DESK STUDY EXTRACT

Job: B0585400

Geo- Environmental Desk Study Report

Ref: Worthing College, Worthing

Issue Date: 8.01.08

Issue Number: Final

JACOBS

1. INTRODUCTION

COMMISSION INFORMATION

Jacobs have been commissioned by Worthing College to produce a Geo-environmental desk study report as part of a Stage C (RIBA) Concept Design for the proposed development of Worthing College Campus.

PROPOSALS

Worthing College is proposing a redevelopment of a new college campus and buildings, which will be situated on the playing fields adjacent to the existing college campus site as indicated on the Site Location Plan, Figure 1. The existing college campus is intended to be sold to a developer potentially for residential development.

SCOPE

The objectives of this report are to present and examine historic and current land use information concerning the site as indicated in Figure 1, potential for contaminated land, geotechnical and construction issues. This report does not include any assessment of the area currently occupied by the existing college buildings as this is to be sold off and assessed separately by others. However, reference will be made to the existing college campus and buildings if deemed necessary in order to describe influences on the proposed new college development. Based upon this information, recommendations for any further investigation will be made.

2. EXISTING INFORMATION

PUBLISHED DATA

This report has been compiled from published information sources as follows:-

- British Geological Survey, 1:50000 series, *Brighton & Worthing (B&Sup) Covers E318 & E333*, 2006[1].
- British Geological Survey, *Brighton and Worthing. Memoir for Sheets E318 and E333*, 1988[2].
- British Geological Survey, *West Sussex & Surrey. Groundwater Vulnerability Map: Sheet 45. 1:100k (EA)*, 1990[3].
- Ordnance Survey - 1:25,000, *Explorer 121 Arundel & Pulborough*[4].
- Landmark Information Ltd, Envirocheck Report, Historical Maps, Site Sensitivity Map and Data Sheets[5].

PREVIOUS REPORTS

No previous reports were identified or requested for this site.

3. SITE DETAILS

GEOGRAPHICAL LOCATION

The existing Worthing College campus, which includes the proposed development site, is located within the town of Worthing in West Sussex. The proposed development site comprises approximately 3Ha of land currently occupied by playing fields, centred at grid reference 512328 103296 (Figure 1).

The site is bordered by Bolsover Road and residential properties to the north, the railway line (South Coast line) to the south, allotment gardens and more residential properties to the east and the existing Worthing College campus and Shaftesbury Avenue to the west.

HISTORIC LAND USE

A review of relevant historical maps for the area has been undertaken to enable the assessment of the site for potential geotechnical and environmental hazards, the details of which are summarised below. Historical maps are provided in the Envirocheck Report[5] in Appendix A. For ease of reference, only the 1:10,560 and 1:10,000 scale historical Ordnance Survey maps have been referred to below. If any significant changes are viewed on the larger scale maps (1:2500 and 1:1250) then this has been noted also.

1879: Sussex (1:10,560)

The site is depicted as being undeveloped and is presumably used as agricultural land. The closest development to the site is a farm house/residential building called "Field Place", located approximately 200m to the north. The Railway is present along southern boundary, as it is in the present day. The surrounding area is predominantly rural and agricultural with very little residential or industrial development.

1899: Sussex (1:10,560)

The site remains undeveloped. West Worthing Station and increased residential development is evident approximately 1km east of the site.

1913: Sussex (1:10,560)

The site remains unchanged. Further residential development and a school is evident approximately 300m to southeast of the site. A "Brickworks" is marked approximately 100m to the southwest of the site. Gradual development of Worthing town is encroaching from the east.

1938: Sussex (1:10,560)

The site seems to have been split into two sections longitudinally with the larger portion to the east denoted as allotment gardens. A railway station (Durrington-on-Sea Station) has been constructed to south west of the site. Further residential developments are evident beyond the eastern and southern regions of the site. A pump house is also evident southwest of the site approximately 400m away. A drain is indicated to be present along western boundary of what will eventually be the existing college campus. This map also details the introduction of the surrounding roads (Shaftesbury Avenue etc.). Shaftesbury Avenue is depicted as being constructed on an embankment to be able to pass over the railway.

1962: Ordnance Survey Plan (1:10,560)

The eastern portion of the site remains as allotment gardens with the western part remaining undeveloped. Further residential developments are evident to the north and east of the site, including the introduction of houses on the northern side of Bolsover Road. A Church is marked southwest of the site approximately 200m away. A track/path is detailed crossing the site heading in a generally easterly direction.

1968: Ordnance Survey Plan (1:1250)

The school buildings which eventually become the existing college buildings are indicated on the map.

1969: Ordnance Survey Plan (1:10,560)

The site is still generally undeveloped and remains unchanged from the previous map. The partitioning of the site is no longer visible and the allotments on the site have been removed. West Park Recreation ground is indicated to the south of the site on the other side of the railway line. Introduction of houses on the southern side of Bolsover road is also indicated.

1971: Ordnance Survey Plan (1:10,000)

The existing campus is denoted as a school marked with a series of structures on the western side and the rest being playing fields. There is significant increase in residential development in the surrounding area since the previous map. An indoor sports centre has been developed to the south of the site on the West Park Recreation ground.

1979: Ordnance Survey Plan (1:10,000)

The site is denoted as a College similar to that of the existing campus and no significant changes are evident at the site or the surrounding area.

1992: Ordnance Survey Plan (1:10,000)

No significant changes are evident at the site or the surrounding area.

2000: 10K Raster Mapping (1:10,000)

No significant changes are evident at the site, although there is a slight increase in the building footprint of the existing college campus. Allotment gardens are marked along the eastern boundary of the site.

2006: 10K Raster Mapping (1:10,000)

The site remains unchanged. No significant changes are evident in the surrounding area.

DESK STUDY EXTRACT

The Environment Agency's groundwater Source Protection Zone plans, provided in the Envirocheck Report[5] in Appendix A, indicate that the site lies within Zone III (Total catchment).

5.2 WATER ABSTRACTION AND DISCHARGE CONSENTS

According to the Envirocheck Report[5], there are two recorded groundwater abstraction points located more than 500m away from the site. The first is listed as Private non-industrial amenity abstraction point for Westlake Management Company Ltd, situated approximately 903m northeast; and the second is located around 1970m to the northwest associated with farming activity.

