles in soils by GC-MS	4-Nitrophenol	Sample holding time exceeded				
4108202	WS516 ESZ	1.00	SOLID	Semi Volatiles in soils by GC-MS	5-Nitro-o-toluidine	Sample holding time exceeded				
4108202	WS516 ESZ	1.00	SOLID	Semi Volatiles in soils by GC-MS	7,12-Dimethylbenz(a)anthracene	Sample holding time exceeded				
4108202	WS516 ESZ	1.00	SOLID	Semi Volatiles in soils by GC-MS	Acenaphthene	Sample holding time exceeded				
4108202	WS516 ESZ	1.00	SOLID	Semi Volatiles in soils by GC-MS	Acenaphthylene	Sample holding time exceeded				
4108202	WS516 ESZ	1.00	SOLID	Semi Volatiles in soils by GC-MS	Acetophenone	Sample holding time exceeded				
4108202	WS516 ESZ	1.00	SOLID	Semi Volatiles in soils by GC-MS	Aniline	Sample holding time exceeded				
4108202	WS516 ESZ	1.00	SOLID	Semi Volatiles in soils by GC-MS	Anthracene	Sample holding time exceeded				
4108202	WS516 ESZ	1.00	SOLID	Semi Volatiles in soils by GC-MS	Azobenzene	Sample holding time exceeded				
4108202	WS516 ESZ	1.00	SOLID	Semi Volatiles in soils by GC-MS	Benzidine	Sample holding time exceeded				
4108202	WS516 ESZ	1.00	SOLID	Semi Volatiles in soils by GC-MS	Benzo(a)anthracene	Sample holding time exceeded				
4108202	WS516 ESZ	1.00	SOLID	Semi Volatiles in soils by GC-MS	Benzo(a)pyrene	Sample holding time exceeded				
4108202	WS516 ESZ	1.00	SOLID	Semi Volatiles in soils by GC-MS	Benzo(b)fluoranthene	Sample holding time exceeded				
4108202	WS516 ESZ	1.00	SOLID	Semi Volatiles in soils by GC-MS	Benzo(g,h,i)perylene	Sample holding time exceeded				
4108202	WS516 ESZ	1.00	SOLID	Semi Volatiles in soils by GC-MS	Benzo(k)fluoranthene	Sample holding time exceeded				
4108202	WS516 ESZ	1.00	SOLID	Semi Volatiles in soils by GC-MS	Benzyl Alcohol	Sample holding time exceeded				
4108202	WS516 ESZ	1.00	SOLID	Semi Volatiles in soils by GC-MS	Bis(2-chloroethoxy)methane	Sample holding time exceeded				
4108202	WS516 ESZ	1.00	SOLID	Semi Volatiles in soils by GC-MS	Bis(2-chloroethyl)ether	Sample holding time exceeded				
4108202	WS516 ESZ	1.00	SOLID	Semi Volatiles in soils by GC-MS	Bis(2-chloroisopropyl)ether	Sample holding time exceeded				
4108202	WS516 ESZ	1.00	SOLID	Semi Volatiles in soils by GC-MS	Bis(2-ethylhexyl)phthalate	Sample holding time exceeded				

110812-132 H_WSP_BAS-9 Bicetser Central Eastern Land Parcels SDG: Location: Order Number: Job: Customer: WSP Environmental Report Number: 147189 Helen Gardiner Superseded Report:

Client Refere	ence:		Į.	Attention: Helen Gardiner	Superseded Repo	rt:
Sample	Customer	Depth (m)	Matrix	Test Name	Component Name	Comment
Number 4108202	Sample Ref. WS516 ESZ	1.00	SOLID	Semi Volatiles in soils by GC-MS	Butyl Benzyl Phthalate	Sample holding time exceeded
4108202	WS516 ESZ	1.00	SOLID	Semi Volatiles in soils by GC-MS	Carbazole	Sample holding time exceeded
4108202	WS516 ESZ	1.00	SOLID	Semi Volatiles in soils by GC-MS	Chlorobenzilate	Sample holding time exceeded
4108202	WS516 ESZ	1.00	SOLID	Semi Volatiles in soils by GC-MS	Chrysene	Sample holding time exceeded
4108202	WS516 ESZ	1.00	SOLID	Semi Volatiles in soils by GC-MS	Diallate	Sample holding time exceeded
4108202	WS516 ESZ	1.00	SOLID	Semi Volatiles in soils by GC-MS	Dibenzo(a,h)anthracene	Sample holding time exceeded
4108202	WS516 ESZ	1.00	SOLID	Semi Volatiles in soils by GC-MS	Dibenzofuran	Sample holding time exceeded
4108202	WS516 ESZ	1.00	SOLID	Semi Volatiles in soils by GC-MS	Diethyl Phthalate	Sample holding time exceeded
4108202	WS516 ESZ	1.00	SOLID	Semi Volatiles in soils by GC-MS	Dimethyl Phthalate	Sample holding time exceeded
4108202	WS516 ESZ	1.00	SOLID	Semi Volatiles in soils by GC-MS	Di-N-butyl Phthalate	Sample holding time exceeded
4108202	WS516 ESZ	1.00	SOLID	Semi Volatiles in soils by GC-MS	Di-n-octylphthalate	Sample holding time exceeded
4108202	WS516 ESZ	1.00	SOLID	Semi Volatiles in soils by GC-MS	Dinoseb	Sample holding time exceeded
4108202	WS516 ESZ	1.00	SOLID	Semi Volatiles in soils by GC-MS	Diphenylamine	Sample holding time exceeded
4108202	WS516 ESZ	1.00	SOLID	Semi Volatiles in soils by GC-MS	Ethyl Methanesulfonate	Sample holding time exceeded
4108202	WS516 ESZ	1.00	SOLID	Semi Volatiles in soils by GC-MS	Fluoranthene	Sample holding time exceeded
4108202	WS516 ESZ	1.00	SOLID	Semi Volatiles in soils by GC-MS	Fluorene	Sample holding time exceeded
4108202	WS516 ESZ	1.00	SOLID	Semi Volatiles in soils by GC-MS	Hexachlorobenzene	Sample holding time exceeded
4108202	WS516 ESZ	1.00	SOLID	Semi Volatiles in soils by GC-MS	Hexachlorobutadiene	Sample holding time exceeded
4108202	WS516 ESZ	1.00	SOLID	Semi Volatiles in soils by GC-MS	Hexachlorocyclopentadiene	Sample holding time exceeded
4108202	WS516 ESZ	1.00	SOLID	Semi Volatiles in soils by GC-MS	Hexachloroethane	Sample holding time exceeded
4108202	WS516 ESZ	1.00	SOLID	Semi Volatiles in soils by GC-MS	Hexachloropropene	Sample holding time exceeded
4108202	WS516 ESZ	1.00	SOLID	Semi Volatiles in soils by GC-MS	Indeno(1,2,3-c,d)pyrene	Sample holding time exceeded
4108202	WS516 ESZ	1.00	SOLID	Semi Volatiles in soils by GC-MS	Isodrin	Sample holding time exceeded
4108202	WS516 ESZ	1.00	SOLID	Semi Volatiles in soils by GC-MS	Isophorone	Sample holding time exceeded
4108202	WS516 ESZ	1.00	SOLID	Semi Volatiles in soils by GC-MS	Isosafrole	Sample holding time exceeded
4108202	WS516 ESZ	1.00	SOLID	Semi Volatiles in soils by GC-MS	Kepone	Sample holding time exceeded
4108202	WS516 ESZ	1.00	SOLID	Semi Volatiles in soils by GC-MS	Methyl Methanesulfonate	Sample holding time exceeded
4108202	WS516 ESZ	1.00	SOLID	Semi Volatiles in soils by GC-MS	Naphthalene	Sample holding time exceeded
4108202	WS516 ESZ	1.00	SOLID	Semi Volatiles in soils by GC-MS	Nitrobenzene	Sample holding time exceeded
4108202	WS516 ESZ	1.00	SOLID	Semi Volatiles in soils by GC-MS	N-Nitrosodiethylamine	Sample holding time exceeded
4108202	WS516 ESZ	1.00	SOLID	Semi Volatiles in soils by GC-MS	N-Nitrosodimethylamine	Sample holding time exceeded
4108202	WS516 ESZ	1.00	SOLID	Semi Volatiles in soils by GC-MS	N-Nitroso-di-N-butylamine	Sample holding time exceeded
4108202	WS516 ESZ	1.00	SOLID	Semi Volatiles in soils by GC-MS	N-Nitroso-di-N-propylamine	Sample holding time exceeded
4108202	WS516 ESZ	1.00	SOLID	Semi Volatiles in soils by GC-MS	N-Nitrosomethylethylamine	Sample holding time exceeded
4108202	WS516 ESZ	1.00	SOLID	Semi Volatiles in soils by GC-MS	N-Nitrosopiperidine	Sample holding time exceeded
4108202	WS516 ESZ	1.00	SOLID	Semi Volatiles in soils by GC-MS	N-Nitrosopyrrolidine	Sample holding time exceeded
4108202	WS516 ESZ	1.00	SOLID	Semi Volatiles in soils by GC-MS	o-Toluidine	Sample holding time exceeded
4108202	WS516 ESZ	1.00	SOLID	Semi Volatiles in soils by GC-MS	p-Chloroaniline	Sample holding time exceeded
4108202	WS516 ESZ	1.00	SOLID	Semi Volatiles in soils by GC-MS	p-Dimethylaminoazobenzene	Sample holding time exceeded
4108202	WS516 ESZ	1.00	SOLID	Semi Volatiles in soils by GC-MS	Pentachlorobenzene	Sample holding time exceeded
4108202	WS516 ESZ	1.00	SOLID	Semi Volatiles in soils by GC-MS	Pentachloroethane	Sample holding time exceeded
4108202	WS516 ESZ	1.00	SOLID	Semi Volatiles in soils by GC-MS	Pentachloronitrobenzene	Sample holding time exceeded
4108202	WS516 ESZ	1.00	SOLID	Semi Volatiles in soils by GC-MS	Pentachlorophenol	Sample holding time exceeded
4108202	WS516 ESZ	1.00	SOLID	Semi Volatiles in soils by GC-MS	Phenacetin	Sample holding time exceeded
4108202	WS516 ESZ	1.00	SOLID	Semi Volatiles in soils by GC-MS	Phenanthrene	Sample holding time exceeded
4108202	WS516 ESZ	1.00	SOLID	Semi Volatiles in soils by GC-MS	Phenol	Sample holding time exceeded
4108202	WS516 ESZ	1.00	SOLID	Semi Volatiles in soils by GC-MS	Pronamide	Sample holding time exceeded
4108202	WS516 ESZ	1.00	SOLID	Semi Volatiles in soils by GC-MS	Pyrene	Sample holding time exceeded
4108202	WS516 ESZ	1.00	SOLID	Semi Volatiles in soils by GC-MS	Pyridine	Sample holding time exceeded
4108202	WS516 ESZ	1.00	SOLID	Semi Volatiles in soils by GC-MS	Safrole	Sample holding time exceeded
4109513	WS517 ESZ	0.10	SOLID	Ammoniacal N as NH4 in 2:1 extract	Ammoniacal N as NH4 in 2:1	Sample holding time exceeded
					extract BRE	· · ·
4109688	CP502 ESZ	0.20	SOLID	Semi Volatiles in soils by GC-MS	1,2,4,5-Tetrachlorobenzene	Sample holding time exceeded
4109688	CP502 ESZ	0.20	SOLID	Semi Volatiles in soils by GC-MS	1,2,4-Trichlorobenzene	Sample holding time exceeded
4109688	CP502 ESZ	0.20	SOLID	Semi Volatiles in soils by GC-MS	1,2-Dichlorobenzene	Sample holding time exceeded
4109688	CP502 ESZ	0.20	SOLID	Semi Volatiles in soils by GC-MS	1,3,5-Trinitrobenzene	Sample holding time exceeded
4109688	CP502 ESZ	0.20	SOLID	Semi Volatiles in soils by GC-MS	1,3-Dichlorobenzene	Sample holding time exceeded
4109688	CP502 ESZ	0.20	SOLID	Semi Volatiles in soils by GC-MS	1,3-Dinitrobenzene	Sample holding time exceeded
4109688	CP502 ESZ	0.20	SOLID	Semi Volatiles in soils by GC-MS	1,4-Dichlorobenzene	Sample holding time exceeded
4109688	CP502 ESZ	0.20	SOLID	Semi Volatiles in soils by GC-MS	1,4-Naphthoquinone	Sample holding time exceeded
4109688	CP502 ESZ	0.20	SOLID	Semi Volatiles in soils by GC-MS	1-Naphthylamine	Sample holding time exceeded

CERTIFICATE OF ANALYSIS

110812-132 Bicetser Central Eastern Land Parcels SDG: Location: Order Number: Job: H_WSP_BAS-9 WSP Environmental 147189 **Customer:** Report Number: Helen Gardiner Superseded Report:

Client Reference:				Attention: Helen Gardiner	Superseded Report:		
Sample	Customer	Depth (m)	Matrix	Test Name	Component Name	Comment	
Number 4109688	Sample Ref. CP502 ESZ	0.20	SOLID	Semi Volatiles in soils by GC-MS	2,3,4,6-Tetrachlorophenol	Sample holding time exceeded	
4109688	CP502 ESZ	0.20	SOLID	Semi Volatiles in soils by GC-MS	2,4,5-Trichlorophenol	Sample holding time exceeded	
4109688	CP502 ESZ	0.20	SOLID	•	2,4,5-Trichlorophenol		
4109688	CP502 ESZ	0.20	SOLID	Semi Volatiles in soils by GC-MS Semi Volatiles in soils by GC-MS	2,4,6-Trichlorophenol	Sample holding time exceeded Sample holding time exceeded	
	CP502 ESZ			·	·		
4109688	CP502 ESZ	0.20	SOLID	Semi Volatiles in soils by GC-MS	2,4-Dimethylphenol	Sample holding time exceeded	
4109688		0.20	SOLID	Semi Volatiles in soils by GC-MS	2,4-Dinitrophenol	Sample holding time exceeded	
4109688	CP502 ESZ CP502 ESZ	0.20	SOLID	Semi Volatiles in soils by GC-MS	2,4-Dinitrotoluene	Sample holding time exceeded	
4109688	CP502 ESZ	0.20	SOLID	Semi Volatiles in soils by GC-MS	2,6-Dichlorophenol	Sample holding time exceeded	
4109688	CP502 ESZ	0.20	SOLID	Semi Volatiles in soils by GC-MS	2,6-Dinitrotoluene	Sample holding time exceeded	
4109688	CP502 ESZ	0.20	SOLID	Semi Volatiles in soils by GC-MS	2-Acetylaminofluorene	Sample holding time exceeded	
4109688	CP502 ESZ	0.20	SOLID	Semi Volatiles in soils by GC-MS	2-Chloronaphthalene	Sample holding time exceeded	
4109688	CP502 ESZ	0.20	SOLID	Semi Volatiles in soils by GC-MS	2-Chlorophenol	Sample holding time exceeded	
4109688	CP502 ESZ	0.20	SOLID	Semi Volatiles in soils by GC-MS	2-Methyl-4,6-dinitrophenol	Sample holding time exceeded	
4109688	CP502 ESZ	0.20	SOLID	Semi Volatiles in soils by GC-MS	2-Methylnaphthalene	Sample holding time exceeded	
4109688	CP502 ESZ	0.20	SOLID	Semi Volatiles in soils by GC-MS	2-Methylphenol	Sample holding time exceeded	
4109688	CP502 ESZ	0.20	SOLID	Semi Volatiles in soils by GC-MS	2-Naphthylamine	Sample holding time exceeded	
4109688	CP502 ESZ	0.20	SOLID	Semi Volatiles in soils by GC-MS	2-Nitroaniline	Sample holding time exceeded	
4109688	CP502 ESZ	0.20	SOLID	Semi Volatiles in soils by GC-MS	2-Nitrophenol	Sample holding time exceeded	
4109688		0.20	SOLID	Semi Volatiles in soils by GC-MS	2-Picoline	Sample holding time exceeded	
4109688	CP502 ESZ	0.20	SOLID	Semi Volatiles in soils by GC-MS	3,3-Dichlorobenzidine	Sample holding time exceeded	
4109688	CP502 ESZ	0.20	SOLID	Semi Volatiles in soils by GC-MS	3,3-Dimethylbenzidine	Sample holding time exceeded	
4109688	CP502 ESZ	0.20	SOLID	Semi Volatiles in soils by GC-MS	3+4-Chlorophenol	Sample holding time exceeded	
4109688	CP502 ESZ	0.20	SOLID	Semi Volatiles in soils by GC-MS	3+4-Methylphenol	Sample holding time exceeded	
4109688	CP502 ESZ	0.20	SOLID	Semi Volatiles in soils by GC-MS	3-Methylcholanthrene	Sample holding time exceeded	
4109688	CP502 ESZ	0.20	SOLID	Semi Volatiles in soils by GC-MS	3-Nitroaniline	Sample holding time exceeded	
4109688	CP502 ESZ	0.20	SOLID	Semi Volatiles in soils by GC-MS	4-Aminobiphenyl	Sample holding time exceeded	
4109688	CP502 ESZ	0.20	SOLID	Semi Volatiles in soils by GC-MS	4-Bromophenylphenylether	Sample holding time exceeded	
4109688	CP502 ESZ	0.20	SOLID	Semi Volatiles in soils by GC-MS	4-Chloro-3-Methylphenol	Sample holding time exceeded	
4109688	CP502 ESZ	0.20	SOLID	Semi Volatiles in soils by GC-MS	4-Chlorophenylphenylether	Sample holding time exceeded	
4109688	CP502 ESZ	0.20	SOLID	Semi Volatiles in soils by GC-MS	4-Nitroaniline	Sample holding time exceeded	
4109688	CP502 ESZ	0.20	SOLID	Semi Volatiles in soils by GC-MS	4-Nitrophenol	Sample holding time exceeded	
4109688	CP502 ESZ	0.20	SOLID	Semi Volatiles in soils by GC-MS	5-Nitro-o-toluidine	Sample holding time exceeded	
4109688	CP502 ESZ CP502 ESZ	0.20	SOLID	Semi Volatiles in soils by GC-MS	7,12-Dimethylbenz(a)anthracene	Sample holding time exceeded	
4109688	CP502 ESZ	0.20	SOLID	Semi Volatiles in soils by GC-MS	Acenaphthene	Sample holding time exceeded	
4109688	CP502 ESZ	0.20	SOLID	Semi Volatiles in soils by GC-MS	Acenaphthylene	Sample holding time exceeded	
4109688	CP502 ESZ	0.20	SOLID	Semi Volatiles in soils by GC-MS	Acetophenone	Sample holding time exceeded	
4109688	CP502 ESZ	0.20	SOLID	Semi Volatiles in soils by GC-MS	Aniline	Sample holding time exceeded	
4109688	CP502 ESZ	0.20	SOLID	Semi Volatiles in soils by GC-MS	Anthracene	Sample holding time exceeded	
4109688	CP502 ESZ	0.20	SOLID	Semi Volatiles in soils by GC-MS	Azobenzene	Sample holding time exceeded	
4109688	CP502 ESZ	0.20	SOLID	Semi Volatiles in soils by GC-MS	Benzidine	Sample holding time exceeded	
4109688	CP502 ESZ	0.20	SOLID	Semi Volatiles in soils by GC-MS	Benzo(a)anthracene	Sample holding time exceeded	
4109688	CP502 ESZ	0.20	SOLID	Semi Volatiles in soils by GC-MS	Benzo(a)pyrene	Sample holding time exceeded	
4109688	CP502 ESZ	0.20	SOLID	Semi Volatiles in soils by GC-MS	Benzo(b)fluoranthene	Sample holding time exceeded	
4109688	CP502 ESZ	0.20	SOLID	Semi Volatiles in soils by GC-MS	Benzo(g,h,i)perylene	Sample holding time exceeded	
4109688	CP502 ESZ	0.20	SOLID	Semi Volatiles in soils by GC-MS	Benzo(k)fluoranthene	Sample holding time exceeded	
4109688		0.20	SOLID	Semi Volatiles in soils by GC-MS	Benzyl Alcohol	Sample holding time exceeded	
4109688	CP502 ESZ CP502 ESZ	0.20	SOLID	Semi Volatiles in soils by GC-MS	Bis(2-chloroethoxy)methane	Sample holding time exceeded	
4109688		0.20	SOLID	Semi Volatiles in soils by GC-MS	Bis(2-chloroethyl)ether	Sample holding time exceeded	
4109688	CP502 ESZ	0.20	SOLID	Semi Volatiles in soils by GC-MS	Bis(2-chloroisopropyl)ether	Sample holding time exceeded	
4109688	CP502 ESZ	0.20	SOLID	Semi Volatiles in soils by GC-MS	Bis(2-ethylhexyl)phthalate	Sample holding time exceeded	
4109688	CP502 ESZ	0.20	SOLID	Semi Volatiles in soils by GC-MS	Butyl Benzyl Phthalate	Sample holding time exceeded	
4109688	CP502 ESZ	0.20	SOLID	Semi Volatiles in soils by GC-MS	Carbazole	Sample holding time exceeded	
4109688	CP502 ESZ	0.20	SOLID	Semi Volatiles in soils by GC-MS	Chrone	Sample holding time exceeded	
4109688	CP502 ESZ	0.20	SOLID	Semi Volatiles in soils by GC-MS	Chrysene	Sample holding time exceeded	
4109688	CP502 ESZ	0.20	SOLID	Semi Volatiles in soils by GC-MS	Diallate	Sample holding time exceeded	
4109688	CP502 ESZ	0.20	SOLID	Semi Volatiles in soils by GC-MS	Dibenzo(a,h)anthracene	Sample holding time exceeded	
4109688	CP502 ESZ	0.20	SOLID	Semi Volatiles in soils by GC-MS	Dibenzofuran Diathyl Phthalata	Sample holding time exceeded	
4109688	CP502 ESZ	0.20	SOLID	Semi Volatiles in soils by GC-MS	Diethyl Phthalate	Sample holding time exceeded	
4109688	CP502 ESZ CP502 ESZ	0.20	SOLID	Semi Volatiles in soils by GC-MS	Dimethyl Phthalate	Sample holding time exceeded	
4109688	OI 302 E32	0.20	SOLID	Semi Volatiles in soils by GC-MS	Di-N-butyl Phthalate	Sample holding time exceeded	

CERTIFICATE OF ANALYSIS

110812-132 Bicetser Central Eastern Land Parcels SDG: Location: Order Number: Job: H_WSP_BAS-9 WSP Environmental 147189 **Customer:** Report Number: Attention: Helen Gardiner Superseded Report:

Client Reference:		Attention: Helen Gardiner		Superseded Report:		
Sample	Customer	Depth (m)	Matrix	Test Name	Component Name	Comment
Number 4109688	Sample Ref. CP502 ESZ	0.20	SOLID	Semi Volatiles in soils by GC-MS	Di-n-octylphthalate	Sample holding time exceeded
4109688	CP502 ESZ	0.20		•	• • • • • • • • • • • • • • • • • • • •	
4109688	CP502 ESZ	0.20	SOLID	Semi Volatiles in soils by GC-MS	Dinoseb Diphenylamine	Sample holding time exceeded
	CP502 ESZ			Semi Volatiles in soils by GC-MS	, ,	Sample holding time exceeded
4109688	CP502 ESZ	0.20	SOLID	Semi Volatiles in soils by GC-MS	Ethyl Methanesulfonate	Sample holding time exceeded
4109688		0.20	SOLID	Semi Volatiles in soils by GC-MS	Fluoranthene	Sample holding time exceeded
4109688	CP502 ESZ	0.20	SOLID	Semi Volatiles in soils by GC-MS	Fluorene	Sample holding time exceeded
4109688	CP502 ESZ	0.20	SOLID	Semi Volatiles in soils by GC-MS	Hexachlorobenzene	Sample holding time exceeded
4109688	CP502 ESZ	0.20	SOLID	Semi Volatiles in soils by GC-MS	Hexachlorobutadiene	Sample holding time exceeded
4109688	CP502 ESZ	0.20	SOLID	Semi Volatiles in soils by GC-MS	Hexachlorocyclopentadiene	Sample holding time exceeded
4109688	CP502 ESZ	0.20	SOLID	Semi Volatiles in soils by GC-MS	Hexachloroethane	Sample holding time exceeded
4109688	CP502 ESZ	0.20	SOLID	Semi Volatiles in soils by GC-MS	Hexachloropropene	Sample holding time exceeded
4109688	CP502 ESZ	0.20	SOLID	Semi Volatiles in soils by GC-MS	Indeno(1,2,3-c,d)pyrene	Sample holding time exceeded
4109688	CP502 ESZ	0.20	SOLID	Semi Volatiles in soils by GC-MS	Isodrin	Sample holding time exceeded
4109688	CP502 ESZ	0.20	SOLID	Semi Volatiles in soils by GC-MS	Isophorone	Sample holding time exceeded
4109688	CP502 ESZ	0.20	SOLID	Semi Volatiles in soils by GC-MS	Isosafrole	Sample holding time exceeded
4109688	CP502 ESZ	0.20	SOLID	Semi Volatiles in soils by GC-MS	Kepone	Sample holding time exceeded
4109688	CP502 ESZ	0.20	SOLID	Semi Volatiles in soils by GC-MS	Methyl Methanesulfonate	Sample holding time exceeded
4109688	CP502 ESZ	0.20	SOLID	Semi Volatiles in soils by GC-MS	Naphthalene	Sample holding time exceeded
4109688	CP502 ESZ	0.20	SOLID	Semi Volatiles in soils by GC-MS	Nitrobenzene	Sample holding time exceeded
4109688	CP502 ESZ	0.20	SOLID	Semi Volatiles in soils by GC-MS	N-Nitrosodiethylamine	Sample holding time exceeded
4109688	CP502 ESZ	0.20	SOLID	Semi Volatiles in soils by GC-MS	N-Nitrosodimethylamine	Sample holding time exceeded
4109688	CP502 ESZ	0.20	SOLID	Semi Volatiles in soils by GC-MS	N-Nitroso-di-N-butylamine	Sample holding time exceeded
4109688	CP502 ESZ	0.20	SOLID	Semi Volatiles in soils by GC-MS	N-Nitroso-di-N-propylamine	Sample holding time exceeded
4109688	CP502 ESZ	0.20	SOLID	•	• • • • • • • • • • • • • • • • • • • •	
	CP502 ESZ			Semi Volatiles in soils by GC-MS	N-Nitrosomethylethylamine	Sample holding time exceeded
4109688		0.20	SOLID	Semi Volatiles in soils by GC-MS	N-Nitrosopiperidine	Sample holding time exceeded
4109688	CP502 ESZ	0.20	SOLID	Semi Volatiles in soils by GC-MS	N-Nitrosopyrrolidine	Sample holding time exceeded
4109688	CP502 ESZ	0.20	SOLID	Semi Volatiles in soils by GC-MS	o-Toluidine	Sample holding time exceeded
4109688	CP502 ESZ	0.20	SOLID	Semi Volatiles in soils by GC-MS	p-Chloroaniline	Sample holding time exceeded
4109688	CP502 ESZ	0.20	SOLID	Semi Volatiles in soils by GC-MS	p-Dimethylaminoazobenzene	Sample holding time exceeded
4109688	CP502 ESZ	0.20	SOLID	Semi Volatiles in soils by GC-MS	Pentachlorobenzene	Sample holding time exceeded
4109688	CP502 ESZ	0.20	SOLID	Semi Volatiles in soils by GC-MS	Pentachloroethane	Sample holding time exceeded
4109688	CP502 ESZ	0.20	SOLID	Semi Volatiles in soils by GC-MS	Pentachloronitrobenzene	Sample holding time exceeded
4109688	CP502 ESZ	0.20	SOLID	Semi Volatiles in soils by GC-MS	Pentachlorophenol	Sample holding time exceeded
4109688	CP502 ESZ	0.20	SOLID	Semi Volatiles in soils by GC-MS	Phenacetin	Sample holding time exceeded
4109688	CP502 ESZ	0.20	SOLID	Semi Volatiles in soils by GC-MS	Phenanthrene	Sample holding time exceeded
4109688	CP502 ESZ	0.20	SOLID	Semi Volatiles in soils by GC-MS	Phenol	Sample holding time exceeded
4109688	CP502 ESZ	0.20	SOLID	Semi Volatiles in soils by GC-MS	Pronamide	Sample holding time exceeded
4109688	CP502 ESZ	0.20	SOLID	Semi Volatiles in soils by GC-MS	Pyrene	Sample holding time exceeded
4109688	CP502 ESZ	0.20	SOLID	Semi Volatiles in soils by GC-MS	Pyridine	Sample holding time exceeded
4109688	CP502 ESZ	0.20	SOLID	Semi Volatiles in soils by GC-MS	Safrole	Sample holding time exceeded
4110132	WS510 ESZ	0.10	SOLID	Ammoniacal N as NH4 in 2:1 extract	Ammoniacal N as NH4 in 2:1	Sample holding time exceeded
4110856	CP505 ESZ	0.20	SOLID	Ammoniacal N as NH4 in 2:1 extract	extract BRE Ammoniacal N as NH4 in 2:1	Sample holding time exceeded
					extract BRE	
4121982	WS501 ESZ	0.20	SOLID	Semi Volatiles in soils by GC-MS	1,2,4,5-Tetrachlorobenzene	Sample holding time exceeded
4121982	WS501 ESZ	0.20	SOLID	Semi Volatiles in soils by GC-MS	1,2,4-Trichlorobenzene	Sample holding time exceeded
4121982	WS501 ESZ	0.20	SOLID	Semi Volatiles in soils by GC-MS	1,2-Dichlorobenzene	Sample holding time exceeded
4121982	WS501 ESZ	0.20	SOLID	Semi Volatiles in soils by GC-MS	1,3,5-Trinitrobenzene	Sample holding time exceeded
4121982	WS501 ESZ	0.20	SOLID	Semi Volatiles in soils by GC-MS	1,3-Dichlorobenzene	Sample holding time exceeded
4121982	WS501 ESZ	0.20	SOLID	Semi Volatiles in soils by GC-MS	1,3-Dinitrobenzene	Sample holding time exceeded
4121982	WS501 ESZ	0.20	SOLID	Semi Volatiles in soils by GC-MS	1,4-Dichlorobenzene	Sample holding time exceeded
4121982	WS501 ESZ	0.20	SOLID	Semi Volatiles in soils by GC-MS	1,4-Naphthoquinone	Sample holding time exceeded
4121982	WS501 ESZ	0.20	SOLID	Semi Volatiles in soils by GC-MS	1-Naphthylamine	Sample holding time exceeded
4121982	WS501 ESZ	0.20	SOLID	Semi Volatiles in soils by GC-MS	2,3,4,6-Tetrachlorophenol	Sample holding time exceeded
4121982	WS501 ESZ	0.20	SOLID	Semi Volatiles in soils by GC-MS	2,4,5-Trichlorophenol	Sample holding time exceeded
4121982	WS501 ESZ	0.20	SOLID	Semi Volatiles in soils by GC-MS	2,4,6-Trichlorophenol	Sample holding time exceeded
4121982	WS501 ESZ	0.20	SOLID	Semi Volatiles in soils by GC-MS	2,4-Dichlorophenol	Sample holding time exceeded
4121982	WS501 ESZ	0.20	SOLID	Semi Volatiles in soils by GC-MS	2,4-Dimethylphenol	Sample holding time exceeded
4121982	WS501 ESZ	0.20	SOLID	Semi Volatiles in soils by GC-MS	2,4-Dinitrophenol	Sample holding time exceeded
4121982	WS501 ESZ	0.20	SOLID	Semi Volatiles in soils by GC-MS	2,4-Dinitrotoluene	Sample holding time exceeded
4121982	WS501 ESZ	0.20	SOLID	Semi Volatiles in soils by GC-MS	2,6-Dichlorophenol	Sample holding time exceeded
-					,	and the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of t

CERTIFICATE OF ANALYSIS

110812-132 Ricetser Central Fastern Land Parcels SDG Location: Order Number: H WSP BAS-9 147189 Job: WSP Environmental Attention: Helen Gardiner Superseded Report:

Client Reference:

Sample Customer Depth (m) Matrix **Test Name** Component Name Comment Sample Re 4121982 WS501 FS7 0.20 SOLID Semi Volatiles in soils by GC-MS 2,6-Dinitrotoluene Sample holding time exceeded 4121982 WS501 ESZ 0.20 SOLID Semi Volatiles in soils by GC-MS 2-Acetylaminofluorene Sample holding time exceeded WS501 ESZ 4121982 0.20 SOLID Semi Volatiles in soils by GC-MS 2-Chloronaphthalene Sample holding time exceeded WS501 ESZ 4121982 0.20 **SOLID** Semi Volatiles in soils by GC-MS 2-Chlorophenol Sample holding time exceeded WS501 ESZ 4121982 0.20 SOLID Semi Volatiles in soils by GC-MS 2-Methyl-4,6-dinitrophenol Sample holding time exceeded 4121982 WS501 FS7 0.20 SOLID Semi Volatiles in soils by GC-MS 2-Methylnaphthalene Sample holding time exceeded WS501 FS7 4121982 0.20 SOLID Semi Volatiles in soils by GC-MS 2-Methylphenol Sample holding time exceeded 4121982 WS501 ESZ 0.20 Sample holding time exceeded SOLID Semi Volatiles in soils by GC-MS 2-Naphthylamine 4121982 WS501 ESZ 0.20 SOLID Semi Volatiles in soils by GC-MS 2-Nitroaniline Sample holding time exceeded 4121982 WS501 ESZ 0.20 SOLID Semi Volatiles in soils by GC-MS 2-Nitrophenol Sample holding time exceeded 4121982 WS501 FS7 0.20 SOLID Semi Volatiles in soils by GC-MS 2-Picoline Sample holding time exceeded WS501 ESZ 4121982 0.20 SOLID Semi Volatiles in soils by GC-MS 3,3-Dichlorobenzidine Sample holding time exceeded WS501 ESZ Sample holding time exceeded 4121982 0.20 SOLID Semi Volatiles in soils by GC-MS 3.3-Dimethylbenzidine WS501 ESZ 4121982 0.20 SOLID Semi Volatiles in soils by GC-MS 3+4-Chloropheno Sample holding time exceeded 4121982 WS501 ESZ 0.20 SOLID Semi Volatiles in soils by GC-MS 3+4-Methylpheno Sample holding time exceeded WS501 ESZ Sample holding time exceeded 4121982 0.20 SOLID Semi Volatiles in soils by GC-MS 3-Methylcholanthrene WS501 ESZ 4121982 0.20 SOLID Semi Volatiles in soils by GC-MS 3-Nitroaniline Sample holding time exceeded Sample holding time exceeded WS501 ESZ 4121982 0.20 SOLID Semi Volatiles in soils by GC-MS 4-Aminobiphenyl WS501 ESZ 0.20 SOLID Semi Volatiles in soils by GC-MS 4121982 4-Bromophenvlphenvlether Sample holding time exceeded 4121982 WS501 ESZ 0.20 SOLID Semi Volatiles in soils by GC-MS 4-Chloro-3-Methylphenol Sample holding time exceeded 4121982 WS501 FS7 0.20 SOLID Semi Volatiles in soils by GC-MS 4-Chlorophenylphenylether Sample holding time exceeded WS501 ESZ 4121982 0.20 SOLID Semi Volatiles in soils by GC-MS 4-Nitroaniline Sample holding time exceeded WS501 FS7 Sample holding time exceeded 4121982 0.20 SOLID Semi Volatiles in soils by GC-MS 4-Nitrophenol 4121982 WS501 FS7 0.20 **SOLID** Semi Volatiles in soils by GC-MS 5-Nitro-o-toluidine Sample holding time exceeded WS501 ESZ 4121982 0.20 SOLID Semi Volatiles in soils by GC-MS 7,12-Dimethylbenz(a)anthracene Sample holding time exceeded WS501 ESZ 0.20 4121982 SOLID Semi Volatiles in soils by GC-MS Acenaphthene Sample holding time exceeded WS501 ESZ 4121982 0.20 SOLID Semi Volatiles in soils by GC-MS Acenaphthylene Sample holding time exceeded 4121982 WS501 ESZ 0.20 SOLID Semi Volatiles in soils by GC-MS Sample holding time exceeded Acetophenone WS501 ESZ 4121982 0.20 SOLID Semi Volatiles in soils by GC-MS Aniline Sample holding time exceeded 4121982 WS501 ESZ 0.20 SOLID Semi Volatiles in soils by GC-MS Anthracene Sample holding time exceeded WS501 ESZ 4121982 0.20 **SOLID** Semi Volatiles in soils by GC-MS Azobenzene Sample holding time exceeded WS501 ESZ 4121982 0.20 SOLID Semi Volatiles in soils by GC-MS Benzidine Sample holding time exceeded WS501 ESZ 4121982 0.20 SOLID Semi Volatiles in soils by GC-MS Benzo(a)anthracene Sample holding time exceeded WS501 ESZ 4121982 0.20 SOLID Semi Volatiles in soils by GC-MS Benzo(a)pyrene Sample holding time exceeded WS501 ESZ 4121982 0.20 SOLID Semi Volatiles in soils by GC-MS Benzo(b)fluoranthene Sample holding time exceeded 4121982 WS501 ESZ 0.20 SOLID Semi Volatiles in soils by GC-MS Benzo(g,h,i)perylene Sample holding time exceeded WS501 ESZ 4121982 0.20 SOLID Semi Volatiles in soils by GC-MS Benzo(k)fluoranthene Sample holding time exceeded 4121982 WS501 ESZ 0.20 SOLID Semi Volatiles in soils by GC-MS Benzyl Alcohol Sample holding time exceeded 4121982 WS501 ESZ 0.20 SOLID Semi Volatiles in soils by GC-MS Bis(2-chloroethoxy)methane Sample holding time exceeded WS501 ESZ SOLID Sample holding time exceeded 4121982 0.20 Semi Volatiles in soils by GC-MS Bis(2-chloroethyl)ether WS501 FS7 4121982 0.20 **SOLID** Semi Volatiles in soils by GC-MS Bis(2-chloroisopropyl)ether Sample holding time exceeded WS501 ESZ 4121982 0.20 SOLID Semi Volatiles in soils by GC-MS Bis(2-ethylhexyl)phthalate Sample holding time exceeded 4121982 WS501 ESZ 0.20 SOLID Semi Volatiles in soils by GC-MS **Butyl Benzyl Phthalate** Sample holding time exceeded 4121982 WS501 ESZ 0.20 SOLID Semi Volatiles in soils by GC-MS Carbazole Sample holding time exceeded WS501 ESZ 4121982 0.20 SOLID Semi Volatiles in soils by GC-MS Chlorobenzilate Sample holding time exceeded WS501 ESZ 4121982 0.20 SOLID Semi Volatiles in soils by GC-MS Chrysene Sample holding time exceeded WS501 ESZ 4121982 0.20 SOLID Semi Volatiles in soils by GC-MS Diallate Sample holding time exceeded 4121982 WS501 ESZ 0.20 **SOLID** Semi Volatiles in soils by GC-MS Dibenzo(a,h)anthracene Sample holding time exceeded 4121982 WS501 ESZ 0.20 SOLID Semi Volatiles in soils by GC-MS Dibenzofuran Sample holding time exceeded WS501 ESZ 4121982 Diethyl Phthalate Sample holding time exceeded 0.20 SOLID Semi Volatiles in soils by GC-MS 4121982 WS501 FS7 0.20 SOLID Semi Volatiles in soils by GC-MS Dimethyl Phthalate Sample holding time exceeded 4121982 WS501 ESZ 0.20 SOLID Semi Volatiles in soils by GC-MS Di-N-butyl Phthalate Sample holding time exceeded WS501 ESZ 0.20 SOLID Sample holding time exceeded 4121982 Semi Volatiles in soils by GC-MS Di-n-octylphthalate WS501 ESZ 4121982 0.20 SOLID Semi Volatiles in soils by GC-MS Dinoseb Sample holding time exceeded WS501 ESZ 4121982 0.20 SOLID Semi Volatiles in soils by GC-MS Diphenylamine Sample holding time exceeded WS501 ESZ 4121982 0.20 SOLID Semi Volatiles in soils by GC-MS Ethyl Methanesulfonate Sample holding time exceeded 4121982 WS501 ESZ SOLID Semi Volatiles in soils by GC-MS Sample holding time exceeded 0.20 Fluoranthene 4121982 WS501 ESZ 0.20 SOLID Semi Volatiles in soils by GC-MS Sample holding time exceeded Fluorene WS501 ESZ 4121982 0.20 **SOLID** Semi Volatiles in soils by GC-MS Hexachlorobenzene Sample holding time exceeded WS501 ESZ 4121982 0.20 SOLID Semi Volatiles in soils by GC-MS Hexachlorobutadiene Sample holding time exceeded

CERTIFICATE OF ANALYSIS

110812-132 Location: Bicetser Central Eastern Land Parcels Order Number:
H_WSP_BAS-9 Customer: WSP Environmental Report Number: 147189
ce: Attention: Helen Gardiner Superseded Report:

Client Reference:

SDG:

Job:

Client Refer	ence.			Attention: Helen Gardiner	Superseded Repo	11.
Sample	Customer	Depth (m)	Matrix	Test Name	Component Name	Comment
Number 4121982	Sample Ref. WS501 ESZ	0.20	SOLID	Semi Volatiles in soils by GC-MS	Hexachlorocyclopentadiene	Sample holding time exceeded
4121982	WS501 ESZ	0.20	SOLID	•	Hexachloroethane	· · · ·
4121982	WS501 ESZ	0.20	SOLID	Semi Volatiles in soils by GC-MS		Sample holding time exceeded
4121982	WS501 ESZ		SOLID	Semi Volatiles in soils by GC-MS	Hexachloropropene	Sample holding time exceeded
	WS501 ESZ	0.20		Semi Volatiles in soils by GC-MS	Indeno(1,2,3-c,d)pyrene	Sample holding time exceeded
4121982		0.20	SOLID	Semi Volatiles in soils by GC-MS	Isodrin	Sample holding time exceeded
4121982	WS501 ESZ	0.20	SOLID	Semi Volatiles in soils by GC-MS	Isophorone	Sample holding time exceeded
4121982	WS501 ESZ	0.20	SOLID	Semi Volatiles in soils by GC-MS	Isosafrole	Sample holding time exceeded
4121982	WS501 ESZ	0.20	SOLID	Semi Volatiles in soils by GC-MS	Kepone	Sample holding time exceeded
4121982	WS501 ESZ	0.20	SOLID	Semi Volatiles in soils by GC-MS	Methyl Methanesulfonate	Sample holding time exceeded
4121982	WS501 ESZ	0.20	SOLID	Semi Volatiles in soils by GC-MS	Naphthalene	Sample holding time exceeded
4121982	WS501 ESZ	0.20	SOLID	Semi Volatiles in soils by GC-MS	Nitrobenzene	Sample holding time exceeded
4121982	WS501 ESZ	0.20	SOLID	Semi Volatiles in soils by GC-MS	N-Nitrosodiethylamine	Sample holding time exceeded
4121982	WS501 ESZ	0.20	SOLID	Semi Volatiles in soils by GC-MS	N-Nitrosodimethylamine	Sample holding time exceeded
4121982	WS501 ESZ	0.20	SOLID	Semi Volatiles in soils by GC-MS	N-Nitroso-di-N-butylamine	Sample holding time exceeded
4121982	WS501 ESZ	0.20	SOLID	Semi Volatiles in soils by GC-MS	N-Nitroso-di-N-propylamine	Sample holding time exceeded
4121982	WS501 ESZ	0.20	SOLID	Semi Volatiles in soils by GC-MS	N-Nitrosomethylethylamine	Sample holding time exceeded
4121982	WS501 ESZ	0.20	SOLID	Semi Volatiles in soils by GC-MS	N-Nitrosopiperidine	Sample holding time exceeded
4121982	WS501 ESZ	0.20	SOLID	Semi Volatiles in soils by GC-MS	N-Nitrosopyrrolidine	Sample holding time exceeded
4121982	WS501 ESZ	0.20	SOLID	Semi Volatiles in soils by GC-MS	o-Toluidine	Sample holding time exceeded
	WS501 ESZ			•		
4121982		0.20	SOLID	Semi Volatiles in soils by GC-MS	p-Chloroaniline	Sample holding time exceeded
4121982	WS501 ESZ	0.20	SOLID	Semi Volatiles in soils by GC-MS	p-Dimethylaminoazobenzene	Sample holding time exceeded
4121982	WS501 ESZ	0.20	SOLID	Semi Volatiles in soils by GC-MS	Pentachlorobenzene	Sample holding time exceeded
4121982	WS501 ESZ	0.20	SOLID	Semi Volatiles in soils by GC-MS	Pentachloroethane	Sample holding time exceeded
4121982	WS501 ESZ	0.20	SOLID	Semi Volatiles in soils by GC-MS	Pentachloronitrobenzene	Sample holding time exceeded
4121982	WS501 ESZ	0.20	SOLID	Semi Volatiles in soils by GC-MS	Pentachlorophenol	Sample holding time exceeded
4121982	WS501 ESZ	0.20	SOLID	Semi Volatiles in soils by GC-MS	Phenacetin	Sample holding time exceeded
4121982	WS501 ESZ	0.20	SOLID	Semi Volatiles in soils by GC-MS	Phenanthrene	Sample holding time exceeded
4121982	WS501 ESZ	0.20	SOLID	Semi Volatiles in soils by GC-MS	Phenol	Sample holding time exceeded
4121982	WS501 ESZ	0.20	SOLID	Semi Volatiles in soils by GC-MS	Pronamide	Sample holding time exceeded
4121982	WS501 ESZ	0.20	SOLID	Semi Volatiles in soils by GC-MS	Pyrene	Sample holding time exceeded
4121982	WS501 ESZ	0.20	SOLID	Semi Volatiles in soils by GC-MS	Pyridine	Sample holding time exceeded
4121982	WS501 ESZ	0.20	SOLID	Semi Volatiles in soils by GC-MS	Safrole	Sample holding time exceeded
4122139	WS503 ESZ	0.10	SOLID	Semi Volatiles in soils by GC-MS	1,2,4,5-Tetrachlorobenzene	Sample holding time exceeded
4122139	WS503 ESZ	0.10	SOLID	Semi Volatiles in soils by GC-MS	1,2,4-Trichlorobenzene	Sample holding time exceeded
4122139	WS503 ESZ	0.10	SOLID	Semi Volatiles in soils by GC-MS	1,2-Dichlorobenzene	Sample holding time exceeded
4122139	WS503 ESZ	0.10	SOLID	Semi Volatiles in soils by GC-MS	1,3,5-Trinitrobenzene	Sample holding time exceeded
4122139	WS503 ESZ		SOLID			
		0.10		Semi Volatiles in soils by GC-MS	1,3-Dichlorobenzene	Sample holding time exceeded
4122139	WS503 ESZ	0.10	SOLID	Semi Volatiles in soils by GC-MS	1,3-Dinitrobenzene	Sample holding time exceeded
4122139	WS503 ESZ	0.10	SOLID	Semi Volatiles in soils by GC-MS	1,4-Dichlorobenzene	Sample holding time exceeded
4122139	WS503 ESZ	0.10	SOLID	Semi Volatiles in soils by GC-MS	1,4-Naphthoquinone	Sample holding time exceeded
4122139	WS503 ESZ	0.10	SOLID	Semi Volatiles in soils by GC-MS	1-Naphthylamine	Sample holding time exceeded
4122139	WS503 ESZ	0.10	SOLID	Semi Volatiles in soils by GC-MS	2,3,4,6-Tetrachlorophenol	Sample holding time exceeded
4122139	WS503 ESZ	0.10	SOLID	Semi Volatiles in soils by GC-MS	2,4,5-Trichlorophenol	Sample holding time exceeded
4122139	WS503 ESZ	0.10	SOLID	Semi Volatiles in soils by GC-MS	2,4,6-Trichlorophenol	Sample holding time exceeded
4122139	WS503 ESZ	0.10	SOLID	Semi Volatiles in soils by GC-MS	2,4-Dichlorophenol	Sample holding time exceeded
4122139	WS503 ESZ	0.10	SOLID	Semi Volatiles in soils by GC-MS	2,4-Dimethylphenol	Sample holding time exceeded
4122139	WS503 ESZ	0.10	SOLID	Semi Volatiles in soils by GC-MS	2,4-Dinitrophenol	Sample holding time exceeded
4122139	WS503 ESZ	0.10	SOLID	Semi Volatiles in soils by GC-MS	2,4-Dinitrotoluene	Sample holding time exceeded
4122139	WS503 ESZ	0.10	SOLID	Semi Volatiles in soils by GC-MS	2,6-Dichlorophenol	Sample holding time exceeded
4122139	WS503 ESZ	0.10	SOLID	Semi Volatiles in soils by GC-MS	2,6-Dinitrotoluene	Sample holding time exceeded
4122139	WS503 ESZ	0.10	SOLID	Semi Volatiles in soils by GC-MS	2-Acetylaminofluorene	Sample holding time exceeded
4122139	WS503 ESZ	0.10	SOLID	Semi Volatiles in soils by GC-MS	2-Chloronaphthalene	Sample holding time exceeded
4122139	WS503 ESZ	0.10	SOLID	Semi Volatiles in soils by GC-MS	2-Chlorophenol	Sample holding time exceeded
	WS503 ESZ			•	•	
4122139		0.10	SOLID	Semi Volatiles in soils by GC-MS	2-Methyl-4,6-dinitrophenol	Sample holding time exceeded
4122139	WS503 ESZ	0.10	SOLID	Semi Volatiles in soils by GC-MS	2-Methylnaphthalene	Sample holding time exceeded
4122139	WS503 ESZ	0.10	SOLID	Semi Volatiles in soils by GC-MS	2-Methylphenol	Sample holding time exceeded
4122139	WS503 ESZ	0.10	SOLID	Semi Volatiles in soils by GC-MS	2-Naphthylamine	Sample holding time exceeded
4122139	WS503 ESZ	0.10	SOLID	Semi Volatiles in soils by GC-MS	2-Nitroaniline	Sample holding time exceeded
4122139	WS503 ESZ	0.10	SOLID	Semi Volatiles in soils by GC-MS	2-Nitrophenol	Sample holding time exceeded
4122139	WS503 ESZ	0.10	SOLID	Semi Volatiles in soils by GC-MS	2-Picoline	Sample holding time exceeded

CERTIFICATE OF ANALYSIS

110812-132 Bicetser Central Eastern Land Parcels SDG: Location: Order Number: Job: H_WSP_BAS-9 WSP Environmental 147189 **Customer:** Report Number: Helen Gardiner Superseded Report:

Client Reference:		Attention: Helen Gardiner		Superseded Report:		
Sample	Customer	Depth (m)	Matrix	Test Name	Component Name	Comment
Number 4122139	Sample Ref. WS503 ESZ	0.10	SOLID	Semi Volatiles in soils by GC-MS	3,3-Dichlorobenzidine	Sample holding time exceeded
4122139	WS503 ESZ	0.10	SOLID	Semi Volatiles in soils by GC-MS	3,3-Dimethylbenzidine	Sample holding time exceeded
4122139	WS503 ESZ	0.10	SOLID	•	•	Sample holding time exceeded
4122139	WS503 ESZ WS503 ESZ	0.10	SOLID	Semi Volatiles in soils by GC-MS Semi Volatiles in soils by GC-MS	3+4-Chlorophenol 3+4-Methylphenol	, ,
	WS503 ESZ			•	* *	Sample holding time exceeded
4122139		0.10	SOLID	Semi Volatiles in soils by GC-MS	3-Methylcholanthrene	Sample holding time exceeded
4122139	WS503 ESZ	0.10	SOLID	Semi Volatiles in soils by GC-MS	3-Nitroaniline	Sample holding time exceeded
4122139	WS503 ESZ	0.10	SOLID	Semi Volatiles in soils by GC-MS	4-Aminobiphenyl	Sample holding time exceeded
4122139	WS503 ESZ	0.10	SOLID	Semi Volatiles in soils by GC-MS	4-Bromophenylphenylether	Sample holding time exceeded
4122139	WS503 ESZ	0.10	SOLID	Semi Volatiles in soils by GC-MS	4-Chloro-3-Methylphenol	Sample holding time exceeded
4122139	WS503 ESZ	0.10	SOLID	Semi Volatiles in soils by GC-MS	4-Chlorophenylphenylether	Sample holding time exceeded
4122139	WS503 ESZ	0.10	SOLID	Semi Volatiles in soils by GC-MS	4-Nitroaniline	Sample holding time exceeded
4122139	WS503 ESZ	0.10	SOLID	Semi Volatiles in soils by GC-MS	4-Nitrophenol	Sample holding time exceeded
4122139	WS503 ESZ	0.10	SOLID	Semi Volatiles in soils by GC-MS	5-Nitro-o-toluidine	Sample holding time exceeded
4122139	WS503 ESZ	0.10	SOLID	Semi Volatiles in soils by GC-MS	7,12-Dimethylbenz(a)anthracene	Sample holding time exceeded
4122139	WS503 ESZ	0.10	SOLID	Semi Volatiles in soils by GC-MS	Acenaphthene	Sample holding time exceeded
4122139	WS503 ESZ	0.10	SOLID	Semi Volatiles in soils by GC-MS	Acenaphthylene	Sample holding time exceeded
4122139	WS503 ESZ	0.10	SOLID	Semi Volatiles in soils by GC-MS	Acetophenone	Sample holding time exceeded
4122139	WS503 ESZ	0.10	SOLID	Semi Volatiles in soils by GC-MS	Aniline	Sample holding time exceeded
4122139	WS503 ESZ	0.10	SOLID	Semi Volatiles in soils by GC-MS	Anthracene	Sample holding time exceeded
4122139	WS503 ESZ	0.10	SOLID	Semi Volatiles in soils by GC-MS	Azobenzene	Sample holding time exceeded
4122139	WS503 ESZ	0.10	SOLID	Semi Volatiles in soils by GC-MS	Benzidine	Sample holding time exceeded
4122139	WS503 ESZ	0.10	SOLID	Semi Volatiles in soils by GC-MS	Benzo(a)anthracene	Sample holding time exceeded
4122139	WS503 ESZ	0.10	SOLID	Semi Volatiles in soils by GC-MS	Benzo(a)pyrene	Sample holding time exceeded
4122139	WS503 ESZ	0.10	SOLID	Semi Volatiles in soils by GC-MS	Benzo(b)fluoranthene	Sample holding time exceeded
4122139	WS503 ESZ	0.10	SOLID	Semi Volatiles in soils by GC-MS	Benzo(g,h,i)perylene	Sample holding time exceeded
4122139	WS503 ESZ	0.10	SOLID	Semi Volatiles in soils by GC-MS	Benzo(k)fluoranthene	Sample holding time exceeded
4122139	WS503 ESZ	0.10	SOLID	Semi Volatiles in soils by GC-MS	Benzyl Alcohol	Sample holding time exceeded
4122139	WS503 ESZ	0.10	SOLID	Semi Volatiles in soils by GC-MS	Bis(2-chloroethoxy)methane	Sample holding time exceeded
4122139	WS503 ESZ	0.10	SOLID	Semi Volatiles in soils by GC-MS	Bis(2-chloroethyl)ether	Sample holding time exceeded
4122139	WS503 ESZ	0.10	SOLID	Semi Volatiles in soils by GC-MS	Bis(2-chloroisopropyl)ether	Sample holding time exceeded
4122139	WS503 ESZ	0.10	SOLID	Semi Volatiles in soils by GC-MS	Bis(2-ethylhexyl)phthalate	Sample holding time exceeded
4122139	WS503 ESZ	0.10	SOLID	Semi Volatiles in soils by GC-MS	Butyl Benzyl Phthalate	Sample holding time exceeded
4122139	WS503 ESZ	0.10	SOLID	Semi Volatiles in soils by GC-MS	Carbazole	Sample holding time exceeded
4122139	WS503 ESZ	0.10	SOLID	Semi Volatiles in soils by GC-MS	Chlorobenzilate	Sample holding time exceeded
4122139	WS503 ESZ	0.10	SOLID	Semi Volatiles in soils by GC-MS	Chrysene	Sample holding time exceeded
4122139	WS503 ESZ	0.10	SOLID	Semi Volatiles in soils by GC-MS	Diallate	Sample holding time exceeded
4122139	WS503 ESZ	0.10	SOLID	Semi Volatiles in soils by GC-MS	Dibenzo(a,h)anthracene	Sample holding time exceeded
4122139	WS503 ESZ	0.10	SOLID	Semi Volatiles in soils by GC-MS	Dibenzofuran	Sample holding time exceeded
4122139	WS503 ESZ	0.10	SOLID	Semi Volatiles in soils by GC-MS		, ,
	WS503 ESZ		SOLID	•	Diethyl Phthalate	Sample holding time exceeded
4122139	WS503 ESZ	0.10		Semi Volatiles in soils by GC-MS	Dimethyl Phthalate	Sample holding time exceeded
4122139		0.10	SOLID	Semi Volatiles in soils by GC-MS	Di-N-butyl Phthalate	Sample holding time exceeded
4122139	WS503 ESZ	0.10	SOLID	Semi Volatiles in soils by GC-MS	Di-n-octylphthalate	Sample holding time exceeded
4122139	WS503 ESZ	0.10	SOLID	Semi Volatiles in soils by GC-MS	Dinoseb	Sample holding time exceeded
4122139	WS503 ESZ	0.10	SOLID	Semi Volatiles in soils by GC-MS	Diphenylamine	Sample holding time exceeded
4122139	WS503 ESZ	0.10	SOLID	Semi Volatiles in soils by GC-MS	Ethyl Methanesulfonate	Sample holding time exceeded
4122139	WS503 ESZ	0.10	SOLID	Semi Volatiles in soils by GC-MS	Fluoranthene	Sample holding time exceeded
4122139	WS503 ESZ	0.10	SOLID	Semi Volatiles in soils by GC-MS	Fluorene	Sample holding time exceeded
4122139	WS503 ESZ	0.10	SOLID	Semi Volatiles in soils by GC-MS	Hexachlorobenzene	Sample holding time exceeded
4122139	WS503 ESZ	0.10	SOLID	Semi Volatiles in soils by GC-MS	Hexachlorobutadiene	Sample holding time exceeded
4122139	WS503 ESZ	0.10	SOLID	Semi Volatiles in soils by GC-MS	Hexachlorocyclopentadiene	Sample holding time exceeded
4122139	WS503 ESZ	0.10	SOLID	Semi Volatiles in soils by GC-MS	Hexachloroethane	Sample holding time exceeded
4122139	WS503 ESZ	0.10	SOLID	Semi Volatiles in soils by GC-MS	Hexachloropropene	Sample holding time exceeded
4122139	WS503 ESZ	0.10	SOLID	Semi Volatiles in soils by GC-MS	Indeno(1,2,3-c,d)pyrene	Sample holding time exceeded
4122139	WS503 ESZ	0.10	SOLID	Semi Volatiles in soils by GC-MS	Isodrin	Sample holding time exceeded
4122139	WS503 ESZ	0.10	SOLID	Semi Volatiles in soils by GC-MS	Isophorone	Sample holding time exceeded
4122139	WS503 ESZ	0.10	SOLID	Semi Volatiles in soils by GC-MS	Isosafrole	Sample holding time exceeded
4122139	WS503 ESZ	0.10	SOLID	Semi Volatiles in soils by GC-MS	Kepone	Sample holding time exceeded
4122139	WS503 ESZ	0.10	SOLID	Semi Volatiles in soils by GC-MS	Methyl Methanesulfonate	Sample holding time exceeded
4122139	WS503 ESZ	0.10	SOLID	Semi Volatiles in soils by GC-MS	Naphthalene	Sample holding time exceeded
4122139	WS503 ESZ	0.10	SOLID	Semi Volatiles in soils by GC-MS	Nitrobenzene	Sample holding time exceeded
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CERTIFICATE OF ANALYSIS

110812-132 Bicetser Central Eastern Land Parcels SDG: Location: Order Number: Job: H_WSP_BAS-9 WSP Environmental 147189 **Customer:** Report Number: Attention: Helen Gardiner Superseded Report:

Client Reference:		Attention: Helen Gardiner		Helen Gardiner	Superseded Report:		
Sample	Customer	Depth (m)	Matrix		Test Name	Component Name	Comment
Number 4122139	Sample Ref. WS503 ESZ	0.10	SOLID	Semi Vo	latiles in soils by GC-MS	N-Nitrosodiethylamine	Sample holding time exceeded
4122139	WS503 ESZ	0.10	SOLID		•	•	
4122139	WS503 ESZ WS503 ESZ				latiles in soils by GC-MS	N-Nitrosodimethylamine	Sample holding time exceeded
	WS503 ESZ WS503 ESZ	0.10	SOLID		latiles in soils by GC-MS	N-Nitroso-di-N-butylamine	Sample holding time exceeded
4122139		0.10	SOLID		latiles in soils by GC-MS	N-Nitroso-di-N-propylamine	Sample holding time exceeded
4122139	WS503 ESZ	0.10	SOLID		latiles in soils by GC-MS	N-Nitrosomethylethylamine	Sample holding time exceeded
4122139	WS503 ESZ	0.10	SOLID		latiles in soils by GC-MS	N-Nitrosopiperidine	Sample holding time exceeded
4122139	WS503 ESZ	0.10	SOLID		latiles in soils by GC-MS	N-Nitrosopyrrolidine	Sample holding time exceeded
4122139	WS503 ESZ	0.10	SOLID		latiles in soils by GC-MS	o-Toluidine	Sample holding time exceeded
4122139	WS503 ESZ	0.10	SOLID		latiles in soils by GC-MS	p-Chloroaniline	Sample holding time exceeded
4122139	WS503 ESZ	0.10	SOLID	Semi Vo	latiles in soils by GC-MS	p-Dimethylaminoazobenzene	Sample holding time exceeded
4122139	WS503 ESZ	0.10	SOLID	Semi Vo	latiles in soils by GC-MS	Pentachlorobenzene	Sample holding time exceeded
4122139	WS503 ESZ	0.10	SOLID	Semi Vo	latiles in soils by GC-MS	Pentachloroethane	Sample holding time exceeded
4122139	WS503 ESZ	0.10	SOLID	Semi Vo	latiles in soils by GC-MS	Pentachloronitrobenzene	Sample holding time exceeded
4122139	WS503 ESZ	0.10	SOLID	Semi Vo	latiles in soils by GC-MS	Pentachlorophenol	Sample holding time exceeded
4122139	WS503 ESZ	0.10	SOLID	Semi Vo	latiles in soils by GC-MS	Phenacetin	Sample holding time exceeded
4122139	WS503 ESZ	0.10	SOLID	Semi Vo	latiles in soils by GC-MS	Phenanthrene	Sample holding time exceeded
4122139	WS503 ESZ	0.10	SOLID	Semi Vo	latiles in soils by GC-MS	Phenol	Sample holding time exceeded
4122139	WS503 ESZ	0.10	SOLID		latiles in soils by GC-MS	Pronamide	Sample holding time exceeded
4122139	WS503 ESZ	0.10	SOLID		latiles in soils by GC-MS	Pyrene	Sample holding time exceeded
4122139	WS503 ESZ	0.10	SOLID		latiles in soils by GC-MS	Pyridine	Sample holding time exceeded
4122139	WS503 ESZ	0.10	SOLID		latiles in soils by GC-MS	Safrole	Sample holding time exceeded
4122361	WS508 ESZ	1.40	SOLID		latiles in soils by GC-MS	1,2,4,5-Tetrachlorobenzene	Sample holding time exceeded
4122361	WS508 ESZ	1.40	SOLID		latiles in soils by GC-MS	1,2,4-Trichlorobenzene	Sample holding time exceeded
4122361	WS508 ESZ	1.40	SOLID		latiles in soils by GC-MS	1,2-Dichlorobenzene	Sample holding time exceeded
4122361	WS508 ESZ	1.40	SOLID		•		
	WS508 ESZ				latiles in soils by GC-MS	1,3,5-Trinitrobenzene	Sample holding time exceeded
4122361		1.40	SOLID		latiles in soils by GC-MS	1,3-Dichlorobenzene	Sample holding time exceeded
4122361	WS508 ESZ	1.40	SOLID		latiles in soils by GC-MS	1,3-Dinitrobenzene	Sample holding time exceeded
4122361	WS508 ESZ	1.40	SOLID		latiles in soils by GC-MS	1,4-Dichlorobenzene	Sample holding time exceeded
4122361	WS508 ESZ	1.40	SOLID		latiles in soils by GC-MS	1,4-Naphthoquinone	Sample holding time exceeded
4122361	WS508 ESZ	1.40	SOLID		latiles in soils by GC-MS	1-Naphthylamine	Sample holding time exceeded
4122361	WS508 ESZ	1.40	SOLID		latiles in soils by GC-MS	2,3,4,6-Tetrachlorophenol	Sample holding time exceeded
4122361	WS508 ESZ	1.40	SOLID		latiles in soils by GC-MS	2,4,5-Trichlorophenol	Sample holding time exceeded
4122361	WS508 ESZ	1.40	SOLID		latiles in soils by GC-MS	2,4,6-Trichlorophenol	Sample holding time exceeded
4122361	WS508 ESZ	1.40	SOLID	Semi Vo	latiles in soils by GC-MS	2,4-Dichlorophenol	Sample holding time exceeded
4122361	WS508 ESZ	1.40	SOLID	Semi Vo	latiles in soils by GC-MS	2,4-Dimethylphenol	Sample holding time exceeded
4122361	WS508 ESZ	1.40	SOLID	Semi Vo	latiles in soils by GC-MS	2,4-Dinitrophenol	Sample holding time exceeded
4122361	WS508 ESZ	1.40	SOLID	Semi Vo	latiles in soils by GC-MS	2,4-Dinitrotoluene	Sample holding time exceeded
4122361	WS508 ESZ	1.40	SOLID	Semi Vo	latiles in soils by GC-MS	2,6-Dichlorophenol	Sample holding time exceeded
4122361	WS508 ESZ	1.40	SOLID	Semi Vo	latiles in soils by GC-MS	2,6-Dinitrotoluene	Sample holding time exceeded
4122361	WS508 ESZ	1.40	SOLID	Semi Vo	latiles in soils by GC-MS	2-Acetylaminofluorene	Sample holding time exceeded
4122361	WS508 ESZ	1.40	SOLID	Semi Vo	latiles in soils by GC-MS	2-Chloronaphthalene	Sample holding time exceeded
4122361	WS508 ESZ	1.40	SOLID	Semi Vo	latiles in soils by GC-MS	2-Chlorophenol	Sample holding time exceeded
4122361	WS508 ESZ	1.40	SOLID	Semi Vo	latiles in soils by GC-MS	2-Methyl-4,6-dinitrophenol	Sample holding time exceeded
4122361	WS508 ESZ	1.40	SOLID	Semi Vo	latiles in soils by GC-MS	2-Methylnaphthalene	Sample holding time exceeded
4122361	WS508 ESZ	1.40	SOLID		latiles in soils by GC-MS	2-Methylphenol	Sample holding time exceeded
4122361	WS508 ESZ	1.40	SOLID		latiles in soils by GC-MS	2-Naphthylamine	Sample holding time exceeded
4122361	WS508 ESZ	1.40	SOLID		latiles in soils by GC-MS	2-Nitroaniline	Sample holding time exceeded
4122361	WS508 ESZ	1.40	SOLID		latiles in soils by GC-MS	2-Nitrophenol	Sample holding time exceeded
4122361	WS508 ESZ	1.40	SOLID		latiles in soils by GC-MS	2-Picoline	Sample holding time exceeded
4122361	WS508 ESZ	1.40	SOLID		latiles in soils by GC-MS	3,3-Dichlorobenzidine	Sample holding time exceeded
4122361	WS508 ESZ	1.40	SOLID		latiles in soils by GC-MS	3,3-Dimethylbenzidine	Sample holding time exceeded
4122361	WS508 ESZ	1.40			•	3+4-Chlorophenol	
			SOLID		latiles in soils by GC-MS	·	Sample holding time exceeded
4122361	WS508 ESZ	1.40	SOLID		latiles in soils by GC-MS	3+4-Methylphenol	Sample holding time exceeded
4122361	WS508 ESZ	1.40	SOLID		latiles in soils by GC-MS	3-Methylcholanthrene	Sample holding time exceeded
4122361	WS508 ESZ	1.40	SOLID		latiles in soils by GC-MS	3-Nitroaniline	Sample holding time exceeded
4122361	WS508 ESZ	1.40	SOLID		latiles in soils by GC-MS	4-Aminobiphenyl	Sample holding time exceeded
4122361	WS508 ESZ	1.40	SOLID		latiles in soils by GC-MS	4-Bromophenylphenylether	Sample holding time exceeded
4122361	WS508 ESZ	1.40	SOLID	Semi Vo	latiles in soils by GC-MS	4-Chloro-3-Methylphenol	Sample holding time exceeded
4122361	WS508 ESZ	1.40	SOLID	Semi Vo	latiles in soils by GC-MS	4-Chlorophenylphenylether	Sample holding time exceeded
4122361	WS508 ESZ	1.40	SOLID	Semi Vo	latiles in soils by GC-MS	4-Nitroaniline	Sample holding time exceeded

CERTIFICATE OF ANALYSIS

110812-132 Bicetser Central Eastern Land Parcels SDG: Location: Order Number: Job: H_WSP_BAS-9 WSP Environmental 147189 **Customer:** Report Number: Helen Gardiner Superseded Report:

Client Reference:			A	Attention: Helen Gardiner	Superseded I	Superseded Report:		
Sample	Customer	Depth (m)	Matrix	Test Name	Component Name	Comment		
Number 4122361	Sample Ref. WS508 ESZ	1.40	SOLID	Semi Volatiles in soils by GC		Sample holding time exceeded		
	WS508 ESZ	1.40	SOLID	•		· · · · ·		
4122361 4122361	WS508 ESZ		SOLID	Semi Volatiles in soils by GC Semi Volatiles in soils by GC		Sample holding time exceeded		
4122361	WS508 ESZ	1.40	SOLID	Semi Volatiles in soils by GC				
	WS508 ESZ			•	•	Sample holding time exceeded		
4122361		1.40	SOLID	Semi Volatiles in soils by GC	• •	Sample holding time exceeded		
4122361	WS508 ESZ	1.40	SOLID	Semi Volatiles in soils by GC	•	Sample holding time exceeded		
4122361	WS508 ESZ	1.40	SOLID	Semi Volatiles in soils by GC		Sample holding time exceeded		
4122361	WS508 ESZ	1.40	SOLID	Semi Volatiles in soils by GC		Sample holding time exceeded		
4122361	WS508 ESZ	1.40	SOLID	Semi Volatiles in soils by GC		Sample holding time exceeded		
4122361	WS508 ESZ	1.40	SOLID	Semi Volatiles in soils by GC	C-MS Benzidine	Sample holding time exceeded		
4122361	WS508 ESZ	1.40	SOLID	Semi Volatiles in soils by GC	C-MS Benzo(a)anthracene	Sample holding time exceeded		
4122361	WS508 ESZ	1.40	SOLID	Semi Volatiles in soils by GC	C-MS Benzo(a)pyrene	Sample holding time exceeded		
4122361	WS508 ESZ	1.40	SOLID	Semi Volatiles in soils by GC	C-MS Benzo(b)fluoranthene	Sample holding time exceeded		
4122361	WS508 ESZ	1.40	SOLID	Semi Volatiles in soils by GC	C-MS Benzo(g,h,i)perylene	Sample holding time exceeded		
4122361	WS508 ESZ	1.40	SOLID	Semi Volatiles in soils by GC	C-MS Benzo(k)fluoranthene	Sample holding time exceeded		
4122361	WS508 ESZ	1.40	SOLID	Semi Volatiles in soils by GC	C-MS Benzyl Alcohol	Sample holding time exceeded		
4122361	WS508 ESZ	1.40	SOLID	Semi Volatiles in soils by GC	C-MS Bis(2-chloroethoxy)methane	Sample holding time exceeded		
4122361	WS508 ESZ	1.40	SOLID	Semi Volatiles in soils by GC	C-MS Bis(2-chloroethyl)ether	Sample holding time exceeded		
4122361	WS508 ESZ	1.40	SOLID	Semi Volatiles in soils by GC	C-MS Bis(2-chloroisopropyl)ether	Sample holding time exceeded		
4122361	WS508 ESZ	1.40	SOLID	Semi Volatiles in soils by GC	C-MS Bis(2-ethylhexyl)phthalate	Sample holding time exceeded		
4122361	WS508 ESZ	1.40	SOLID	Semi Volatiles in soils by GC	C-MS Butyl Benzyl Phthalate	Sample holding time exceeded		
4122361	WS508 ESZ	1.40	SOLID	Semi Volatiles in soils by GC	• •	Sample holding time exceeded		
4122361	WS508 ESZ	1.40	SOLID	Semi Volatiles in soils by GC		Sample holding time exceeded		
4122361	WS508 ESZ	1.40	SOLID	Semi Volatiles in soils by GC		Sample holding time exceeded		
4122361	WS508 ESZ	1.40	SOLID	Semi Volatiles in soils by GC	•	Sample holding time exceeded		
4122361	WS508 ESZ	1.40	SOLID	Semi Volatiles in soils by GC		Sample holding time exceeded		
4122361	WS508 ESZ	1.40	SOLID	Semi Volatiles in soils by GC		Sample holding time exceeded		
4122361	WS508 ESZ	1.40	SOLID	Semi Volatiles in soils by GC		Sample holding time exceeded		
4122361	WS508 ESZ	1.40	SOLID	Semi Volatiles in soils by GC	·	Sample holding time exceeded		
4122361	WS508 ESZ	1.40	SOLID	-	•	•		
	WS508 ESZ			Semi Volatiles in soils by GC	•	Sample holding time exceeded		
4122361	WS508 ESZ	1.40	SOLID	Semi Volatiles in soils by GC		Sample holding time exceeded		
4122361	WS508 ESZ	1.40	SOLID	Semi Volatiles in soils by GC		Sample holding time exceeded		
4122361	WS508 ESZ	1.40	SOLID	Semi Volatiles in soils by GC	· ·	Sample holding time exceeded		
4122361	WS508 ESZ	1.40	SOLID	Semi Volatiles in soils by GC	•	Sample holding time exceeded		
4122361		1.40	SOLID	Semi Volatiles in soils by GC		Sample holding time exceeded		
4122361	WS508 ESZ	1.40	SOLID	Semi Volatiles in soils by GC		Sample holding time exceeded		
4122361	WS508 ESZ	1.40	SOLID	Semi Volatiles in soils by GC		Sample holding time exceeded		
4122361	WS508 ESZ	1.40	SOLID	Semi Volatiles in soils by GC		Sample holding time exceeded		
4122361	WS508 ESZ	1.40	SOLID	Semi Volatiles in soils by GC	• •	Sample holding time exceeded		
4122361	WS508 ESZ	1.40	SOLID	Semi Volatiles in soils by GC		Sample holding time exceeded		
4122361	WS508 ESZ	1.40	SOLID	Semi Volatiles in soils by GC		Sample holding time exceeded		
4122361	WS508 ESZ	1.40	SOLID	Semi Volatiles in soils by GC	* * * * * * * * * * * * * * * * * * * *	Sample holding time exceeded		
4122361	WS508 ESZ	1.40	SOLID	Semi Volatiles in soils by GC		Sample holding time exceeded		
4122361	WS508 ESZ	1.40	SOLID	Semi Volatiles in soils by GC	C-MS Isophorone	Sample holding time exceeded		
4122361	WS508 ESZ	1.40	SOLID	Semi Volatiles in soils by GC	C-MS Isosafrole	Sample holding time exceeded		
4122361	WS508 ESZ	1.40	SOLID	Semi Volatiles in soils by GC	C-MS Kepone	Sample holding time exceeded		
4122361	WS508 ESZ	1.40	SOLID	Semi Volatiles in soils by GC	C-MS Methyl Methanesulfonate	Sample holding time exceeded		
4122361	WS508 ESZ	1.40	SOLID	Semi Volatiles in soils by GC	C-MS Naphthalene	Sample holding time exceeded		
4122361	WS508 ESZ	1.40	SOLID	Semi Volatiles in soils by GC	C-MS Nitrobenzene	Sample holding time exceeded		
4122361	WS508 ESZ	1.40	SOLID	Semi Volatiles in soils by GC	C-MS N-Nitrosodiethylamine	Sample holding time exceeded		
4122361	WS508 ESZ	1.40	SOLID	Semi Volatiles in soils by GC	C-MS N-Nitrosodimethylamine	Sample holding time exceeded		
4122361	WS508 ESZ	1.40	SOLID	Semi Volatiles in soils by GC	C-MS N-Nitroso-di-N-butylamine	Sample holding time exceeded		
4122361	WS508 ESZ	1.40	SOLID	Semi Volatiles in soils by GC	C-MS N-Nitroso-di-N-propylamine	Sample holding time exceeded		
4122361	WS508 ESZ	1.40	SOLID	Semi Volatiles in soils by GC	C-MS N-Nitrosomethylethylamine	Sample holding time exceeded		
4122361	WS508 ESZ	1.40	SOLID	Semi Volatiles in soils by GC		Sample holding time exceeded		
4122361	WS508 ESZ	1.40	SOLID	Semi Volatiles in soils by GC		Sample holding time exceeded		
4122361	WS508 ESZ	1.40	SOLID	Semi Volatiles in soils by GC		Sample holding time exceeded		
4122361	WS508 ESZ	1.40	SOLID	Semi Volatiles in soils by GC		Sample holding time exceeded		
4122361	WS508 ESZ	1.40	SOLID	Semi Volatiles in soils by GC	·	Sample holding time exceeded		
4122361	WS508 ESZ	1.40	SOLID	Semi Volatiles in soils by GC		Sample holding time exceeded		
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CERTIFICATE OF ANALYSIS

110812-132 Bicetser Central Eastern Land Parcels SDG: Location: Order Number: Job: H_WSP_BAS-9 WSP Environmental 147189 **Customer:** Report Number: Helen Gardiner Superseded Report:

Client Refer	erence: Attention: Helen Gardiner			Attention: Helen Gardiner	Superseded Report:			
Sample	Customer	Depth (m)	Matrix	Test Name	Component Name	Comment		
Number 4122361	Sample Ref. WS508 ESZ	1.40	SOLID	Semi Volatiles in soils by GC-MS	Pentachloroethane	Sample holding time exceeded		
4122361	WS508 ESZ	1.40	SOLID	Semi Volatiles in soils by GC-MS	Pentachloronitrobenzene	Sample holding time exceeded		
4122361	WS508 ESZ	1.40	SOLID	Semi Volatiles in soils by GC-MS	Pentachlorophenol	Sample holding time exceeded		
4122361	WS508 ESZ	1.40	SOLID	Semi Volatiles in soils by GC-MS	Phenacetin	Sample holding time exceeded		
4122361	WS508 ESZ	1.40	SOLID	Semi Volatiles in soils by GC-MS	Phenanthrene	Sample holding time exceeded		
4122361	WS508 ESZ	1.40	SOLID	Semi Volatiles in soils by GC-MS	Phenol	Sample holding time exceeded		
4122361	WS508 ESZ	1.40	SOLID	Semi Volatiles in soils by GC-MS	Pronamide	Sample holding time exceeded		
4122361	WS508 ESZ	1.40	SOLID	Semi Volatiles in soils by GC-MS	Pyrene	Sample holding time exceeded		
4122361	WS508 ESZ	1.40	SOLID	Semi Volatiles in soils by GC-MS	Pyridine	Sample holding time exceeded		
4122361	WS508 ESZ	1.40	SOLID	Semi Volatiles in soils by GC-MS	Safrole	Sample holding time exceeded		
4122557	WS508 ESZ	0.10	SOLID	Ammoniacal N as NH4 in 2:1 extract	Ammoniacal N as NH4 in 2:1	Sample holding time exceeded		
					extract BRE			
4122609	WS501 ESZ	0.20	SOLID	Ammoniacal N as NH4 in 2:1 extract	Ammoniacal N as NH4 in 2:1 extract BRE	Sample holding time exceeded		
4122698	WS503 ESZ	0.10	SOLID	Ammoniacal N as NH4 in 2:1 extract	Ammoniacal N as NH4 in 2:1 extract BRE	Sample holding time exceeded		
4122999	WS513 ESZ	0.10	SOLID	Semi Volatiles in soils by GC-MS	1,2,4,5-Tetrachlorobenzene	Sample holding time exceeded		
4122999	WS513 ESZ	0.10	SOLID	Semi Volatiles in soils by GC-MS	1,2,4-Trichlorobenzene	Sample holding time exceeded		
4122999	WS513 ESZ	0.10	SOLID	Semi Volatiles in soils by GC-MS	1,2-Dichlorobenzene	Sample holding time exceeded		
4122999	WS513 ESZ	0.10	SOLID	Semi Volatiles in soils by GC-MS	1,3,5-Trinitrobenzene	Sample holding time exceeded		
4122999	WS513 ESZ	0.10	SOLID	Semi Volatiles in soils by GC-MS	1,3-Dichlorobenzene	Sample holding time exceeded		
4122999	WS513 ESZ	0.10	SOLID	Semi Volatiles in soils by GC-MS	1,3-Dinitrobenzene	Sample holding time exceeded		
4122999	WS513 ESZ	0.10	SOLID	Semi Volatiles in soils by GC-MS	1,4-Dichlorobenzene	Sample holding time exceeded		
4122999	WS513 ESZ	0.10	SOLID	Semi Volatiles in soils by GC-MS	1,4-Naphthoquinone	Sample holding time exceeded		
4122999	WS513 ESZ	0.10	SOLID	Semi Volatiles in soils by GC-MS	1-Naphthylamine	Sample holding time exceeded		
4122999	WS513 ESZ	0.10	SOLID	Semi Volatiles in soils by GC-MS	2,3,4,6-Tetrachlorophenol	Sample holding time exceeded		
4122999	WS513 ESZ	0.10	SOLID	Semi Volatiles in soils by GC-MS	2,4,5-Trichlorophenol	Sample holding time exceeded		
4122999	WS513 ESZ	0.10	SOLID	Semi Volatiles in soils by GC-MS	2,4,6-Trichlorophenol	Sample holding time exceeded		
4122999	WS513 ESZ	0.10	SOLID	Semi Volatiles in soils by GC-MS	2,4-Dichlorophenol	Sample holding time exceeded		
4122999	WS513 ESZ	0.10	SOLID	Semi Volatiles in soils by GC-MS	2,4-Dimethylphenol	Sample holding time exceeded		
4122999	WS513 ESZ	0.10	SOLID	Semi Volatiles in soils by GC-MS	2,4-Dinitrophenol	Sample holding time exceeded		
4122999	WS513 ESZ	0.10	SOLID	Semi Volatiles in soils by GC-MS	2,4-Dinitrotoluene	Sample holding time exceeded		
4122999	WS513 ESZ	0.10	SOLID	Semi Volatiles in soils by GC-MS	2,6-Dichlorophenol	Sample holding time exceeded		
4122999	WS513 ESZ	0.10	SOLID	Semi Volatiles in soils by GC-MS	2,6-Dinitrotoluene	Sample holding time exceeded		
4122999	WS513 ESZ	0.10	SOLID	Semi Volatiles in soils by GC-MS	2-Acetylaminofluorene	Sample holding time exceeded		
4122999	WS513 ESZ	0.10	SOLID	Semi Volatiles in soils by GC-MS	2-Chloronaphthalene	Sample holding time exceeded		
4122999	WS513 ESZ	0.10	SOLID	Semi Volatiles in soils by GC-MS	2-Chlorophenol	Sample holding time exceeded		
4122999	WS513 ESZ	0.10	SOLID	Semi Volatiles in soils by GC-MS	2-Methyl-4,6-dinitrophenol	Sample holding time exceeded		
4122999	WS513 ESZ	0.10	SOLID	Semi Volatiles in soils by GC-MS	2-Methylnaphthalene	Sample holding time exceeded		
4122999	WS513 ESZ	0.10	SOLID	Semi Volatiles in soils by GC-MS	2-Methylphenol	Sample holding time exceeded		
4122999	WS513 ESZ	0.10	SOLID	Semi Volatiles in soils by GC-MS	2-Naphthylamine	Sample holding time exceeded		
4122999	WS513 ESZ	0.10	SOLID	Semi Volatiles in soils by GC-MS	2-Nitroaniline	Sample holding time exceeded		
4122999	WS513 ESZ	0.10	SOLID	Semi Volatiles in soils by GC-MS	2-Nitrophenol	Sample holding time exceeded		
4122999	WS513 ESZ	0.10	SOLID	Semi Volatiles in soils by GC-MS	2-Picoline	Sample holding time exceeded		
4122999	WS513 ESZ	0.10	SOLID	Semi Volatiles in soils by GC-MS	3,3-Dichlorobenzidine	Sample holding time exceeded		
4122999	WS513 ESZ	0.10	SOLID	Semi Volatiles in soils by GC-MS	3,3-Dimethylbenzidine	Sample holding time exceeded		
4122999	WS513 ESZ	0.10	SOLID	Semi Volatiles in soils by GC-MS	3+4-Chlorophenol	Sample holding time exceeded		
4122999	WS513 ESZ	0.10	SOLID	Semi Volatiles in soils by GC-MS	3+4-Methylphenol	Sample holding time exceeded		
4122999	WS513 ESZ	0.10	SOLID	Semi Volatiles in soils by GC-MS	3-Methylcholanthrene	Sample holding time exceeded		
4122999	WS513 ESZ	0.10	SOLID	Semi Volatiles in soils by GC-MS	3-Nitroaniline	Sample holding time exceeded		
4122999	WS513 ESZ	0.10	SOLID	Semi Volatiles in soils by GC-MS	4-Aminobiphenyl	Sample holding time exceeded		
4122999	WS513 ESZ	0.10	SOLID	Semi Volatiles in soils by GC-MS	4-Bromophenylphenylether	Sample holding time exceeded		
4122999	WS513 ESZ	0.10	SOLID	Semi Volatiles in soils by GC-MS	4-Chloro-3-Methylphenol	Sample holding time exceeded		
4122999	WS513 ESZ	0.10	SOLID	Semi Volatiles in soils by GC-MS	4-Chlorophenylphenylether	Sample holding time exceeded		
4122999	WS513 ESZ	0.10	SOLID	Semi Volatiles in soils by GC-MS	4-Nitroaniline	Sample holding time exceeded		
4122999	WS513 ESZ	0.10	SOLID	Semi Volatiles in soils by GC-MS	4-Nitrophenol	Sample holding time exceeded		
4122999	WS513 ESZ	0.10	SOLID	Semi Volatiles in soils by GC-MS	5-Nitro-o-toluidine	Sample holding time exceeded		
4122999	WS513 ESZ	0.10	SOLID	Semi Volatiles in soils by GC-MS	7,12-Dimethylbenz(a)anthracene	Sample holding time exceeded		
4122999	WS513 ESZ	0.10	SOLID	Semi Volatiles in soils by GC-MS	Acenaphthene	Sample holding time exceeded		
4122999	WS513 ESZ	0.10	SOLID	Semi Volatiles in soils by GC-MS	Acenaphthylene	Sample holding time exceeded		
4122999	WS513 ESZ	0.10	SOLID	Semi Volatiles in soils by GC-MS	Acetophenone	Sample holding time exceeded		
4122999	WS513 ESZ	0.10	SOLID	Semi Volatiles in soils by GC-MS	Aniline	Sample holding time exceeded		