The Envirocheck Report[5] provides details of one discharge consent within 1km of the site, which is located 649m to the west of the site for the discharge of final/treated effluent from sewage disposal works into coastal water.

5.3 HYDROLOGY

The only surface water feature (minor) in the vicinity of the site, as indicated on historical and present day plans in the Envirocheck Report[5], is a drain or ditch, which is situated along the western boundary of the existing campus site at the base of the embankment adjacent to Shaftsbury Avenue.

6. HAZARD ASSESSMENT

6.1 GEOLOGICAL

6.1..1 BRICKEARTH

Brickearths (Aeolian Deposits) are generally firm to stiff in consistency and do not usually present any difficult problems in foundation work, however they are liable to collapse of their structure on wetting.

6.1.2 CHALK

Dissolution features are a particularly serious hazard in Chalk and it commonly takes the form of tapering pipes, typically infilled with soft material derived from superficial cover. This can be identified by a combination of intrusive and non intrusive ground investigation of the site for the possible existence of dissolution features. Dissolution features are prone to sudden collapse particularly following periods of prolonged or intense rainfall and should therefore be avoided in foundation and drainage works. The Landmark report states that there is a moderate risk of Dissolution stability hazard which may be confirmed following any proposed site investigation works.

A geotechnical risk register has been completed for the site with the risks being expressed as likelihood, severity and uncertainty. Risk assessments for geotechnical hazards can be found in Appendix C.

6.2 ENVIRONMENTAL

In order for the land affected by contamination to cause harm or pollution, there must be a source of the contamination (such as toxic or harmful substance in the ground), a receptor that can be harmed (such as a person whose health could be affected by the contamination or a controlled water that could be polluted by it) and a pathway which the receptor can be exposed to the contamination (such as through direct skin exposure to contaminated soil or ingestion of contaminated water or contaminated vegetables grown in the soil).

In terms of risk the 'source-pathway-receptor' (S-P-R) linkage is used to aid classification of likelihood, as the presence of a contaminant does not necessarily mean that there is a risk of harm to a receptor. Instead a complete S-P-R pollutant linkage must be established before the existence of an unacceptable risk can be confirmed. The same applies if one or more of the parts of the linkage are not present i.e. if there is a known source of contamination and a receptor but no pathway, or a source but no receptors and or pathways then the risk is zero.

The 'source-pathway-receptor' concept is central to both the statutory definition and the broader concept of contaminated land and as such is considered below.

6.2.1 POTENTIAL SOURCES

Due to the relative undeveloped nature of the site and the predominantly residential land use of the surrounding area there are very few potential sources of contamination which may have an impact on the site and its development and future use.

Possibly the most significant potential source of contamination is the adjacent railway line along the southern boundary of the site and the processes involved on it. Diesel fuels and lubricants are all associated with the railway, and although not generally mobile in the environment, the railway has been present in this location for a significant period of time allowing for potential migration of pollutants onto the site.

The development of the surrounding area and most importantly the introduction of the roads is also a potential source for contaminants. Substances associated with the construction of buildings and the other processes involved such as fuels for vehicles/plant are potential pollutants. The vehicles using the surrounding roads are also sources of contamination with both fuels and exhaust fumes being pollutants.

Another potential source of contamination is associated with the proposed development of the existing college campus and buildings. Demolition of this particular site may produce pollutants which if not controlled may impact upon the environment, the proposed new college campus and its future users.

6.2.2 RADON GAS

A review of the Landmark Envirocheck report regarding the hazard posed by Radon gas concluded that no protective measures are necessary for any construction in the area of the site.

6.2.3 POTENTIAL PATHWAYS

Potentially the most likely environmental pathways for contamination to reach receptors on site will be through contaminants leaching into the groundwater and through direct contact with any potentially contaminated soils.

Movement of plant and construction personnel on site during the development is also a potential pathway for contaminants to migrate and impact the potential receptors.

6.2.4 POTENTIAL RECEPTORS

Receptors may be humans, animals or plants; they may also be part of the general environment, such as water resources, or they may be building structures and services, such as water mains or pipes. Certain pathways may also be receptors themselves. For example, groundwater could act as a pathway for transporting contaminants to a distant receptor but may itself be affected and hence considered a receptor in its own right.

The primary receptor associated with this site will be the groundwater aquifer within the Chalk. Humans on the site will also be receptors, initially the construction personnel associated with the development of the site and then the future users of the College.

6.3 CONCEPTUAL MODEL

Based on available information gathered in previous sections an initial conceptual model, as shown in Table 6-A has been developed presenting potential and plausible sources, pathways and receptors (S-P-R).

Potential Sources			Pathways	Receptors
Railway	Roads and development of surrounding area	Demolition of existing college and construction of new campus		
∞	∞	∞	Migration through ground	Groundwater
∞	×	∞	Direct contact with soil	Humans on site (construction personnel)
×	×	×	Inhalation and ingestion of contaminated soils	Humans on site (future users)

✓pollutant linkage likely, ∞ pollutant linkage possible, × pollutant linkage unlikely

Table 0-A Conceptual Model

It is evident that in the design of the proposed residential development fully suspended ground floor slabs will have to be adopted in accordance with NHBC Criteria as the upper levels of the soils in this area are likely to be disturbed to depths in excess of 0.6m, following demolition works. Moreover, moisture deficiency has also been identified at the location of borehole no 1. In the design of the new college it is thought that a non-suspended floor slab can be adopted. The made ground will have be removed and replaced by approved granular fill, adequately compacted in layers of suitable thickness upon which a suitably reinforced concrete slab can be caste. Alternatively, a suspended floor can could be adopted in the design of the proposed redevelopment.

It is thought that a satisfactory foundation solution can be formulated on the basis of the foregoing discussions. If, however, the above recommendations are considered unsuitable then an alternative foundation system will be required. In this context it is suggested that attention be directed to the use of piles in order to transmit the structural loads to the more competent soils encountered at greater depth. Should further consideration be given to the use of a piled foundation system then the advice of suitably experienced specialist piling contractors should be sought in order to arrive at a satisfactory solution to the problem. The information given in Appendices 2 and 3 of this report may be used in pile design.

The results of laboratory tests indicate that it will be possible to adopt the use of a CBR value of 7% in the design of paved areas at this site. Should weak or softer zones be encountered at the proposed formation level then these undesirable materials should be removed and replaced by approved granular fill in accordance with good engineering practice.

7.0 CONTAMINATION

Samples of the near surface soils have been tested for a range of parameters based upon the current Contaminated Land Exposure Assessment (CLEA) Model. An assessment has been made using the currently available data which includes the CLEA guidelines and, where applicable, Dutch government guidelines, the Chartered Institute of Environmental Health Generic Assessment Criteria (CIEH GAC) and BRE Special Digest 1. The tables,

which comprise Appendix 6, list the determinants, current guideline values and the guideline sources.

The results obtained have been compared with CLEA soil guidance values for Residential with Plant Uptake usage. The laboratory test results shows that for the contaminants with available guideline data there is no demonstrable contamination with the exception of slightly elevated levels of benzo(a)pyrene. Evidently, the proposed redevelopment will result in the majority of the site area being made over to hard cover whereby no pathway will exist between the residual contaminant within the ground and the end user, ie receptor. Statistical analysis of the results has been made to ascertain the 95th percentile. A value of 0.96mg/kg has been established which lies below the soil guidance value. Hence, the presence of slightly elevated levels of benzo(a)pyrene are unlikely to represent a risk. Therefore, it is unlikely that remedial measures will be required as part of the proposed redevelopment.

The landfill directive indicates that there is a duty of care that all controlled wastes are transferred to an authorised person or site. The waste holder should take all reasonable steps to ensure that there are no unauthorised deposits and documentation is maintained for the movement and management and should include a List of Wastes code, in accordance with the 2005 Regulations. The soils descriptions and contamination test results should be used by the waste producer to provide a List of Wastes Code and thus identify sites which will accept the excavated materials. The waste regulations have stipulated that all building waste should be treated prior to disposal. A précis of the regulations is included within Appendix 6.

8.0 LANDFILL GAS MONITORING

A regime of gas monitoring has been undertaken to assess the risks posed by gas generation within the made ground revealed at this site. The results of this monitoring have been reviewed in accordance with BS 8485:2007 "Code of Practice for the Characterisation and Remediation from Ground Gas in Affected Developments", together with tables 14.1 and 14.2, which have been extracted from the NHBC publication "Guidance on Evaluation of Development Proposals on Sites Where Carbon Dioxide and Methane Are Present", and are presented in Appendix 4.

SITE INVESTIGATION EXTRACT OF APPENDIX 3: LABORATORY TEST RESULTS

Bodycote

Environmental
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www.healthsciences.bodycote.com

Chemistry Laboratory Certificate

Client: Albury SI Ltd
Miltons Yard, Petworth Road, Witley, Surrey, GU8 5LH
Site: Worthing College 08/8540/KJC
Date Tested: 21/08/08, 26/08/08, 27/08/08, 28/08/08
Methodology: CTP01, CTP07, CTP09c, CTP11(5mgkg), CTP11a, CTP11b, CTP11e, CTP11f, CTP11h, CTP11i, CTP12, CTP14, CTP16, CTP18c, CTP20, CTP22, MCERTS ver3., SOP04 SVOC, SOP11 S, Stones, TPH (GC)/DRO
Date Reported: 28 August, 2008
Date Received: 18 August, 2008
Sample Type: Solid

Certificate No: 08/2269/50/C1
File No: 08/2269/50
Client Ref: 7991

Lab sample ref					B368556	B368557	B368558	B368559	B368560	B368561
Client sample ref					BH1 0.25m	2 0.3m	PRB3 0.3m	4 0.4m	5 0.5m	6 0.1m
Sample matrix (see notes page)					S	S	S	S	S	S
Analyte	**Units**	**ISO17025**	**MCERTS**	**LOD**						
pH		Y	Y		6.8	7.2	6.7	7.4	6.8	6.6
Sulphate (total) $_S$	mg/kg	Y	Y	200	250	200	310	<200	<200	360
Sulphate (water soluble) $_S$	g/l	Y	Y	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Sulphide $_{SM}$	mg/kg	Y	N	2	<2	<2	<2	<2	<2	<2
Sulphur (elemental) $_S$	mg/kg	Y	Y	20	<20	<20	<20	<20	<20	<20
Cyanide (total) $_{SM}$	mg/kg	Y	Y	10	<10	<10	<10	<10	<10	<10
Phenols (screen) $_{SM}$	mg/kg	Y	Y	1	<1	<1	<1	<1	<1	<1
TOC $_S$	% w/w	N	N	0.1	2.2	2.8	2.5	1.2	0.6	2.6
Arsenic $_S$	mg/kg	Y	Y	5	13	11	8	10	11	13
Beryllium $_S$	mg/kg	N	N	1	<1	<1	<1	<1	<1	<1
Boron (water soluble) $_S$	mg/kg	N	N	1	<1	<1	<1	<1	<1	<1
Cadmium $_S$	mg/kg	Y	N	0.5	0.6	0.6	0.6	0.6	0.5	0.8
Chromium (total) $_S$	mg/kg	Y	Y	5	26	23	24	25	32	28
Copper $_S$	mg/kg	Y	Y	5	34	45	23	21	19	19
Lead $_S$	mg/kg	Y	Y	5	67	66	66	21	16	34
Mercury $_S$	mg/kg	Y	N	0.5	<0.5	<0.5	0.7	<0.5	<0.5	<0.5
Nickel $_S$	mg/kg	Y	Y	5	17	16	16	21	21	22
Selenium $_S$	mg/kg	Y	N	5	<5	<5	<5	<5	<5	<5
Vanadium $_S$	mg/kg	Y	N	5	33	32	32	35	40	48
Zinc $_S$	mg/kg	Y	N	5	98	84	76	54	59	68
PAH (USEPA 16) $_{SM}$	mg/kg	Y	N	0.1	#	#	#	#	#	#
TPH (GC) Banded $_{SM}$	mg/kg	N	N	10	#	#	#	#	#	#

Notes
1. Analyses suffixed 'S' were performed on the sample dried at 35°C.
2. Analyses suffixed 'SM' were performed on the sample as received.
3. All results are expressed as dry weight.
4. MCERTS accreditation applicable to Sample Matrix 'S' only.
5. Natural stones (pebbles, gravels etc.) which do not pass a 10mm sieve are excluded from air dried analyses and results corrected accordingly.
6. # indicates separate report appended.
7. Tests marked * indicate subcontracted analyses.
8. ND denotes None Detected.
9. The laboratory has tested the material/items supplied by the client as sampled in accordance with the client's own requirements.