CERTIFICATE OF ANALYSIS

110812-132 Bicetser Central Eastern Land Parcels SDG: Location: Order Number: Job: H_WSP_BAS-9 WSP Environmental 147189 **Customer:** Report Number: Helen Gardiner Superseded Report:

Client Reference:			Δ	Attention: Helen Gardiner	Superseded Repo	ort:
Sample	Customer	Depth (m)	Matrix	Test Name	Component Name	Comment
Number 4122999	Sample Ref. WS513 ESZ	0.10	SOLID	Semi Volatiles in soils by GC-MS	Anthracene	Sample holding time exceeded
4122999	WS513 ESZ	0.10	SOLID	Semi Volatiles in soils by GC-MS	Azobenzene	Sample holding time exceeded
4122999	WS513 ESZ	0.10	SOLID	Semi Volatiles in soils by GC-MS	Benzidine	Sample holding time exceeded
4122999	WS513 ESZ	0.10	SOLID	Semi Volatiles in soils by GC-MS	Benzo(a)anthracene	Sample holding time exceeded
4122999	WS513 ESZ	0.10	SOLID	Semi Volatiles in soils by GC-MS	Benzo(a)pyrene	Sample holding time exceeded
4122999	WS513 ESZ	0.10	SOLID	Semi Volatiles in soils by GC-MS	Benzo(b)fluoranthene	Sample holding time exceeded
4122999	WS513 ESZ	0.10	SOLID	Semi Volatiles in soils by GC-MS	Benzo(g,h,i)perylene	Sample holding time exceeded
4122999	WS513 ESZ	0.10	SOLID	Semi Volatiles in soils by GC-MS	Benzo(k)fluoranthene	Sample holding time exceeded
4122999	WS513 ESZ	0.10	SOLID	Semi Volatiles in soils by GC-MS	Benzyl Alcohol	Sample holding time exceeded
4122999	WS513 ESZ	0.10	SOLID	Semi Volatiles in soils by GC-MS	Bis(2-chloroethoxy)methane	Sample holding time exceeded
4122999	WS513 ESZ	0.10	SOLID	Semi Volatiles in soils by GC-MS	Bis(2-chloroethyl)ether	Sample holding time exceeded
4122999	WS513 ESZ	0.10	SOLID	Semi Volatiles in soils by GC-MS	Bis(2-chloroisopropyl)ether	Sample holding time exceeded
4122999	WS513 ESZ	0.10	SOLID	Semi Volatiles in soils by GC-MS	Bis(2-ethylhexyl)phthalate	Sample holding time exceeded
4122999	WS513 ESZ	0.10	SOLID	•		
4122999	WS513 ESZ	0.10		Semi Volatiles in soils by GC-MS Semi Volatiles in soils by GC-MS	Butyl Benzyl Phthalate	Sample holding time exceeded
	WS513 ESZ WS513 ESZ		SOLID	•	Carbazole	Sample holding time exceeded
4122999	WS513 ESZ WS513 ESZ	0.10	SOLID	Semi Volatiles in soils by GC-MS	Chrosenzilate	Sample holding time exceeded
4122999	WS513 ESZ WS513 ESZ	0.10	SOLID	Semi Volatiles in soils by GC-MS	Chrysene	Sample holding time exceeded
4122999		0.10	SOLID	Semi Volatiles in soils by GC-MS	Diallate	Sample holding time exceeded
4122999	WS513 ESZ	0.10	SOLID	Semi Volatiles in soils by GC-MS	Dibenzo(a,h)anthracene	Sample holding time exceeded
4122999	WS513 ESZ	0.10	SOLID	Semi Volatiles in soils by GC-MS	Dibenzofuran	Sample holding time exceeded
4122999	WS513 ESZ	0.10	SOLID	Semi Volatiles in soils by GC-MS	Diethyl Phthalate	Sample holding time exceeded
4122999	WS513 ESZ	0.10	SOLID	Semi Volatiles in soils by GC-MS	Dimethyl Phthalate	Sample holding time exceeded
4122999	WS513 ESZ	0.10	SOLID	Semi Volatiles in soils by GC-MS	Di-N-butyl Phthalate	Sample holding time exceeded
4122999	WS513 ESZ	0.10	SOLID	Semi Volatiles in soils by GC-MS	Di-n-octylphthalate	Sample holding time exceeded
4122999	WS513 ESZ	0.10	SOLID	Semi Volatiles in soils by GC-MS	Dinoseb	Sample holding time exceeded
4122999	WS513 ESZ	0.10	SOLID	Semi Volatiles in soils by GC-MS	Diphenylamine	Sample holding time exceeded
4122999	WS513 ESZ	0.10	SOLID	Semi Volatiles in soils by GC-MS	Ethyl Methanesulfonate	Sample holding time exceeded
4122999	WS513 ESZ	0.10	SOLID	Semi Volatiles in soils by GC-MS	Fluoranthene	Sample holding time exceeded
4122999	WS513 ESZ	0.10	SOLID	Semi Volatiles in soils by GC-MS	Fluorene	Sample holding time exceeded
4122999	WS513 ESZ	0.10	SOLID	Semi Volatiles in soils by GC-MS	Hexachlorobenzene	Sample holding time exceeded
4122999	WS513 ESZ	0.10	SOLID	Semi Volatiles in soils by GC-MS	Hexachlorobutadiene	Sample holding time exceeded
4122999	WS513 ESZ	0.10	SOLID	Semi Volatiles in soils by GC-MS	Hexachlorocyclopentadiene	Sample holding time exceeded
4122999	WS513 ESZ	0.10	SOLID	Semi Volatiles in soils by GC-MS	Hexachloroethane	Sample holding time exceeded
4122999	WS513 ESZ	0.10	SOLID	Semi Volatiles in soils by GC-MS	Hexachloropropene	Sample holding time exceeded
4122999	WS513 ESZ	0.10	SOLID	Semi Volatiles in soils by GC-MS	Indeno(1,2,3-c,d)pyrene	Sample holding time exceeded
4122999	WS513 ESZ	0.10	SOLID	Semi Volatiles in soils by GC-MS	Isodrin	Sample holding time exceeded
4122999	WS513 ESZ	0.10	SOLID	Semi Volatiles in soils by GC-MS	Isophorone	Sample holding time exceeded
4122999	WS513 ESZ	0.10	SOLID	Semi Volatiles in soils by GC-MS	Isosafrole	Sample holding time exceeded
4122999	WS513 ESZ	0.10	SOLID	Semi Volatiles in soils by GC-MS	Kepone	Sample holding time exceeded
4122999	WS513 ESZ	0.10	SOLID	Semi Volatiles in soils by GC-MS	Methyl Methanesulfonate	Sample holding time exceeded
4122999	WS513 ESZ	0.10	SOLID	Semi Volatiles in soils by GC-MS	Naphthalene	Sample holding time exceeded
4122999	WS513 ESZ	0.10	SOLID	Semi Volatiles in soils by GC-MS	Nitrobenzene	Sample holding time exceeded
4122999	WS513 ESZ	0.10	SOLID	Semi Volatiles in soils by GC-MS	N-Nitrosodiethylamine	Sample holding time exceeded
4122999	WS513 ESZ	0.10	SOLID	Semi Volatiles in soils by GC-MS	N-Nitrosodimethylamine	Sample holding time exceeded
4122999	WS513 ESZ	0.10	SOLID	Semi Volatiles in soils by GC-MS	N-Nitroso-di-N-butylamine	Sample holding time exceeded
4122999	WS513 ESZ	0.10	SOLID	Semi Volatiles in soils by GC-MS	N-Nitroso-di-N-propylamine	Sample holding time exceeded
4122999	WS513 ESZ	0.10	SOLID	Semi Volatiles in soils by GC-MS	N-Nitrosomethylethylamine	Sample holding time exceeded
4122999	WS513 ESZ	0.10	SOLID	Semi Volatiles in soils by GC-MS	N-Nitrosopiperidine	Sample holding time exceeded
4122999	WS513 ESZ	0.10	SOLID	Semi Volatiles in soils by GC-MS	N-Nitrosopyrrolidine	Sample holding time exceeded
4122999	WS513 ESZ	0.10	SOLID	Semi Volatiles in soils by GC-MS	o-Toluidine	Sample holding time exceeded
4122999	WS513 ESZ	0.10	SOLID	Semi Volatiles in soils by GC-MS	p-Chloroaniline	Sample holding time exceeded
4122999	WS513 ESZ	0.10	SOLID	Semi Volatiles in soils by GC-MS	p-Dimethylaminoazobenzene	Sample holding time exceeded
4122999	WS513 ESZ	0.10	SOLID	Semi Volatiles in soils by GC-MS	Pentachlorobenzene	Sample holding time exceeded
4122999	WS513 ESZ	0.10	SOLID	Semi Volatiles in soils by GC-MS	Pentachloroethane	Sample holding time exceeded
4122999	WS513 ESZ	0.10	SOLID	Semi Volatiles in soils by GC-MS	Pentachloronitrobenzene	Sample holding time exceeded
4122999	WS513 ESZ	0.10	SOLID	Semi Volatiles in soils by GC-MS	Pentachlorophenol	Sample holding time exceeded
4122999	WS513 ESZ	0.10	SOLID	Semi Volatiles in soils by GC-MS	Phenacetin	Sample holding time exceeded
4122999	WS513 ESZ	0.10	SOLID	Semi Volatiles in soils by GC-MS	Phenanthrene	Sample holding time exceeded
4122999	WS513 ESZ	0.10	SOLID	Semi Volatiles in soils by GC-MS	Phenol	Sample holding time exceeded
4122999	WS513 ESZ	0.10	SOLID	Semi Volatiles in soils by GC-MS	Pronamide	Sample holding time exceeded
				•		-

CERTIFICATE OF ANALYSIS

110812-132 Bicetser Central Eastern Land Parcels SDG: Location: Order Number: H_WSP_BAS-9 WSP Environmental 147189 Job: **Customer:** Report Number: Helen Gardiner Superseded Report:

Client Refere	nce:		Α	Attention: Helen Gardiner	Superseded Rep	port:
Sample	Customer	Depth (m)	Matrix	Test Name	Component Name	Comment
Number 4122999	Sample Ref. WS513 ESZ	0.10	SOLID	Semi Volatiles in soils by GC-M		Sample holding time exceeded
4122999	WS513 ESZ	0.10	SOLID	Semi Volatiles in soils by GC-M	•	Sample holding time exceeded
4122999	WS513 ESZ	0.10	SOLID	Semi Volatiles in soils by GC-M	·	Sample holding time exceeded
4123040	WS514 ESZ	0.60	SOLID	Semi Volatiles in soils by GC-M		Sample holding time exceeded
4123040	WS514 ESZ	0.60	SOLID	Semi Volatiles in soils by GC-N	. , ,	Sample holding time exceeded
4123040	WS514 ESZ	0.60	SOLID	Semi Volatiles in soils by GC-N		Sample holding time exceeded
4123040	WS514 ESZ	0.60	SOLID	Semi Volatiles in soils by GC-N		Sample holding time exceeded
4123040	WS514 ESZ	0.60	SOLID	Semi Volatiles in soils by GC-N		Sample holding time exceeded
4123040	WS514 ESZ	0.60	SOLID	•		, °
4123040	WS514 ESZ	0.60	SOLID	Semi Volatiles in soils by GC-N		Sample holding time exceeded
4123040	WS514 ESZ	0.60	SOLID	Semi Volatiles in soils by GC-N		Sample holding time exceeded
4123040	WS514 ESZ	0.60	SOLID	Semi Volatiles in soils by GC-N		Sample holding time exceeded
4123040	WS514 ESZ	0.60	SOLID	Semi Volatiles in soils by GC-N Semi Volatiles in soils by GC-N		Sample holding time exceeded Sample holding time exceeded
4123040	WS514 ESZ	0.60	SOLID	Semi Volatiles in soils by GC-N	•	Sample holding time exceeded
4123040	WS514 ESZ	0.60	SOLID	•	·	Sample holding time exceeded
4123040	WS514 ESZ		SOLID	Semi Volatiles in soils by GC-N	·	, °
4123040	WS514 ESZ	0.60	SOLID	Semi Volatiles in soils by GC-N	•	Sample holding time exceeded
	WS514 ESZ			Semi Volatiles in soils by GC-N		Sample holding time exceeded
4123040 4123040	WS514 ESZ	0.60	SOLID	Semi Volatiles in soils by GC-N	·	Sample holding time exceeded
4123040	WS514 ESZ	0.60	SOLID	Semi Volatiles in soils by GC-N		Sample holding time exceeded
	WS514 ESZ			Semi Volatiles in soils by GC-N	•	Sample holding time exceeded
4123040	WS514 ESZ	0.60	SOLID	Semi Volatiles in soils by GC-N		Sample holding time exceeded
4123040	WS514 ESZ	0.60	SOLID	Semi Volatiles in soils by GC-N	·	Sample holding time exceeded
4123040	WS514 ESZ	0.60	SOLID	Semi Volatiles in soils by GC-N	•	Sample holding time exceeded
4123040	WS514 ESZ	0.60	SOLID	Semi Volatiles in soils by GC-N	·	Sample holding time exceeded
4123040	WS514 ESZ	0.60	SOLID	Semi Volatiles in soils by GC-N	•	Sample holding time exceeded
4123040	WS514 ESZ	0.60		Semi Volatiles in soils by GC-N	• • •	Sample holding time exceeded
4123040	WS514 ESZ	0.60	SOLID	Semi Volatiles in soils by GC-N	• •	Sample holding time exceeded
4123040	WS514 ESZ WS514 ESZ	0.60	SOLID	Semi Volatiles in soils by GC-N		Sample holding time exceeded
4123040	WS514 ESZ WS514 ESZ	0.60	SOLID	Semi Volatiles in soils by GC-N		Sample holding time exceeded
4123040	WS514 ESZ WS514 ESZ	0.60		Semi Volatiles in soils by GC-N	·	Sample holding time exceeded
4123040	WS514 ESZ	0.60	SOLID	Semi Volatiles in soils by GC-N		Sample holding time exceeded
4123040	WS514 ESZ	0.60	SOLID	Semi Volatiles in soils by GC-N		Sample holding time exceeded
4123040 4123040	WS514 ESZ	0.60	SOLID	Semi Volatiles in soils by GC-N Semi Volatiles in soils by GC-N	•	Sample holding time exceeded Sample holding time exceeded
4123040	WS514 ESZ	0.60	SOLID	Semi Volatiles in soils by GC-N	•	Sample holding time exceeded
4123040	WS514 ESZ	0.60	SOLID	Semi Volatiles in soils by GC-N	, ,	Sample holding time exceeded
4123040	WS514 ESZ	0.60	SOLID	Semi Volatiles in soils by GC-M	•	Sample holding time exceeded
4123040	WS514 ESZ	0.60	SOLID	Semi Volatiles in soils by GC-N		Sample holding time exceeded
4123040	WS514 ESZ	0.60	SOLID	Semi Volatiles in soils by GC-N	• •	Sample holding time exceeded
4123040	WS514 ESZ	0.60	SOLID	Semi Volatiles in soils by GC-N		Sample holding time exceeded
4123040	WS514 ESZ	0.60	SOLID	Semi Volatiles in soils by GC-M		Sample holding time exceeded
4123040	WS514 ESZ	0.60	SOLID	Semi Volatiles in soils by GC-N		Sample holding time exceeded
4123040	WS514 ESZ	0.60	SOLID	Semi Volatiles in soils by GC-N		Sample holding time exceeded
4123040	WS514 ESZ	0.60	SOLID	Semi Volatiles in soils by GC-M	•	Sample holding time exceeded
4123040	WS514 ESZ	0.60	SOLID	Semi Volatiles in soils by GC-N		Sample holding time exceeded
4123040	WS514 ESZ	0.60	SOLID	Semi Volatiles in soils by GC-N		Sample holding time exceeded
4123040	WS514 ESZ	0.60	SOLID	Semi Volatiles in soils by GC-M	•	Sample holding time exceeded
4123040	WS514 ESZ	0.60	SOLID	Semi Volatiles in soils by GC-M	• •	Sample holding time exceeded
4123040	WS514 ESZ	0.60	SOLID	Semi Volatiles in soils by GC-M	•	Sample holding time exceeded
4123040	WS514 ESZ	0.60	SOLID	Semi Volatiles in soils by GC-M		Sample holding time exceeded
4123040	WS514 ESZ	0.60	SOLID	Semi Volatiles in soils by GC-N		Sample holding time exceeded
4123040	WS514 ESZ	0.60	SOLID	Semi Volatiles in soils by GC-N		Sample holding time exceeded
4123040	WS514 ESZ	0.60	SOLID	Semi Volatiles in soils by GC-N		Sample holding time exceeded
4123040	WS514 ESZ	0.60	SOLID	Semi Volatiles in soils by GC-N	· ·	Sample holding time exceeded
4123040	WS514 ESZ	0.60	SOLID	Semi Volatiles in soils by GC-N		Sample holding time exceeded
4123040	WS514 ESZ	0.60	SOLID	Semi Volatiles in soils by GC-N		Sample holding time exceeded
4123040	WS514 ESZ	0.60	SOLID	Semi Volatiles in soils by GC-N		Sample holding time exceeded
4123040	WS514 ESZ	0.60	SOLID	Semi Volatiles in soils by GC-N	• • •	Sample holding time exceeded
4123040	WS514 ESZ	0.60	SOLID	Semi Volatiles in soils by GC-N	•	Sample holding time exceeded
4123040	WS514 ESZ	0.60	SOLID	Semi Volatiles in soils by GC-N		Sample holding time exceeded
00 10		0.00	JULID			cap.cording time exceeded

CERTIFICATE OF ANALYSIS

110812-132 Bicetser Central Eastern Land Parcels SDG: Location: Order Number: Job: H_WSP_BAS-9 WSP Environmental 147189 **Customer:** Report Number: Attention: Helen Gardiner Superseded Report:

Client Refere	ence:		<i>F</i>	Attention: Helen Gardiner	Superseded Repo	rt:
Sample	Customer	Depth (m)	Matrix	Test Name	Component Name	Comment
Number	Sample Ref. WS514 ESZ					
4123040		0.60	SOLID	Semi Volatiles in soils by GC-MS	Bis(2-chloroisopropyl)ether	Sample holding time exceeded
4123040	WS514 ESZ	0.60	SOLID	Semi Volatiles in soils by GC-MS	Bis(2-ethylhexyl)phthalate	Sample holding time exceeded
4123040	WS514 ESZ	0.60	SOLID	Semi Volatiles in soils by GC-MS	Butyl Benzyl Phthalate	Sample holding time exceeded
4123040	WS514 ESZ	0.60	SOLID	Semi Volatiles in soils by GC-MS	Carbazole	Sample holding time exceeded
4123040	WS514 ESZ	0.60	SOLID	Semi Volatiles in soils by GC-MS	Chlorobenzilate	Sample holding time exceeded
4123040	WS514 ESZ	0.60	SOLID	Semi Volatiles in soils by GC-MS	Chrysene	Sample holding time exceeded
4123040	WS514 ESZ	0.60	SOLID	Semi Volatiles in soils by GC-MS	Diallate	Sample holding time exceeded
4123040	WS514 ESZ	0.60	SOLID	Semi Volatiles in soils by GC-MS	Dibenzo(a,h)anthracene	Sample holding time exceeded
4123040	WS514 ESZ	0.60	SOLID	Semi Volatiles in soils by GC-MS	Dibenzofuran	Sample holding time exceeded
4123040	WS514 ESZ	0.60	SOLID	Semi Volatiles in soils by GC-MS	Diethyl Phthalate	Sample holding time exceeded
4123040	WS514 ESZ	0.60	SOLID	Semi Volatiles in soils by GC-MS	Dimethyl Phthalate	Sample holding time exceeded
4123040	WS514 ESZ	0.60	SOLID	Semi Volatiles in soils by GC-MS	Di-N-butyl Phthalate	Sample holding time exceeded
4123040	WS514 ESZ	0.60	SOLID	Semi Volatiles in soils by GC-MS	Di-n-octylphthalate	Sample holding time exceeded
	WS514 ESZ			•	• •	
4123040		0.60	SOLID	Semi Volatiles in soils by GC-MS	Dinoseb	Sample holding time exceeded
4123040	WS514 ESZ	0.60	SOLID	Semi Volatiles in soils by GC-MS	Diphenylamine	Sample holding time exceeded
4123040	WS514 ESZ	0.60	SOLID	Semi Volatiles in soils by GC-MS	Ethyl Methanesulfonate	Sample holding time exceeded
4123040	WS514 ESZ	0.60	SOLID	Semi Volatiles in soils by GC-MS	Fluoranthene	Sample holding time exceeded
4123040	WS514 ESZ	0.60	SOLID	Semi Volatiles in soils by GC-MS	Fluorene	Sample holding time exceeded
4123040	WS514 ESZ	0.60	SOLID	Semi Volatiles in soils by GC-MS	Hexachlorobenzene	Sample holding time exceeded
4123040	WS514 ESZ	0.60	SOLID	Semi Volatiles in soils by GC-MS	Hexachlorobutadiene	Sample holding time exceeded
4123040	WS514 ESZ	0.60	SOLID	Semi Volatiles in soils by GC-MS	Hexachlorocyclopentadiene	Sample holding time exceeded
4123040	WS514 ESZ	0.60	SOLID	Semi Volatiles in soils by GC-MS	Hexachloroethane	Sample holding time exceeded
4123040	WS514 ESZ	0.60	SOLID	Semi Volatiles in soils by GC-MS	Hexachloropropene	Sample holding time exceeded
4123040	WS514 ESZ	0.60	SOLID	Semi Volatiles in soils by GC-MS	Indeno(1,2,3-c,d)pyrene	Sample holding time exceeded
4123040	WS514 ESZ	0.60	SOLID	Semi Volatiles in soils by GC-MS	Isodrin	Sample holding time exceeded
4123040	WS514 ESZ	0.60	SOLID	•		
	WS514 ESZ			Semi Volatiles in soils by GC-MS	Isophorone	Sample holding time exceeded
4123040		0.60	SOLID	Semi Volatiles in soils by GC-MS	Isosafrole	Sample holding time exceeded
4123040	WS514 ESZ	0.60	SOLID	Semi Volatiles in soils by GC-MS	Kepone	Sample holding time exceeded
4123040	WS514 ESZ	0.60	SOLID	Semi Volatiles in soils by GC-MS	Methyl Methanesulfonate	Sample holding time exceeded
4123040	WS514 ESZ	0.60	SOLID	Semi Volatiles in soils by GC-MS	Naphthalene	Sample holding time exceeded
4123040	WS514 ESZ	0.60	SOLID	Semi Volatiles in soils by GC-MS	Nitrobenzene	Sample holding time exceeded
4123040	WS514 ESZ	0.60	SOLID	Semi Volatiles in soils by GC-MS	N-Nitrosodiethylamine	Sample holding time exceeded
4123040	WS514 ESZ	0.60	SOLID	Semi Volatiles in soils by GC-MS	N-Nitrosodimethylamine	Sample holding time exceeded
4123040	WS514 ESZ	0.60	SOLID	Semi Volatiles in soils by GC-MS	N-Nitroso-di-N-butylamine	Sample holding time exceeded
4123040	WS514 ESZ	0.60	SOLID	Semi Volatiles in soils by GC-MS	N-Nitroso-di-N-propylamine	Sample holding time exceeded
4123040	WS514 ESZ	0.60	SOLID	Semi Volatiles in soils by GC-MS	N-Nitrosomethylethylamine	Sample holding time exceeded
4123040	WS514 ESZ	0.60	SOLID	Semi Volatiles in soils by GC-MS	N-Nitrosopiperidine	Sample holding time exceeded
4123040	WS514 ESZ	0.60	SOLID	Semi Volatiles in soils by GC-MS	N-Nitrosopyrrolidine	Sample holding time exceeded
4123040	WS514 ESZ	0.60	SOLID	Semi Volatiles in soils by GC-MS	o-Toluidine	Sample holding time exceeded
4123040	WS514 ESZ	0.60	SOLID	Semi Volatiles in soils by GC-MS	p-Chloroaniline	Sample holding time exceeded
	WS514 ESZ			•	·	
4123040		0.60	SOLID	Semi Volatiles in soils by GC-MS	p-Dimethylaminoazobenzene	Sample holding time exceeded
4123040	WS514 ESZ	0.60	SOLID	Semi Volatiles in soils by GC-MS	Pentachlorobenzene	Sample holding time exceeded
4123040	WS514 ESZ	0.60	SOLID	Semi Volatiles in soils by GC-MS	Pentachloroethane	Sample holding time exceeded
4123040	WS514 ESZ	0.60	SOLID	Semi Volatiles in soils by GC-MS	Pentachloronitrobenzene	Sample holding time exceeded
4123040	WS514 ESZ	0.60	SOLID	Semi Volatiles in soils by GC-MS	Pentachlorophenol	Sample holding time exceeded
4123040	WS514 ESZ	0.60	SOLID	Semi Volatiles in soils by GC-MS	Phenacetin	Sample holding time exceeded
4123040	WS514 ESZ	0.60	SOLID	Semi Volatiles in soils by GC-MS	Phenanthrene	Sample holding time exceeded
4123040	WS514 ESZ	0.60	SOLID	Semi Volatiles in soils by GC-MS	Phenol	Sample holding time exceeded
4123040	WS514 ESZ	0.60	SOLID	Semi Volatiles in soils by GC-MS	Pronamide	Sample holding time exceeded
4123040	WS514 ESZ	0.60	SOLID	Semi Volatiles in soils by GC-MS	Pyrene	Sample holding time exceeded
4123040	WS514 ESZ	0.60	SOLID	Semi Volatiles in soils by GC-MS	Pyridine	Sample holding time exceeded
4123040	WS514 ESZ	0.60	SOLID	Semi Volatiles in soils by GC-MS	Safrole	Sample holding time exceeded
4156351	WS519 ESZ	0.70	SOLID	Semi Volatiles in soils by GC-MS	1,2,4,5-Tetrachlorobenzene	Sample holding time exceeded
4156351	WS519 ESZ	0.70	SOLID	Semi Volatiles in soils by GC-MS	1,2,4-Trichlorobenzene	Sample holding time exceeded
	WS519 ESZ		SOLID	•		
4156351	WS519 ESZ WS519 ESZ	0.70		Semi Volatiles in soils by GC-MS	1,2-Dichlorobenzene	Sample holding time exceeded
4156351		0.70	SOLID	Semi Volatiles in soils by GC-MS	1,3,5-Trinitrobenzene	Sample holding time exceeded
4156351	WS519 ESZ	0.70	SOLID	Semi Volatiles in soils by GC-MS	1,3-Dichlorobenzene	Sample holding time exceeded
4156351	WS519 ESZ	0.70	SOLID	Semi Volatiles in soils by GC-MS	1,3-Dinitrobenzene	Sample holding time exceeded
4156351	WS519 ESZ	0.70	SOLID	Semi Volatiles in soils by GC-MS	1,4-Dichlorobenzene	Sample holding time exceeded
4156351	WS519 ESZ	0.70	SOLID	Semi Volatiles in soils by GC-MS	1,4-Naphthoquinone	Sample holding time exceeded

CERTIFICATE OF ANALYSIS

110812-132 Ricetser Central Fastern Land Parcels SDG Location: Order Number: H WSP BAS-9 147189 Job: WSP Environmental Attention: Helen Gardiner Superseded Report:

Client Reference:

Sample Customer Depth (m) Matrix **Test Name Component Name** Comment 4156351 WS519 FS7 0.70 SOLID Semi Volatiles in soils by GC-MS 1-Naphthylamine Sample holding time exceeded 4156351 WS519 ESZ 0.70 SOLID Semi Volatiles in soils by GC-MS 2,3,4,6-Tetrachlorophenol Sample holding time exceeded WS519 ESZ Sample holding time exceeded 4156351 0.70 SOLID Semi Volatiles in soils by GC-MS 2.4.5-Trichlorophenol WS519 ESZ 4156351 0.70 **SOLID** Semi Volatiles in soils by GC-MS 2,4,6-Trichlorophenol Sample holding time exceeded WS519 ESZ 4156351 0.70 SOLID Semi Volatiles in soils by GC-MS 2,4-Dichlorophenol Sample holding time exceeded 4156351 WS519 FS7 0.70 SOLID Semi Volatiles in soils by GC-MS 2 4-Dimethylphenol Sample holding time exceeded WS519 FS7 4156351 0.70 SOLID Semi Volatiles in soils by GC-MS 2.4-Dinitrophenol Sample holding time exceeded WS519 FS7 Sample holding time exceeded 4156351 0.70 SOLID Semi Volatiles in soils by GC-MS 2.4-Dinitrotoluene **WS519 ESZ** 4156351 0.70 SOLID Semi Volatiles in soils by GC-MS 2.6-Dichlorophenol Sample holding time exceeded 4156351 WS519 ESZ 0.70 SOLID Semi Volatiles in soils by GC-MS 2.6-Dinitrotoluene Sample holding time exceeded 4156351 WS519 FS7 0.70 SOLID Semi Volatiles in soils by GC-MS 2-Acetylaminofluorene Sample holding time exceeded WS519 ESZ 4156351 0.70 SOLID Semi Volatiles in soils by GC-MS 2-Chloronaphthalene Sample holding time exceeded WS519 ESZ Sample holding time exceeded 4156351 0.70 SOLID Semi Volatiles in soils by GC-MS 2-Chlorophenol WS519 ESZ 4156351 0.70 SOLID Semi Volatiles in soils by GC-MS 2-Methyl-4,6-dinitrophenol Sample holding time exceeded 4156351 WS519 ESZ 0.70 SOLID Semi Volatiles in soils by GC-MS 2-Methylnaphthalene Sample holding time exceeded WS519 ESZ 2-Methylphenol 4156351 0.70 SOLID Semi Volatiles in soils by GC-MS Sample holding time exceeded WS519 ESZ 4156351 0.70 SOLID Semi Volatiles in soils by GC-MS 2-Naphthylamine Sample holding time exceeded Sample holding time exceeded WS519 ESZ 4156351 0.70 SOLID Semi Volatiles in soils by GC-MS 2-Nitroaniline WS519 ESZ 0.70 SOLID Semi Volatiles in soils by GC-MS 4156351 2-Nitrophenol Sample holding time exceeded 4156351 WS519 ESZ 0.70 SOLID Semi Volatiles in soils by GC-MS 2-Picoline Sample holding time exceeded 4156351 WS519 FS7 0.70 SOLID Semi Volatiles in soils by GC-MS 3,3-Dichlorobenzidine Sample holding time exceeded WS519 ESZ 4156351 0.70 SOLID Semi Volatiles in soils by GC-MS 3.3-Dimethylbenzidine Sample holding time exceeded WS519 FS7 Sample holding time exceeded 4156351 0.70 SOLID Semi Volatiles in soils by GC-MS 3+4-Chloropheno 4156351 WS519 FS7 0.70 **SOLID** Semi Volatiles in soils by GC-MS 3+4-Methylphenol Sample holding time exceeded WS519 ESZ 4156351 0.70 SOLID Semi Volatiles in soils by GC-MS 3-Methylcholanthrene Sample holding time exceeded WS519 ESZ 0.70 4156351 SOLID Semi Volatiles in soils by GC-MS 3-Nitroaniline Sample holding time exceeded WS519 ESZ 4156351 0.70 SOLID Semi Volatiles in soils by GC-MS 4-Aminobiphenyl Sample holding time exceeded 4156351 WS519 ESZ 0.70 SOLID Semi Volatiles in soils by GC-MS Sample holding time exceeded 4-Bromophenylphenylether 4156351 WS519 ESZ 0.70 SOLID Semi Volatiles in soils by GC-MS 4-Chloro-3-Methylphenol Sample holding time exceeded WS519 ESZ SOLID 4156351 0.70 Semi Volatiles in soils by GC-MS 4-Chlorophenylphenylether Sample holding time exceeded 4156351 WS519 ESZ 0.70 **SOLID** Semi Volatiles in soils by GC-MS 4-Nitroaniline Sample holding time exceeded WS519 ESZ 4156351 0.70 SOLID Semi Volatiles in soils by GC-MS 4-Nitrophenol Sample holding time exceeded WS519 ESZ 4156351 0.70 SOLID Semi Volatiles in soils by GC-MS 5-Nitro-o-toluidine Sample holding time exceeded WS519 ESZ 4156351 0.70 SOLID Semi Volatiles in soils by GC-MS 7,12-Dimethylbenz(a)anthracene Sample holding time exceeded WS519 ESZ 4156351 0.70 SOLID Semi Volatiles in soils by GC-MS Acenaphthene Sample holding time exceeded 4156351 WS519 ESZ 0.70 SOLID Semi Volatiles in soils by GC-MS Acenaphthylene Sample holding time exceeded WS519 ESZ 4156351 0.70 SOLID Semi Volatiles in soils by GC-MS Acetophenone Sample holding time exceeded 4156351 WS519 ESZ 0.70 SOLID Semi Volatiles in soils by GC-MS Aniline Sample holding time exceeded 4156351 WS519 ESZ 0.70 SOLID Semi Volatiles in soils by GC-MS Anthracene Sample holding time exceeded WS519 ESZ 0.70 SOLID Sample holding time exceeded 4156351 Semi Volatiles in soils by GC-MS Azobenzene WS519 FS7 4156351 0.70 **SOLID** Semi Volatiles in soils by GC-MS Benzidine Sample holding time exceeded WS519 ESZ 4156351 0.70 SOLID Semi Volatiles in soils by GC-MS Benzo(a)anthracene Sample holding time exceeded 4156351 WS519 ESZ 0.70 SOLID Semi Volatiles in soils by GC-MS Sample holding time exceeded Benzo(a)pyrene 4156351 WS519 ESZ 0.70 SOLID Semi Volatiles in soils by GC-MS Benzo(b)fluoranthene Sample holding time exceeded WS519 ESZ 4156351 0.70 SOLID Semi Volatiles in soils by GC-MS Benzo(g,h,i)perylene Sample holding time exceeded WS519 ESZ 0.70 4156351 SOLID Semi Volatiles in soils by GC-MS Benzo(k)fluoranthene Sample holding time exceeded WS519 ESZ 4156351 0.70 SOLID Semi Volatiles in soils by GC-MS Benzyl Alcohol Sample holding time exceeded WS519 ESZ 0.70 **SOLID** Semi Volatiles in soils by GC-MS Sample holding time exceeded 4156351 Bis(2-chloroethoxy)methane 4156351 WS519 ESZ 0.70 SOLID Semi Volatiles in soils by GC-MS Bis(2-chloroethyl)ether Sample holding time exceeded WS519 ESZ Bis(2-chloroisopropyl)ether Sample holding time exceeded 4156351 0.70 SOLID Semi Volatiles in soils by GC-MS 4156351 WS519 FS7 0.70 SOLID Semi Volatiles in soils by GC-MS Bis(2-ethylhexyl)phthalate Sample holding time exceeded 4156351 WS519 ESZ 0.70 SOLID Semi Volatiles in soils by GC-MS **Butyl Benzyl Phthalate** Sample holding time exceeded WS519 ESZ 0.70 SOLID Sample holding time exceeded 4156351 Semi Volatiles in soils by GC-MS Carbazole WS519 ESZ 4156351 0.70 SOLID Semi Volatiles in soils by GC-MS Chlorobenzilate Sample holding time exceeded WS519 ESZ 4156351 0.70 SOLID Semi Volatiles in soils by GC-MS Chrysene Sample holding time exceeded WS519 ESZ SOLID Semi Volatiles in soils by GC-MS Diallate Sample holding time exceeded 4156351 0.70 4156351 WS519 ESZ SOLID Semi Volatiles in soils by GC-MS Sample holding time exceeded 0.70 Dibenzo(a,h)anthracene 4156351 WS519 ESZ 0.70 **SOLID** Semi Volatiles in soils by GC-MS Dibenzofuran Sample holding time exceeded 4156351 WS519 ESZ 0.70 **SOLID** Semi Volatiles in soils by GC-MS Diethyl Phthalate Sample holding time exceeded WS519 ESZ 4156351 0.70 SOLID Semi Volatiles in soils by GC-MS Dimethyl Phthalate Sample holding time exceeded

CERTIFICATE OF ANALYSIS

110812-132 Ricetser Central Fastern Land Parcels SDG Location: Order Number: H WSP BAS-9 147189 Job: WSP Environmental Attention: Helen Gardiner Superseded Report:

Client Reference:

Sample Customer Component Name Depth (m) Matrix **Test Name** Comment Sample Re 4156351 WS519 FS7 0.70 SOLID Semi Volatiles in soils by GC-MS Di-N-butyl Phthalate Sample holding time exceeded 4156351 WS519 ESZ 0.70 SOLID Semi Volatiles in soils by GC-MS Di-n-octylphthalate Sample holding time exceeded WS519 ESZ 4156351 0.70 SOLID Semi Volatiles in soils by GC-MS Dinoseb Sample holding time exceeded WS519 ESZ 4156351 0.70 **SOLID** Semi Volatiles in soils by GC-MS Diphenylamine Sample holding time exceeded WS519 ESZ 4156351 0.70 SOLID Semi Volatiles in soils by GC-MS Ethyl Methanesulfonate Sample holding time exceeded 4156351 WS519 FS7 0.70 SOLID Semi Volatiles in soils by GC-MS Fluoranthene Sample holding time exceeded WS519 FS7 4156351 0.70 SOLID Semi Volatiles in soils by GC-MS Fluorene Sample holding time exceeded WS519 FS7 Sample holding time exceeded 4156351 0.70 SOLID Semi Volatiles in soils by GC-MS Hexachlorobenzene WS519 ESZ 4156351 0.70 SOLID Semi Volatiles in soils by GC-MS Hexachlorobutadiene Sample holding time exceeded 4156351 WS519 ESZ 0.70 SOLID Semi Volatiles in soils by GC-MS Hexachlorocyclopentadiene Sample holding time exceeded 4156351 WS519 FS7 0.70 SOLID Semi Volatiles in soils by GC-MS Hexachloroethane Sample holding time exceeded WS519 ESZ 4156351 0.70 SOLID Semi Volatiles in soils by GC-MS Hexachloropropene Sample holding time exceeded WS519 ESZ 4156351 0.70 SOLID Semi Volatiles in soils by GC-MS Indeno(1,2,3-c,d)pyrene Sample holding time exceeded WS519 ESZ 4156351 0.70 SOLID Semi Volatiles in soils by GC-MS Isodrin Sample holding time exceeded 4156351 WS519 ESZ 0.70 SOLID Semi Volatiles in soils by GC-MS Isophorone Sample holding time exceeded WS519 ESZ 4156351 0.70 SOLID Semi Volatiles in soils by GC-MS Isosafrole Sample holding time exceeded WS519 ESZ 4156351 0.70 SOLID Semi Volatiles in soils by GC-MS Kepone Sample holding time exceeded Sample holding time exceeded WS519 ESZ 4156351 0.70 SOLID Semi Volatiles in soils by GC-MS Methyl Methanesulfonate WS519 ESZ 0.70 SOLID Semi Volatiles in soils by GC-MS 4156351 Naphthalene Sample holding time exceeded WS519 ESZ 0.70 SOLID Semi Volatiles in soils by GC-MS Sample holding time exceeded 4156351 Nitrobenzene 4156351 WS519 FS7 0.70 SOLID Semi Volatiles in soils by GC-MS N-Nitrosodiethylamine Sample holding time exceeded WS519 ESZ 4156351 0.70 SOLID Semi Volatiles in soils by GC-MS N-Nitrosodimethylamine Sample holding time exceeded WS519 FS7 Sample holding time exceeded 4156351 0.70 SOLID Semi Volatiles in soils by GC-MS N-Nitroso-di-N-butylamine 4156351 WS519 FS7 0.70 **SOLID** Semi Volatiles in soils by GC-MS N-Nitroso-di-N-propylamine Sample holding time exceeded WS519 ESZ 4156351 0.70 SOLID Semi Volatiles in soils by GC-MS N-Nitrosomethylethylamine Sample holding time exceeded WS519 ESZ 0.70 4156351 SOLID Semi Volatiles in soils by GC-MS N-Nitrosopiperidine Sample holding time exceeded WS519 ESZ SOLID 4156351 0.70 Semi Volatiles in soils by GC-MS N-Nitrosopyrrolidine Sample holding time exceeded 4156351 WS519 ESZ 0.70 SOLID Semi Volatiles in soils by GC-MS Sample holding time exceeded o-Toluidine 4156351 WS519 ESZ 0.70 SOLID Semi Volatiles in soils by GC-MS p-Chloroaniline Sample holding time exceeded WS519 ESZ SOLID 4156351 0.70 Semi Volatiles in soils by GC-MS Sample holding time exceeded p-Dimethylaminoazobenzene 4156351 WS519 ESZ 0.70 SOLID Semi Volatiles in soils by GC-MS Pentachlorobenzene Sample holding time exceeded WS519 ESZ 4156351 0.70 SOLID Semi Volatiles in soils by GC-MS Pentachloroethane Sample holding time exceeded WS519 ESZ 4156351 0.70 SOLID Semi Volatiles in soils by GC-MS Pentachloronitrobenzene Sample holding time exceeded WS519 ESZ 4156351 0.70 SOLID Semi Volatiles in soils by GC-MS Pentachlorophenol Sample holding time exceeded WS519 ESZ 4156351 0.70 SOLID Semi Volatiles in soils by GC-MS Phenacetin Sample holding time exceeded 4156351 WS519 ESZ 0.70 SOLID Semi Volatiles in soils by GC-MS Phenanthrene Sample holding time exceeded WS519 ESZ Phenol 4156351 0.70 SOLID Semi Volatiles in soils by GC-MS Sample holding time exceeded 4156351 **WS519 ESZ** 0.70 SOLID Semi Volatiles in soils by GC-MS Pronamide Sample holding time exceeded 4156351 WS519 ESZ 0.70 SOLID Semi Volatiles in soils by GC-MS Pyrene Sample holding time exceeded WS519 ESZ SOLID Sample holding time exceeded 4156351 0.70 Semi Volatiles in soils by GC-MS Pyridine WS519 FS7 4156351 0.70 SOLID Semi Volatiles in soils by GC-MS Safrole Sample holding time exceeded WS507 ESZ 4156399 0.10 SOLID Semi Volatiles in soils by GC-MS 1,2,4,5-Tetrachlorobenzene Sample holding time exceeded 4156399 WS507 ESZ SOLID Semi Volatiles in soils by GC-MS Sample holding time exceeded 0.10 1.2.4-Trichlorobenzene 4156399 WS507 ESZ 0.10 SOLID Semi Volatiles in soils by GC-MS 1,2-Dichlorobenzene Sample holding time exceeded WS507 ESZ 4156399 0.10 SOLID Semi Volatiles in soils by GC-MS 1.3.5-Trinitrobenzene Sample holding time exceeded WS507 ESZ 4156399 0.10 SOLID Semi Volatiles in soils by GC-MS 1.3-Dichlorobenzene Sample holding time exceeded WS507 ESZ 4156399 0.10 SOLID Semi Volatiles in soils by GC-MS 1.3-Dinitrobenzene Sample holding time exceeded WS507 ESZ 0.10 **SOLID** Semi Volatiles in soils by GC-MS Sample holding time exceeded 4156399 1.4-Dichlorobenzene 4156399 WS507 ESZ 0.10 SOLID Semi Volatiles in soils by GC-MS 1,4-Naphthoquinone Sample holding time exceeded WS507 ESZ Sample holding time exceeded 4156399 0.10 SOLID Semi Volatiles in soils by GC-MS 1-Naphthylamine 4156399 WS507 FS7 0.10 SOLID Semi Volatiles in soils by GC-MS 2,3,4,6-Tetrachlorophenol Sample holding time exceeded 4156399 WS507 ESZ 0.10 SOLID Semi Volatiles in soils by GC-MS 2,4,5-Trichlorophenol Sample holding time exceeded WS507 ESZ SOLID Sample holding time exceeded 4156399 0.10 Semi Volatiles in soils by GC-MS 2,4,6-Trichlorophenol WS507 ESZ 4156399 0.10 SOLID Semi Volatiles in soils by GC-MS 2,4-Dichlorophenol Sample holding time exceeded WS507 ESZ 4156399 0.10 SOLID Semi Volatiles in soils by GC-MS 2,4-Dimethylphenol Sample holding time exceeded WS507 ESZ SOLID Semi Volatiles in soils by GC-MS 4156399 0.10 2.4-Dinitrophenol Sample holding time exceeded 4156399 WS507 ESZ SOLID Semi Volatiles in soils by GC-MS Sample holding time exceeded 0.10 2.4-Dinitrotoluene 4156399 WS507 ESZ 0.10 SOLID Semi Volatiles in soils by GC-MS 2,6-Dichlorophenol Sample holding time exceeded 4156399 WS507 ESZ 0.10 **SOLID** Semi Volatiles in soils by GC-MS 2,6-Dinitrotoluene Sample holding time exceeded WS507 ESZ 4156399 0.10 SOLID Semi Volatiles in soils by GC-MS 2-Acetylaminofluorene Sample holding time exceeded