Signed for, and on behalf of Bodycote Testing Ltd.

Approved by:
P Chadwick
Operations Manager

Approved by:
A Young
Laboratory Manager

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Bodycote TESTING

Chemistry Laboratory Certificate

Client: Albury SI Ltd
Miltons Yard, Petworth Road, Witley, Surrey, GU8 5LH
Site: Worthing College 08/8540/KJC
Date Tested: 21/08/08, 26/08/08, 27/08/08, 28/08/08
Methodology: CTP01, CTP07, CTP09c, CTP11(5mgkg), CTP11a, CTP11b, CTP11e, CTP11f, CTP11h, CTP11i, CTP12, CTP14, CTP16, CTP18c, CTP20, CTP22, MCERTS ver3., SOP04 SVOC, SOP11 S, Stones, TPH (GC)/DRO
Date Reported: 28 August, 2008
Date Received: 18 August, 2008
Sample Type: Solid

Certificate No: 08/2269/50/C1
File No: 08/2269/50
Client Ref: 7991

Lab sample ref					B368562	B368563	B368564	B368565	B368566	B368567
Client sample ref					7 0.1m	8 0.5m	9 0.1m	10 0.5m	11 0.1m	12 0.1m
Sample matrix (see notes page)					S	S	S	S	S	S
Analyte	**Units**	**ISO17025**	**MCERTS**	**LOD**						
pH		Y	Y		6.4	7.2	6.3	7.6	6.4	7.2
Sulphate (total) $_S$	mg/kg	Y	Y	200	400	<200	360	<200	430	330
Sulphate (water soluble) $_S$	g/l	Y	Y	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Sulphide $_{SM}$	mg/kg	Y	N	2	<2	<2	<2	3	<2	<2
Sulphur (elemental) $_S$	mg/kg	Y	Y	20	<20	<20	<20	<20	<20	<20
Cyanide (total) $_{SM}$	mg/kg	Y	Y	10	<10	<10	<10	<10	<10	<10
Phenols (screen) $_{SM}$	mg/kg	Y	Y	1	<1	<1	<1	<1	<1	<1
TOC $_S$	% w/w	N	N	0.1	3.6	2.5	3.0	0.7	5.7	2.8
Arsenic $_S$	mg/kg	Y	Y	5	12	9	10	8	11	11
Beryllium $_S$	mg/kg	N	N	1	<1	<1	<1	<1	<1	<1
Boron (water soluble) $_S$	mg/kg	N	N	1	<1	<1	<1	<1	<1	<1
Cadmium $_S$	mg/kg	Y	N	0.5	0.6	0.5	0.6	<0.5	0.6	0.7
Chromium (total) $_S$	mg/kg	Y	Y	5	28	29	28	26	26	24
Copper $_S$	mg/kg	Y	Y	5	23	17	20	18	24	25
Lead $_S$	mg/kg	Y	Y	5	38	17	49	20	57	70
Mercury $_S$	mg/kg	Y	N	0.5	<0.5	2.3	<0.5	0.7	<0.5	<0.5
Nickel $_S$	mg/kg	Y	Y	5	16	19	19	16	16	16
Selenium $_S$	mg/kg	Y	N	5	<5	<5	<5	<5	<5	<5
Vanadium $_S$	mg/kg	Y	N	5	36	39	32	35	33	35
Zinc $_S$	mg/kg	Y	N	5	62	52	62	52	86	102
PAH (USEPA 16) $_{SM}$	mg/kg	Y	N	0.1	#	#	#	#	#	#
TPH (GC) Banded $_{SM}$	mg/kg	N	N	10	#	#	#	#	#	#

Notes
1. Analyses suffixed 'S' were performed on the sample dried at 35°C.
2. Analyses suffixed 'SM' were performed on the sample as received.
3. All results are expressed as dry weight.
4. MCERTS accreditation applicable to Sample Matrix 'S' only.
5. Natural stones (pebbles, gravels etc.) which do not pass a 10mm sieve are excluded from air dried analyses and results corrected accordingly.
6. # indicates separate report appended.
7. Tests marked * indicate subcontracted analyses.
8. ND denotes None Detected.
9. The laboratory has tested the material/items supplied by the client as sampled in accordance with the client's own requirements.

Signed for, and on behalf of Bodycote Testing Ltd.

Approved by:
P Chadwick
Operations Manager

Approved by:
A Young
Laboratory Manager

MCERTS THE ENVIRONMENT AGENCY'S MONITORING CERTIFICATION SCHEME

UKAS TESTING 0871

Bodycote TESTING

Chemistry Laboratory Certificate

Client: Albury SI Ltd
Miltons Yard, Petworth Road, Witley, Surrey, GU8 5LH
Site: Worthing College 08/8540/KJC
Date Tested: 21/08/08, 26/08/08, 27/08/08, 28/08/08
Methodology: CTP01, CTP07, CTP09c, CTP11(5mgkg), CTP11a, CTP11b, CTP11e, CTP11f, CTP11h, CTP11i, CTP12, CTP14, CTP16, CTP18c, CTP20, CTP22, MCERTS ver3., SOP04 SVOC, SOP11 S, Stones, TPH (GC)/DRO
Date Reported: 28 August, 2008
Date Received: 18 August, 2008
Sample Type: Solid

Certificate No: 08/2269/50/C1
File No: 08/2269/50
Client Ref: 7991

Lab sample ref	B368568	B368569	B368570	B368571	B368572	B368573
Client sample ref	13 0.2m	14 0.5m	15 0.1m	16 0.5m	PRB 17 0.2m	18 0.5m
Sample matrix (see notes page)	S	S	S	S	S	S

Analyte	Units	ISO17025	MCERTS	LOD						
pH		Y	Y		7.4	7.3	7.1	7.3	7.8	7.4
Sulphate (total) $_S$	mg/kg	Y	Y	200	1000	240	500	<200	1400	<200
Sulphate (water soluble) $_S$	g/l	Y	Y	0.1	0.4	<0.1	<0.1	<0.1	0.2	<0.1
Sulphide $_{SM}$	mg/kg	Y	N	2	<2	<2	36	41	37	<2
Sulphur (elemental) $_S$	mg/kg	Y	Y	20	<20	<20	<20	<20	<20	<20
Cyanide (total) $_{SM}$	mg/kg	Y	Y	10	<10	<10	<10	<10	<10	<10
Phenols (screen) $_{SM}$	mg/kg	Y	Y	1	<1	<1	<1	<1	<1	<1
TOC $_S$	% w/w	N	N	0.1	5.2	1.8	3.1	7.4	5.5	1.1
Arsenic $_S$	mg/kg	Y	Y	5	9	9	10	12	10	9
Beryllium $_S$	mg/kg	N	N	1	<1	<1	<1	1	<1	<1
Boron (water soluble) $_S$	mg/kg	N	N	1	<1	<1	<1	<1	<1	<1
Cadmium $_S$	mg/kg	Y	N	0.5	<0.5	<0.5	0.6	0.6	<0.5	<0.5
Chromium (total) $_S$	mg/kg	Y	Y	5	25	23	32	35	18	27
Copper $_S$	mg/kg	Y	Y	5	18	23	27	17	23	9
Lead $_S$	mg/kg	Y	Y	5	20	22	76	19	46	15
Mercury $_S$	mg/kg	Y	N	0.5	0.8	0.6	<0.5	<0.5	4.8	<0.5
Nickel $_S$	mg/kg	Y	Y	5	15	14	15	25	12	14
Selenium $_S$	mg/kg	Y	N	5	<5	<5	<5	<5	<5	<5
Vanadium $_S$	mg/kg	Y	N	5	36	32	40	47	26	37
Zinc $_S$	mg/kg	Y	N	5	52	52	98	57	70	56
PAH (USEPA 16) $_{SM}$	mg/kg	Y	N	0.1	#	#	#	#	#	#
TPH (GC) Banded $_{SM}$	mg/kg	N	N	10	#	#	#	#	#	#

Notes
1. Analyses suffixed 'S' were performed on the sample dried at 35°C.
2. Analyses suffixed 'SM' were performed on the sample as received.
3. All results are expressed as dry weight.
4. MCERTS accreditation applicable to Sample Matrix 'S' only.
5. Natural stones (pebbles, gravels etc.) which do not pass a 10mm sieve are excluded from air dried analyses and results corrected accordingly.
6. # indicates separate report appended.
7. Tests marked * indicate subcontracted analyses.
8. ND denotes None Detected.
9. The laboratory has tested the material/items supplied by the client as sampled in accordance with the client's own requirements.

Signed for, and on behalf of Bodycote Testing Ltd.

Approved by:

P Chadwick
Operations Manager

Approved by:

A Young
Laboratory Manager

mCERTS THE ENVIRONMENT AGENCY'S MONITORING CERTIFICATION SCHEME

UKAS TESTING
0871

Bodycote TESTING

Chemistry Laboratory Certificate

Client: Albury SI Ltd
Miltons Yard, Petworth Road, Witley, Surrey, GU8 5LH
Site: Worthing College 08/8540/KJC
Date Tested: 21/08/08, 26/08/08, 27/08/08, 28/08/08
Methodology: CTP01, CTP07, CTP09c, CTP11(5mgkg), CTP11a, CTP11b, CTP11e, CTP11f, CTP11h, CTP11i, CTP12, CTP14, CTP16, CTP18c, CTP20, CTP22, MCERTS ver3., SOP04 SVOC, SOP11 S, Stones, TPH (GC)/DRO
Date Reported: 28 August, 2008
Date Received: 18 August, 2008
Sample Type: Solid

Certificate No: 08/2269/50/C1
File No: 08/2269/50
Client Ref: 7991

Lab sample ref	B368574
Client sample ref	19 0.5m
Sample matrix (see notes page)	S

Analyte	Units	ISO17025	MCERTS	LOD	
pH		Y	Y		7.3
Sulphate (total) $_S$	mg/kg	Y	Y	200	<200
Sulphate (water soluble) $_S$	g/l	Y	Y	0.1	<0.1
Sulphide $_{SM}$	mg/kg	Y	N	2	<2
Sulphur (elemental) $_S$	mg/kg	Y	Y	20	<20
Cyanide (total) $_{SM}$	mg/kg	Y	Y	10	<10
Phenols (screen) $_{SM}$	mg/kg	Y	Y	1	<1
TOC $_S$	% w/w	N	N	0.1	0.7
Arsenic $_S$	mg/kg	Y	Y	5	10
Beryllium $_S$	mg/kg	N	N	1	<1
Boron (water soluble) $_S$	mg/kg	N	N	1	<1
Cadmium $_S$	mg/kg	Y	N	0.5	<0.5
Chromium (total) $_S$	mg/kg	Y	Y	5	27
Copper $_S$	mg/kg	Y	Y	5	15
Lead $_S$	mg/kg	Y	Y	5	16
Mercury $_S$	mg/kg	Y	N	0.5	<0.5
Nickel $_S$	mg/kg	Y	Y	5	16
Selenium $_S$	mg/kg	Y	N	5	<5
Vanadium $_S$	mg/kg	Y	N	5	36
Zinc $_S$	mg/kg	Y	N	5	51
PAH (USEPA 16) $_{SM}$	mg/kg	Y	N	0.1	#
TPH (GC) Banded $_{SM}$	mg/kg	N	N	10	#

Notes
1. Analyses suffixed 'S' were performed on the sample dried at 35°C.
2. Analyses suffixed 'SM' were performed on the sample as received.
3. All results are expressed as dry weight.
4. MCERTS accreditation applicable to Sample Matrix 'S' only.
5. Natural stones (pebbles, gravels etc.) which do not pass a 10mm sieve are excluded from air dried analyses and results corrected accordingly.
6. # indicates separate report appended.
7. Tests marked * indicate subcontracted analyses.
8. ND denotes None Detected.
9. The laboratory has tested the material/items supplied by the client as sampled in accordance with the client's own requirements.

Signed for, and on behalf of Bodycote Testing Ltd.