CERTIFICATE OF ANALYSIS

110812-132 Bicetser Central Eastern Land Parcels SDG: Location: Order Number: Job: H_WSP_BAS-9 WSP Environmental 147189 **Customer:** Report Number: Helen Gardiner Superseded Report:

Client Refere	ence:	Client Reference: Attention: Helen Gardiner			Superseded Report:			
Sample	Customer	Depth (m)	Matrix	Test Name	Component Name	Comment		
Number 4156399	Sample Ref. WS507 ESZ	0.10	SOLID	Semi Volatiles in soils by GC-MS	2-Chloronaphthalene	Sample holding time exceeded		
4156399	WS507 ESZ	0.10	SOLID		·			
4156399	WS507 ESZ	0.10	SOLID	Semi Volatiles in soils by GC-MS	2-Chlorophenol	Sample holding time exceeded		
4156399	WS507 ESZ	0.10	SOLID	Semi Volatiles in soils by GC-MS Semi Volatiles in soils by GC-MS	2-Methyl-4,6-dinitrophenol 2-Methylnaphthalene	Sample holding time exceeded Sample holding time exceeded		
	WS507 ESZ			•	, ,			
4156399		0.10	SOLID	Semi Volatiles in soils by GC-MS	2-Methylphenol	Sample holding time exceeded		
4156399	WS507 ESZ	0.10	SOLID	Semi Volatiles in soils by GC-MS	2-Naphthylamine	Sample holding time exceeded		
4156399	WS507 ESZ	0.10	SOLID	Semi Volatiles in soils by GC-MS	2-Nitroaniline	Sample holding time exceeded		
4156399	WS507 ESZ	0.10	SOLID	Semi Volatiles in soils by GC-MS	2-Nitrophenol	Sample holding time exceeded		
4156399	WS507 ESZ	0.10	SOLID	Semi Volatiles in soils by GC-MS	2-Picoline	Sample holding time exceeded		
4156399	WS507 ESZ	0.10	SOLID	Semi Volatiles in soils by GC-MS	3,3-Dichlorobenzidine	Sample holding time exceeded		
4156399	WS507 ESZ	0.10	SOLID	Semi Volatiles in soils by GC-MS	3,3-Dimethylbenzidine	Sample holding time exceeded		
4156399	WS507 ESZ	0.10	SOLID	Semi Volatiles in soils by GC-MS	3+4-Chlorophenol	Sample holding time exceeded		
4156399	WS507 ESZ	0.10	SOLID	Semi Volatiles in soils by GC-MS	3+4-Methylphenol	Sample holding time exceeded		
4156399	WS507 ESZ	0.10	SOLID	Semi Volatiles in soils by GC-MS	3-Methylcholanthrene	Sample holding time exceeded		
4156399	WS507 ESZ	0.10	SOLID	Semi Volatiles in soils by GC-MS	3-Nitroaniline	Sample holding time exceeded		
4156399	WS507 ESZ	0.10	SOLID	Semi Volatiles in soils by GC-MS	4-Aminobiphenyl	Sample holding time exceeded		
4156399	WS507 ESZ	0.10	SOLID	Semi Volatiles in soils by GC-MS	4-Bromophenylphenylether	Sample holding time exceeded		
4156399	WS507 ESZ	0.10	SOLID	Semi Volatiles in soils by GC-MS	4-Chloro-3-Methylphenol	Sample holding time exceeded		
4156399	WS507 ESZ	0.10	SOLID	Semi Volatiles in soils by GC-MS	4-Chlorophenylphenylether	Sample holding time exceeded		
4156399	WS507 ESZ	0.10	SOLID	Semi Volatiles in soils by GC-MS	4-Nitroaniline	Sample holding time exceeded		
4156399	WS507 ESZ	0.10	SOLID	Semi Volatiles in soils by GC-MS	4-Nitrophenol	Sample holding time exceeded		
4156399	WS507 ESZ	0.10	SOLID	Semi Volatiles in soils by GC-MS	5-Nitro-o-toluidine	Sample holding time exceeded		
4156399	WS507 ESZ	0.10	SOLID	Semi Volatiles in soils by GC-MS	7,12-Dimethylbenz(a)anthracene	Sample holding time exceeded		
4156399	WS507 ESZ	0.10	SOLID	Semi Volatiles in soils by GC-MS	Acenaphthene	Sample holding time exceeded		
4156399	WS507 ESZ	0.10	SOLID	Semi Volatiles in soils by GC-MS	Acenaphthylene	Sample holding time exceeded		
4156399	WS507 ESZ	0.10	SOLID	Semi Volatiles in soils by GC-MS	Acetophenone	Sample holding time exceeded		
4156399	WS507 ESZ	0.10	SOLID	Semi Volatiles in soils by GC-MS	Aniline	Sample holding time exceeded		
4156399	WS507 ESZ	0.10	SOLID	Semi Volatiles in soils by GC-MS	Anthracene	Sample holding time exceeded		
4156399	WS507 ESZ	0.10	SOLID	Semi Volatiles in soils by GC-MS	Azobenzene	Sample holding time exceeded		
4156399	WS507 ESZ	0.10	SOLID	Semi Volatiles in soils by GC-MS	Benzidine	Sample holding time exceeded		
4156399	WS507 ESZ	0.10	SOLID	Semi Volatiles in soils by GC-MS	Benzo(a)anthracene	Sample holding time exceeded		
4156399	WS507 ESZ	0.10	SOLID	Semi Volatiles in soils by GC-MS	Benzo(a)pyrene	Sample holding time exceeded		
4156399	WS507 ESZ	0.10	SOLID	Semi Volatiles in soils by GC-MS	Benzo(b)fluoranthene	Sample holding time exceeded		
4156399	WS507 ESZ	0.10	SOLID	Semi Volatiles in soils by GC-MS	Benzo(g,h,i)perylene	Sample holding time exceeded		
4156399	WS507 ESZ	0.10	SOLID	Semi Volatiles in soils by GC-MS	Benzo(k)fluoranthene	Sample holding time exceeded		
4156399	WS507 ESZ	0.10	SOLID	Semi Volatiles in soils by GC-MS	Benzyl Alcohol	Sample holding time exceeded		
4156399	WS507 ESZ	0.10	SOLID	Semi Volatiles in soils by GC-MS	Bis(2-chloroethoxy)methane	Sample holding time exceeded		
4156399	WS507 ESZ	0.10	SOLID	Semi Volatiles in soils by GC-MS	Bis(2-chloroethyl)ether	Sample holding time exceeded		
4156399	WS507 ESZ	0.10	SOLID	Semi Volatiles in soils by GC-MS	Bis(2-chloroisopropyl)ether	Sample holding time exceeded		
4156399	WS507 ESZ	0.10	SOLID	Semi Volatiles in soils by GC-MS	Bis(2-ethylhexyl)phthalate	Sample holding time exceeded		
4156399	WS507 ESZ	0.10	SOLID	Semi Volatiles in soils by GC-MS	Butyl Benzyl Phthalate	Sample holding time exceeded		
4156399	WS507 ESZ	0.10	SOLID	Semi Volatiles in soils by GC-MS	Carbazole	Sample holding time exceeded		
4156399	WS507 ESZ	0.10	SOLID	Semi Volatiles in soils by GC-MS	Chlorobenzilate	Sample holding time exceeded		
4156399	WS507 ESZ	0.10	SOLID	Semi Volatiles in soils by GC-MS	Chrysene	Sample holding time exceeded		
4156399	WS507 ESZ	0.10	SOLID	Semi Volatiles in soils by GC-MS	Diallate	Sample holding time exceeded		
4156399	WS507 ESZ	0.10	SOLID	Semi Volatiles in soils by GC-MS	Dibenzo(a,h)anthracene	Sample holding time exceeded Sample holding time exceeded		
4156399	WS507 ESZ	0.10	SOLID	•	Dibenzo(a,n)antinacene			
4156399	WS507 ESZ	0.10	SOLID	Semi Volatiles in soils by GC-MS		Sample holding time exceeded		
4156399	WS507 ESZ	0.10	SOLID	Semi Volatiles in soils by GC-MS	Diethyl Phthalate	Sample holding time exceeded		
	WS507 ESZ WS507 ESZ			Semi Volatiles in soils by GC-MS	Dimethyl Phthalate	Sample holding time exceeded		
4156399		0.10	SOLID	Semi Volatiles in soils by GC-MS	Di-N-butyl Phthalate	Sample holding time exceeded		
4156399	WS507 ESZ	0.10	SOLID	Semi Volatiles in soils by GC-MS	Di-n-octylphthalate	Sample holding time exceeded		
4156399	WS507 ESZ	0.10	SOLID	Semi Volatiles in soils by GC-MS	Dinoseb	Sample holding time exceeded		
4156399	WS507 ESZ	0.10	SOLID	Semi Volatiles in soils by GC-MS	Diphenylamine	Sample holding time exceeded		
4156399	WS507 ESZ	0.10	SOLID	Semi Volatiles in soils by GC-MS	Ethyl Methanesulfonate	Sample holding time exceeded		
4156399	WS507 ESZ	0.10	SOLID	Semi Volatiles in soils by GC-MS	Fluoranthene	Sample holding time exceeded		
4156399	WS507 ESZ	0.10	SOLID	Semi Volatiles in soils by GC-MS	Fluorene	Sample holding time exceeded		
4156399	WS507 ESZ	0.10	SOLID	Semi Volatiles in soils by GC-MS	Hexachlorobenzene	Sample holding time exceeded		
4156399	WS507 ESZ	0.10	SOLID	Semi Volatiles in soils by GC-MS	Hexachlorobutadiene	Sample holding time exceeded		
4156399	WS507 ESZ	0.10	SOLID	Semi Volatiles in soils by GC-MS	Hexachlorocyclopentadiene	Sample holding time exceeded		
4156399	WS507 ESZ	0.10	SOLID	Semi Volatiles in soils by GC-MS	Hexachloroethane	Sample holding time exceeded		

CERTIFICATE OF ANALYSIS

110812-132 Bicetser Central Eastern Land Parcels SDG: Location: Order Number: Job: H_WSP_BAS-9 WSP Environmental 147189 **Customer:** Report Number: Helen Gardiner Superseded Report:

Client Reference: Attention: Helen Gardine			Attention: Helen Gardiner	er Superseded Report:			
Sample	Customer	Depth (m)	Matrix	Test Name	Component Name	Comment	
Number 4156399	Sample Ref. WS507 ESZ	0.10	SOLID	Semi Volatiles in soils by GC-MS	Hexachloropropene	Sample holding time exceeded	
4156399	WS507 ESZ	0.10	SOLID	Semi Volatiles in soils by GC-MS	Indeno(1,2,3-c,d)pyrene	Sample holding time exceeded	
4156399	WS507 ESZ	0.10	SOLID	Semi Volatiles in soils by GC-MS	Isodrin	Sample holding time exceeded	
4156399	WS507 ESZ	0.10	SOLID	Semi Volatiles in soils by GC-MS	Isophorone	Sample holding time exceeded	
4156399	WS507 ESZ	0.10	SOLID	Semi Volatiles in soils by GC-MS	Isosafrole	Sample holding time exceeded	
4156399	WS507 ESZ	0.10	SOLID	Semi Volatiles in soils by GC-MS	Kepone	Sample holding time exceeded	
4156399	WS507 ESZ	0.10	SOLID	Semi Volatiles in soils by GC-MS	Methyl Methanesulfonate	Sample holding time exceeded	
4156399	WS507 ESZ	0.10	SOLID	Semi Volatiles in soils by GC-MS	Naphthalene	Sample holding time exceeded	
4156399	WS507 ESZ	0.10	SOLID	Semi Volatiles in soils by GC-MS	Nitrobenzene	Sample holding time exceeded	
4156399	WS507 ESZ	0.10	SOLID	Semi Volatiles in soils by GC-MS	N-Nitrosodiethylamine	Sample holding time exceeded	
4156399	WS507 ESZ	0.10	SOLID	Semi Volatiles in soils by GC-MS	N-Nitrosodimethylamine	Sample holding time exceeded	
4156399	WS507 ESZ	0.10	SOLID	Semi Volatiles in soils by GC-MS	N-Nitroso-di-N-butylamine	Sample holding time exceeded	
4156399	WS507 ESZ	0.10	SOLID	Semi Volatiles in soils by GC-MS	N-Nitroso-di-N-propylamine	Sample holding time exceeded	
4156399	WS507 ESZ	0.10	SOLID	Semi Volatiles in soils by GC-MS	N-Nitrosomethylethylamine	Sample holding time exceeded	
4156399	WS507 ESZ	0.10	SOLID	Semi Volatiles in soils by GC-MS	N-Nitrosopiperidine	Sample holding time exceeded	
4156399	WS507 ESZ	0.10	SOLID	Semi Volatiles in soils by GC-MS	N-Nitrosopyrrolidine	Sample holding time exceeded	
4156399	WS507 ESZ	0.10	SOLID	Semi Volatiles in soils by GC-MS	o-Toluidine	Sample holding time exceeded	
4156399	WS507 ESZ	0.10	SOLID	Semi Volatiles in soils by GC-MS	p-Chloroaniline	Sample holding time exceeded	
4156399	WS507 ESZ	0.10	SOLID	Semi Volatiles in soils by GC-MS	p-Dimethylaminoazobenzene	Sample holding time exceeded	
4156399	WS507 ESZ	0.10	SOLID	Semi Volatiles in soils by GC-MS	Pentachlorobenzene	Sample holding time exceeded	
4156399	WS507 ESZ	0.10	SOLID	Semi Volatiles in soils by GC-MS	Pentachloroethane	Sample holding time exceeded	
4156399	WS507 ESZ	0.10	SOLID	Semi Volatiles in soils by GC-MS	Pentachloronitrobenzene	Sample holding time exceeded	
4156399	WS507 ESZ	0.10	SOLID	Semi Volatiles in soils by GC-MS	Pentachlorophenol	Sample holding time exceeded	
4156399	WS507 ESZ	0.10	SOLID	Semi Volatiles in soils by GC-MS	Phenacetin	Sample holding time exceeded	
4156399	WS507 ESZ	0.10	SOLID	Semi Volatiles in soils by GC-MS	Phenanthrene	Sample holding time exceeded	
4156399	WS507 ESZ	0.10	SOLID	Semi Volatiles in soils by GC-MS	Phenol	Sample holding time exceeded	
4156399	WS507 ESZ	0.10	SOLID	Semi Volatiles in soils by GC-MS	Pronamide	Sample holding time exceeded	
4156399	WS507 ESZ	0.10	SOLID	Semi Volatiles in soils by GC-MS	Pyrene	Sample holding time exceeded	
4156399	WS507 ESZ	0.10	SOLID	Semi Volatiles in soils by GC-MS	Pyridine	Sample holding time exceeded	
4156399	WS507 ESZ	0.10	SOLID	Semi Volatiles in soils by GC-MS	Safrole	Sample holding time exceeded	
4096066	WS516 ESZ	1.00	SOLID	VOC MS (S)	1.1.1.2-Tetrachloroethane	Volatile container not received	
4096066	WS516 ESZ	1.00	SOLID	VOC MS (S)	1.1.1-Trichloroethane	Volatile container not received	
4096066	WS516 ESZ	1.00	SOLID	VOC MS (S)	1.1.2.2-Tetrachloroethane	Volatile container not received	
4096066	WS516 ESZ	1.00	SOLID	VOC MS (S)	1.1.2-Trichloroethane	Volatile container not received	
4096066	WS516 ESZ	1.00	SOLID	VOC MS (S)	1.1-Dichloroethane	Volatile container not received	
4096066	WS516 ESZ	1.00	SOLID	VOC MS (S)	1.1-Dichloroethene	Volatile container not received	
4096066	WS516 ESZ	1.00	SOLID	VOC MS (S)	1.1-Dichloropropene	Volatile container not received	
4096066	WS516 ESZ	1.00	SOLID	VOC MS (S)	1.2.3-Trichlorobenzene	Volatile container not received	
4096066	WS516 ESZ	1.00	SOLID	VOC MS (S)	1.2.3-Trichloropropane	Volatile container not received	
4096066	WS516 ESZ	1.00	SOLID	VOC MS (S)	1.2.4-Trichlorobenzene	Volatile container not received	
4096066	WS516 ESZ	1.00	SOLID	VOC MS (S)	1.2.4-Trimethylbenzene	Volatile container not received	
4096066	WS516 ESZ	1.00	SOLID	VOC MS (S)	1.2-Dibromo-3-chloropropane	Volatile container not received	
4096066	WS516 ESZ	1.00	SOLID	VOC MS (S)	1.2-Dibromoethane	Volatile container not received	
4096066	WS516 ESZ	1.00	SOLID	VOC MS (S)	1.2-Dichlorobenzene	Volatile container not received	
4096066	WS516 ESZ	1.00	SOLID	VOC MS (S)	1.2-Dichloroethane	Volatile container not received	
4096066	WS516 ESZ	1.00	SOLID	VOC MS (S)	1.2-Dichloropropane	Volatile container not received	
4096066	WS516 ESZ	1.00	SOLID	VOC MS (S)	1.3.5-Trimethylbenzene	Volatile container not received	
4096066	WS516 ESZ	1.00	SOLID	VOC MS (S)	1.3-Dichlorobenzene	Volatile container not received	
4096066	WS516 ESZ	1.00	SOLID	VOC MS (S)	1.3-Dichloropropane	Volatile container not received	
4096066	WS516 ESZ	1.00	SOLID	VOC MS (S)	1.4-Dichlorobenzene	Volatile container not received	
4096066	WS516 ESZ	1.00	SOLID	VOC MS (S)	2.2-Dichloropropane	Volatile container not received	
4096066	WS516 ESZ	1.00	SOLID	VOC MS (S)	2-Chlorotoluene	Volatile container not received	
4096066	WS516 ESZ	1.00	SOLID	VOC MS (S)	4-Bromofluorobenzene**	Volatile container not received	
4096066	WS516 ESZ	1.00	SOLID	VOC MS (S)	4-Chlorotoluene	Volatile container not received	
4096066	WS516 ESZ	1.00	SOLID	VOC MS (S)	4-Isopropyltoluene	Volatile container not received Volatile container not received	
4096066	WS516 ESZ	1.00	SOLID	VOC MS (S)	Benzene	Volatile container not received	
4096066	WS516 ESZ	1.00	SOLID	VOC MS (S)	Bromobenzene	Volatile container not received	
4096066	WS516 ESZ	1.00	SOLID	VOC MS (S)	Bromochloromethane	Volatile container not received Volatile container not received	
4096066	WS516 ESZ	1.00	SOLID	VOC MS (S)	Bromodichloromethane	Volatile container not received	
4096066	WS516 ESZ	1.00	SOLID	VOC MS (S)	Bromoform	Volatile container not received	
7090000		1.00	JOLID	VOC IVIO (O)	ыотоют	voiatile container not received	

CERTIFICATE OF ANALYSIS

SDG: 110812-132 Location: Bicetser Central Eastern Land Parcels Order Number:

Job: H_WSP_BAS-9 Customer: WSP Environmental Report Number: 147189

Job: Client Referen	H_WSP ice:	_BAS-9	Customer Attention:		Report Number: Superseded Report:	14/189
Sample	Customer	Danish (m)				O
Number	Sample Ref.	Depth (m)	Matrix	Test Name	Component Name	Comment
4096066	WS516 ESZ	1.00	SOLID	VOC MS (S)	Bromomethane	Volatile container not received
4096066	WS516 ESZ	1.00	SOLID	VOC MS (S)	Carbon Disulphide	Volatile container not received
4096066	WS516 ESZ	1.00	SOLID	VOC MS (S)	Carbontetrachloride	Volatile container not received
4096066	WS516 ESZ	1.00	SOLID	VOC MS (S)	Chlorobenzene	Volatile container not received
4096066	WS516 ESZ	1.00	SOLID	VOC MS (S)	Chloroethane	Volatile container not received
4096066	WS516 ESZ	1.00	SOLID	VOC MS (S)	Chloroform	Volatile container not received
4096066	WS516 ESZ	1.00	SOLID	VOC MS (S)	Chloromethane	Volatile container not received
4096066	WS516 ESZ	1.00	SOLID	VOC MS (S)	cis-1-2-Dichloroethene	Volatile container not received
4096066	WS516 ESZ	1.00	SOLID	VOC MS (S)	cis-1-3-Dichloropropene	Volatile container not received
4096066	WS516 ESZ	1.00	SOLID	VOC MS (S)	Dibromochloromethane	Volatile container not received
4096066	WS516 ESZ	1.00	SOLID	VOC MS (S)	Dibromofluoromethane**	Volatile container not received
4096066	WS516 ESZ	1.00	SOLID	VOC MS (S)	Dibromomethane	Volatile container not received
4096066	WS516 ESZ	1.00	SOLID	VOC MS (S)	Dichlorodifluoromethane	Volatile container not received
4096066	WS516 ESZ	1.00	SOLID	VOC MS (S)	Dichloromethane	Volatile container not received
4096066	WS516 ESZ	1.00	SOLID	VOC MS (S)	Ethylbenzene	Volatile container not received
4096066	WS516 ESZ	1.00	SOLID	VOC MS (S)	Hexachlorobutadiene	Volatile container not received
4096066	WS516 ESZ	1.00	SOLID	VOC MS (S)	Isopropylbenzene	Volatile container not received
4096066	WS516 ESZ	1.00	SOLID	VOC MS (S)	Methyl Tertiary Butyl Ether	Volatile container not received
4096066	WS516 ESZ	1.00	SOLID	VOC MS (S)	Naphthalene	Volatile container not received
4096066	WS516 ESZ	1.00	SOLID	VOC MS (S)	n-Butylbenzene	Volatile container not received
4096066	WS516 ESZ	1.00	SOLID	VOC MS (S)	o-Xylene	Volatile container not received
4096066	WS516 ESZ	1.00	SOLID	VOC MS (S)	p/m-Xylene	Volatile container not received
4096066	WS516 ESZ	1.00	SOLID	VOC MS (S)	Propylbenzene	Volatile container not received
4096066	WS516 ESZ	1.00	SOLID	VOC MS (S)	sec-Butylbenzene	Volatile container not received
4096066	WS516 ESZ	1.00	SOLID	VOC MS (S)	Styrene	Volatile container not received
4096066	WS516 ESZ	1.00	SOLID	VOC MS (S)	Tert-amyl methyl ether	Volatile container not received
4096066	WS516 ESZ	1.00	SOLID	VOC MS (S)	tert-Butylbenzene	Volatile container not received
4096066	WS516 ESZ	1.00	SOLID	VOC MS (S)	Tetrachloroethene	Volatile container not received
4096066	WS516 ESZ	1.00	SOLID	VOC MS (S)	Toluene	Volatile container not received
4096066	WS516 ESZ	1.00	SOLID	VOC MS (S)	Toluene-d8**	Volatile container not received
4096066	WS516 ESZ	1.00	SOLID	VOC MS (S)	trans-1-2-Dichloroethene	Volatile container not received
4096066	WS516 ESZ	1.00	SOLID	VOC MS (S)	trans-1-3-Dichloropropene	Volatile container not received
4096066	WS516 ESZ	1.00	SOLID	VOC MS (S)	Trichloroethene	Volatile container not received
4096066	WS516 ESZ	1.00	SOLID	VOC MS (S)	Trichlorofluorormethane	Volatile container not received
4096066	WS516 ESZ	1.00	SOLID	VOC MS (S)	Vinyl Chloride	Volatile container not received
4096134	WS519 ESZ	1.80		GRO by GC-FID (S)	Alighatics > C10-C12	Volatile container not received
4096134	WS519 ESZ	1.80		GRO by GC-FID (S)	Aliphatics >C5-C6	Volatile container not received
4096134	WS519 ESZ	1.80		GRO by GC-FID (S)	Aliphatics >C6-C8	Volatile container not received
4096134	WS519 ESZ	1.80		GRO by GC-FID (S)	Aliphatics > C8-C10	Volatile container not received
4096134	WS519 ESZ	1.80		GRO by GC-FID (S)	Aromatics >EC10-EC12	Volatile container not received
4096134	WS519 ESZ	1.80		GRO by GC-FID (S)	Aromatics >EC5-EC7	Volatile container not received
4096134	WS519 ESZ WS519 ESZ	1.80		GRO by GC-FID (S)	Aromatics >EC9 EC10	Volatile container not received
4096134	WS519 ESZ WS519 ESZ	1.80		GRO by GC-FID (S)	Aromatics >EC8-EC10	Volatile container not received
4096134	WS519 ESZ WS519 ESZ	1.80		GRO by GC-FID (S)	GRO >C5-C12	Volatile container not received
4096134	WS519 ESZ WS519 ESZ	1.80		GRO by GC-FID (S)	GRO Surrogate % recovery**	Volatile container not received
4096134	WS519 ESZ WS519 ESZ	1.80		GRO by GC-FID (S)	Methyl tertiary butyl ether (MTBE)	Volatile container not received
4096134	WS519 ESZ WS519 ESZ	1.80	SOLID	VOC MS (S)	1.1.1.2-Tetrachloroethane 1.1.1-Trichloroethane	Volatile container not received
4096134 4096134	WS519 ESZ WS519 ESZ	1.80	SOLID	VOC MS (S)	1.1.2.2-Tetrachloroethane	Volatile container not received Volatile container not received
4096134	WS519 ESZ WS519 ESZ	1.80	SOLID	VOC MS (S) VOC MS (S)	1.1.2.2- Letrachioroethane	Volatile container not received Volatile container not received
4096134	WS519 ESZ WS519 ESZ	1.80	SOLID	VOC MS (S)	1.1-Dichloroethane	Volatile container not received
4096134	WS519 ESZ WS519 ESZ	1.80	SOLID	VOC MS (S)	1.1-Dichloroethene	Volatile container not received
	WS519 ESZ WS519 ESZ		SOLID			
4096134	WS519 ESZ WS519 ESZ	1.80	SOLID	VOC MS (S)	1.1-Dichloropropene	Volatile container not received
4096134	WS519 ESZ WS519 ESZ	1.80	SOLID	VOC MS (S)	1.2.3-Trichloropenane	Volatile container not received
4096134 4096134	WS519 ESZ WS519 ESZ	1.80	SOLID	VOC MS (S) VOC MS (S)	1.2.3-Trichloropropane 1.2.4-Trichlorobenzene	Volatile container not received Volatile container not received
4096134	WS519 ESZ	1.80	SOLID	VOC MS (S)	1.2.4-Trimethylbenzene	Volatile container not received
4096134	WS519 ESZ WS519 ESZ	1.80	SOLID	VOC MS (S)	1.2-Dibromo-3-chloropropane	Volatile container not received
4096134	WS519 ESZ WS519 ESZ	1.80	SOLID	VOC MS (S)	1.2-Dibromo-3-chioropropane 1.2-Dibromoethane	Volatile container not received
4096134	WS519 ESZ WS519 ESZ	1.80	SOLID	VOC MS (S)	1.2-Dichlorobenzene	Volatile container not received
7090104		1.00	JOLID	VOO IVIO (O)	1.2-DIGHIOLODGHZGHG	Volatile Container Hot received

CERTIFICATE OF ANALYSIS

Validated

 SDG:
 110812-132
 Location:
 Bicetser Central Eastern Land Parcels
 Order Number:

 Job:
 H_WSP_BAS-9
 Customer:
 WSP Environmental
 Report Number:
 147189

Client Refer	ence:		Attention:	Helen Gardiner	Superseded Report:	
Sample Number	Customer Sample Ref.	Depth (m)	Matrix	Test Name	Component Name	Comment
4096134	WS519 ESZ	1.80	SOLID	VOC MS (S)	1.2-Dichloroethane	Volatile container not received
4096134	WS519 ESZ	1.80	SOLID	VOC MS (S)	1.2-Dichloropropane	Volatile container not received
4096134	WS519 ESZ	1.80	SOLID	VOC MS (S)	1.3.5-Trimethylbenzene	Volatile container not received
4096134	WS519 ESZ	1.80	SOLID	VOC MS (S)	1.3-Dichlorobenzene	Volatile container not received
4096134	WS519 ESZ	1.80	SOLID	VOC MS (S)	1.3-Dichloropropane	Volatile container not received
4096134	WS519 ESZ	1.80	SOLID	VOC MS (S)	1.4-Dichlorobenzene	Volatile container not received
4096134	WS519 ESZ	1.80	SOLID	VOC MS (S)	2.2-Dichloropropane	Volatile container not received
4096134	WS519 ESZ	1.80	SOLID	VOC MS (S)	2-Chlorotoluene	Volatile container not received
4096134	WS519 ESZ	1.80	SOLID	VOC MS (S)	4-Bromofluorobenzene**	Volatile container not received
4096134	WS519 ESZ	1.80	SOLID	VOC MS (S)	4-Chlorotoluene	Volatile container not received
4096134	WS519 ESZ	1.80	SOLID	VOC MS (S)	4-Isopropyltoluene	Volatile container not received
4096134	WS519 ESZ	1.80	SOLID	VOC MS (S)	Benzene	Volatile container not received
4096134	WS519 ESZ	1.80	SOLID	VOC MS (S)	Bromobenzene	Volatile container not received
4096134	WS519 ESZ	1.80	SOLID	VOC MS (S)	Bromochloromethane	Volatile container not received
4096134	WS519 ESZ	1.80	SOLID	VOC MS (S)	Bromodichloromethane	Volatile container not received
4096134	WS519 ESZ	1.80	SOLID	VOC MS (S)	Bromoform	Volatile container not received
4096134	WS519 ESZ	1.80	SOLID	VOC MS (S)	Bromomethane	Volatile container not received
4096134	WS519 ESZ	1.80	SOLID	VOC MS (S)	Carbon Disulphide	Volatile container not received
4096134	WS519 ESZ	1.80	SOLID	VOC MS (S)	Carbontetrachloride	Volatile container not received
4096134	WS519 ESZ	1.80	SOLID	VOC MS (S)	Chlorobenzene	Volatile container not received
4096134	WS519 ESZ	1.80	SOLID	VOC MS (S)	Chloroethane	Volatile container not received
4096134	WS519 ESZ	1.80	SOLID	VOC MS (S)	Chloroform	Volatile container not received
4096134	WS519 ESZ	1.80	SOLID	VOC MS (S)	Chloromethane	Volatile container not received
4096134	WS519 ESZ	1.80	SOLID	VOC MS (S)	cis-1-2-Dichloroethene	Volatile container not received
4096134	WS519 ESZ	1.80	SOLID	VOC MS (S)	cis-1-3-Dichloropropene	Volatile container not received
4096134	WS519 ESZ	1.80	SOLID	VOC MS (S)	Dibromochloromethane	Volatile container not received
4096134	WS519 ESZ	1.80	SOLID	VOC MS (S)	Dibromofluoromethane**	Volatile container not received
4096134	WS519 ESZ	1.80	SOLID	VOC MS (S)	Dibromomethane	Volatile container not received
4096134	WS519 ESZ	1.80	SOLID	VOC MS (S)	Dichlorodifluoromethane	Volatile container not received
4096134	WS519 ESZ	1.80	SOLID	VOC MS (S)	Dichloromethane	Volatile container not received
4096134	WS519 ESZ	1.80	SOLID	VOC MS (S)	Ethylbenzene	Volatile container not received
4096134	WS519 ESZ	1.80	SOLID	VOC MS (S)	Hexachlorobutadiene	Volatile container not received
4096134	WS519 ESZ	1.80	SOLID	VOC MS (S)	Isopropylbenzene	Volatile container not received
4096134	WS519 ESZ	1.80	SOLID	VOC MS (S)	Methyl Tertiary Butyl Ether	Volatile container not received
4096134	WS519 ESZ	1.80	SOLID	VOC MS (S)	Naphthalene	Volatile container not received
4096134	WS519 ESZ	1.80	SOLID	VOC MS (S)	n-Butylbenzene	Volatile container not received
4096134	WS519 ESZ	1.80	SOLID	VOC MS (S)	o-Xylene	Volatile container not received
4096134	WS519 ESZ	1.80	SOLID	VOC MS (S)	p/m-Xylene	Volatile container not received
4096134	WS519 ESZ	1.80	SOLID	VOC MS (S)	Propylbenzene	Volatile container not received
4096134	WS519 ESZ	1.80	SOLID	VOC MS (S)	sec-Butylbenzene	Volatile container not received
4096134	WS519 ESZ	1.80	SOLID	VOC MS (S)	Styrene	Volatile container not received
4096134	WS519 ESZ	1.80	SOLID	VOC MS (S)	Tert-amyl methyl ether	Volatile container not received
4096134	WS519 ESZ	1.80	SOLID	VOC MS (S)	tert-Butylbenzene	Volatile container not received
4096134	WS519 ESZ	1.80	SOLID	VOC MS (S)	Tetrachloroethene	Volatile container not received
4096134	WS519 ESZ	1.80	SOLID	VOC MS (S)	Toluene	Volatile container not received
4096134	WS519 ESZ	1.80	SOLID	VOC MS (S)	Toluene-d8**	Volatile container not received
4096134	WS519 ESZ	1.80	SOLID	VOC MS (S)	trans-1-2-Dichloroethene	Volatile container not received
4096134	WS519 ESZ	1.80	SOLID	VOC MS (S)	trans-1-3-Dichloropropene	Volatile container not received
4096134	WS519 ESZ	1.80	SOLID	VOC MS (S)	Trichloroethene	Volatile container not received
4096134	WS519 ESZ	1.80	SOLID	VOC MS (S)	Trichlorofluorormethane	Volatile container not received
4096134	WS519 ESZ	1.80	SOLID	VOC MS (S)	Vinyl Chloride	Volatile container not received

Note: Test results may be compromised

CERTIFICATE OF ANALYSIS

Validated

Bicetser Central Eastern Land Parcels SDG: 110812-132 Location: H_WSP_BAS-9 WSP Environmental Job: **Customer:** Report Number:

Client Reference: Attention: Helen Gardiner Order Number: Superseded Report:

147189

Table of Results - Appendix

REPOR	RT KEY				Results	expressed a	as (e.g.) 1.03E-07 is equivalent to 1.03x10-7
NDP	No Determination Possible	#	ISO 17025 Accredited	*	Subcontracted Test	М	MCERTS Accredited
NFD	No Fibres Detected	PFD	Possible Fibres Detected	»	Result previously reported (Incremental reports only)	EC	Equivalent Carbon (Aromatics C8-C35)

Note: Method detection limit	s are not always achievable due to various circumstances beyond ou	r control		
Method No	Reference	Description	Wet/Dry Sample ¹	Surrogate Corrected
PM001		Preparation of Samples for Metals Analysis		
PM024	Modified BS 1377	Soil preparation including homogenisation, moisture screens of soils for Asbestos Containing Material		
TM048	HSG 248, Asbestos: The analysts' guide for sampling, analysis and clearance procedures	Identification of Asbestos in Bulk Material		
TM073	MEWAM BOOK 60 1980,95 1985, HMSO / Modified: US EPA Method 8081A & 8141A	Determination of organochlorine and organophosphorous pesticides by GCMS		
TM089	Modified: US EPA Methods 8020 & 602	Determination of Gasoline Range Hydrocarbons (GRO) and BTEX (MTBE) compounds by Headspace GC-FID (C4-C12)		
TM116	Modified: US EPA Method 8260, 8120, 8020, 624, 610 & 602	Determination of Volatile Organic Compounds by Headspace / GC-MS		
TM132	In - house Method	ELTRA CS800 Operators Guide		
TM133	BS 1377: Part 3 1990;BS 6068-2.5	Determination of pH in Soil and Water using the GLpH pH Meter		
TM153	Method 4500A,B,C, I, M AWWA/APHA, 20th Ed., 1999	Determination of Total Cyanide, Free (Easily Liberatable) Cyanide and Thiocyanate using the Skalar SANS+ System Segmented Flow Analyser		
TM154	In - house Method	Determination of Petroleum Hydrocarbons by EZ Flash GC-FID in the Carbon range C6- C40		
TM173	Analysis of Petroleum Hydrocarbons in Environmental Media – Total Petroleum Hydrocarbon Criteria	Determination of Speciated Extractable Petroleum Hydrocarbons in Soils by GC-FID		
TM181	US EPA Method 6010B	Determination of Routine Metals in Soil by iCap 6500 Duo ICP-OES		
TM184	EPA Methods 325.1 & 325.2,	The Determination of Anions in Aqueous Matrices using the Kone Spectrophotometric Analysers		
TM218	Microwave extraction – EPA method 3546	Microwave extraction - EPA method 3546		
TM243		Mixed Anions In Soils By Kone		
TM248	In-House Method	Determination of Ammonium BRE (2:1 Extract) on solids		
TM322				

¹ Applies to Solid samples only. DRY indicates samples have been dried at 35°C. NA = not applicable.