Approved by:

P Chadwick
Operations Manager

Approved by:

A Young
Laboratory Manager

mCERTS THE ENVIRONMENT AGENCY'S MONITORING CERTIFICATION SCHEME

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Organic Chemistry Laboratory Certificate

Client: Albury SI Ltd
Site: Worthing College
Client Ref: 08/8540/KJC
Certificate No: C1
File No: 08/2269/50
Sample Type: Solid
Date Received: 18/08/08
Date Tested: 22/08/08
Date Reported: 27/08/08
Methology: SOP 04

POLYAROMATIC HYDROCARBONS

		Sample Ref.			368556	368557	368558	368559	368560
		Client Ref.			BH1 0.25m	2 0.3m	PRB3 0.3m	4 0.4m	5 0.5m
Compound	Units	LOD	ISO17025	MCERTS					
naphthalene	mg/kg	0.1	Y	N	<0.1	<0.1	<0.1	<0.1	<0.1
acenaphthylene	mg/kg	0.1	Y	N	0.1	0.1	<0.1	<0.1	<0.1
acenaphthene	mg/kg	0.1	Y	N	<0.1	<0.1	<0.1	<0.1	<0.1
fluorene	mg/kg	0.1	Y	N	<0.1	<0.1	<0.1	<0.1	<0.1
phenanthrene	mg/kg	0.1	Y	N	0.8	1.2	<0.1	<0.1	<0.1
anthracene	mg/kg	0.1	Y	N	0.2	0.4	<0.1	<0.1	<0.1
fluoranthene	mg/kg	0.1	Y	N	3.3	4.4	0.1	<0.1	<0.1
pyrene	mg/kg	0.1	Y	N	2.3	3.1	<0.1	<0.1	<0.1
benz[a]anthracene	mg/kg	0.1	Y	N	1.8	2.4	<0.1	<0.1	<0.1
chrysene	mg/kg	0.1	Y	N	1.9	2.6	<0.1	<0.1	<0.1
benzo[b]fluoranthene	mg/kg	0.1	Y	N	2.3	3.7	0.1	<0.1	<0.1
benzo[k]fluoranthene	mg/kg	0.1	Y	N	0.9	1.5	<0.1	<0.1	<0.1
benzo[a]pyrene	mg/kg	0.1	Y	N	2.0	3.2	<0.1	<0.1	<0.1
indeno[1,2,3-cd]pyrene	mg/kg	0.1	Y	N	1.2	2.1	<0.1	<0.1	<0.1
dibenz[a,h]anthracene	mg/kg	0.1	Y	N	0.3	0.5	<0.1	<0.1	<0.1
benzo[ghi]perylene	mg/kg	0.1	Y	N	1.3	2.4	<0.1	<0.1	<0.1

Analysed by:

J. Sellars
Analyst

Authorised by:

A. Young
Laboratory Manager

UKAS TESTING
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Organic Chemistry Laboratory Certificate

Client: Albury SI Ltd
Site: Worthing College
Client Ref: 08/8540/KJC
Certificate No: C1
File No: 08/2269/50
Sample Type: Solid
Date Received: 18/08/08
Date Tested: 22/08/08
Date Reported: 27/08/08
Methology: SOP 04

POLYAROMATIC HYDROCARBONS

		Sample Ref.			368561	368562	368563	368564	368565
		Client Ref.			6 0.1m	7 0.1m	8 0.5m	9 0.1m	10 0.5m
Compound	Units	LOD	ISO17025	MCERTS					
naphthalene	mg/kg	0.1	Y	N	<0.1	<0.1	<0.1	<0.1	<0.1
acenaphthylene	mg/kg	0.1	Y	N	<0.1	<0.1	<0.1	<0.1	<0.1
acenaphthene	mg/kg	0.1	Y	N	<0.1	<0.1	<0.1	<0.1	<0.1
fluorene	mg/kg	0.1	Y	N	<0.1	<0.1	<0.1	<0.1	<0.1
phenanthrene	mg/kg	0.1	Y	N	<0.1	<0.1	<0.1	0.3	<0.1
anthracene	mg/kg	0.1	Y	N	<0.1	<0.1	<0.1	<0.1	<0.1
fluoranthene	mg/kg	0.1	Y	N	0.4	0.3	<0.1	1.1	<0.1
pyrene	mg/kg	0.1	Y	N	0.3	0.2	<0.1	0.8	<0.1
benz[a]anthracene	mg/kg	0.1	Y	N	0.2	0.2	<0.1	0.5	<0.1
chrysene	mg/kg	0.1	Y	N	0.2	0.2	<0.1	0.7	<0.1
benzo[b]fluoranthene	mg/kg	0.1	Y	N	0.3	0.3	<0.1	0.8	<0.1
benzo[k]fluoranthene	mg/kg	0.1	Y	N	0.1	<0.1	<0.1	0.3	<0.1
benzo[a]pyrene	mg/kg	0.1	Y	N	0.2	0.2	<0.1	0.7	<0.1
indeno[1,2,3-cd]pyrene	mg/kg	0.1	Y	N	0.2	0.1	<0.1	0.4	<0.1
dibenz[a,h]anthracene	mg/kg	0.1	Y	N	<0.1	<0.1	<0.1	<0.1	<0.1
benzo[ghi]perylene	mg/kg	0.1	Y	N	0.2	0.2	<0.1	0.5	<0.1

Analysed by:

J. Sellars
Analyst

Authorised by:

A. Young
Laboratory Manager

UKAS TESTING
0871

Organic Chemistry Laboratory Certificate

Client: Albury SI Ltd
Site: Worthing College
Client Ref: 08/8540/KJC
Certificate No: C1
File No: 08/2269/50
Sample Type: Solid
Date Received: 18/08/08
Date Tested: 22/08/08
Date Reported: 27/08/08
Methology: SOP 04

POLYAROMATIC HYDROCARBONS

		Sample Ref.			368566	368567	368568	368569	368570
		Client Ref.			11 0.1m	12 0.1m	13 0.2m	14 0.5m	15 0.1m
Compound	Units	LOD	ISO17025	MCERTS					
naphthalene	mg/kg	0.1	Y	N	<0.1	<0.1	<0.1	<0.1	<0.1
acenaphthylene	mg/kg	0.1	Y	N	<0.1	<0.1	<0.1	<0.1	0.2
acenaphthene	mg/kg	0.1	Y	N	<0.1	<0.1	<0.1	<0.1	<0.1
fluorene	mg/kg	0.1	Y	N	<0.1	<0.1	<0.1	<0.1	<0.1
phenanthrene	mg/kg	0.1	Y	N	0.5	0.3	0.2	<0.1	0.8
anthracene	mg/kg	0.1	Y	N	0.1	<0.1	<0.1	<0.1	0.2
fluoranthene	mg/kg	0.1	Y	N	2.1	1.0	0.5	<0.1	3.3
pyrene	mg/kg	0.1	Y	N	1.4	0.7	0.3	<0.1	2.3
benz[a]anthracene	mg/kg	0.1	Y	N	1.1	0.5	<0.1	<0.1	1.7
chrysene	mg/kg	0.1	Y	N	1.2	0.6	<0.1	<0.1	1.9
benzo[b]fluoranthene	mg/kg	0.1	Y	N	1.4	0.8	<0.1	<0.1	2.3
benzo[k]fluoranthene	mg/kg	0.1	Y	N	0.6	0.3	<0.1	<0.1	0.9
benzo[a]pyrene	mg/kg	0.1	Y	N	1.3	0.6	<0.1	<0.1	2.0
indeno[1,2,3-cd]pyrene	mg/kg	0.1	Y	N	0.8	0.4	<0.1	<0.1	1.2
dibenz[a,h]anthracene	mg/kg	0.1	Y	N	0.2	<0.1	<0.1	<0.1	0.3
benzo[ghi]perylene	mg/kg	0.1	Y	N	0.8	0.4	<0.1	<0.1	1.2

Analysed by:

J. Sellars
Analyst

Authorised by:

A. Young
Laboratory Manager

UKAS TESTING
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Organic Chemistry Laboratory Certificate

Client: Albury SI Ltd
Site: Worthing College
Client Ref: 08/8540/KJC
Certificate No: C1
File No: 08/2269/50
Sample Type: Solid
Date Received: 18/08/08
Date Tested: 22/08/08
Date Reported: 27/08/08
Methology: SOP 04

POLYAROMATIC HYDROCARBONS

		Sample Ref.			368571	368572	368573	368574
		Client Ref.			16 0.5m	PRB 17 0.2m	18 0.5m	19 0.5m
Compound	Units	LOD	ISO17025	MCERTS				
naphthalene	mg/kg	0.1	Y	N	<0.1	<0.1	<0.1	<0.1
acenaphthylene	mg/kg	0.1	Y	N	<0.1	<0.1	<0.1	<0.1
acenaphthene	mg/kg	0.1	Y	N	<0.1	<0.1	<0.1	<0.1
fluorene	mg/kg	0.1	Y	N	<0.1	<0.1	<0.1	<0.1
phenanthrene	mg/kg	0.1	Y	N	<0.1	0.1	<0.1	<0.1
anthracene	mg/kg	0.1	Y	N	<0.1	<0.1	<0.1	<0.1
fluoranthene	mg/kg	0.1	Y	N	<0.1	0.5	<0.1	<0.1
pyrene	mg/kg	0.1	Y	N	<0.1	0.4	<0.1	<0.1
benz[a]anthracene	mg/kg	0.1	Y	N	<0.1	0.3	<0.1	<0.1
chrysene	mg/kg	0.1	Y	N	<0.1	0.3	<0.1	<0.1
benzo[b]fluoranthene	mg/kg	0.1	Y	N	<0.1	0.5	<0.1	<0.1
benzo[k]fluoranthene	mg/kg	0.1	Y	N	<0.1	0.2	<0.1	<0.1
benzo[a]pyrene	mg/kg	0.1	Y	N	<0.1	0.4	<0.1	<0.1
indeno[1,2,3-cd]pyrene	mg/kg	0.1	Y	N	<0.1	0.2	<0.1	<0.1
dibenz[a,h]anthracene	mg/kg	0.1	Y	N	<0.1	<0.1	<0.1	<0.1
benzo[ghi]perylene	mg/kg	0.1	Y	N	<0.1	0.3	<0.1	<0.1

Analysed by:

J. Sellars
Analyst

Authorised by:

A. Young
Laboratory Manager

UKAS TESTING
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Organic Chemistry Laboratory Certificate

Client: Albury SI Ltd
Site: Worthington College
Client Ref: 08/8540/KJC
Certificate No: C1
File No: 08/2269/50
Sample Type: Solid
Date Received: 18/08/08
Date Tested: 21/08/08
Date Reported: 28/08/08
Methology: SOP 03

DIESEL RANGE ORGANICS

		Sample Ref.			368556	368557	368558	368559
		Client Ref.			BH1 0.25m	2 0.3m	PRB3 0.3m	4 0.4m
Compound	Units	LOD	ISO17025	MCERTS				
C8-C15	mg/kg	10	N	N	<10	<10	<10	<10
>C15-C20	mg/kg	10	N	N	<10	<10	<10	<10
>C20-C30	mg/kg	10	N	N	23	68	17	<10
>C30-C36	mg/kg	10	N	N	16	41	22	<10

		Sample Ref.			368560	368561	368562	368563
		Client Ref.			5 0.5m	6 0.1m	7 0.1m	8 0.5m
Compound	Units	LOD	ISO17025	MCERTS				
C8-C15	mg/kg	10	N	N	<10	<10	<10	<10
>C15-C20	mg/kg	10	N	N	<10	<10	<10	<10
>C20-C30	mg/kg	10	N	N	<10	<10	<10	<10
>C30-C36	mg/kg	10	N	N	<10	12	16	<10

Analysed by:

K. Rawlinson
Senior Organic Chemist

Authorised by:

A. Young
Laboratory Manager

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Registered Office: Bodycote Testing Limited, Lochend Industrial Estate, Newbridge, Midlothian, UK EH28 8PL Registered No. SC 70429

Organic Chemistry Laboratory Certificate

Client: Albury SI Ltd
Site: Worthington College
Client Ref: 08/8540/KJC
Certificate No: C1
File No: 08/2269/50
Sample Type: Solid
Date Received: 18/08/08
Date Tested: 21/08/08
Date Reported: 28/08/08
Methology: SOP 03