SDG:

Job:

CERTIFICATE OF ANALYSIS

110812-132 Location: Bicetser Central Eastern Land Parcels Order Number: H_WSP_BAS-9 147189 **Customer:** WSP Environmental Report Number: Client Reference: Attention: Helen Gardiner Superseded Report:

Test Completion Dates

		res	st Com	pietioi	n Dates	S				
Lab Sample No(s)	4095375	4095376	4095377	4095378	4095380	4095349	4095368	4095381	4095382	4095383
	CP501	CP502	CP503	CP504	CP505	WS501	WS502	WS502	WS503	WS504
Customer Sample Ref.										
AGS Ref.	ES	ES	ES	ES	ES	ES	ES	ES	ES	ES
			_		_	_				
Depth	0.30	0.20	0.10	0.40	0.20	0.20	0.25	1.00	0.10	0.70
Туре	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID
Ammoniacal N as NH4 in 2:1 extract	16-Aug-2011				19-Aug-2011	19-Aug-2011			19-Aug-2011	
Anions by Kone (soil)								18-Aug-2011		19-Aug-2011
Asbestos Identification (Soil)			23-Aug-2011							
Cyanide Comp/Free/Total/Thiocyanate		17-Aug-2011				19-Aug-2011			19-Aug-2011	
EPH CWG (Aliphatic) GC (S)							22-Aug-2011	19-Aug-2011		
EPH CWG (Aromatic) GC (S)							22-Aug-2011	19-Aug-2011 25-Aug-2011		
GRO by GC-FID (S) Metals by iCap-OES (Soil)	18-Aug-2011	18-Aug-2011	23-Aug-2011	18-Aug-2011	18-Aug-2011	19-Aug-2011	25-Aug-2011 19-Aug-2011	18-Aug-2011	19-Aug-2011	19-Aug-2011
OC, OP Pesticides and Triazine Herb	16-Aug-2011	16-Aug-2011	23-Aug-2011	16-Aug-2011	16-Aug-2011	19-Aug-2011	19-Aug-2011	24-Aug-2011	19-Aug-2011	19-Aug-2011
PAH by GCMS			25-Aug-2011		23-Aug-2011			23-Aug-2011	23-Aug-2011	23-Aug-2011
pH	17-Aug-2011	17-Aug-2011	24-Aug-2011	16-Aug-2011	16-Aug-2011	19-Aug-2011	19-Aug-2011	16-Aug-2011	19-Aug-2011	16-Aug-2011
Sample description	16-Aug-2011	16-Aug-2011	23-Aug-2011	16-Aug-2011		17-Aug-2011	17-Aug-2011	17-Aug-2011	17-Aug-2011	17-Aug-2011
Semi Volatiles in soils by GC-MS	_	26-Aug-2011				26-Aug-2011	_		26-Aug-2011	-
Total Organic Carbon	22-Aug-2011	22-Aug-2011		22-Aug-2011	22-Aug-2011	-		22-Aug-2011		22-Aug-2011
TPH c6-40 Value of soil	18-Aug-2011		26-Aug-2011		18-Aug-2011	22-Aug-2011			26-Aug-2011	22-Aug-2011
TPH CWG GC (S)							25-Aug-2011	25-Aug-2011		
VOC MS (S)		26-Aug-2011			26-Aug-2011		26-Aug-2011	26-Aug-2011		26-Aug-2011
Lab Sample No(s)	4095385	4095386	4095387	4095388	4095350	4095351	4095352	4095353	4095354	4095356
	WS505	WS507	WS508	WS508	WS509	WS510	WS511	WS512	WS513	WS514
Customer Sample Ref.				,,,,,,,,	,,,,,,,,	,,,,,,,	,,,,,,,	7.00.2		
400 5 6		F0	F0	F0	F0	F0	F0	F0	F0	F0
AGS Ref.	ES	ES	ES	ES	ES	ES	ES	ES	ES	ES
Depth	0.15	0.10	0.10	1.40	0.10	0.10	0.70	0.50	0.10	0.10
Туре	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID
Ammoniacal N as NH4 in 2:1 extract			19-Aug-2011			19-Aug-2011				16-Aug-2011
Anions by Kone (soil)				19-Aug-2011			19-Aug-2011			
Asbestos Identification (Soil)		23-Aug-2011						23-Aug-2011		
Cyanide Comp/Free/Total/Thiocyanate		24-Aug-2011				18-Aug-2011				18-Aug-2011
Metals by iCap-OES (Soil)	19-Aug-2011	23-Aug-2011	19-Aug-2011	19-Aug-2011	18-Aug-2011	19-Aug-2011	19-Aug-2011	23-Aug-2011	19-Aug-2011	19-Aug-2011
OC, OP Pesticides and Triazine Herb	24-Aug-2011			24-Aug-2011	24-Aug-2011		24-Aug-2011		24-Aug-2011	
PAH by GCMS	23-Aug-2011	25-Aug-2011			23-Aug-2011		23-Aug-2011			
pH	16-Aug-2011	24-Aug-2011	19-Aug-2011	19-Aug-2011	16-Aug-2011	16-Aug-2011	17-Aug-2011	24-Aug-2011	17-Aug-2011	17-Aug-2011
Sample description Semi Volatiles in soils by GC-MS	17-Aug-2011	23-Aug-2011 26-Aug-2011	17-Aug-2011	17-Aug-2011 26-Aug-2011	16-Aug-2011	17-Aug-2011	17-Aug-2011	23-Aug-2011	17-Aug-2011 26-Aug-2011	17-Aug-2011
Total Organic Carbon	22-Aug-2011	20-Aug-2011		22-Aug-2011 22-Aug-2011	22-Aug-2011	22-Aug-2011	22-Aug-2011	25-Aug-2011	20-Aug-2011	22-Aug-2011
TPH c6-40 Value of soil	23-Aug-2011			23-Aug-2011	18-Aug-2011	22-Aug-2011	23-Aug-2011	25-Aug-2011	23-Aug-2011	22-Aug-2011
VOC MS (S)	20 7 tag 20 1 1			26-Aug-2011	10 / tag 2011		207149 2011		26-Aug-2011	
				_						1
Lab Sample No(s)	4095358	4095360	4095364	4095367	4095370	4095371	4095372	4095373	4095374	
Customer Sample Ref.	WS514	WS515	WS516	WS516	WS517	WS517	WS518	WS519	WS519	
AGS Ref.	ES	ES	ES	ES	ES	ES	ES	ES	ES	
Depth	0.60	0.15	0.00 - 1.00	1.00	0.10	1.20	0.10	0.70	1.80	1
Type	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID	
Ammoniacal N as NH4 in 2:1 extract					19-Aug-2011					1
Anions by Kone (soil)				18-Aug-2011	10 / lug-2011	18-Aug-2011			18-Aug-2011	
Asbestos Identification (Soil)		23-Aug-2011		g = 0 / 1		g = 0 / 1		23-Aug-2011		
Cyanide Comp/Free/Total/Thiocyanate		J			17-Aug-2011			J		
EPH CWG (Aliphatic) GC (S)	19-Aug-2011				_				19-Aug-2011	
EPH CWG (Aromatic) GC (S)	19-Aug-2011								19-Aug-2011	1
GRO by GC-FID (S)	25-Aug-2011								25-Aug-2011	
Metals by iCap-OES (Soil)	19-Aug-2011	23-Aug-2011	22-Aug-2011	22-Aug-2011	18-Aug-2011	19-Aug-2011	19-Aug-2011	23-Aug-2011	22-Aug-2011	
OC, OP Pesticides and Triazine Herb				24-Aug-2011	24-Aug-2011					
PAH by GCMS		25-Aug-2011				23-Aug-2011				
pH	22-Aug-2011	24-Aug-2011	17-Aug-2011	17-Aug-2011	16-Aug-2011	17-Aug-2011	18-Aug-2011	24-Aug-2011	17-Aug-2011	
Sample description	17-Aug-2011	23-Aug-2011	15-Aug-2011	15-Aug-2011	16-Aug-2011	17-Aug-2011	17-Aug-2011	23-Aug-2011	15-Aug-2011	
Semi Volatiles in soils by GC-MS	26-Aug-2011	04 A 0041		26-Aug-2011		00 4 0041	00 4 0041	26-Aug-2011	00 A 0011	
Total Organic Carbon	22-Aug-2011	24-Aug-2011		22-Aug-2011		22-Aug-2011	22-Aug-2011	25-Aug-2011	22-Aug-2011	
TPH cWc cc (S)	25 Aug 2014	26-Aug-2011		18-Aug-2011		23-Aug-2011	23-Aug-2011	26-Aug-2011	25 Aug 2014	
TPH CWG GC (S) VOC MS (S)	25-Aug-2011	26-Aug-2011		26-Aug-2011		26-Aug-2011		26-Aug-2011	25-Aug-2011 26-Aug-2011	
V 0 0 1410 (0)	20-Aug-2011	20-Aug-2011		20-Aug-2011		20-Aug-2011		20-Aug-2011	20-Aug-2011	Į.

CERTIFICATE OF ANALYSIS

110812-132 SDG Location: Ricetser Central Fastern Land Parcels Order Number: 147189 H WSP BAS-9 WSP Environmental Job: **Customer:** Report Number: Attention: Helen Gardiner Superseded Report:

Client Reference:

Appendix

1. Results are expressed on a dry weight basis (dried at 35°C) for all soil analyses except for the following: Leach tests, flash point, ammonium as NH4 by the BRE method, VOC TICS, SVOC TICS, TOF-MS SCAN/SEARCH and TOF-MS TICS.

- 2. Samples will be run in duplicate upon request, but an additional charge may be incurred
- 3. If sufficient sample is received a sub sample will be retained free of charge for 30 days after analysis is completed (e-mailed) for both soil jars, tubs and volatile jars. All waters and vials will be discarded 10 days after the analysis is completed (e-mailed). All material removed during an asbestos containing material screen and analysed for the presence of asbestos will be retained for a period of 6 months after the analysis date. All samples received and not scheduled will be disposed of one month after the date of receipt unless we are instructed to the contrary. Once the initial period has expired, a storage charge will be applied for each month or part thereof until the client cancels the request for sample storage. ALcontrol Laboratories reserve the right to charge for samples received and stored but not analysed.
- 4. With respect to turnaround, we will always endeavour to meet client requirements wherever possible, but turnaround times cannot be absolutely guaranteed due to so many variables beyond our control.
- 5. We take responsibility for any test performed by sub-contractors (marked with an asterisk). We endeavour to use UKAS/MCERTS Accredited Laboratories, who either complete a quality questionnaire or are audited by ourselves. For some determinands there are no UKAS/MCERTS Accredited Laboratories, in this instance a laboratory with a known track record will be utilised
- 6. When requested, the individual sub sample scheduled will be screened in house for the presence of large asbestos containing material fragments/pieces. If no asbestos containing material is found this will be reported as 'no asbestos containing material detected'. If asbestos containing material is detected it will be removed and analysed by our documented in house method TM048 based on HSG 248 (2005), which is accredited to ISO17025. If asbestos containing material is present no further analysis will be undertaken. At no point is the fibre content of the soil sample determined.
- 7. If no separate volatile sample is supplied by the client, the integrity of the data may be compromised if the laboratory is required to create a sub-sample from the bulk sample -similarly, if a headspace or sediment is present in the volatile sample. This will be flagged up as an invalid VOC on the test schedule or recorded on the log sheet.
- 8. If appropriate preserved bottles are not received preservation will take place on receipt. However, the integrity of the data may be compromised.
- 9. NDP -No determination possible due to insufficient/unsuitable sample
- 10. Metals in water are performed on a filtered sample, and therefore represent dissolved metals -total metals must be requested separately
- 11. Results relate only to the items tested.
- 12 LODs for wet tests reported on a dry weight basis are not corrected for moisture content
- 13. Surrogate recoveries -Most of our organic methods include surrogates, the recovery of which is monitored and reported. For EPH, MO, PAH, GRO and VOCs on soils the result is not surrogate corrected, but a percentage recovery is quoted. Acceptable limits for most organic methods are 70 -130 %.
- 14. Product analyses -Organic analyses on products can only be semi-quantitative due to the matrix effects and high dilution factors employed
- Phenols monohydric by HPLC include phenol, cresols (2-Methylphenol, and Xylenols (2,3 Dimethylphenol, 2,4 Dimethylphenol, 2,5 Dimethylphenol, 4-Methylphenol) Dimethylphenol, 3,4 Dimethylphenol, 3,5 Dimethylphenol).
- 16. Total of 5 speciated phenols by HPLC includes Phenol, 2,3,5-Trimethyl Phenol, 2-Isopropylphenol, Cresols and Xylenols (as detailed in 15).
- 17. Stones/debris are not routinely removed. We always endeayour to take a representative sub sample from the received sample.
- 18. In certain circumstances the method detection limit may be elevated due to the sample being outside the calibration range. Other factors that may contribute to this include possible interferences. In both cases the sample would be diluted which would cause the method detection limit to be raised.
- 19. Mercury results quoted on soils will not include volatile mercury as the analysis is performed on a dried and crushed sample
- 20. For the BSEN 12457-3 two batch process to allow the cumulative release to be calculated, the volume of the leachate produced is measured and filtered for all tests. We therefore cannot carry out any unfiltered analysis. The tests affected include volatiles GCFID/GCMS and all subcontracted analysis.
- 21. For all leachate preparations (NRA, DIN, TCLP, BSEN 12457-1, 2, 3) volatile loss may occur, as we do not employ zero headspace extraction.
- 22. We are accredited to MCERTS for sand, clay and loam/topsoil, or any of these materials -whether these are derived from naturally occurring soil profiles, or from fill/made ground, as long as these materials constitute themajor part of the sample. Other coarse granular material such as concrete, gravel and brick are not accredited if they comprise the major part of the sample
- 23. Analysis and identification of specific compounds using GCFID is by retention time only, and we routinely calibrate and quantify for benzene, toluene, ethylbenzenes and xylenes (BTEX), For total volatiles in the C4 -C10 range, the total area of the chromatogram is integrated and expressed as ug/kg or ug/l. Although this analysis is commonly used for the quantification of gasoline range organics (GRO), the system will also detect other compounds such as chlorinated solvents, and this may lead to a falsely high result with respect to hydrocarbons only. It is not possible to specifically identify these non-hydrocarbons, as standards are not routinely run for any other compounds, and for more definitive identification, volatiles by GCMS should be utilised

SOLID MATRICES EXTRACTION SUMMARY

ANALYSIS	D.C OR WET	EXTRACTION SOLVENT	EXTRACTION METHOD	analysis
SOLVENTEXTRACTABLE MATTER	D&C	DOM	SOXTHERM	GRAVMETRIC
CYCLCHEXANE EXT. MATTER	D&C	CYCLCHEXANE	SOXTHERM	GRAVMETRIC
ELEMENTAL SULPHUR	D&C	DOM	SOXTHERM	HPLC
PHENOLS BY GOMS	WET	DOM	SOXTHERM	GC-MS
HERBICIDES	D&C	HEXANEACETONE	SOXTHERM	GC-MS
PESTICIDES	D&C	HEXANE ACETONE	SOXTHERM	GC-MS
EPH (DRO)	D&C	HEXANE ACETONE	ENDOVEREND	GC-FID
EPH (MIN OL)	D&C	HEXANE ACETONE	ENDOVEREND	GC-FID
EPH (CLEANED UP)	D&C	HEXANE ACETONE	ENDOVEREND	GC-FID
EPH CWGBY GC	D&C	HEXANEACETONE	ENDOVEREND	GC-FID
PCBTOT/PCBCON	D&C	HEXANE ACETONE	ENDOVEREND	GC-MS
POLYAROMATIC HYDROCARBONS (MS)	WET	HEXANEACETONE	MCROWAVE TM218.	GC-MS
C8-C40 (C6-C40) EZ FLASH	WET	HEXANEACETONE	SHAKER	6C-EZ
POLYAROMATIC HYDROCARBONS RAPID GC	WET	HEXANEACETONE	SHAKER	6€-EZ
SEMI VOLATILEORGANIC COMPOUNDS	WET	DOM:ACETONE	SONICATE	GC-MS

LIQUID MATRICES EXTRACTION SUMMARY

ANALYSIS	EXTRACTION SOLVENT	EXTRACTION MET HOD	SEYJANA
PAHMS	HEXANE	STIRREDEXTRACTION(STIR-BAR)	GCMS
EPH	HEXANE	STIRREDEXTRACTION(STIR-BAR)	GCFID
EPH CWG	HEXANE	STIRREDEXTRACTION(STIR-BAR)	GCFID
MINERAL OIL	HEXANE	STIRREDEXTRACTION(STIR-BAR)	GCFID
POB 7CONGENERS	HEXANE	STIRREDEXTRACTION(STIR-BAR)	GCMS
POB TOTAL	HEXANE	STIRREDEXTRACTION(STIR-BAR)	GCMS
SVOC	DOM	LIQUID/LIQUID SHAKE	GCMS
FREESULPHUR	DOM	SOLID PHASE EXTRACTION	HPLC
PEST OCP/OPP	DOM	LIQUID/LIQUID SHAKE	GCMS
TRAZINE HERBS	DOM	LIQUID/LIQUID SHAKE	GCMS
PHENOLSMS	DOM	SOLID PHASE EXTRACTION	GCMS
TPH byINFRARED (IR)	TCE	LIQUID/LIQUID SHAKE	HPLC
MINERAL OIL byIR	TCE	LIQUID/LIQUID SHAKE	HPLC
GLYCOLS	NONE	DIRECT NJECTION	GCMS

Identification of Asbestos in Bulk Materials & Soils

The results for identification of asbestos in bulk materials are obtained from supplied bulk materials or materials are obtained from supplied bulk materials or those identified as potentially asbestos containing during sample description which have been examined to determine the presence of asbestos fibres using Alcontrol Laboratories (Hawarden) in-house method of transmitted/polarised light microscopy and central stop dispersion staining, based on HSG 248 (2005).

The results for identification of asbestos in soils are obtained from a homogenised sub sample which has been examined to determine the presence of asbestos fibres using Alcontrol Laboratories (Hawarden) in-house method of transmitted/polarised light microscopy and central stop dispersion staining, based on HSG 248 (2005).

Asbestos Type	Common Name
Chrysofile	White Asbestos
Amosite	BrownAsbestos
Orodddite	Blue Asbestos
Fibrous Adindite	=
Florous Anthophylite	-
Fibrous Tremolite	-

Visual Estimation Of Fibre Content

Estimation of fibre content is not permitted as part of our UKAS accredited test other than: -Trace -Where only one or two asbestos fibres were identified.

Further guidance on typical asbestos fibre content of manufactured products can be found in HSG 264.

The identification of asbestos containing materials and soils falls within our schedule of tests for which we hold UKAS accreditation, however opinions, interpretations and all other information contained in the report are outside the scope of UKAS accreditation.

APPENDIX D GEOTECHNICAL LABORATORY RESULTS



Continued on page 2 >

Laboratory Report



Contract Number: 13224

Client's Reference: SDG 110815-17 Req 181173 PO 132032 Report Date: 26-08-2011

Client Name: ALcontrol Laboratories

Manor Road, Hawarden

Deeside CH5 3US

Contract Title: Bicester

For the attention of: HAWARDEN

Date Received: 05-08-2011 Date Commenced: 05-08-2011 Date Completed: 26-08-2011

Test Description	Quantity	Checked	Approved
Plasticity 4 Point Limit	25		
*			
Moisture Content	25		
*			
PSD-Wet Sieve/Dry Sieve	15		
*	13		
Sedimentation	7		
*			
Compaction - Vibrating Hammer Method	8		
*			
CBR Remoulded	12		
*	12		
MCV Single Point	5		
One Dimensional consolidation	4		
*			

Test Description	Quantity	Checked	Approved
WS Sulphate	17		
Ph Limit	17		
Point Load Axial/Diametrical	15		

Notes: Observations and Interpretations are outside the UKAS Accreditation

- * Denotes test included in laboratory scope of accreditation
- # Denotes test carried out by approved contractor

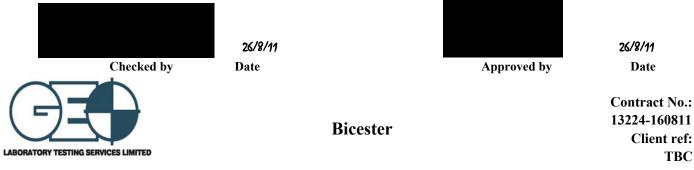
This certificate is issued in accordance with the accreditation requirements of the United Kingdom Accreditation Service. The results reported herein relate only to the material supplied to the laboratory. This certificate shall not be reproduced in full, without the prior written approval of the laboratory.

Approved Signatories:

D V Edwards (Managing Director), Paul Evans (Technical Manager), E Sharp (Technical Co-Ordinator).

Hole	Sample	Туре		
Number	Number			Description of Sample*
			Depth	
TP502			1.00	Brown (fine to coarse) gravelly silty CLAY.
TP503			0.30	Brown (fine to coarse) clayey silty SAND.
TP503			1.10	Brown (fine to coarse) slightly clayey sandy GRAVEL with many cobbles.
TP504			0.70	Brown (fine to coarse) gravelly silty CLAY.
TP505			0.50	Brown (fine to coarse) gravelly silty CLAY.
TP505			1.50	Brown (fine to coarse) gravelly sandy silty CLAY.
TP507			0.40	Brown (fine to coarse) silty clayey SAND.
TP507			0.80	Brown (fine to coarse) slightly clayey sandy GRAVEL with cobbles.
TP508			0.40	Brown (fine to coarse) gravelly silty CLAY.
TP508			1.20	Brown (fine to coarse) gravelly silty CLAY.
TP509			1.00	Brown (fine to coarse) slightly clayey sandy GRAVEL.
TP510			0.60	Brown (fine to coarse) gravelly silty CLAY.
TP511			0.90	Brown (fine to coarse) gravelly silty CLAY.
TP512			0.50	Brown (fine to coarse) gravelly silty CLAY.
TP512			1.80	Brown (fine to coarse) CLAY with minor sand and gravel.
TP513			0.40	Brown (fine to coarse) sandy silty CLAY.
TP513			1.30	Brown (fine to coarse) gravelly silty CLAY.
TP514			1.20	Brown (fine to coarse) silty CLAY with minor sand and gravel.
TP516			0.40	Brown (fine to coarse) silty clayey SAND.
TP518			1.30	Brown (fine to coarse) slightly clayey sandy GRAVEL.
TP519			1.00	Brown (fine to coarse) clayey sandy GRAVEL.
TP521			0.30	Brown (fine to coarse) gravelly silty CLAY.
TP521			1.10	Brown (fine to coarse) clayey sandy GRAVEL.
TP522			1.00	Brown (fine to coarse) silty clayey sandy GRAVEL.
TP523			0.90	Brown (fine to coarse) gravelly silty CLAY.
TP524			0.10	Brown (fine to coarse) gravelly silty CLAY.
TP524			1.50	Brown (fine to coarse) slightly clayey sandy GRAVEL with many cobbles.
TP526			0.60	Brown (fine to coarse) slightly sandy silty CLAY.
TP526			2.00	Brown (fine to coarse) gravelly silty CLAY.
TP527			1.30	Brown (fine to coarse) slightly clayey sandy GRAVEL with many cobbles.
TP530			0.50	Brown (fine to coarse) gravelly silty CLAY.
TP532			0.25	Brown (fine to coarse) gravelly silty CLAY.
TP532			1.70	Brown (fine to coarse) clayey sandy GRAVEL.

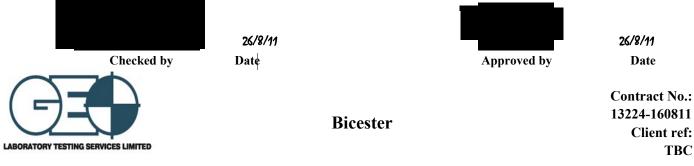
Note: Results on this table are in summary format and may not meet the requirements of the relevant standards, additional information is held by the laboratory



GEO/001 Dec 05 Issue No. 1.1

Hole	Sample	Type		
Number	Number			Description of Sample*
			Depth	· ·
CP501			0.50	Brown (fine to coarse) gravelly silty CLAY.
CP502			0.10	Brown (fine to coarse) gravelly silty CLAY.
CP503			0.40	Brown (fine to coarse) gravelly clayey SAND.
CP504			0.40	Brown (fine to coarse) gravelly silty CLAY.
CP504			1.20	Brown (fine to coarse) gravelly clayey SAND.
CP505			0.00	Brown (fine to coarse) gravelly silty CLAY.
CP505			0.70	Brown (fine to coarse) gravelly silty CLAY.
CP505			1.20	Brown (fine to coarse) gravelly sandy 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



GEO/001 Dec 05 Issue No. 1.1

Summary of Soil Classification Tests

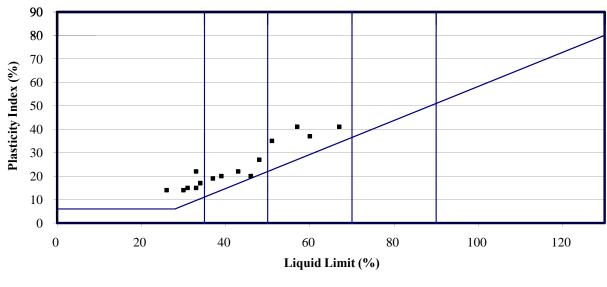
BS 1377:Part 2:1990

Hole/			Moisture	Liquid	Plastic	Plasticity	%	
Sample	Sample	Depth	Content	Limit	Limit	Index	Passing	Remarks
Number	Type	m	%	%	%	%	.425mm	
			Cl. 3.2	Cl. 4.3/4.4	Cl. 5.	Cl. 6.		
TP502	В	1.00	17	46	26	20	97	CI Intermediate Plasticity
TP503	В	0.30	11	34	17	17	95	CL Low Plasticity
TP503	В	1.10	10	31	16	15	55	CL Low Plasticity
TP504	В	0.70	10	33	11	22	75	CL Low Plasticity
TP505	В	1.50	13	37	18	19	40	CI Intermediate Plasticity
TP507	В	0.40	15	39	19	20	100	CI Intermediate Plasticity
TP507	В	0.80	10	34	17	17	60	CL Low Plasticity
TP50:	В	0.40	30	57	16	41	90	CH High Plasticity
TP510	В	0.60	9.0	26	12	14	45	CL Low Plasticity
TP513	В	0.40	26	67	26	41	100	CH High Plasticity
TP514	В	1.20	30	60	23	37	90	CH High Plasticity
TP516	В	0.40	21	48	21	27	70	CI Intermediate Plasticity
TP518	В	1.30	10	30	16	14	40	CL Low Plasticity
TP522	В	1.00	15	33	18	15	40	CL Low Plasticity
TP524	В	0.10	19	43	21	22	75	CI Intermediate Plasticity
TP526	В	0.60	19	51	16	35	90	CH High Plasticity

Symbols:

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

PLASTICITY CHART FOR CASAGRANDE CLASSIFICATION. BS 5930:1999









Bicester

Contract No.:
13224-160811
Client Ref No:
TBC



GEO/005 Oct 06 Issue No 1.4 Page

Summary of Soil Classification Tests

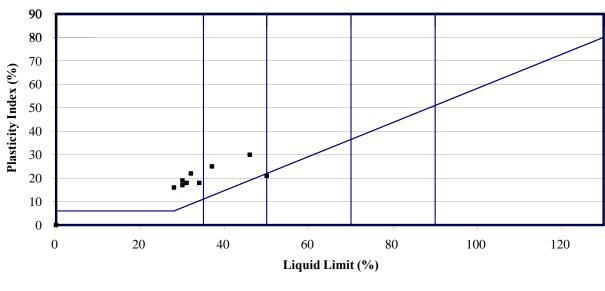
BS 1377:Part 2:1990

Hole/			Moisture	Liquid	Plastic	Plasticity	%	
Sample	Sample	Depth	Content	Limit	Limit	Index	Passing	Remarks
Number	Type	m	%	%	%	%	.425mm	
			Cl. 3.2	Cl. 4.3/4.4	Cl. 5.	Cl. 6.		
TP527	В	1.30	8.0	37	12	25	92	CI Intermediate Plasticity
TP530	В	0.50	18	50	29	21	100	MI/H Inter/High Plasticity
TP532	В	0.25	33	46	16	30	70	CI Intermediate Plasticity
CP501	В	0.50 - 1.00	11	34	16	18	45	CL Low Plasticity
CP502	В	0.10 - 0.70	9.0	31	13	18	50	CL Low Plasticity
CP504	В	0.40	8.0	32	10	22	78	CL Low Plasticity
CP504	В	1.20 - 1.60	11	30	11	19	82	CL Low Plasticity
CP505	В	0.00 - 0.70	11	30	13	17	65	CL Low Plasticity
CP505	В	1.20 - 1.65	11	28	12	16	85	CL Low Plasticity

Symbols:

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

PLASTICITY CHART FOR CASAGRANDE CLASSIFICATION. BS 5930:1999









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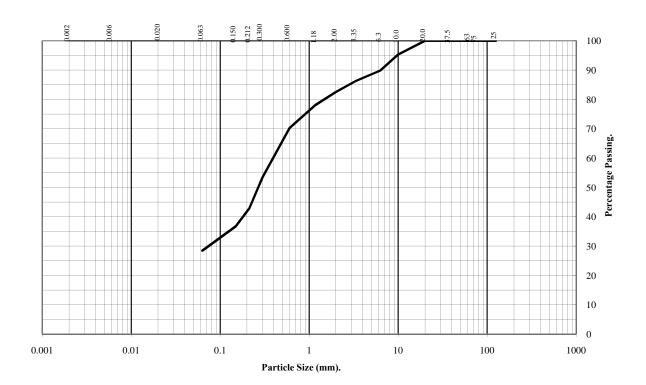
Contract No.:
13224-160811
Client Ref No:
TBC



GEO/005 Oct 06 Issue No 1.4 Page o

BS 1377 Part 2:1990. Wet Sieve, Clause 9.2

Hole Number: CP503 Type: B Depth (m): 0.40 to 0.80



BS Test	Percentage
Sieve	Passing
125	100
75	100
63	100
37.5	100
20	100
10	95
6.3	90
3.35	86
2.00	83
1.18	78
0.60	70
0.300	53
0.212	43
0.150	37
0.063	28

Particle	Percentage
Diameter	Passing
0.02	#
0.006	#
0.002	#

Soil	Total
Fraction	Percentage
Cobbles	0
Gravel	17
Sand	55
Silt and Clay	28

Remarks:

#- not determined



8/2S/2011 Date



8/25/2011 Date



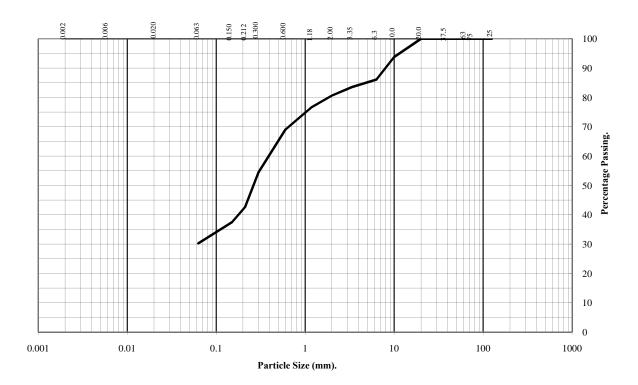
Bicester

Contract No.:
13224-160811
Client Ref No:
TBC



BS 1377 Part 2:1990. Wet Sieve, Clause 9.2

Hole Number: CP504 Type: B Depth (m): 1.20 to 1.60



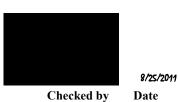
BS Test	Percentage
Sieve	Passing
125	100
75	100
63	100
37.5	100
20	100
10	94
6.3	86
3.35	84
2.00	81
1.18	77
0.60	69
0.300	54
0.212	43
0.150	37
0.063	30

Particle	Percentage
Diameter	Passing
0.02	#
0.006	#
0.002	#

Soil	Total
Fraction	Percentage
Cobbles	0
Gravel	19
Sand	51
Silt and Clay	30
Sin and Clay	50

Remarks:

#- not determined





8/25/2011 Date



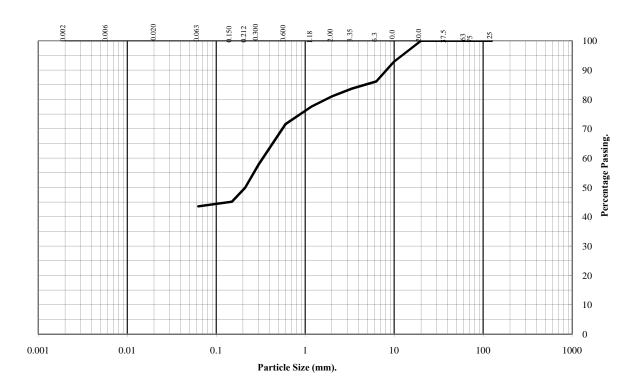
Bicester

Contract No.:
13224-160811
Client Ref No:
TBC



BS 1377 Part 2:1990. Wet Sieve, Clause 9.2

Hole Number: CP505 Type: B Depth (m): 1.20 to 1.65



BS Test	Percentage
Sieve	Passing
125	100
75	100
63	100
37.5	100
20	100
10	93
6.3	86
3.35	84
2.00	81
1.18	78
0.60	72
0.300	58
0.212	50
0.150	45
0.063	44

Particle	Percentage
Diameter	Passing
0.02	#
0.006	#
0.002	#

Soil	Total
Fraction	Percentage
Cobbles	0
Gravel	19
Sand	37
Silt and Clay	44

Remarks:

#- not determined





8/25/2011 Date



Bicester

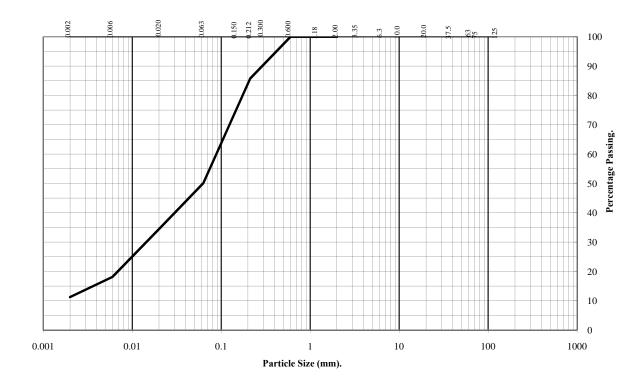
Contract No.:
13224-160811
Client Ref No:
TBC



BS 1377 Part 2:1990.

Wet Sieve & Pipette Analysis, Clause 9.2 & 9.4

Hole Number: TP503 Type: B Depth (m): 0.30



BS Test	Percentage
Sieve	Passing
2.00	100
0.60	100
0.212	86
0.063	50

Part	icle	Percentage
Dian	neter	Passing
0.0)2	34
0.0	06	18
0.0	02	11

Soil	Total
Fraction	Percentage
Gravel	0
Sand	50
Silt	39
Clay	11

Remarks:

Cl 9.4.8 - Sample has not been pretreated





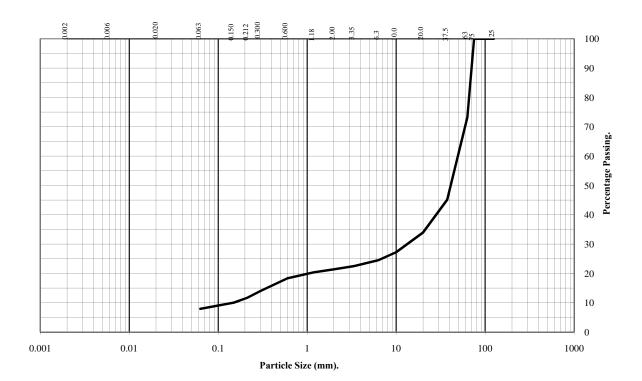
Bicester

Contract No.: 13224-160811 Client Ref No: 3DG 110815-1'



BS 1377 Part 2:1990. Wet Sieve, Clause 9.2

Hole Number: TP503 Type: B Depth (m): 1.10



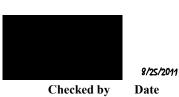
BS Test	Percentage
Sieve	Passing
125	100
75	100
63	73
37.5	45
20	34
10	27
6.3	25
3.35	23
2.00	21
1.18	20
0.60	18
0.300	14
0.212	12
0.150	10
0.063	8

Particle	Percentage
Diameter	Passing
0.02	#
0.006	#
0.002	#

Soil	Total
Fraction	Percentage
Cobbles	27
Gravel	52
Sand	13
Silt and Clay	8

Remarks:

#- not determined





8/2S/2011 Date



Bicester

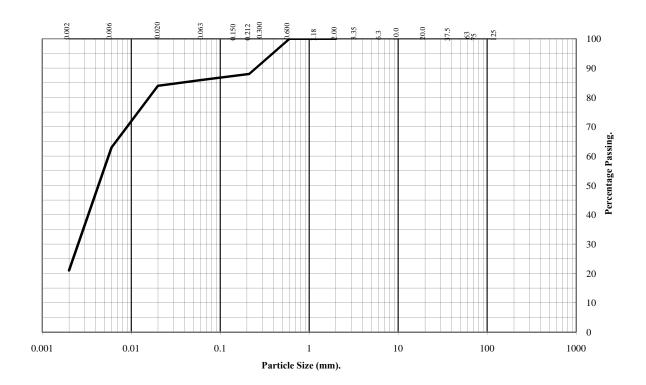
Contract No.:
13224-160811
Client Ref No:
TBC



BS 1377 Part 2:1990.

Wet Sieve & Pipette Analysis, Clause 9.2 & 9.4

Hole Number: TP505 Type: B Depth (m): 1.50



BS Test	Percentage
Sieve	Passing
2.00	100
0.60	100
0.212	88
0.063	86

Particle	Percentage
Diameter	Passing
0.02	84
0.006	63
0.002	21

Soil	Total
Fraction	Percentage
Gravel	0
Sand	14
Silt	65
Clay	21

Remarks:

Cl 9.4.8 - Sample has not been pretreated





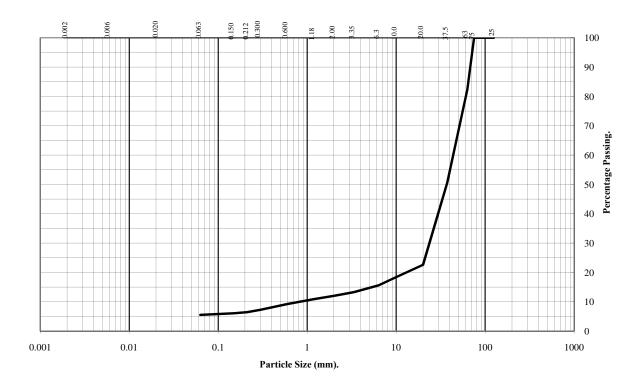
Bicester

Contract No.: 13224-160811 Client Ref No: 3DG 110815-1'



BS 1377 Part 2:1990. Wet Sieve, Clause 9.2

Hole Number: TP507 Type: B Depth (m): 0.80



BS Test	Percentage
Sieve	Passing
125	100
75	100
63	82
37.5	51
20	23
10	18
6.3	16
3.35	13
2.00	12
1.18	11
0.60	9
0.300	7
0.212	6
0.150	6
0.063	6

Particle	Percentage
Diameter	Passing
0.02	#
0.006	#
0.002	#

Soil	Total
Fraction	Percentage
Cobbles	18
Gravel	70
Sand	6
Silt and Clay	6

Remarks:

#- not determined





8/2S/2011 Date



Bicester

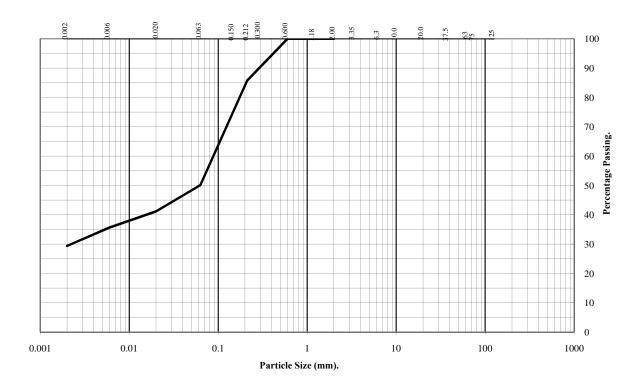
Contract No.:
13224-160811
Client Ref No:
TBC



BS 1377 Part 2:1990.

Wet Sieve & Pipette Analysis, Clause 9.2 & 9.4

Hole Number: TP507 Type: B Depth (m): 0.40



BS Test	Percentage
Sieve	Passing
2.00	100
0.60	100
0.212	86
0.063	50

Particle	Percentage
Diameter	Passing
0.02	41
0.006	36
0.002	29

Soil	Total
Fraction	Percentage
Gravel	0
Sand	50
Silt	21
Clay	29

Remarks:

Cl 9.4.8 - Sample has not been pretreated





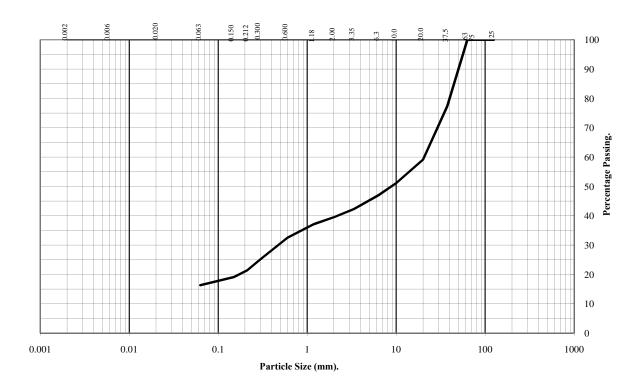
Bicester

Contract No.: 13224-160811 Client Ref No: 3DG 110815-1'



BS 1377 Part 2:1990. Wet Sieve, Clause 9.2

Hole Number: TP509 Type: B Depth (m): 1.00



BS Test	Percentage
Sieve	Passing
125	100
75	100
63	100
37.5	77
20	59
10	51
6.3	47
3.35	42
2.00	39
1.18	37
0.60	33
0.300	25
0.212	21
0.150	19
0.063	16

Particle	Percentage
Diameter	Passing
0.02	#
0.006	#
0.002	#

Soil	Total
Fraction	Percentage
Cobbles Gravel Sand Silt and Clay	0 61 23 16

Remarks:

#- not determined





8/25/2011 Date



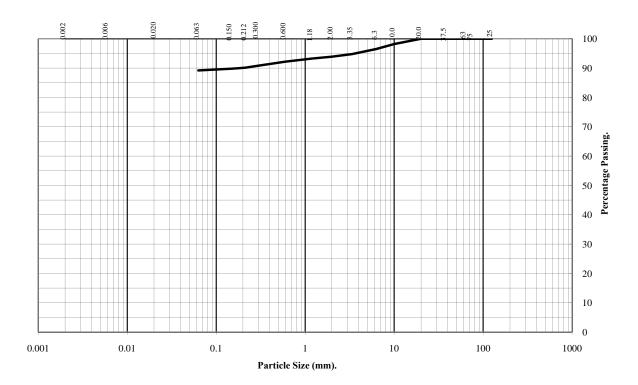
Bicester

Contract No.:
13224-160811
Client Ref No:
TBC



BS 1377 Part 2:1990. Wet Sieve, Clause 9.2

Hole Number: TP512 Type: B Depth (m): 1.80



BS Test	Percentage
Sieve	Passing
125	100
75	100
63	100
37.5	100
20	100
10	98
6.3	97
3.35	95
2.00	94
1.18	93
0.60	92
0.300	91
0.212	90
0.150	90
0.063	89

Particle	Percentage
Diameter	Passing
0.02	#
0.006	#
0.002	#

Soil	Total
Fraction	Percentage
Cobbles Gravel Sand Silt and Clay	0 6 5 89

Remarks:

#- not determined





8/25/2011 Date



Bicester

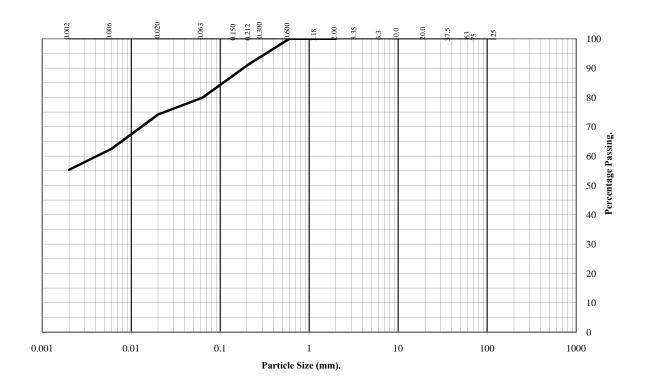
Contract No.:
13224-160811
Client Ref No:
TBC



BS 1377 Part 2:1990.

Wet Sieve & Pipette Analysis, Clause 9.2 & 9.4

Hole Number: TP513 Type: B Depth (m): 0.40



BS Test	Percentage
Sieve	Passing
2.00	100
0.60	100
0.212	91
0.063	80

Particle	Percentage
Diameter	Passing
0.02	74
0.006	62
0.002	55

Soil	Total
Fraction	Percentage
Gravel	0
Sand	20
Silt	25
Clay	55

Remarks:

Cl 9.4.8 - Sample has not been pretreated





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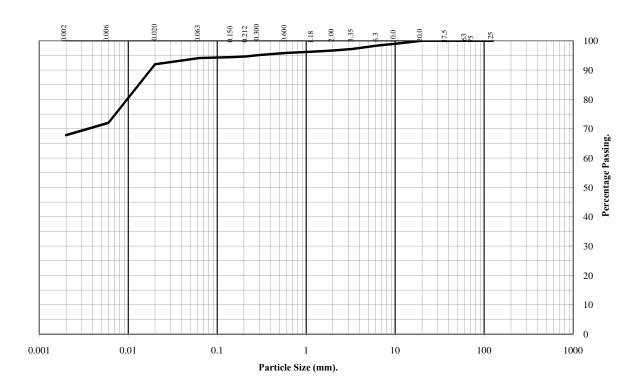
Contract No.: 13224-160811 Client Ref No: 3DG 110815-1'



BS 1377 Part 2:1990.

Wet Sieve & Pipette Analysis, Clause 9.2 & 9.4

Hole Number: TP514 Type: B Depth (m): 1.20



BS Test	Percentage
Sieve	Passing
125	100
75	100
63	100
37.5	100
20	100
10	99
6.3	98
3.35	97
2.00	97
1.18	96
0.60	96
0.300	95
0.212	95
0.150	94
0.063	94

Particle	Percentage
Diameter	Passing
0.02	92
0.006	70
0.006	72
0.002	68

Soil	Total
Fraction	Percentage
Cobbles	0
Gravel	3
Sand	3
Silt	26
Clay	68

Remarks:

Cl 9.4.8 - Sample has not been pretreated





31/08/2011 Date



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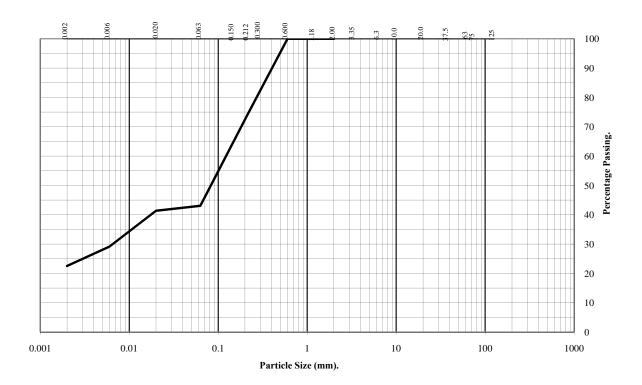
Contract No.:
13224-160811
Client Ref No:
TBC



BS 1377 Part 2:1990.

Wet Sieve & Pipette Analysis, Clause 9.2 & 9.4

Hole Number: TP516 Type: B Depth (m): 0.40



BS Test	Percentage
Sieve	Passing
2.00	100
0.60	100
0.212	74
0.063	43

Particle	Percentage
Diameter	Passing
0.02	41
0.006	29
0.002	23

Soil	Total
Fraction	Percentage
Gravel	0
Sand	57
Silt	21
Clay	23

Remarks:

Cl 9.4.8 - Sample has not been pretreated





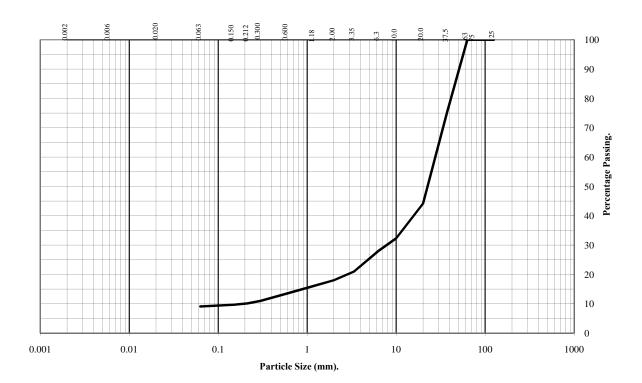
Bicester

Contract No.: 13224-160811 Client Ref No: 3DG 110815-1'



BS 1377 Part 2:1990. Wet Sieve, Clause 9.2

Hole Number: TP518 Type: B Depth (m): 1.30



BS Test	Percentage
Sieve	Passing
125	100
75	100
63	100
37.5	75
20	44
10	32
6.3	28
3.35	21
2.00	18
1.18	16
0.60	14
0.300	11
0.212	10
0.150	10
0.063	9

Particle	Percentage
Diameter	Passing
0.02	#
0.006	#
0.002	#

Soil	Total
Fraction	Percentage
Cobbles	0
Gravel	82
Sand	9
Silt and Clay	9
-	

Remarks:

#- not determined



31/08/2011 Date



31/08/2011 Date



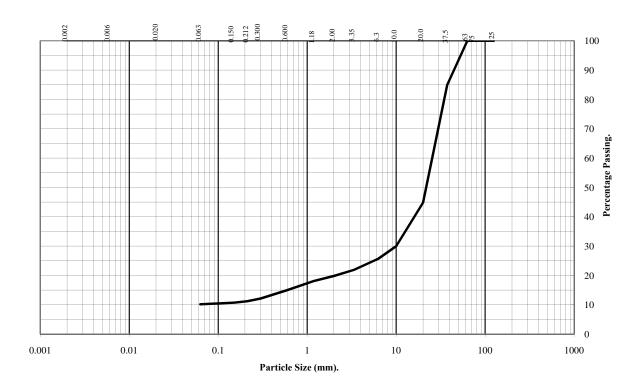
Bicester

Contract No.:
13224-160811
Client Ref No:
TBC



BS 1377 Part 2:1990. Wet Sieve, Clause 9.2

Hole Number: TP519 Type: B Depth (m): 1.00



BS Test	Percentage
Sieve	Passing
125	100
75	100
63	100
37.5	85
20	45
10	30
6.3	26
3.35	22
2.00	20
1.18	18
0.60	15
0.300	12
0.212	11
0.150	11
0.063	10

Particle	Percentage
Diameter	Passing
0.02	#
0.006	#
0.002	#

Soil	Total
Fraction	Percentage
Cobbles	0
Gravel	80
Sand	10
Silt and Clay	10

Remarks:

#- not determined





8/25/2011 Date



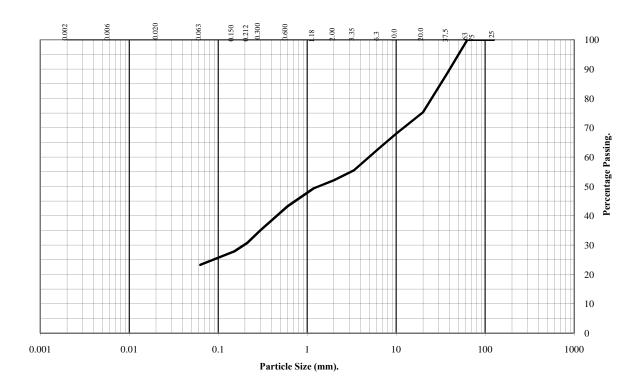
Bicester

Contract No.:
13224-160811
Client Ref No:
TBC



BS 1377 Part 2:1990. Wet Sieve, Clause 9.2

Hole Number: TP521 Type: B Depth (m): 1.10



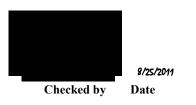
BS Test	Percentage
Sieve	Passing
125	100
75	100
63	100
37.5	89
20	75
10	68
6.3	63
3.35	55
2.00	52
1.18	49
0.60	43
0.300	35
0.212	31
0.150	28
0.063	23

Particle Diameter	Percentage Passing
	1 assing
0.02	#
0.006	#
0.002	#

Soil	Total
Fraction	Percentage
Cobbles	0
Gravel	48
Sand	29
Silt and Clay	23
·	

Remarks:

#- not determined





8/25/2011 Date



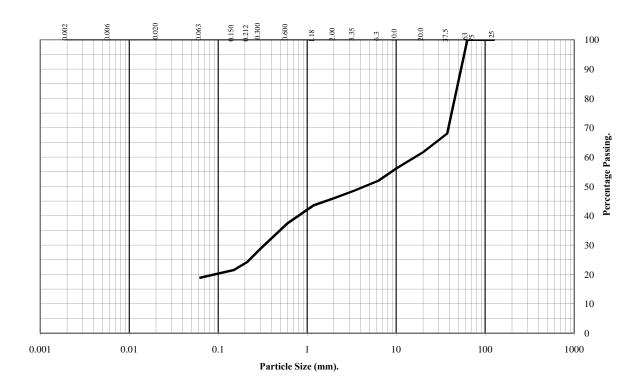
Bicester

Contract No.:
13224-160811
Client Ref No:
TBC



BS 1377 Part 2:1990. Wet Sieve, Clause 9.2

Hole Number: TP522 Type: B Depth (m): 1.00



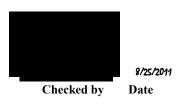
BS Test	Percentage
Sieve	Passing
125	100
75	100
63	100
37.5	68
20	62
10	56
6.3	52
3.35	49
2.00	46
1.18	44
0.60	37
0.300	29
0.212	24
0.150	22
0.063	19

Particle Diameter	Percentage Passing
0.02	#
0.006	#
0.002	#

Total
Percentage
0 54 27 19

Remarks:

#- not determined





8/25/2011 Date



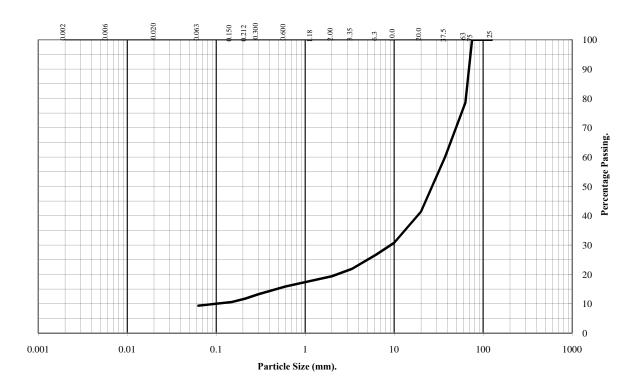
Bicester

Contract No.:
13224-160811
Client Ref No:
TBC



BS 1377 Part 2:1990. Wet Sieve, Clause 9.2

Hole Number: TP524 Type: B Depth (m): 1.50



BS Test	Percentage
Sieve	Passing
125	100
75	100
63	78
37.5	60
20	41
10	31
6.3	27
3.35	22
2.00	19
1.18	18
0.60	16
0.300	13
0.212	12
0.150	11
0.063	9

Particle	Percentage
Diameter	Passing
0.02	#
0.006	#
0.002	#

Soil	Total
Fraction	Percentage
Cobbles	22
Gravel	59
Sand	10
Silt and Clay	9

Remarks:

#- not determined





8/25/2011 Date



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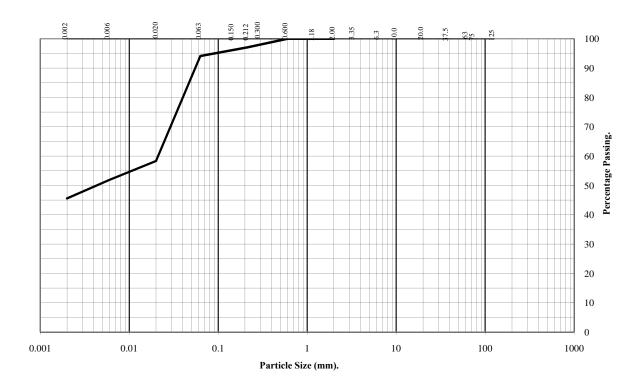
Contract No.:
13224-160811
Client Ref No:
TBC



BS 1377 Part 2:1990.

Wet Sieve & Pipette Analysis, Clause 9.2 & 9.4

Hole Number: TP526 Type: B Depth (m): 0.60



BS Test	Percentage
Sieve	Passing
2.00	100
0.60	100
0.212	97
0.063	94

Particle	Percentage
Diameter	Passing
0.02	58
0.006	52
0.002	46

Soil	Total
Fraction	Percentage
Gravel	0
Sand	6
Silt	49
Clay	46

Remarks:

Cl 9.4.8 - Sample has not been pretreated





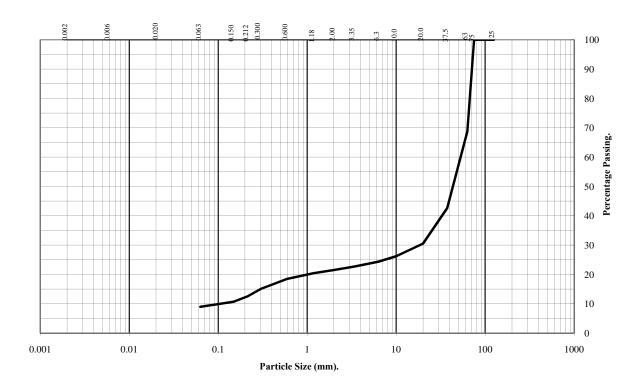
Bicester

Contract No.: 13224-160811 Client Ref No: 3DG 110815-1'



BS 1377 Part 2:1990. Wet Sieve, Clause 9.2

Hole Number: TP527 Type: B Depth (m): 1.30



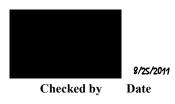
BS Test	Percentage
Sieve	Passing
125	100
75	100
63	69
37.5	43
20	31
10	26
6.3	24
3.35	23
2.00	21
1.18	20
0.60	19
0.300	15
0.212	12
0.150	11
0.063	9

Particle Diameter	Percentage Passing
	1 assing
0.02	#
0.006	#
0.002	#

Soil	Total
Fraction	Percentage
Cobbles	31
Gravel	48
Sand	12
Silt and Clay	9
•	

Remarks:

#- not determined





8/25/2011 Date



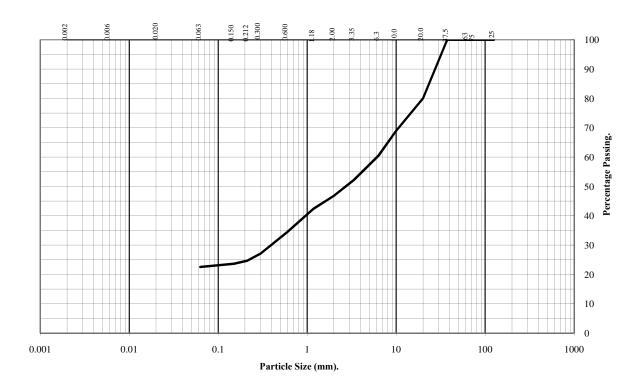
Bicester

Contract No.:
13224-160811
Client Ref No:
TBC



BS 1377 Part 2:1990. Wet Sieve, Clause 9.2

Hole Number: TP532 Type: B Depth (m): 1.70



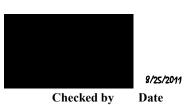
BS Test	Percentage			
Sieve	Passing			
125	100			
75	100			
63	100			
37.5	100			
20	80			
10	69			
6.3	60			
3.35	52			
2.00	47			
1.18	42			
0.60	34			
0.300	27			
0.212	25			
0.150	24			
0.063	23			

Particle	Percentage
Diameter	Passing
0.02	#
0.006	#
0.002	#

Soil	Total
Fraction	Percentage
G 111	0
Cobbles	0
Gravel	53
Sand	24
Silt and Clay	23

Remarks:

#- not determined





8/2S/2011 Date



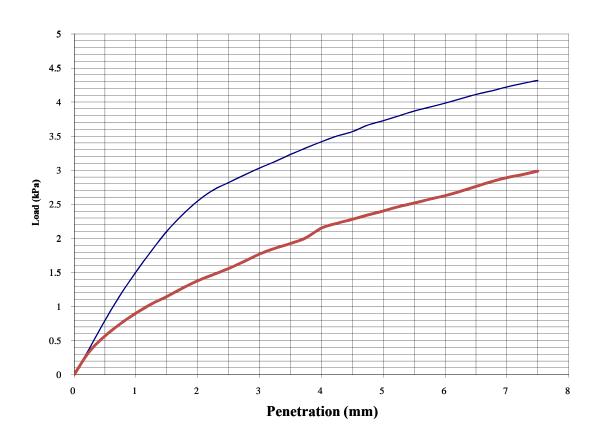
Bicester

Contract No.:
13224-160811
Client Ref No:
TBC

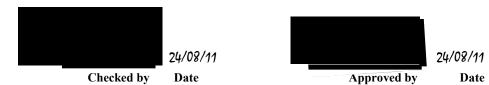


BS 1377:Part 4:1990

Hole Number: CP501 Depth (m) 0.50



Initial Sample Conditions Test Condition		Test Conditions	ns		Method of compaction : 2.5 Kg Rammer	
Moisture Content:	14	Surcharge Kg: 2.0		Final Moisture Content %		
Bulk Density Mg/m3:	1.96	Soaking Time h	rs	n/a	Sample Top	13.6
Dry Density Mg/m3:	1.73	Swelling mm:		n/a	Sample Bottom	13.6
C.B.R. Value %	Sample Top		21.4		Sample Bottom	12.0
Percentage retained on 20mm BS test sieve:				0 Remarks:		





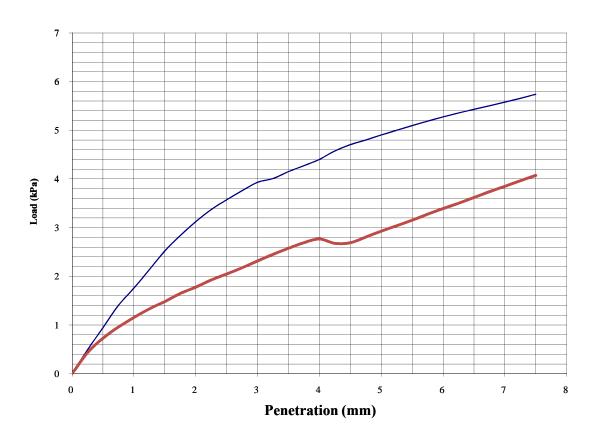
Bicester

Contract No.: 13224-160811 Client Ref No: SDG 110815-17



BS 1377:Part 4:1990

Hole Number: CP502 Depth (m) 0.10



Initial Sample Conditions Test Condition		ns		Method of compaction: 2.5 Kg Rammer		
Moisture Content:	11	Surcharge Kg:	Surcharge Kg: 2.0		Final Moisture Content %	
Bulk Density Mg/m3:	2.02	Soaking Time l	hrs	n/a	Sample Top	10.5
Dry Density Mg/m3:	1.83	Swelling mm:		n/a	Sample Bottom	10.5
C.B.R. Value %	Sample Top		27.1		Sample Bottom	15.5
Percentage retained on 20mm BS test sieve:				0 Remarks:		
				<u></u>		





23/08/11

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Date



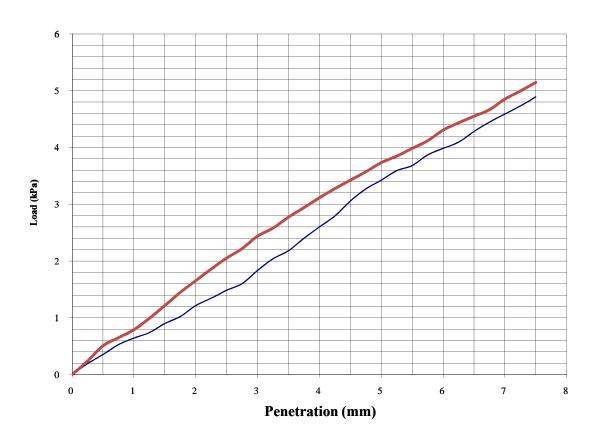
Bicester

Contract No.: 13224-160811 Client Ref No: SDG 110815-17



BS 1377:Part 4:1990

Hole Number: TP504 Depth (m) 0.70



Initial Sample Conditions Test Conditions		S		Method of compaction : 2.5 Kg Rammer		
Moisture Content:	6	Surcharge Kg: 2.0		Final Moisture Content %		
Bulk Density Mg/m3:	2.05	Soaking Time	hrs	n/a	Sample Top	6.0
Dry Density Mg/m3:	1.93	Swelling mm:		n/a	Sample Bottom	6.0
C.B.R. Value %	Sample Top		17.1		Sample Bottom	18.7
Percentage retained on 20mm BS test sieve:				0 Remarks:		
				<u></u>		





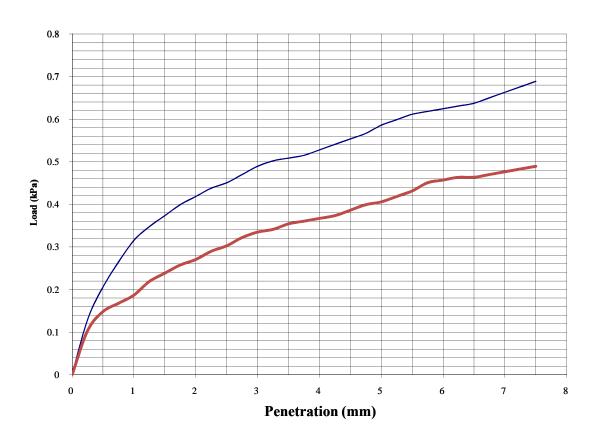
Bicester

Contract No.: 13224-160811 Client Ref No: SDG 110815-17



BS 1377:Part 4:1990

Hole Number: TP505 Depth (m) 0.50



Initial Sample Conditions Test Conditions		Test Conditions	s		Method of compaction : 2.5 Kg Rammer	
Moisture Content:	35	Surcharge Kg: 2.0		Final Moisture Content %		
Bulk Density Mg/m3:	1.93	Soaking Time hrs		n/a	Sample Top	34.9
Dry Density Mg/m3:	1.43	Swelling mm:		n/a	Sample Bottom	34.9
C.B.R. Value %	Sample Top		3.4		Sample Bottom	2.3
Percentage retained on 20mm BS test sieve:			(Remarks:		



23/08/11 Checked by Date



23/08/11

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Date



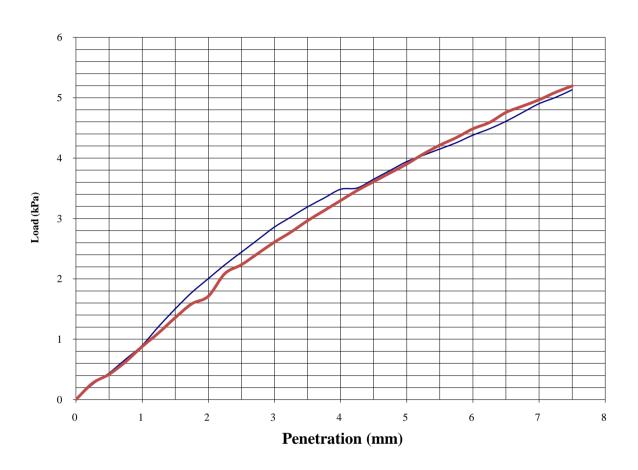
Bicester

Contract No.: 13224-160811 Client Ref No: SDG 110815-17



BS 1377:Part 4:1990

Hole Number: TP507 Depth (m) 0.80



Initial Sample Conditions Test Condition		Test Conditions	ns		Method of compaction: 2.5 Kg Rammer	
Moisture Content:	12	Surcharge Kg: 2.0		Final Moisture Content %		
Bulk Density Mg/m3:	2.10	Soaking Time hrs		n/a	Sample Top	13.3
Dry Density Mg/m3:	1.87	Swelling mm:		n/a	Sample Bottom	12.6
C.B.R. Value %	Sample Top	19	0.7		Sample Bottom	19.5
Percentage retained on 20mm BS test sieve:			0	Remarks:		
		•				





23/08/11

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Date



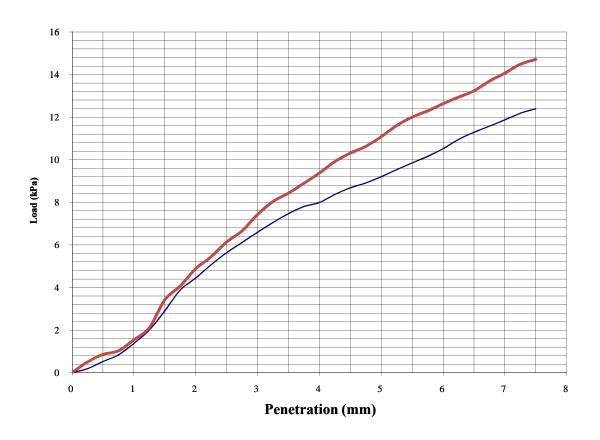
Bicester

Contract No.: 13224-160811 Client Ref No: SDG 110815-17



BS 1377:Part 4:1990

Hole Number: TP510 Depth (m) 0.60



Initial Sample Conditions Test Condition		Test Conditions	ns		Method of compaction : 2.5 Kg Rammer	
Moisture Content:	12	Surcharge Kg: 2.0		Final Moisture Content %		
Bulk Density Mg/m3:	1.99	Soaking Time h	rs	n/a	Sample Top	12.0
Dry Density Mg/m3:	1.79	Swelling mm:		n/a	Sample Bottom	12.3
C.B.R. Value %	Sample Top		46.0		Sample Bottom	55.4
Percentage retained on 20mm BS test sieve:			(Remarks:		
		-		_		





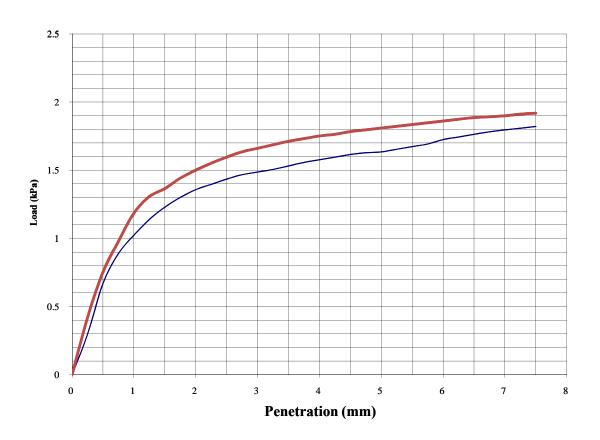
Bicester

Contract No.: 13224-160811 Client Ref No: SDG 110815-17



BS 1377:Part 4:1990

Hole Number: TP512 Depth (m) 0.50



Initial Sample Conditions	al Sample Conditions Test Condition			Method of compaction : 2.5 Kg Rammer	
Moisture Content:	23	Surcharge Kg: 2.0 Final Moisture Content %			
Bulk Density Mg/m3:	1.94	Soaking Time hrs	n/a	Sample Top	23.3
Dry Density Mg/m3:	1.57	Swelling mm:	n/a	Sample Bottom	23.3
C.B.R. Value %	Sample Top	10.9		Sample Bottom	12.1
Percentage retained on 20	mm BS test sieve:		0 Remarks:		





23/08/11

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Date



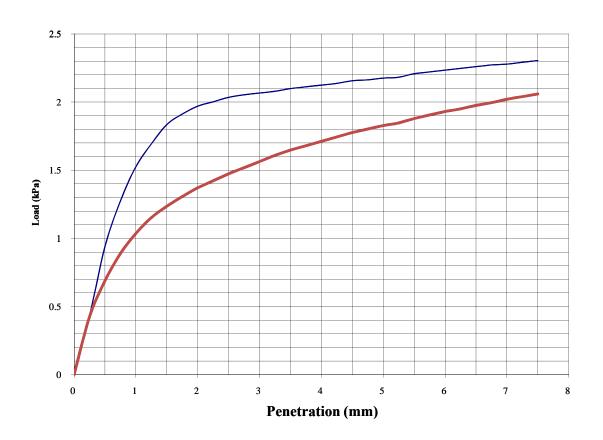
Bicester

Contract No.: 13224-160811 Client Ref No: SDG 110815-17



BS 1377:Part 4:1990

Hole Number: TP513 Depth (m) 0.40



Initial Sample Conditions	al Sample Conditions Test Conditions			Method of compaction : 2.5 Kg Rammer	
Moisture Content:	25	Surcharge Kg: 2.0 Final Moisture Content %			
Bulk Density Mg/m3:	1.77	Soaking Time hrs	n/a	Sample Top	24.7
Dry Density Mg/m3:	1.42	Swelling mm:	n/a	Sample Bottom	24.5
C.B.R. Value %	Sample Top	15.4		Sample Bottom	11.2
Percentage retained on 20		0 Remarks:			





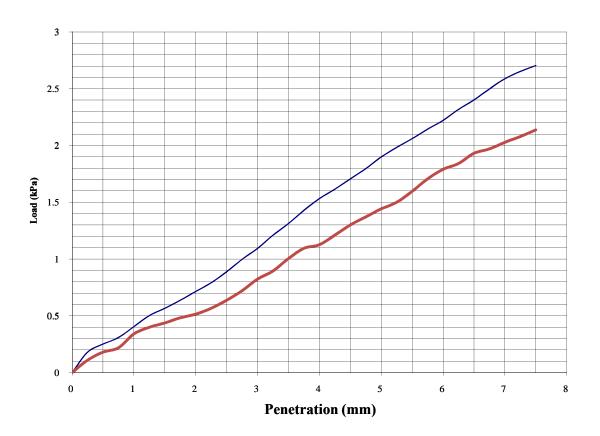
Bicester

Contract No.: 13224-160811 Client Ref No: SDG 110815-17



BS 1377:Part 4:1990

Hole Number: TP522 Depth (m) 1.00



nitial Sample Conditions Test Condition		IS		Method of compaction: 2.5 Kg Rammer		
Moisture Content:	14	Surcharge Kg: 2.0		Final Moisture Content %		
Bulk Density Mg/m3:	1.81	Soaking Time h	rs	n/a	Sample Top	14.0
Dry Density Mg/m3:	1.58	Swelling mm:		n/a	Sample Bottom	14.0
C.B.R. Value %	Sample Top		9.5		Sample Bottom	7.2
Percentage retained on 20mm BS test sieve:				0 Remarks:		
						





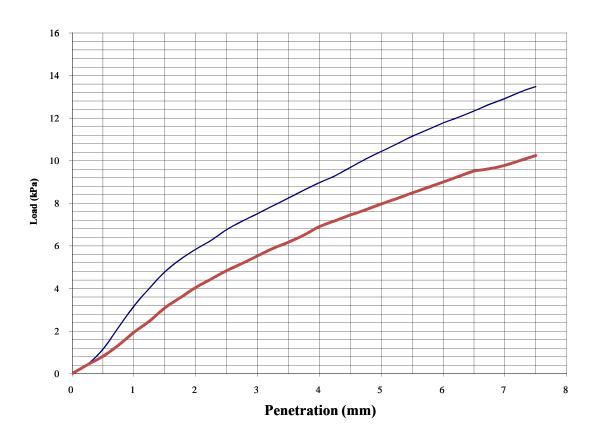
Bicester

Contract No.: 13224-160811 Client Ref No: SDG 110815-17



BS 1377:Part 4:1990

Hole Number: TP523 Depth (m) 0.90



Initial Sample Conditions		Test Conditions	S		Method of compaction: 2.5 k	Kg Rammer
Moisture Content:	10	Surcharge Kg:		2.0	Final Moisture Content %	
Bulk Density Mg/m3:	2.08	Soaking Time h	nrs	n/a	Sample Top	11.2
Dry Density Mg/m3:	1.89	Swelling mm:		n/a	Sample Bottom	10.3
C.B.R. Value %	Sample Top		52.2		Sample Bottom	39.8
Percentage retained on 20	mm BS test sieve:		(Remarks:		
		•		_		



23/08/11 Date



23/08/11

Approved by

Date



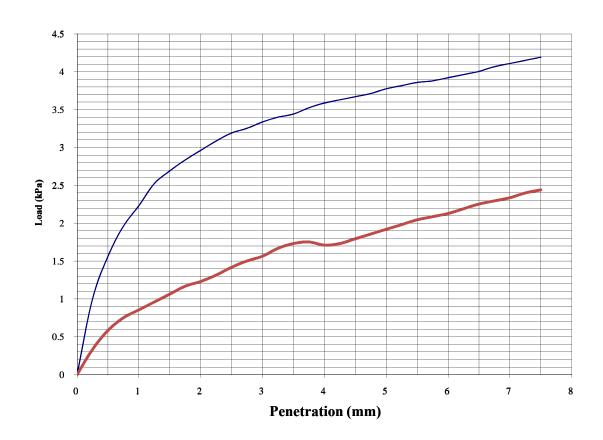
Bicester

Contract No.: 13224-160811 Client Ref No: SDG 110815-17



BS 1377:Part 4:1990

Hole Number: TP526 Depth (m) 0.60



Initial Sample Conditions		Test Conditions		Method of compaction: 2.5 I	Kg Rammer
Moisture Content:	15	Surcharge Kg:	2.0	Final Moisture Content %	
Bulk Density Mg/m3:	1.90	Soaking Time hrs	n/a	Sample Top	19.0
Dry Density Mg/m3:	1.65	Swelling mm:	n/a	Sample Bottom	16.7
C.B.R. Value %	Sample Top	24.2		Sample Bottom	10.7
Percentage retained on 20	mm BS test sieve:		0 Remarks:		



23/08/11 Date



23/08/11

oved by Date

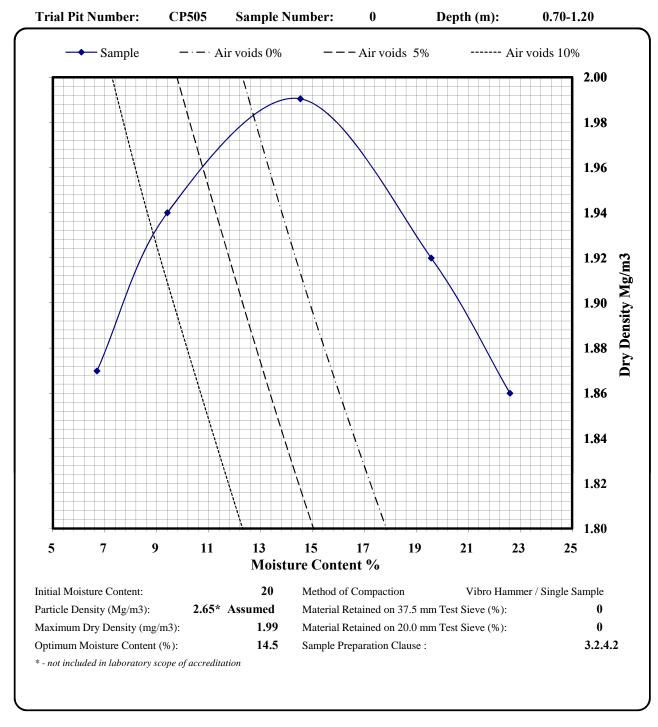


Bicester

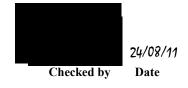
Contract No.: 13224-160811 Client Ref No: SDG 110815-17



BS 1377:Part 4:1990





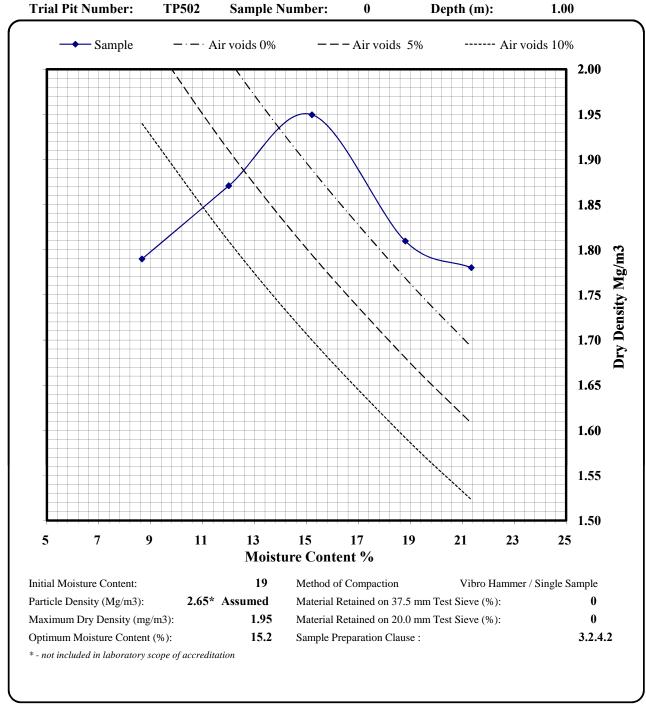








BS 1377:Part 4:1990



Remarks

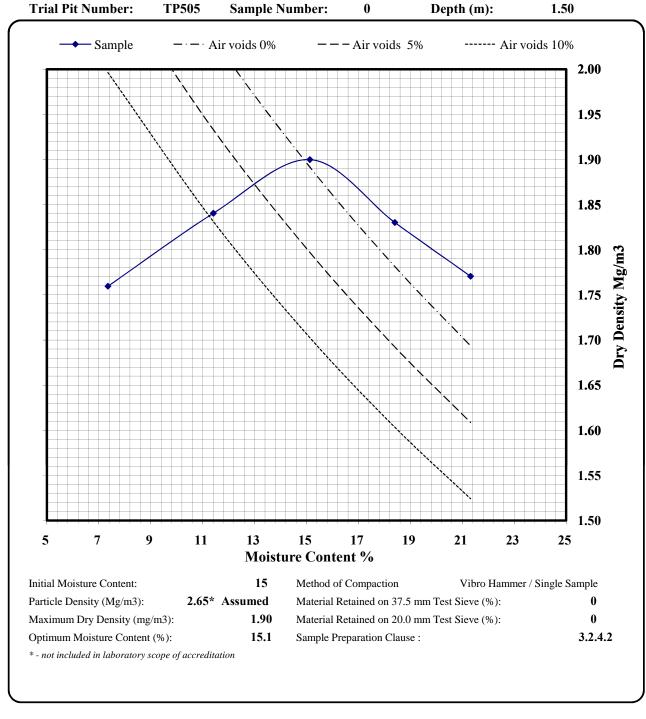








BS 1377:Part 4:1990



Remarks

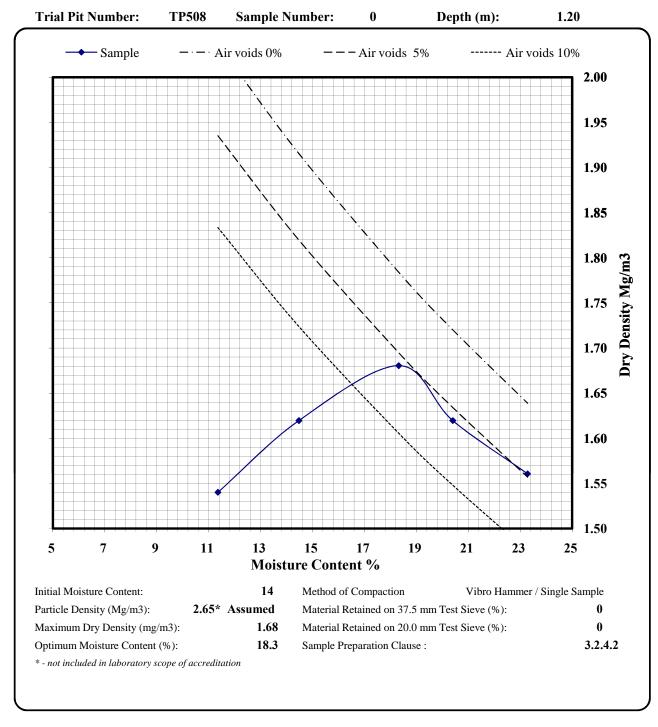








BS 1377:Part 4:1990



Remarks

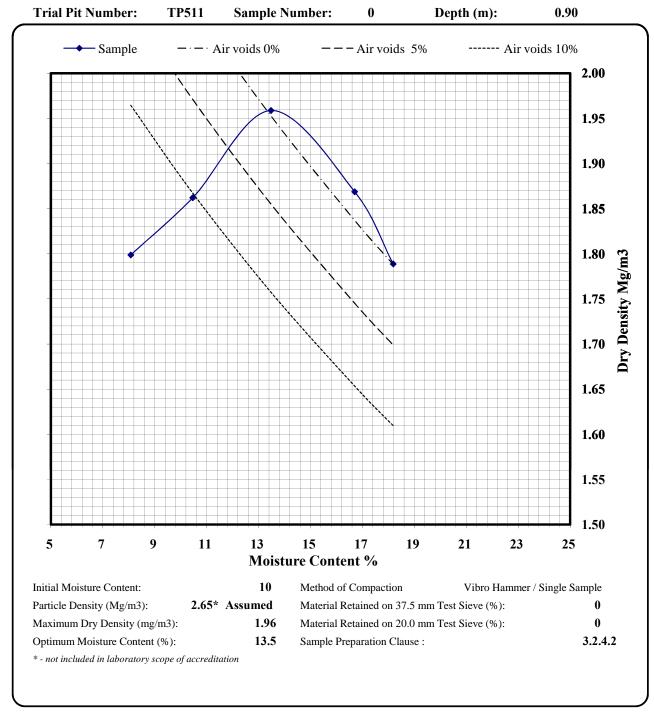








BS 1377:Part 4:1990



Remarks

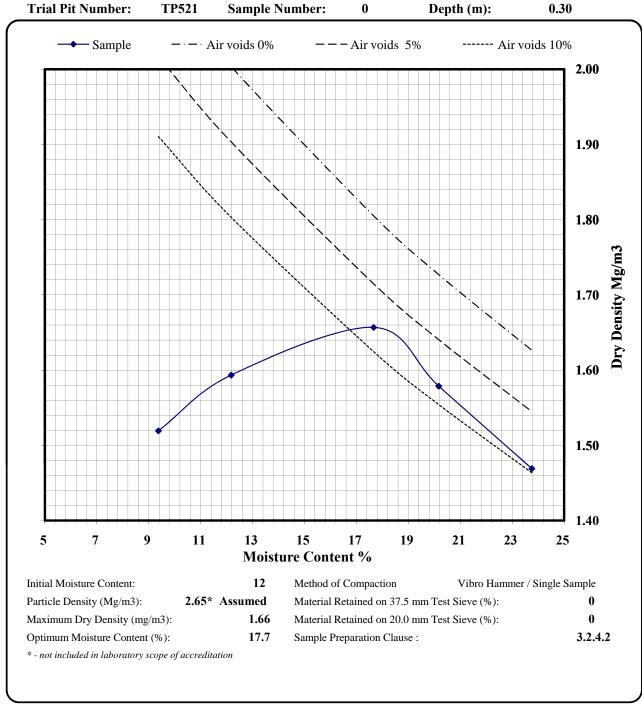




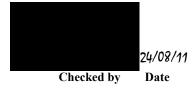




BS 1377:Part 4:1990







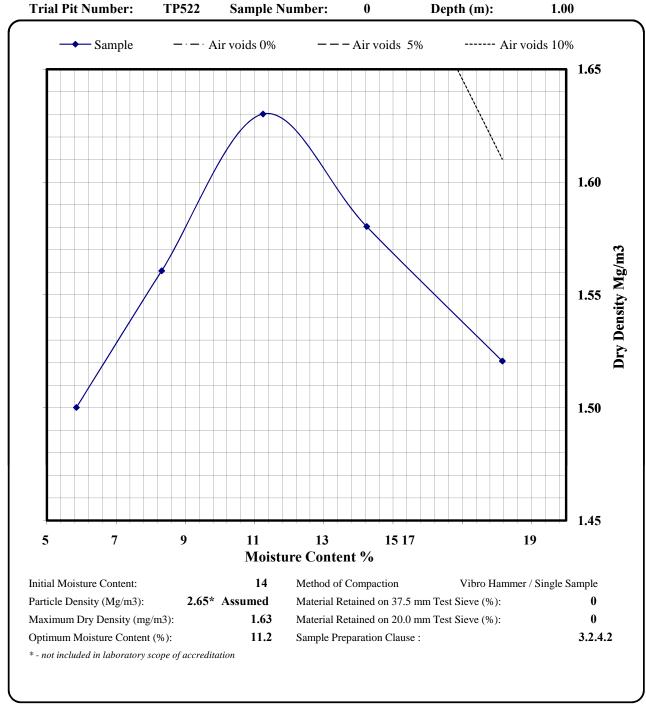


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BS 1377:Part 4:1990



Remarks

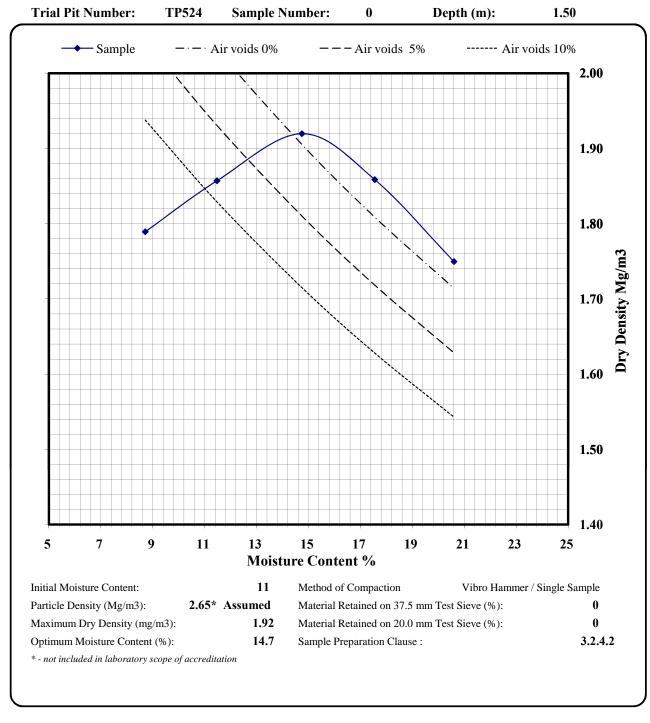




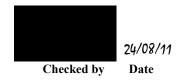




BS 1377:Part 4:1990



Remarks





Contract No.:

Client Ref No:

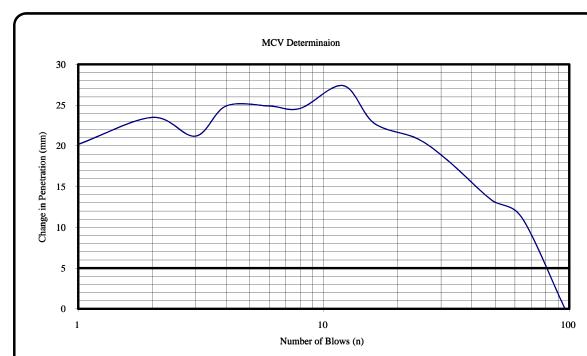
0





BS 1377:Part 4:1990

Hole Number: TP503 Depth(m): 0.30



Remarks: Normal method used to determine MCV

Material Retained on the 20mm BS Test Sieve (%).:

Blows	Penetration	n to 4 n
(N)	(mm)	(mm)
1	136	20.2
2	127	23.5
3	120.8	21.2
4	115.8	24.9
6	108.9	24.9
8	103.5	24.6
12	99.6	27.4
16	90.9	22.8

Blows	Penetration	n to 4 n
(N)	(mm)	(mm)
24	84	20.9
32	78.9	18.2
48	72.2	13.4
64	68.1	11.2
96	63.1	
128	60.7	
192	58.8	
256	56.9	

Test Results.

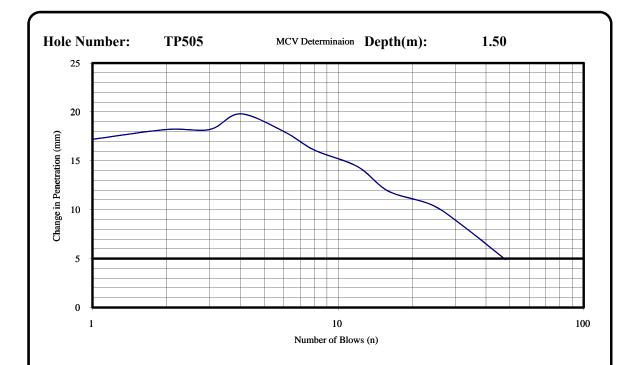
Moisture Content (%). 16 MCV 18.5

Checked by Date Approved by Date





BS 1377:Part 4:1990



Remarks: Normal method used to determine MCV

Material Retained on the 20mm BS Test Sieve (%).:

Blows	Penetration	n to 4 n
(N)	(mm)	(mm)
1	107.1	17.2
2	98.3	18.2
3	92.9	18.2
4	89.9	19.8
6	84.5	18.0
8	80.1	16.1
12	74.7	14.4
16	70.1	11.9

Blows	Penetration	n to 4 n
(N)	(mm)	(mm)
24	66.5	10.5
32	64	8.4
48	60.3	4.9
64	58.2	
96	56	
128	55.6	
192	55.4	
256		

Test Results.

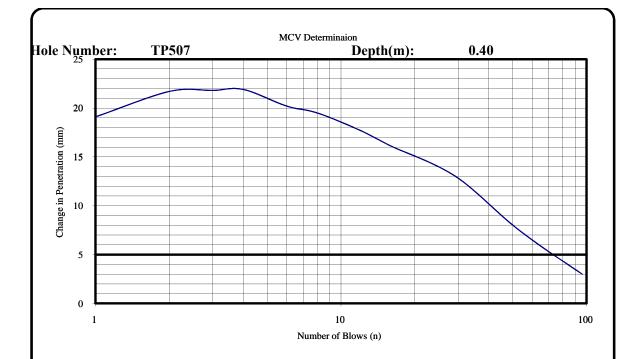
Moisture Content (%). 12 MCV 16.7

Checked by Date Approved by Date





BS 1377:Part 4:1990



Remarks: Normal method used to determine MCV

Material Retained on the 20mm BS Test Sieve (%).: 0

Blows	Penetration	n to 4 n
(N)	(mm)	(mm)
1	125.1	19.1
2	116.2	21.7
3	110.3	21.8
4	106	21.9
6	99.2	20.2
8	94.5	19.5
12	88.5	17.7
16	84.1	16.1

Blows	Penetration	n to 4 n
(N)	(mm)	(mm)
24	79	14.2
32	75	12.3
48	70.8	8.4
64	68	6.0
96	64.8	3.0
128	62.7	
192	62.4	
256		

Test Results.

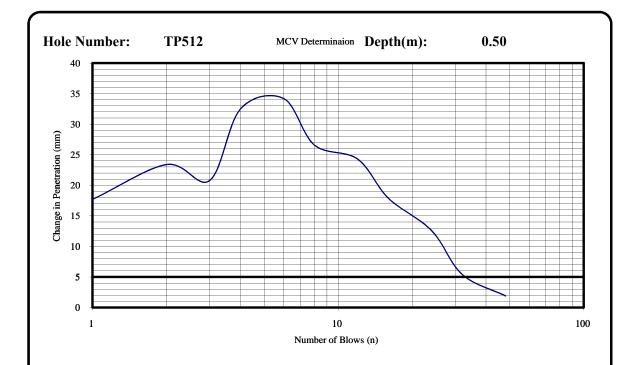
Moisture Content (%). 13 MCV 18.8

Checked by Date Approved by Date





BS 1377:Part 4:1990



Remarks: Normal method used to determine MCV

Material Retained on the 20mm BS Test Sieve (%).: 0

Blows	Penetration	n to 4 n
(N)	(mm)	(mm)
1	131.5	17.7
2	118.4	23.4
3	109.9	20.8
4	113.8	32.5
6	109.9	34.2
8	95	26.6
12	89.1	24.3
16	81.3	17.9

Blows	Penetration	n to 4 n
(N)	(mm)	(mm)
24	75.7	12.6
32	68.4	5.4
48	64.8	1.9
64	63.4	
96	63.1	
128	63	
192	62.9	
256		

Test Results.

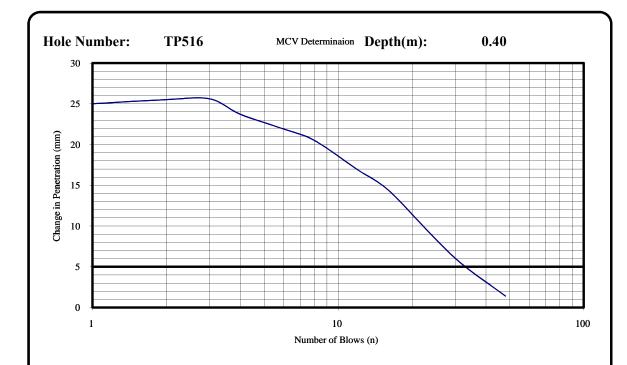
Moisture Content (%). 25 MCV 15.1

Checked by Date Approved by Date





BS 1377:Part 4:1990



Remarks: Normal method used to determine MCV

Material Retained on the 20mm BS Test Sieve (%).:

Blows	Penetration	n to 4 n
(N)	(mm)	(mm)
1	126.5	25.0
2	114.2	25.5
3	106.8	25.6
4	101.5	23.7
6	93.8	21.9
8	88.7	20.5
12	81.2	16.9
16	77.8	14.4

Blows	Penetration	n to 4 n
(N)	(mm)	(mm)
24	71.9	8.9
32	68.2	5.3
48	64.3	1.4
64	63.4	
96	63	
128	62.9	
192	62.9	
256		

Test Results.

Moisture Content (%). 16 MCV 14.9

Checked by Date Approved by Date







SUMMARY OF POINT LOAD TESTS.

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

Borehole	Depth	Type of Test		Width	Platen	Failure	Equivalent	Point	Size	Point	Angle between	Type of	
Number	_	d	I		Separation	Load	Diameter	Load	Factor	Load Index	plane of	anisotropy	Remarks.
		a	//	(W)	(D)	(P)	(D_e)	(I_s)	(F)	$(I_{s(50)})$	anisotropy	(Bedding or	
	(m)	b/i		(mm)	(mm)	(kN)	(mm)	(MPa)		(MPa)	& core axis.	Cleavage).	
TP503	1.10	i		105	41	5.97	74	1.09	1.19	1.30			
		i		70	32	3.94	53	1.38	1.03	1.42			
TP504	0.70	i		73	30	4.24	53	1.52	1.02	1.56			
		i		44	34	6.86	44	3.60	0.94	3.39			
TP510	0.60	i		70	25	2.91	47	1.31	0.97	1.27			
		i		72	24	3.21	47	1.46	0.97	1.42			
TP512	1.80	i		99	41	2.42	72	0.47	1.18	0.55			
		i		76	32	3.67	56	1.18	1.05	1.24			
TP513	1.30	i		70	41	6.96	60	1.90	1.09	2.07			
		i		82	45	8.20	69	1.75	1.15	2.01			
TP516	0.80	i		90	42	16.66	69	3.46	1.16	4.01			
		i		75	40	6.50	62	1.70	1.10	1.87			
TP518	1.30	i		105	40	8.40	73	1.57	1.19	1.86			
		i		73	30	2.53	53	0.91	1.02	0.93			
TP521	1.10	i		73	34	3.89	56	1.23	1.05	1.30			
		i		82	32	2.95	58	0.88	1.07	0.94			
TP523	0.90	i		95	52	5.27	79	0.84	1.23	1.03			
		i		45	35	4.42	45	2.20	0.95	2.10			
TP527	1.30	i		102	51	10.36	81	1.56	1.25	1.95			
		i		54	35	10.82	49	4.50	0.99	4.46			

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



30/08/11 Date



30/08/11 Date

Contract No.

13224

Client Ref No. SDG 110815-17



SUMMARY OF POINT LOAD TESTS.

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

Borehole	Depth	Type o	of Test	Width	Platen	Failure	Equivalent	Point	Size	Point	Angle between	Type of	
Number		d	I		Separation	Load	Diameter	Load	Factor	Load Index	plane of	anisotropy	Remarks.
		a	//	(W)	(D)	(P)	(D_e)	(I_s)	(F)	$(I_{s(50)})$	anisotropy	(Bedding or	
	(m)	b/i		(mm)	(mm)	(kN)	(mm)	(MPa)		(MPa)	& core axis.	Cleavage).	
TP502	1.00	i		70	39	7.31	59	2.10	1.08	2.26			UCS Test could not be performed as
		i		68	20	2.55	42	1.47	0.92	1.36			insufficent rock sample recieved
TP509	1.00	i		88	32	10.36	60	2.89	1.08	3.13			UCS requirement is 2.5 x diameter
		i		102	30	3.02	62	0.77	1.10	0.86			UCS Test could not be performed as
TP519	1.00	i		70	32	5.62	53	1.97	1.03	2.03			insufficent rock sample recieved
		i		81	33	5.95	58	1.75	1.07	1.87			UCS requirement is 2.5 x diameter
TP522	1.00	i		69	39	7.58	59	2.21	1.07	2.38			UCS Test could not be performed as
		i		77	32	5.19	56	1.65	1.05	1.74			insufficent rock sample recieved
CP501	0.50 - 1.00	i		35	35	1.28	39	0.82	0.90	0.74			UCS requirement is 2.5 x diameter
		i		30	21	1.22	28	1.52	0.77	1.18			UCS Test could not be performed as
													insufficent rock sample recieved
													UCS requirement is 2.5 x diameter

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



26/08/11 Date



26/08/11 Date

Contract No.

13224

Client Ref No. SDG 110815-17

Bicester



GEO/008 June-04 Issue No.1 13224 Bynea, Llanelli, SA14 9SU



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Carmarthenshire
SA15 2DS
tel: +44 (0)1554 749720 / 757734
fax: +44 (0)1554 749845 / 775107
e-mail: info@geolab.org.uk

Certificate of Analysis

Date:	24/08/2011
Client:	Alcontrol
Our Reference:	13224-160811
Client Reference:	
Contract Title:	Bicester Central
Description: (Total Samples)	17
Date Received:	16/08/2011
Date Started:	22/08/2011
Date Completed:	23/08/2011
Test Procedures:	(B.S. 1377 : PART 3 : 1990)
Notes:	
	Solid samples will be disposed 1 month and liquids 2 weeks
Approved By:	
Authorised Signatories:	Vaughan Edwards Wayne Honey Paul Evans Managing Director Laboratory Technician Technical Manager

Contract No: 13224-160811

Client Ref:

Location: Bicester Central **Date:** 23/08/2011



SUMMARY OF CHEMICAL ANALYSES

(B.S. 1377: PART 3: 1990)

			Sulphate	Sulphate Content SO3 (as SO ₄) Chloride Content		Content					
Hole Number	Sample Number	Depth m	Acid Soluble Sulphate as % SO ₄	Aqueous Extract Sulphate as g/l SO ₄	Ground- water g/l	Soluble Chloride as % equiv. NaCl	Ground- water g/l	pH Value @ 25°C	Organic Matter Content %	Loss on Ignition %	Remarks
			Clause 5.5.	Clause 5.5.	Clause 5.4.	Clause 7.3	Clause 7.2	Clause 9.	Clause 3.	Clause 4.	
TP502		1.00		0.01 (0.02)				8.02			
TP503		0.30		0.01 (0.02)				7.30			
TP507		0.80		0.03 (0.03)				7.88			
TP509		1.00		<.01 (<.01)				7.94			
TP511		0.90		<.01 (<.01)				7.68			
TP513		0.40		<.01 (<.01)				7.61			
TP514		1.20		<.01 (<.01)				7.65			
TP516		0.40		0.01 (0.02)				7.48			
TP519		1.00		<.01 (<.01)				7.82			
TP522		1.00		<.01 (<.01)				8.08			
TP526		0.60		0.01 (0.02)				7.66			
TP530		0.50		0.05 (0.06)				7.89			
CP501		0.50		<.01 (<.01)				7.41			
CP503		4.00		0.01 (0.02)				7.46			
CP504		0.40		0.01 (0.02)				7.77			
CP505		G.L		<.01 (<.01)				7.38			
CP505		1.20		<.01 (<.01)				7.40			
_		_			_				_	_	_
					_				_	_	_

NCP - No Chloride present

G.L - Ground Level

APPENDIX E MONITORING DATA

Groundwater and Ground Gas Monitoring Summary



Site Name	Bicester Central Land Parcels
Client	Countryside Properties Ltd
Job No.	00020861/001

Start Date	31/08/2011
End Date	29/09/2011
No. Visits	3

	Borehole			(% V/V)		Oxygen (% v/v)		Flow	(l/hr)	Leve	g Water el (m)	Gas Screening Value Methane (I/hr)	Gas Screening Value Carbon Dioxide (I/hr)
_	00504	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	(7111)	, ,
1 2	CP501 CP502	0.0	0.0	0.0	0.5	20.1	20.8	0.0	0.1	0.00	0.00		0.0005
3	CP503	0.0	0.0	0.0	0.3	20.7	20.8	0.0	0.1	0.00	0.00		0.0006
4	CP504	0.0	0.0	0.2	1.5	20.2	20.5	0.0	0.1	0.00	0.00		0.0015
5	CP505	0.0	0.0	0.0	0.6	20.2	20.7	0.0	0.0	0.00	0.00		
6	WS502	0.0	0.0	0.3	0.4	20.2	20.7	0.0	0.1	0.00	0.00		0.0004
7 8	WS504 WS505	0.0	0.0	0.6	1.4 0.5	19.3 20.4	20.1	0.0	0.1	0.00	0.00		0.0014 0.0005
9	WS508	0.0	0.0	0.3	1.2	20.1	20.4	-0.2	0.0	0.00	0.00		0.0000
10	WS511	0.0	0.0	0.5	0.9	20.4	20.7	0.0	0.0	0.00	0.00		
11	WS512	0.0	0.0	0.1	0.9	20.5	20.6	0.0	0.0	0.00	0.00		
12	WS514	0.0	0.0	0.4	0.6	20.6	20.8	0.0	0.2	0.00	0.00		0.0012
13 14	WS516 WS517	0.0	0.0	0.0	0.7	20.3	20.7	0.0	0.0	0.00	0.00		0.0006
15	WS517	0.0	0.0	0.0	3.4	18.5	20.6	0.0	0.1	0.00	0.00		0.0034
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Groundwater and Ground Gas Monitoring Summary



Cita Nama	Bicester Central Land Parcels
Site Name	Bicester Central Land Parcels
Client	Countryside Properties Ltd
Job No.	00020861/001

Start Date	31/08/2011
End Date	29/09/2011
No. Visits	3

MIN MAX TOP BASE MIN MAX MIN MAX MAX MAX CP69	opm		H2S ppm	ppm	om ppm	Was the well ever flooded?	Was Product >1mm detected?
2 CP602 0.0 0.0 0.0 0.0 0.7 0 0 0 0 0 0 0 0 0 0		\downarrow	MAX				
3 CP503 0.0 0.0 0.0 0.0 0.8 0.0 0 0 0 0 0 0 0 0		-					No No
CPS04		+					No
5 CP505 0.0 0.0 0.7 1.7 0 0 0 0 0 0 0 0 Ves		\top					No
6 WS022 0.0 0.0 0.0 0.6 1.2 0 0 0 0 0 0 0 0 0 Ves WS0508 0.0 0.0 0.5 1.0 0 0 0 0 0 0 0 0 0 0 Ves 8 WS0508 0.0 0.0 0.5 1.0 0 0 0 0 0 0 0 0 0 0 Ves 10 WS051 0.0 0.0 0.5 1.0 0 0 0 0 0 0 0 0 0 0 0 Ves WS12 0.0 0.0 1.0 1.0 2.0 0 0 0 0 0 0 0 0 0 0 Ves WS13 0.0 0.0 0.4 0.9 0 0 0 0 0 0 0 0 0 Ves WS19 0.0 0.0 0.0 1.1 0 0 0 0 0 0 0 0 0 0 0 0		1					No
8 WS505 0.0 0.0 0.0 0.5 1.0 0 0 0 0 0 0 0 0 Ves 9 WS508 0.0 0.0 0.5 1.0 0 0 0 0 0 0 0 0 0 Ves 10 WS511 0.0 0.0 0.0 1.0 1.0 2.0 0 0 0 0 0 0 0 0 0 Ves 11 WS512 0.0 0.0 0.0 1.0 2.0 0 0 0 0 0 0 0 0 0 Ves 12 WS514 0.0 0.0 0.0 1.4 1.4 0 0 0 0 0 0 0 0 Ves 13 WS516 0.0 0.0 0.4 1.4 0 0 0 0 0 0 0 0 0 Ves 14 WS517 0.0 0.0 1.0 1.4 0 0 0 0 0 0 0 0 Ves 15 WS519 0.0 0.0 0.3 2.3 0 0 0 0 0 0 0 0 0 Ves 16 WS519 0.0 0.0 1.0 1.0 1.4 0 0 0 0 0 0 0 0 Ves 17 18 18 19 19 19 19 19 19 19 19 19 19 19 19 19	0		0	0	0 0	Yes	No
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14 WS517 0.0 0.0 1.0 1.4 0 0 0 0 0 0 0 0 Yes							No
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Groundwater and Ground Gas Monitoring Summary



Site Name	Bicester Central Land Parcels
Client	Countryside Properties Ltd
Job No.	00020861/001

Start Date	31/08/2011	
End Date	29/09/2011	
No. Visits	3	

Visit No.	Visit Date	Date Pressure Trend		End mB
1	31/08/2011	No Change	1004	1004
2	12/09/2011	Rising	1010	1012
3	29/09/2011	<u> </u>	1012	1012
4				
5				
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	Minimum mB	Maximum mB
Barometric Pressure	1004	1012

Gas Screening Value (GSV) Calculation

	GSV Max per hole (I/hr)	GSV using Max Values (l/hr)	Maximum Values (% v/v)
Carbon Dioxide	0.0034	0.0068	3.4
Methane	0	0	0.0
Max Flow (I/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 (I/hr)	Additional Factors
1	А	Very Low Risk	<0.07	Typically methane ≤ 1% and/or carbon dioxide ≤ 5% otherwise consider increase to Characteristic Situation 2
2	В	Low Risk	<0.7	Borehole air flow rate not to exceed 70l/hr. Otherwise consider increase to Characteristic Situation 3
3	С	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)

Troffic Light	Me	ethane	Carbon Dioxide	
Traffic Light Classification Typical Max Concentration (%v/v)		Gas Screening Value (I/hr)	Typical Max Concentration (%v/v)	Gas Screening Value (I/hr)
Green	·			
Green	1	0.13	5	0.78
Amber				
	5	0.63	10	1.6
Amber 2			+	
	20	1.6	30	3.1
Red	20	1.0	30	3.1

- 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
- 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 F SOAKAWAY TEST RESULTS



Project: Code: Client: Bicester Central Land Parcels

00020861-001

Countryside Properties (Bicester) Ltd
TRIAL PIT SOAKAGE TEST

TEST DATA

Pit reference	SA501
Pit depth (m)	1.50
Pit width (m)	0.80
Pit length (m)	1.60
Depth to standing water (m)	

Test 1	
Time (min)	Depth (m)
0.0	0.54
0.5	0.56
1.0	0.59
1.5	0.60
2.0	0.60
2.5	0.62
3.0	0.64
3.5	0.66
4.0	0.67
4.5	0.69
5.0	0.70
6.0	0.74
7.0	0.76
8.0	0.79
9.0	0.83
10.0	0.86
12.0	0.90
14.0	0.94
16.0	0.97
18.0	0.99
20.0	1.02
25.0	1.07
30.0	1.11 1.15 1.18
35.0	1.15
40.0	1.18
45.0	1.20
50.0	1.23
55.0	1.25
60.0	1.27
65.0	1.30
75.0	1.33
90.0	1.38
105.0	1.39

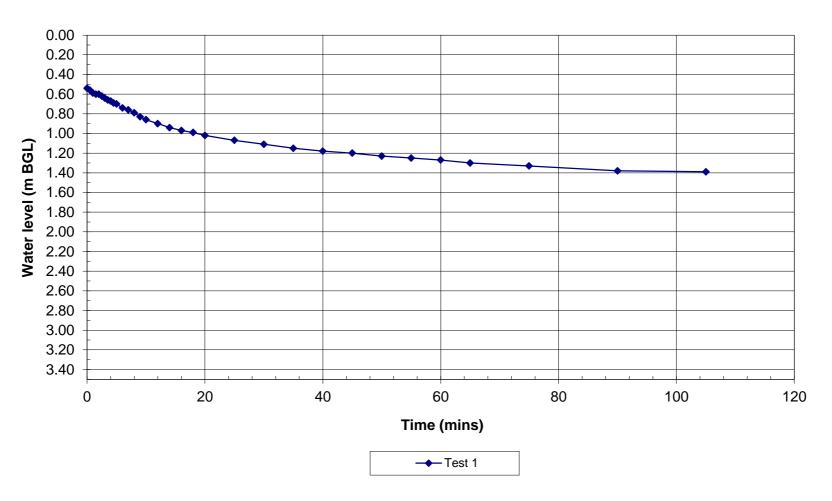
Test 2 Time (min) Depth (n	1)

Test 3	
Time (min)	Depth (m)
_	

Max. depth (m)	1.50	1.50	
Effective depth (m) Effective drop (m) 75% effective depth (m) 50% effective depth (m) 25% effective depth (m) t75 (min) t50 (min)	0.54 0.96 1.26 1.02 0.78 58.00 20.00	0.00 1.50 1.13 0.75 0.38	0.00 0.00 0.00 0.00 0.00
t25 (min)	7.50		
Vp 75-25 ap 50 tp 75-25	0.61 3.584 50.50	0.96 4.88 0.00	0.00

Soil infiltration rate (m/s)	5.66E-05	#DIV/0!	#DIV/0!
Soil infiltration rate (mm/hı	2.04E+02	#DIV/0!	#DIV/0!

- Blue cells require input data
 Infiltration calculated to method in 'BRE Digest 365 (1991) Soakaway Design'
 First line of table must be depth at time = 0 sec





Project: Code: Client: Bicester Central Land Parcels

00020861-001

Countryside Properties (Bicester) Ltd
TRIAL PIT SOAKAGE TEST

TEST DATA

Pit reference	SA506
Pit depth (m)	1.80
Pit width (m)	0.70
Pit length (m)	1.70
Depth to standing water (m)	

Test 1	
Time (min)	Depth (m)
0.0	1.27
0.5	1.31
1.0	1.32
2.5	1.34
3.0	1.37
3.5	1.38
4.0	1.40
9.0	1.55
10.0	1.58
11.0	1.59
12.0	1.60
13.0	1.62
14.0	1.63
15.0	1.64
16.0	1.65
17.0	1.66
18.0	1.66
23.0	1.69
24.0	1.70
26.0	1.72
28.0	1.73
30.0	1.74
35.0	1.78
37.0	1.79
39.0	1.79
42.0	1.80
45.0	1.80

Time (min) Depth (m) 0.0 1.07 0.5 1.10 1.0 1.12 1.5 1.15 2.0 1.17 2.5 1.19 3.0 1.20 7.0 1.33 8.0 1.35 9.0 1.37 10.0 1.38 11.0 1.40 12.0 1.42 16.0 1.48 17.0 1.50 18.0 1.50 19.0 1.51 20.0 1.52 22.0 1.54 24.0 1.56 30.0 1.61 32.0 1.62 34.0 1.63 36.0 1.63 38.0 1.65 40.0 1.66 45.0 1.70 55.0 1.74 60.0 1.75	Test 2	
0.0 1.07 0.5 1.10 1.12 1.5 1.15 2.0 1.17 2.5 1.19 3.0 1.20 7.0 1.33 8.0 1.35 9.0 1.37 10.0 1.38 11.0 1.40 12.0 1.42 16.0 1.48 17.0 1.50 18.0 1.50 19.0 1.51 20.0 1.52 22.0 1.54 24.0 1.56 30.0 1.61 32.0 1.62 34.0 1.63 38.0 1.65 40.0 1.66 45.0 1.70 55.0 1.74	Time (min)	Depth (m)
0.5	0.0	1.07
1.0 1.12 1.5 1.15 2.0 1.17 2.5 1.19 3.0 1.20 7.0 1.33 8.0 1.35 9.0 1.37 10.0 1.38 11.0 1.40 12.0 1.42 16.0 1.48 17.0 1.50 18.0 1.50 19.0 1.51 20.0 1.52 22.0 1.54 24.0 1.56 30.0 1.61 32.0 1.62 34.0 1.63 38.0 1.63 38.0 1.65 40.0 1.66 45.0 1.70 55.0 1.74	0.5	1.10
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2.5 1.19 3.0 1.20 7.0 1.33 8.0 1.35 9.0 1.37 10.0 1.38 11.0 1.40 12.0 1.42 16.0 1.48 17.0 1.50 18.0 1.50 19.0 1.51 20.0 1.52 22.0 1.54 24.0 1.56 30.0 1.61 32.0 1.62 34.0 1.63 38.0 1.65 40.0 1.66 45.0 1.70 50.0 1.72		
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8.0 1.35 9.0 1.37 10.0 1.38 11.0 1.40 12.0 1.42 16.0 1.48 17.0 1.50 18.0 1.50 19.0 1.51 20.0 1.52 22.0 1.54 24.0 1.56 30.0 1.61 32.0 1.62 34.0 1.63 38.0 1.63 38.0 1.65 40.0 1.66 45.0 1.70 55.0 1.74		
9.0 1.37 10.0 1.38 11.0 1.40 12.0 1.42 16.0 1.48 17.0 1.50 18.0 1.50 19.0 1.51 20.0 1.52 22.0 1.54 24.0 1.56 30.0 1.61 32.0 1.62 34.0 1.63 38.0 1.65 40.0 1.66 45.0 1.70 50.0 1.72	7.0	
10.0 1.38 11.0 1.40 12.0 1.42 16.0 1.48 17.0 1.50 18.0 1.50 19.0 1.51 20.0 1.52 22.0 1.54 24.0 1.56 30.0 1.61 32.0 1.62 34.0 1.63 36.0 1.63 38.0 1.65 40.0 1.66 45.0 1.70 50.0 1.72 55.0 1.74	8.0	
11.0 1.40 12.0 1.42 16.0 1.48 17.0 1.50 18.0 1.50 19.0 1.51 20.0 1.52 22.0 1.54 24.0 1.56 30.0 1.61 32.0 1.62 34.0 1.63 38.0 1.63 38.0 1.65 40.0 1.66 45.0 1.70 50.0 1.72		
12.0 1.42 16.0 1.48 17.0 1.50 18.0 1.50 19.0 1.51 20.0 1.52 22.0 1.54 24.0 1.56 30.0 1.61 32.0 1.62 34.0 1.63 36.0 1.63 38.0 1.65 40.0 1.66 45.0 1.70 50.0 1.72		
16.0 1.48 17.0 1.50 18.0 1.50 19.0 1.51 20.0 1.52 22.0 1.54 24.0 1.56 30.0 1.61 32.0 1.62 34.0 1.63 36.0 1.63 38.0 1.65 40.0 1.66 45.0 1.70 50.0 1.72		
17.0 1.50 18.0 1.50 19.0 1.51 20.0 1.52 22.0 1.54 24.0 1.56 30.0 1.61 32.0 1.62 34.0 1.63 36.0 1.63 38.0 1.65 40.0 1.66 45.0 1.70 50.0 1.72		
18.0 1.50 19.0 1.51 20.0 1.52 22.0 1.54 24.0 1.56 30.0 1.61 32.0 1.62 34.0 1.63 36.0 1.63 38.0 1.65 40.0 1.66 45.0 1.70 50.0 1.72 55.0 1.74		
19.0 1.51 20.0 1.52 22.0 1.54 24.0 1.56 30.0 1.61 32.0 1.62 34.0 1.63 36.0 1.63 38.0 1.65 40.0 1.66 45.0 1.70 50.0 1.72		
20.0 1.52 22.0 1.54 24.0 1.56 30.0 1.61 32.0 1.62 34.0 1.63 36.0 1.63 38.0 1.65 40.0 1.66 45.0 1.70 50.0 1.72		
22.0 1.54 24.0 1.56 30.0 1.61 32.0 1.62 34.0 1.63 36.0 1.63 38.0 1.65 40.0 1.66 45.0 1.70 50.0 1.72 55.0 1.74		
24.0 1.56 30.0 1.61 32.0 1.62 34.0 1.63 36.0 1.63 38.0 1.65 40.0 1.66 45.0 1.70 50.0 1.72 55.0 1.74		
30.0 1.61 32.0 1.62 34.0 1.63 36.0 1.63 38.0 1.65 40.0 1.66 45.0 1.70 50.0 1.72 55.0 1.74	22.0	
32.0 1.62 34.0 1.63 36.0 1.63 38.0 1.65 40.0 1.66 45.0 1.70 50.0 1.72 55.0 1.74	24.0	
34.0 1.63 36.0 1.63 38.0 1.65 40.0 1.66 45.0 1.70 50.0 1.72 55.0 1.74		
36.0 1.63 38.0 1.65 40.0 1.66 45.0 1.70 50.0 1.72 55.0 1.74	32.0	1.62
38.0 1.65 40.0 1.66 45.0 1.70 50.0 1.72 55.0 1.74		
40.0 1.66 45.0 1.70 50.0 1.72 55.0 1.74		
45.0 1.70 50.0 1.72 55.0 1.74		
45.0 1.70 50.0 1.72 55.0 1.74 60.0 1.75		1.66
50.0 1.72 55.0 1.74 60.0 1.75		1.70
55.0 1.74 60.0 1.75		1.72
60.0 1.75		1.74
	60.0	1.75

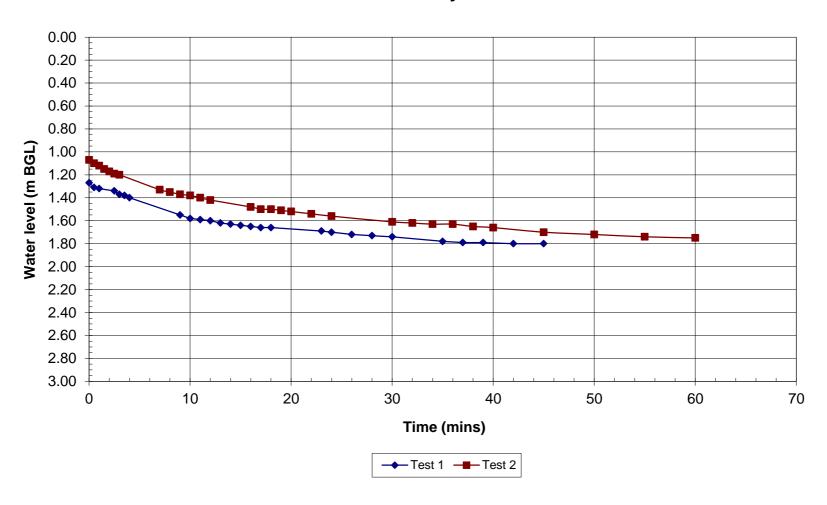
Test	3

Test 3 Time (min)	Depth (m)

Max. depth (m)	1.80	1.80	
Effective depth (m)	1.27	1.07	0.00
Effective drop (m)	0.53	0.73	0.00
75% effective depth (m)	1.67	1.62	0.00
50% effective depth (m)	1.54	1.44	0.00
25% effective depth (m)	1.40	1.25	0.00
t75 (min)	19.00	32.00	
t50 (min)	8.00	14.00	
t25 (min)	4.00	5.00	
Vp 75-25	0.32	0.43	0.00
ap 50	2.462	2.942	
tp 75-25	15.00	27.00	0.00

Soil infiltration rate (m/s)	1.42E-04	9.11E-05	#DIV/0!
Soil infiltration rate (mm/hı	5.12E+02	3.28E+02	#DIV/0!

- Blue cells require input data
 Infiltration calculated to method in 'BRE Digest 365 (1991) Soakaway Design'
 First line of table must be depth at time = 0 sec





Project: Code: Client: Bicester Central Land Parcels

00020861-001

Countryside Properties (Bicester) Ltd

TRIAL PIT SOAKAGE TEST

TEST DATA

Pit reference	SA515
Pit depth (m)	0.90
Pit width (m)	0.70
Pit length (m)	2.08
Depth to standing water (m)	0.30

0.5 0.	th (m) 30
0.5 0.	30
4.0	30
	30
	30
	31
	31
	32
6.0 0.	32
	32
8.0 0.	33
	33
10.0 0.	33
15.0 0.	37
20.0 0.	38
25.0 0.	39
30.0 0.	40
40.0 0.	42
50.0 0.	44
60.0 0.	46
70.0 0.	48
80.0 0.	49
90.0 0.	50
120.0 0.	53
150.0 0.	56
200.0 0.	61
	64
260.0 0.	65
290.0 0.	68
320.0 0.	70
350.0 0.	73
380.0 0.	75

Test 2 Time (min) Depth (m)				
Time (min)	Deptn (m)			

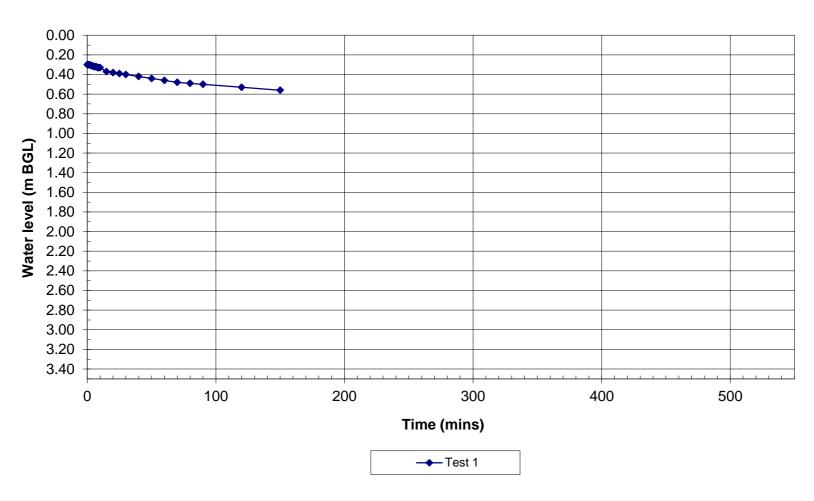
Fact 3	•

Time (min)	Depth (m)
,,	
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_	_

Max. depth (m)	0.90	0.90	
Effective depth (m) Effective drop (m) 75% effective depth (m) 50% effective depth (m) 25% effective depth (m) 175 (min) 150 (min)	0.30 0.60 0.75 0.60 0.45 380.00 190.00	0.00 0.90 0.68 0.45 0.23	0.00 0.00 0.00 0.00 0.00
t25 (min) Vp 75-25 ap 50 tp 75-25	55.00 0.44 3.124 325.00	0.66 3.958 0.00	0.00

Soil infiltration rate (m/s)	7.17E-06	#DIV/0!	#DIV/0!
Soil infiltration rate (mm/hı	2.58E+01	#DIV/0!	#DIV/0!

- Blue cells require input data
 Infiltration calculated to method in 'BRE Digest 365 (1991) Soakaway Design'
 First line of table must be depth at time = 0 sec





Project: Bicester Central Land Parcels

Code: Client: 00020861-001

Countryside Properties (Bicester) Ltd

TRIAL PIT SOAKAGE TEST

TEST DATA

Pit reference	SA517
Pit depth (m)	1.60
Pit width (m)	0.70
Pit length (m)	2.00
Depth to standing water (m)	

Test 1		
Time (min)	Depth (m)	
0.0	0.65	
0.5	0.69	
1.0	0.74	
1.5	0.77	
2.0	0.82	
2.5	0.84	
3.0	0.87	
3.5	0.89	
4.0	0.91	
4.5	0.93	
5.0	0.95	
6.0	0.99	
7.0	1.03	
8.0	1.05	
9.0	1.08	
10.0	1.11	
12.0	1.16 1.20	
14.0	1.20	
16.0	1.23	
18.0	1.25	
20.0	1.29	
22.0	1.31	
24.0	1.32	
26.0	1.35	
28.0	1.36	
30.0	1.38	
35.0	1.40	
40.0	1.43	
50.0	1.48	
60.0	1.51	
75.0	1.54	

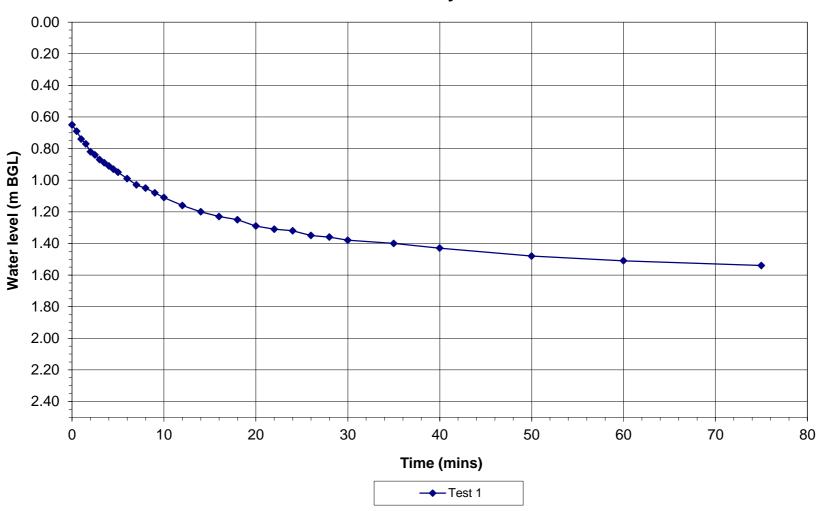
Test 2				
Time (min)	Depth (m)			
_				

Test 3				
Time (min)	Depth (m)			

Max. depth (m)	1.60	1.60	
Effective depth (m)	0.65	0.00	0.00
Effective drop (m)	0.95	1.60	0.00
75% effective depth (m)	1.36	1.20	0.00
50% effective depth (m)	1.13	0.80	0.00
25% effective depth (m)	0.89	0.40	0.00
t75 (min)	28.00		
t50 (min)	11.00		
t25 (min)	3.50		
Vp 75-25	0.67	1.12	0.00
ap 50	3.965	5.72	
tp 75-25	24.50	0.00	0.00

Soil infiltration rate (m/s)	1.14E-04	#DIV/0!	#DIV/0!
Soil infiltration rate (mm/hı	4.11E+02	#DIV/0!	#DIV/0!

- Blue cells require input data
 Infiltration calculated to method in 'BRE Digest 365 (1991) Soakaway Design'
 First line of table must be depth at time = 0 sec





Project: Code: Bicester Central Land Parcels

00020861-001

Countryside Properties (Bicester) Ltd
TRIAL PIT SOAKAGE TEST Client:

TEST DATA

Pit reference	SA520
Pit depth (m)	2.20
Pit width (m)	0.70
Pit length (m)	1.80
Depth to standing water (m)	

Test 1	
Time (min)	Depth (m)
0.0	0.66
0.5	0.68
1.0	0.69
1.5	0.71
2.0	0.72
2.5	0.73
3.0	0.75
3.5	0.76
4.0	0.77
4.5	0.77
5.0	0.79
6.0	0.81
9.5	0.86
10.0	0.86
12.0	0.89
14.0	0.92
16.0	0.95
19.0	0.98
20.0	0.99
22.0	1.01
24.0	1.04
26.0	1.06
28.0	1.07
30.0	1.09
40.0	1.16
50.0	1.22
60.0	1.29
90.0	1.40
120.0	1.52
150.0	1.60
180.0	1.69

Test 2 Time (min)	Depth (m)
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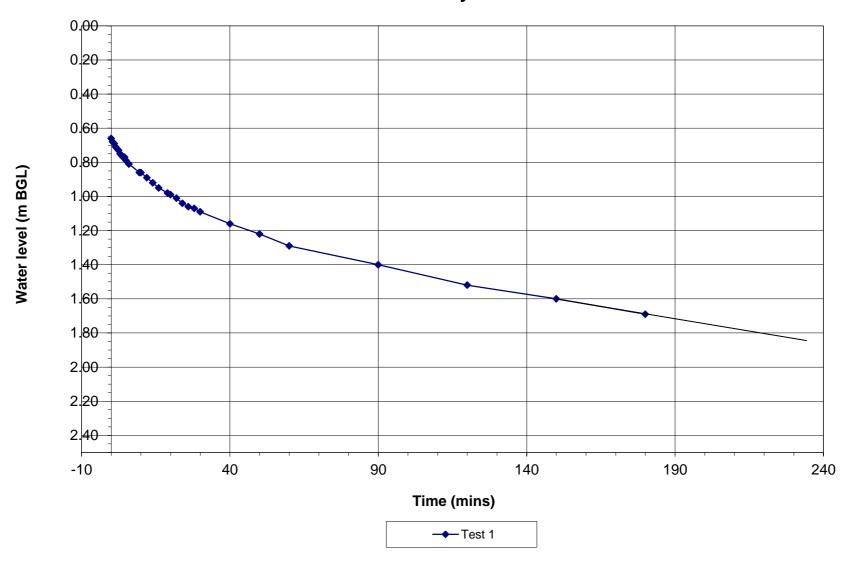
Test	3

Test 3	
Time (min)	Depth (m)

Max. depth (m)	2.20	2.20	
Effective depth (m) Effective drop (m) 75% effective depth (m) 50% effective depth (m) 25% effective depth (m) t75 (min) t50 (min)	0.66 1.54 1.82 1.43 1.05 226.00 97.50	0.00 2.20 1.65 1.10 0.55	0.00 0.00 0.00 0.00 0.00
t25 (min)	25.00		
Vp 75-25 ap 50 tp 75-25	0.97 5.11 201.00	1.39 6.76 0.00	0.00 0.00

Soil infiltration rate (m/s)	1.57E-05	#DIV/0!	#DIV/0!
Soil infiltration rate (mm/hr	5.67E+01	#DIV/0!	#DIV/0!

- Blue cells require input data Infiltration calculated to method in 'BRE Digest 365 (1991) Soakaway Design' First line of table must be depth at time = $0 \sec$





Project: Bicester Central Land Parcels

Code: 00020861-001

Client: Countryside Properties (Bicester) Ltd

TRIAL PIT SOAKAGE TEST

TEST DATA

Pit reference	SA528
Pit depth (m)	2.10
Pit width (m)	0.73
Pit length (m)	2.02
Depth to standing water (m)	1.01

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Test 1	
Time (min)	Depth (m)
0.0	1.01
0.5	1.04
1.0	1.05
2.0	1.05
3.0	1.06
4.0	1.06
5.0	1.07
6.0	1.08
7.0	1.08
8.0	1.09
9.0	1.09
10.0	1.10
15.0	1.14
20.0	1.16
25.0	1.17
30.0	1.18
40.0	1.21
50.0	1.24
60.0	1.27
70.0	1.29
80.0	1.31
90.0	1.34
120.0	1.39
150.0	1.45
180.0	1.50
210.0	1.56
240.0	1.60
270.0	1.65
300.0	1.68
330.0	1.70

Test 2 Time (min)	Depth (m)
, , , , , , , , , , , , , , , , , , , ,	

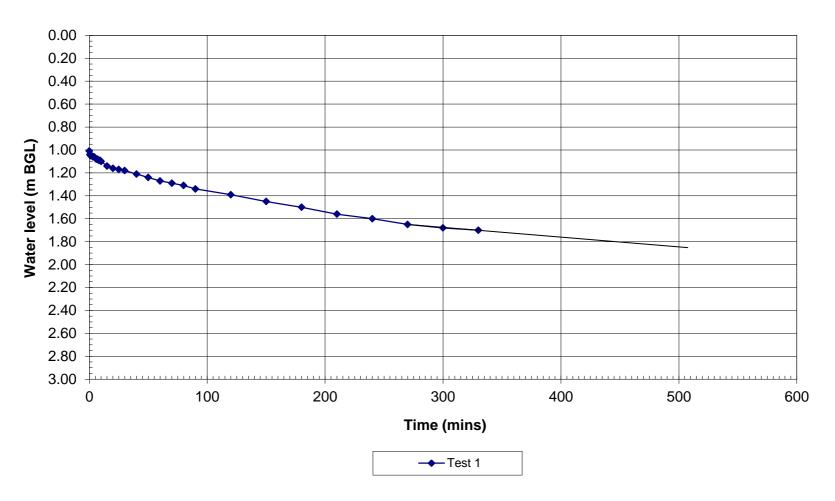
Tost 3

Test 3 Time (min)	Depth (m)
`	

Max. depth (m)	2.10	2.10	
Effective depth (m)	1.01	0.00	0.00
Effective drop (m)	1.09	2.10	0.00
75% effective depth (m)	1.83	1.58	0.00
50% effective depth (m)	1.56	1.05	0.00
25% effective depth (m)	1.28	0.53	0.00
t75 (min)	475.00		
t50 (min)	210.00		
t25 (min)	65.00		
Vp 75-25	0.80	1.55	0.00
ap 50	4.4721	7.2496	
tp 75-25	410.00	0.00	0.00

Soil infiltration rate (m/s)	7.31E-06	#DIV/0!	#DIV/0!
Soil infiltration rate (mm/hı	2.63E+01	#DIV/0!	#DIV/0!

- 1 2 3
- Blue cells require input data
 Infiltration calculated to method in 'BRE Digest 365 (1991) Soakaway Design'
 First line of table must be depth at time = 0 sec





Project: Code: Bicester Central Land Parcels

00020861-001

Countryside Properties (Bicester) Ltd
TRIAL PIT SOAKAGE TEST Client:

TEST DATA

Pit reference	SA531
Pit depth (m)	2.20
Pit width (m)	0.70
Pit length (m)	1.80
Depth to standing water (m)	

Test 1	
Time (min)	Depth (m)
0.0	0.64
0.5	0.67
1.0	0.70
1.5	0.72
2.0	0.73
2.5	0.75
3.0	0.77
3.5	0.79
4.0	0.80
4.5	0.82
5.0	0.82
6.0	0.85
7.0	0.88
8.0	0.91
9.0	0.93
10.0	0.96
12.0	1.01
14.0	1.04
16.0	1.09
18.0	1.13
20.0	1.17
22.0	1.21
24.0	1.24
26.0	1.29 1.32
28.0	1.32
30.0	1.35
34.0	1.42
40.0	1.50
50.0	1.64
60.0	1.75
70.0	1.84
90.0	2.00
100.0	2.09

Test 2	5
Time (min)	Depth (m)
0.0	0.83
0.5	0.84
1.0	0.85
1.5	0.85
2.0	0.86
2.5	0.87
3.0	0.87
3.5	0.88
4.0	0.88
4.5	0.89
5.0	0.90
6.0	0.91
7.0	0.92
8.0	0.94
9.0	0.95
10.0	0.96
18.0	1.04
20.0	1.07
25.0	1.11
30.0	1.15
35.0	1.19
40.0	1.23
45.0	1.26
60.0	1.35
75.0	1.44
105.0	1.57

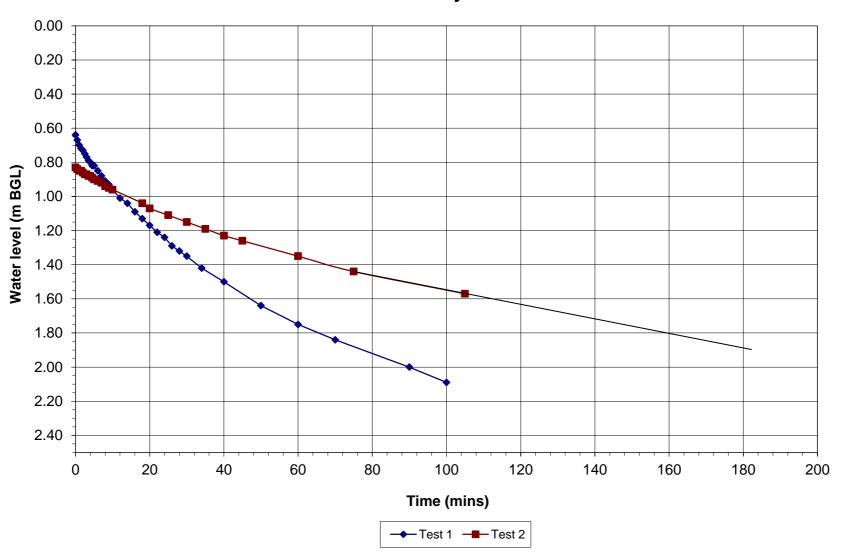
Test	3

Time (min)	Depth (m)
` '	/
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Max. depth (m)	2.20	2.20	
Effective depth (m)	0.64	0.83	0.00
Effective drop (m)	1.56	1.37	0.00
75% effective depth (m)	1.81	1.86	0.00
50% effective depth (m)	1.42	1.52	0.00
25% effective depth (m)	1.03	1.17	0.00
t75 (min)	55.40	174.00	
t50 (min)	34.00	87.30	
t25 (min)	13.50	32.50	
Vp 75-25	0.98	0.86	0.00
ap 50	5.16	4.685	
tp 75-25	41.90	141.50	0.00

Soil infiltration rate (m/s)	7.58E-05	2.17E-05	#DIV/0!
Soil infiltration rate (mm/hr	2.73E+02	7.81E+01	#DIV/0!

- Blue cells require input data Infiltration calculated to method in 'BRE Digest 365 (1991) Soakaway Design' First line of table must be depth at time = $0 \sec$

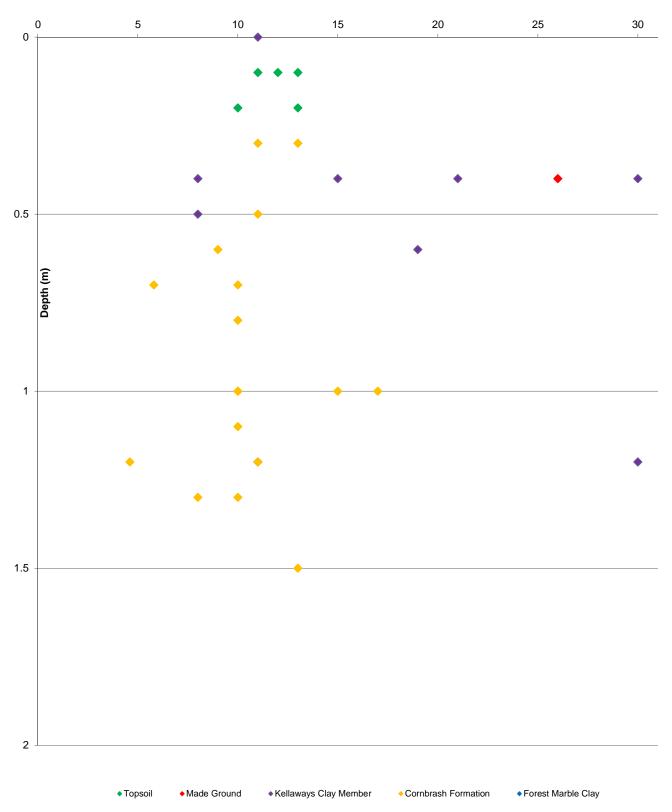






Moisture Content Vs Depth

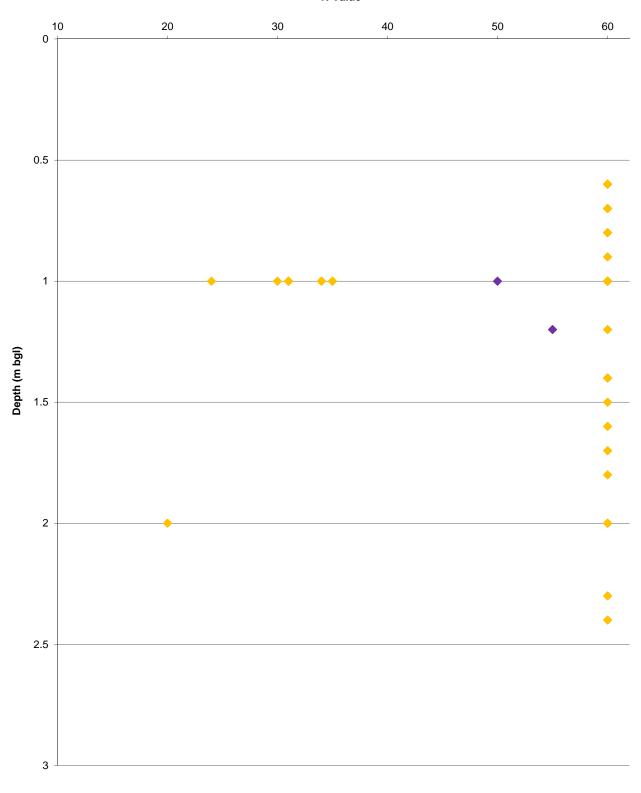
Moisture Content %





N-Value Vs Depth

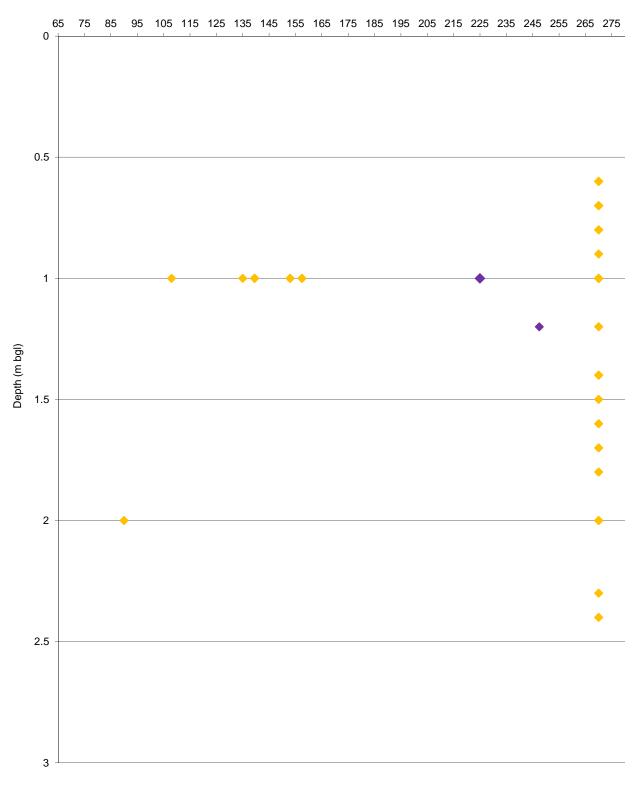
N-Value





Undrained Shear Strength (from SPT's) Vs Depth

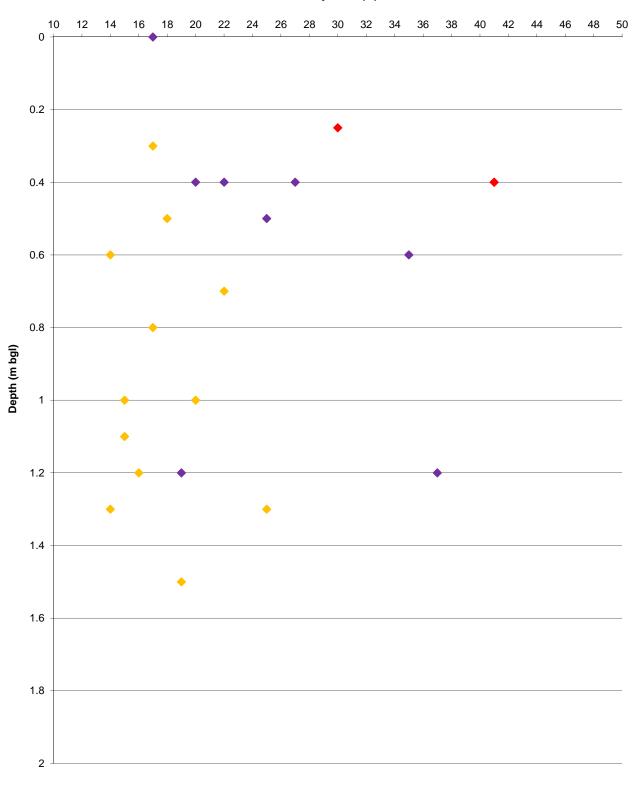
Undrained Shear Strength (kPa)





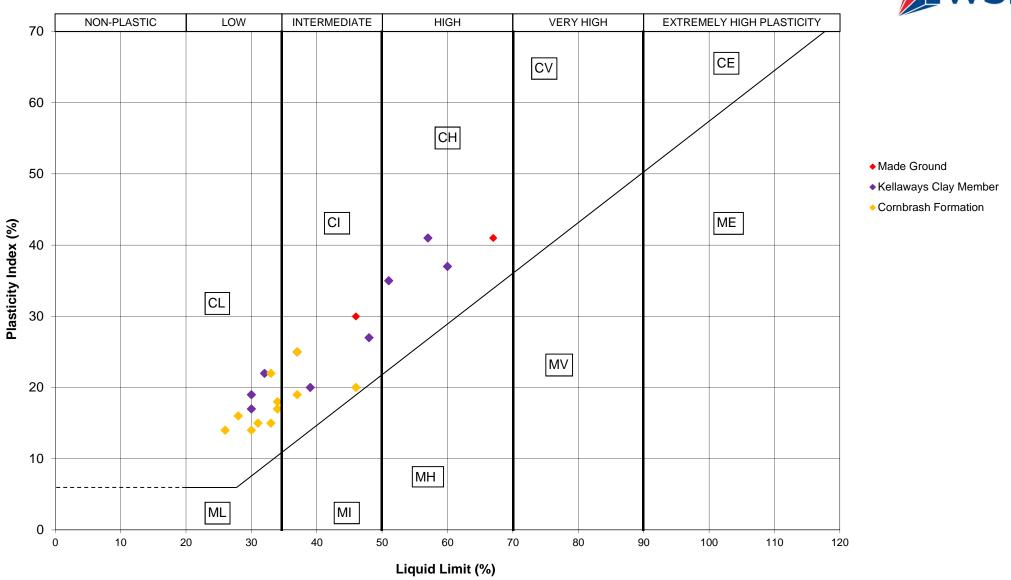
Plasticity Index Vs Depth

Plasticity Index (%)



Plasticity Chart (After BS5930:1999)

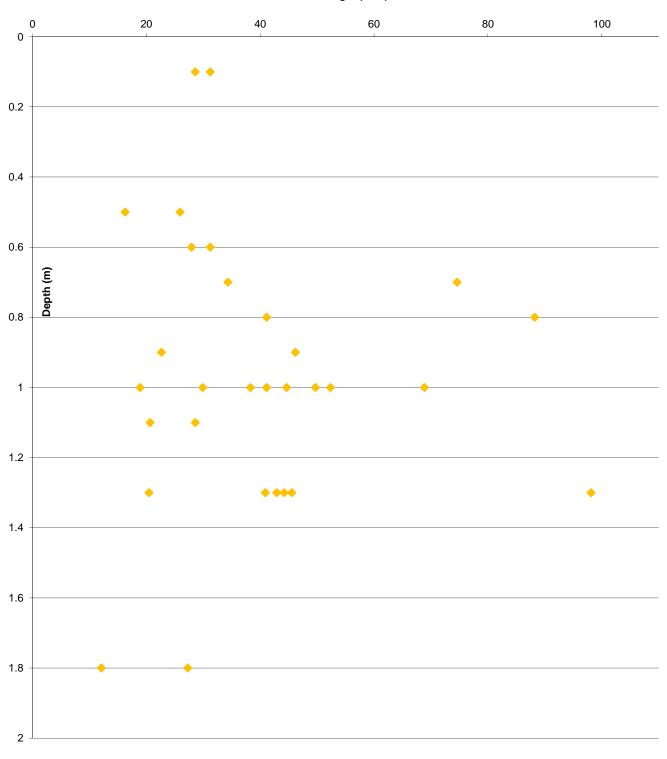






Corrected Unconfined Compressive Strength Vs Depth

Strength (MPa)





Summary of Risk Assessment Approach

The following section provides a summary of the approach adopted by our risk assessment team including the context and the derivation of the screening criteria used. This document does not seek to present an exhaustive listing nor detailed understanding of the UK contaminated land regime and its assessment. The reader is instead directed towards appropriate source materials for a greater understanding, it is however intended to provide herein an overview of our general assumptions and practices that we have followed.

ANALYSIS PROTOCOLS

In selecting a laboratory testing suite contaminants must have the potential to be present on a site following an understanding of its current or former industrial use. They should also be likely to be present at a perceived concentration that may cause harm, whereby "harm" is defined under Part 2A legislation. The purpose of this criterion is to exclude substances and unnecessary costs in the testing for analytes that are rarely found or are unlikely to be present at harmful concentrations.

In selecting an analyte we therefore assume that it is:

- Likely to occur at the target site 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 will have been used where available to assist in informing our selection;

- The available desk study/preliminary risk assessment reports available for the site to proffer an understanding of site history, waste, chemical storage and poor management practices that may have resulted in the potential for depleted land quality;
- 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 those chemicals that are commonly found on a given industrial land use type.

APPROACH TO THE ASSESSMENT OF HUMAN HEALTH RISKS

Our approach is consistent with that established in the publication *Model Procedures for the Management of Land Contamination (CLR11)* (Environment Agency 2004a). This establishes a tiered approach including:

- Preliminary Risk Assessment (e.g. the establishment of 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).

Generic Quantitative Risk Assessment (GQRA) is described in outline here. Detailed Quantitative Risk Assessment (DQRA) where applicable will have been defined in detail of main body reporting.

Generic Quantitative Risk Assessment - Human Health

In order to undertake a GQRA, contaminant concentrations need to be compared to appropriate generic assessment criteria. Current UK industry practice is to use, as first preference, UK SGVs which are generic assessment criteria 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 (V1.06) was published in September 2009 and, following its publication, a number of SGVs have also been produced. However, the SGVs published to date are limited to only a small number of contaminants. Consequently, where published SGV do not exist, other GAC can be used including:

- GAC prepared in accordance with the CLEA V1.06 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 V1.06 model and associated documents.

The approach adopted by WSP has been to generate GAC for chronic risks to human health using CLEA V1.06. In generating GAC, input parameters consistent with Environment Agency publications have been adopted by WSP including:

- 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.

Toxicological data for respective contaminants have been selected following Environment Agency guidance. Where UK guidance is available (i.e. existing published TOX (toxicological) reports respective Health Criteria Values (HCV) have been adopted. Where no UK TOX reports are available the following references have been used (given in order of preference);

- Published UK toxicity reviews to derive HCV within Nathanial et. al, 2009 and EIC/CL:AIRE 2009;
- Other appropriate UK sources;
- Authoritative European sources;
- International Organisations (e.g. World Health Organisation); or
- Appropriate, authoritative US sources (e.g. USEPA).

Fate and transport characteristics for the contaminants for which GAC have been derived have included 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));
- Published fate and transport reviews to derive HCV within Nathanial et. al, 2009 and EIC/CL:AIRE 2009;
- Other UK Government documents;
- European data sources;
- International data sources; (e.g. World Health Organisation); or
- Other international sources (e.g. USEPA).

Where appropriate and where sufficient data is available, values have been adjusted to reflect a UK soil temperature of 10°C (e.g. K_{aw}).

In generating GAC, the default CLEA assumptions have been applied to a range of likely human health exposure models and associated critical age receptor groups including:

- Residential with Plant Uptake;
- Residential without Plant Uptake;

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- Parks:
- Open Spaces; and,
- Commercial/Industrial.

Additional land use scenarios have been considered within the context of a DQRA, for example, a residential care home land use.

Please also observe that GAC for organic substances have not been limited to their theoretical soil saturation although the theoretical soil saturation limit is provided and can be considered by our risk assessors in their assessment. Petroleum hydrocarbon fractions are, where appropriate, addressed based on Hazard Index and so are additionally not limited to soil saturation within their assessment.

Our default soil type under a GQRA has been established as a Sandy Loam with a default pH of 7; Soil Organic Matter of 1%, 3% and 6%.

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 an in-house 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 for Free or Easily Liberatable Cyanide should be completed.

Open Spaces Land Use

The existing CLEA model does not explicitly consider an Open Spaces land use and, in many cases, an assessor typically applies a residential end use model and associated Generic Assessment Criteria. This approach however can lead to unnecessary remediation as the values derived for a residential end use consider exposure pathways and characteristics which are not representative of an Open Spaces land use, for example indoor air inhalation of contaminant vapours and the ingestion of food grown on site.

The Open Spaces land use category developed by WSP is considered to be appropriate for areas generally larger than local parks which are visited less frequently and are typically a distance from residential areas (e.g. a nature reserve).

WSP have developed a set of Generic Assessment Criteria for Open Spaces end use through the development of a Conceptual Site Model for Open Space which considers the relevant exposure pathways and receptor characteristics. These criteria are considered suitably sensitive to apply to a wide range of Open Space areas. The Conceptual Site Model adopted may be described as follows:

- The soil ingestion and dermal exposure pathways are active;
- The inhalation of outdoor dusts and vapours pathways are active;
- The soil is a typical sandy loam type;
- The critical receptor is a female child between the ages of 0-6 years (i.e. based on a standard residential receptor) who visits the site on three occasions a fortnight and spends 3 hours on the site on each visit (the exception being during the first year of life when exposure frequency is set at 50% of the number of visits and duration).
- Fifty per cent of the time spent on site is involved in moderate intensity activity and fifty per cent in passive activity;

A detailed breakdown of the chosen modelling characteristics can be provided on request. It should be noted that Open Space criteria are not considered appropriate for use for a School Playing Fields scenario where formal and regular sports take place or for a Parks land use where visits will tend to be far more frequent.

Parks Land Use

The existing CLEA model does not explicitly consider a Parks land use and, in many cases, an assessor typically applies a residential end use model and associated Generic Assessment Criteria. This approach however can lead to unnecessary remediation as the values derived for a residential end use consider exposure pathways and characteristics which are not representative of a an Parks land use, for example indoor air inhalation of contaminant vapours and the ingestion of food grown on site.

The Parks land use is considered to be appropriate for local parks and open areas typically located adjacent to residential housing and more frequently used than in an Open Spaces scenario.

WSP have developed a set of Generic Assessment Criteria for Parks end use through the development of a Conceptual Site Model for Parks which considers the relevant exposure pathways and receptor characteristics. These criteria are considered suitably sensitive to apply to a wide range of Open Space areas. The Conceptual Site Model adopted may be described as follows:

- The soil ingestion and dermal exposure pathways are active;
- The inhalation of outdoor dusts and vapours pathways are active;
- The soil is a typical sandy loam type;
- The critical receptor is a female child between the ages of 0-6 years (i.e. based on a standard residential receptor) who visits the site on five days a week and typically spends 1.5 hours on the site on each visit with two weeks holiday a year
- Two-thirds of the time spent on site is involved in moderate intensity activity and one-third in passive activity;

A detailed breakdown of the chosen modelling characteristics can be provided on request. It should be noted that Parks criteria are not considered appropriate for use for a School Playing Fields scenario where formal and regular sports take place.

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 an in-house implementation of the Johnson and Ettinger model (WSP In-house Groundwater Model V1.1). The WSP model is based upon the Johnson and Ettinger model described in the CLEA guidance has been adapted to account for a dissolved phase source through consideration of (a) partitioning from groundwater to soil vapour, and, (b) transport through the capillary zone.

The WSP spreadsheet implementation also includes checks to ensure that values generated do not exceed the pure phase solubility of a substance within water.

The target concentration in air is set based upon the Inhalation TDI or ID determined for the substance either from published Environment Agency or other sources.

TDI or ID values are usually presented in units of $\mu g/kg \ bw^{-1} \ day-1$ in which case the values are converted into $\mu g/m^3$ based on an adult inhaling $20m^3$ per day and weighing 70kg (Table 3.3 SR2 (Environment Agency 2009a)). Where appropriate the TDI is adjusted to take account of the MDI.

In the absence of UK guidelines, our exposure scenario conservatively considers a groundwater source 1.0m below the base of any building i.e. a very shallow aquifer, corresponding with the depth of a soil source as adopted in the generic scenario in the CLEA model. Our default soil type under a GQRA has been established as a Sandy Loam with the characteristics detailed below.

Parameters Applied within the derivation of WSP groundwater GAC

Parameter	Definition (Units)	Value	Source
$ heta_a$	air filled soil porosity (cm³cm⁻³)	0.2	Environment Agency (2009c), Table 4.4 (Sandy Loam)
$ heta_{\scriptscriptstyle w}$	water filled soil porosity(cm³cm⁻³)	0.33	Environment Agency (2009c), Table 4.4 (Sandy Loam)
$ heta_{\scriptscriptstyle T}$	total air and water filled soil porosity(cm³cm⁻³)	0.53	Environment Agency (2009c), Table 4.4 (Sandy Loam)
θ_{r}	Residual soil water content cm ³ /cm ³	0.12	Environment Agency (2009c), Table 4.4 (Sandy Loam)
θ_s	Saturated soil water content cm³/cm³	0.387	USEPA (2004), User's Guide for Evaluating Subsurface Vapor Intrusion into Buildings, Table 4 (Sandy Loam)
α_1	Point of inflection in the water retention curve where d $\theta_{_{W_C}}$ / d h is maximal, cm $^{\text{-1}}$	0.0689	Environment Agency (2009c), Table 4.4 (Sandy Loam)

Parameter	Definition (Units)	Value	Source
N	van Genuchten curve shape parameter, dimensionless	1.4708	Calculated from Equation 4.1 Environment Agency (2009c), Table 4.4 (Sandy Loam)
M	van Genuchten curve shape parameter, dimensionless	0.3201	Environment Agency (2009c), Table 4.4 (Sandy Loam)
R	Mean inter-particle pore radius (cm)	0.006	USEPA (2004), User's Guide for Evaluating Subsurface Vapor Intrusion into Buildings, Table 4 (Sandy Loam)

Building specific parameters have been considered for all of the generic building types as defined in the CLEA (2009a) report:

Building Parameters

	Units	Small Terraced	Justification (based on Environment Agency 2009c)	Office (pre 1970)	Justification (based on Environment Agency 2009c)
A_B	cm ²	280000	Table 4.21 (No basement)	4240000	Table 4.21 (No basement)
L_{T}	cm	115	Assumes source is 1 m below the building	115	Assumes source is 1m below the building
Q_{S}	cm ³ s ⁻¹	25	Section 10.3, p131	150	Section 10.3, p131
L_{crack}	cm	15	Table 4.21	15	Table 4.21
A_{crack}	cm ²	423.3	Table 4.21 1647.3		Table 4.21
Н	m	4.8	Table 4.21	9.6	Table 4.21
A_{foot}	m ²	28	Table 4.21	424	Table 4.21
Ex	hr ⁻¹	0.5	Table 4.21	1	Table 4.21

The required contaminant specific inputs for each contaminant have been obtained from published Environment Agency sources as detailed in the table below or obtained from a literature review as described in SR7 (Environment Agency 2008).

Contaminant Specific Parameter Sources

Parameter	Units	Source/Justification
D_{air}	$m^2 s^{-1}$	Environment Agency (2008), Compilation of Data for Priority Organic Pollutants for Derivation of Soil Guideline Values, Ref. SC050021/SR7
$D_{\it water}$	$m^2 s^{-1}$	Environment Agency (2008), Compilation of Data for Priority Organic Pollutants for Derivation of Soil Guideline Values, Ref. SC050021/SR7
K_{aw}	unitless	Environment Agency (2008), Compilation of Data for Priority Organic Pollutants for Derivation of Soil Guideline Values, Ref. SC050021/SR7
S	μg/l	Environment Agency (2008), Compilation of Data for Priority Organic Pollutants for Derivation of Soil Guideline Values, Ref. SC050021/SR7

For many contaminants, no risk is calculated at concentrations below the pure phase solubility of the contaminant. Caution is 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.

Finally, is important to note that the values we calculate are only applicable to Human Health and cannot be used to determine the potential risks to the water environment.

STATISTICAL ASSESSMENT

The data collected on site can be subject to statistical analysis using the techniques published by CL:AIRE and the Chartered Institute of Environmental Health (CIEH) in the guidance document 'Guidance on Comparing Soil Contamination Data with Critical Concentrations' (CL:ARE, 2008) as part of the package of improved UK guidance highlighted in DEFRA discussion paper Assessing risks from contamination – a proportionate approach. Soil Guidance Values: the Way Forward (CLAN 06/2006).

In identifying realistic hazards to human health then exposure areas must be first identified as the area across which a critical receptor is likely to be active. The application of individual or average concentrations within an exposure area, derived from a limited number of samples, may not be representative of actual risk. Consequently, to be representative of uncertainty and risk, an appropriate Upper Confidence Limit of the mean for each exposure area should be applied within the assessment of risk in the context of assessment for planning purposes. However, this approach is only appropriate where non-targeted sampling has been undertaken and sufficient samples have been collected from the same population.

The approach to assessment can be summarised as follows:

- Compare the recorded concentrations directly against appropriate applicable Generic Assessment Criteria to identify those
 contaminants which require further consideration as they record concentrations in excess of or near to the applied Generic
 Assessment Criteria, these will be considered contaminants of concern;
- 2. Identify whether it is appropriate to undertake any statistical testing on the contaminants of concern (i.e. consider whether sampling was non targeted and whether there are sufficient samples from the appropriate population to make the assessment meaningful). It should be noted that in a large proportion of investigations it is not appropriate to adopt statistical techniques;
- 3. Where appropriate, prepare a histogram of the data using ProUCL to potentially identify the nature of the distribution;
- 4. Undertake analysis of the data using ProUCL to determine the type of distribution and most appropriate test to calculate a 95% Upper Confidence Limit (UCL95);
- 5. Undertake analysis of the data using ProUCL to determine whether the highest value represents an outlier, and, if so, remove this outlier and re-run the statistical tests to determine the type of distribution and most appropriate test to calculate a 95% Upper Confidence Limit (UCL95);
- 6. Once a satisfactory UCL95 has been determined then this will be compared again to the applied Generic Assessment Criteria to determine the potential significance of the recorded concentrations.

This approach is considered to be appropriate within the Planning Context, however a different approach is adopted where assessments are to be undertaken for Part 2A purposes.

Part 2A and Planning

Planning investigations assume a guilty until proven innocent approach, or "the mean concentration of a contaminant in soil at the site exceeds the assessment criteria until significantly proven otherwise".

Based on the CIEH guidance, under Part 2A the key question will usually be "can we confidently say that the level of contamination on the site is high relative to the appropriate measure of risk".

In Part 2A contaminated land investigations, the issue is therefore framed assuming an innocent until proven guilty approach, or "the mean concentration of a contaminant in soil at the site does not exceed the assessment criteria until significantly proven otherwise".

Under Part 2A therefore the tests applied are required to determine if the 95th Lower Confidence Limit of the true population mean falls above the applied screening criteria. If it is identified that the 95th Lower Confidence Limit of the true mean concentration does not fall above the applied screening criteria then a further test can be applied to determine if the true mean concentration falls below the applied screening criteria on the balance of probabilities. The CIEH guidance emphasizes that "In all cases, the significance tests should be applied only if the regulator is satisfied that all sampling and testing has been carried out according to good technical practice and that the data are representative of the land under scrutiny at an appropriate scale."

Averaging Zones

Where appropriate, averaging zones based on previous / current spatial land use, soil type, proposed site end uses or other distinguishing features have been considered. All soil samples across the site have been considered as a single averaging area as potential exposure for users is considered relatively uniform across the site.

Sample Depths

At the generic assessment stage, it should be assumed that all pathways contained within the generic model applied will be active. In reality, unless a contaminant is volatile (e.g. organic), exposure by direct contact will likely be mitigated by the depth of the contaminant or available surface cover. As a rule of thumb, direct contact with contaminants at greater than 600mm depth or under hardstanding is highly unlikely to occur unless the ground is to be disturbed through removal of surfacing or earthworks.

Groundwater Data

It is not considered appropriate to undertake statistical analysis on groundwater data based on an absence of UK guidance on such an approach and US guidance on completing such assessments.

Application of GAC and SGV for Human Health

In the application of GAC (and SGV) to a site the user must recognise 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).

CLAN 2/05 prepared by Defra provides guidance to Local Authorities on the application of Soil Guideline Values and equivalent screens for the determination of contaminated land under Part 2A of the Environmental Protection Act 1990. This document states that should a Local Authority choose to apply SGV and equivalent values in determining land under Part 2A then:

'the authority would have to make a firm and deliberate judgement about whether the estimated contaminant intake, in comparison to an SGV (and the HCV on which it is based), "would represent an **unacceptable** intake or direct bodily contact...". Such a judgement might be subject to scrutiny in the event of any subsequent appeal, so should be appropriately recorded.'

SGV's and equivalent GACs mark the concentration of a substance in soil at or below which human exposure can be considered to represent a 'tolerable' or 'minimal' level of risk for long term exposure. Given the definition of Health Criteria Values set out in Environment Agency Publication SC050021/SR2 (2008), and the nature of the CLEA methodology (where contaminated land is land where the intake of a substance would represent an unacceptable intake), CLAN 2/05 states that it

'should be a matter for careful consideration by Local Authorities whether concentrations of substances in soil equal to, or not significantly greater than, an SGV would meet the legal test set out in Table B in Chapter A of the statutory guidance to Part 2A'

There exists a wide body of opinion that SGV concentrations (or equivalent GAC) would not necessarily satisfy the legal test for Part 2A determination. A key question is how far above an SGV the relevant soil concentration would have to be to meet the 'unacceptable intake' test.

Contemporary discussions suggest that defining 'probably unacceptable'

- For threshold substances basing guidance on the Lowest Observed Adverse Effect Level (LOEL) rather than the No Observed Adverse Effect Level (NOAL) and/or making allowance for the range in the general population of responsiveness to harmful effects of chemicals.
- For non-threshold substances defining an annual risk of fatal cancer of 1 in 10,000 following similar methodologies applied within the nuclear industry.

Unfortunately, resolving either of the above is far more complicated than it would at first appear. As a consequence, identifying 'unacceptable' for Part 2A definition continues to be a protracted yet priority focus for government. Consultation currently suggests that in defining the term 'unacceptable' then screening concentrations may be upwards of an order of magnitude higher for some contaminants than the existing SGV.

Whilst it remains at the discretion of the Local Authority as to whether Part 2A designation should be applied, in light of the above discussion WSP has made its recommendations based primarily on our assessment of the site conditions with respect to contemporary regulations and guidance; however, we offer that the emerging legislative context as discussed above should be included in the clients consideration.

GENERIC QUANTITATIVE RISK ASSESSMENT - CONTROLLED WATERS

An assessment of plausible pollutant linkages with respect to the pollution of Controlled Waters is presented, consistent with UK guidance.

The guidance identifies that for the pollution of the water environment to occur; poisonous, noxious, polluting or solid waste matter must be entering such waters or must be considered more likely than not to enter the water environment in the future. Implicit in this definition is that substances must have the potential to cause detriment or damage to water quality or the environment. The assessment of whether the pollution of the water environment is likely to occur in the future requires consideration of those contaminants at source, which are present in a mobile form, at such concentration that they will reach a receptor at concentrations considered to be poisonous, noxious, polluting or solid waste matter.

Assessment Approach - England and Wales

In England and Wales, no specific detailed guidance has been produced to date on the approach to be adopted following the publication of Directions and other legislation. Until such time as detailed guidance is provided, the approach to be adopted 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/pore water 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 (2009) / Environment Agency Remedial Targets Methodology V3.1 (2006).

Pollutant types, receptors and assessment points are defined in summary below:

Pollutant Type	Receptor	Assessment Point	Assessment limit
Hazardous (List 1)	Groundwater	Base of unsaturated zone	Drinking Water Standard
Non-hazardous (List 2)	Domestic groundwater Abstraction	Abstracted water	Drinking Water Standard
Non-hazardous (List 2)	Surface Water	In Surface Water after Dilution	Environmental Quality Standard
Non-hazardous (List 2)	Groundwater Resource	In strata and ~50m from source boundary	Drinking Water Standard taking into account of up gradient concentrations.

Effectively, for the majority of sites, contaminant concentrations are compared to both drinking water standards and environmental quality standards to identify the need for further consideration/DQRA.

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:

- Drinking Water Standards: The Water Supply (Water Quality) Regulations: 2001 (WSR) (as amended);
- **EQS:** Environmental Quality Standards, The River Basin District Typology, Standards and Groundwater Threshold Values (Water Framework Directive) (England and Wales) Directions 2010;

Secondary sources for GAC include:

- The Private Water Supplies Regulations 2009/2010 (England/Wales);
- European Drinking Water Standards, (Council Directive 98/83/EC);
- World Health Organisation, Guidelines for Drinking Water Quality, Second Addendum to the Third Edition, Volume 1 2008; 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.

Consideration is also given by WSP to River Basin Management Plans required as part of the WFD that have been published and provide surface and groundwater quality classifications, unit descriptions, and future quality targets for specific River Basins.

Petroleum Hydrocarbons

Despite Mineral Oils/Hydrocarbons being a List I (Hazardous) substance there exists no current guidance on the assessment of hydrocarbon fractions in relation to the water environment. At the time of writing, it is understood that the Environment Agency is in the process of producing guidance on this issue. In the meantime, negotiation at a local level will be undertaken to agree the assessment approach.

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 or there is evidence of potential acute risks remedial measures may be immediately required.

SELECTED REFERENCES

The following key references have been considered (this list is not exhaustive):

CL:AIRE / CIEH (2008), Guidance on Comparing Soil Contamination Data with a Critical Concentration, May 2008;

CL:AIRE / EIC (2009), The Soil Generic Assessment Criteria for Human Health, December 2009.

Environment Agency & Defra (2002), R&D Publication CLR8 Priority Contaminants for the Assessment of Land;

Environment Agency (2003), Review of fate & transport of selected contaminants in the Environment, Report P5-079-TR1;

Environment Agency (2004), 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 et. al., (2009), The LQM/CIEH Generic Assessment Criteria for Human Health Risk Assessment (2nd edition), Land Quality Press, Nottingham, ISBN 0-9547474-7-X

USEPA (2004), User's Guide for Evaluating Subsurface Vapor Intrusion into Buildings

APPENDIX I 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.