DIESEL RANGE ORGANICS

		Sample Ref.			368564	368565	368566	368567
		Client Ref.			9 0.1m	10 0.5m	11 0.1m	12 0.1m
Compound	Units	LOD	ISO17025	MCERTS				
C8-C15	mg/kg	10	N	N	<10	<10	<10	<10
>C15-C20	mg/kg	10	N	N	<10	<10	<10	<10
>C20-C30	mg/kg	10	N	N	18	<10	20	20
>C30-C36	mg/kg	10	N	N	22	<10	16	17

		Sample Ref.			368568	368569	368570	368571
		Client Ref.			13 0.2m	14 0.5m	15 0.1m	16 0.5m
Compound	Units	LOD	ISO17025	MCERTS				
C8-C15	mg/kg	10	N	N	<10	<10	<10	<10
>C15-C20	mg/kg	10	N	N	<10	<10	<10	<10
>C20-C30	mg/kg	10	N	N	19	<10	34	<10
>C30-C36	mg/kg	10	N	N	23	<10	31	<10

Analysed by:
K. Rawlinson
Senior Organic Chemist

Authorised by:
A. Young
Laboratory Manager

Bodycote Health Sciences · The Heath Technical Park · Runcorn · Cheshire · United Kingdom · WA7 4QX
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Registered Office: Bodycote Testing Limited, Lochend Industrial Estate, Newbridge, Midlothian, UK EH28 8PL Registered No. SC 70429

Organic Chemistry Laboratory Certificate

Client: Albury SI Ltd
Site: Worthington College
Client Ref: 08/8540/KJC
Certificate No: C1
File No: 08/2269/50
Sample Type: Solid
Date Received: 18/08/08
Date Tested: 21/08/08
Date Reported: 28/08/08
Methology: SOP 03

DIESEL RANGE ORGANICS

		Sample Ref.			368572	368573	368574
		Client Ref.			PRB17 0.2m	18 0.5m	19 0.5m
Compound	Units	LOD	ISO17025	MCERTS			
C8-C15	mg/kg	10	N	N	<10	<10	<10
>C15-C20	mg/kg	10	N	N	<10	<10	<10
>C20-C30	mg/kg	10	N	N	29	<10	<10
>C30-C36	mg/kg	10	N	N	34	<10	<10

Analysed by:

K. Rawlinson
Senior Organic Chemist

Authorised by:

A. Young
Laboratory Manager

Bodycote Health Sciences · The Heath Technical Park · Runcorn · Cheshire · United Kingdom · WA7 4QX
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Registered Office: Bodycote Testing Limited, Lochend Industrial Estate, Newbridge, Midlothian, UK EH28 8PL Registered No. SC 70429

SITE INVESTIGATION EXTRACT OF APPENDIX 6:
"CONTAMINATION AND WASTE GUIDELINES"

Soil Guideline Values for Inorganic Contaminants

Determinant (total mg/kg)	CLEA Soil Guideline Values						Dutch Government	
	Residential with plant uptake			Residential without plant uptake		Commercial or Industrial	Target	Intervention
	ph 6	ph 7	ph 8					
Arsenic		20		20		500		
Boron				Normal range 1-100 (ICRCL 23/70)				
Beryllium*		12.1		84.9		1950		
Cadmium	1	2	8	30		1400		
Chromium		130		200		5000		
Copper*		111		2080		45700		
Lead		450		450		750		
Mercury		8		15		480		
Nickel		50		75		5000		
Selenium		35		260		8000		
Vanadium*		140		150		4250		
Zinc*		330		8250		188000		
Cyanide							1	20
Sulphate				2400 (BRE Special Digest 1)				
Sulphide				250 (ICRCL 18/79)				
Sulphur				5000 (ICRCL 18/79)				

Notes: pH =7; sandy soil

*LQM CIEH Generic Assessment Criteria (mg/kg dry weight soil)
Based on a sandy soil with soil organic matter of 1% and pH 7.0

Albury S.I. Ltd

Soil Guideline Values for Organic Contaminants
(mg/kg dry weight soil)

Determinant (mg/kg)	Residential with plant uptake			Residential without plant uptake			Commercial or Industrial		
	1% SOM	2.5% SOM	5% SOM	1% SOM	2.5% SOM	5% SOM	1% SOM	2.5% SOM	5% SOM
Ethylbenzene	9	21	41	16	41	80		48000	
Phenol	78	150	180	21900	34400	37500	21900	43000	78100
Toluene	3	7	14	3	8	15	150	350	680
Polyaromatic Hydrocarbons									
Benzo (A) Pyrene*	1.12	1.08	1.09	1.30	1.31	1.32	29.7	29.7	29.9
Dibenzo(A,H) Anthracene*	1.14	1.13	1.10	1.30	1.34	1.32	29.7	29.7	29.9
Fluorene*	38.4	91.4	184	2770	2640	2700	59000	59400	59500
Naphthalene*	3.47	8.47	17	6.94	17.1	33.7	290	720	1440
Chlorinated Solvents									
Chlorobenzene*	10.60	24.80	50.00	32.90	79.30	155.00	140000	143000	143000
1,2-Dichloroethane*	0.00791	0.0172	0.0328	0.0118	0.0256	0.0486	0.536	1.16	2.20
Hexachlorobutadiene*	0.00422	0.0103	0.0206	0.0496	0.12	0.23	1.98	4.72	8.77
Tetrachloroethane*	0.562	1.25	2.38	3.60	8.05	15.30	150	332	620
Tetrachloroethene*	1.01	2.32	4.50	1.46	3.39	6.58	63	146	283
1,1,1-trichloroethane*	11.70	27.20	53.10	12.90	29.80	57.90	552	1280	2490
Trichloroethene*	0.134	0.308	0.598	0.15	0.346	0.673	6.42	14.8	28.8
Trichloromethane*	0.888	1.99	3.86	1.72	3.91	7.52	79.4	180	345
Vinyl Chloride*	0.000953	0.00184	0.00329	0.00129	0.00248	0.00447	0.0587	0.113	0.203
Pesticides									
Atrazine*	0.0204	0.0489	0.0984	7.04	6.86	7.03	152	157	157

Notes: pH =7; sandy soil

*LQM CIEH Generic Assessment Criteria (mg/kg dry weight soil)
Based on a sandy soil with soil organic matter of 1% and pH 7.0

Albury S.I. Ltd

The equivalent carbon (EC) number of a hydrocarbon is related to its boiling point (b.p.) normalised to the boiling point of an n-alkane series, or its retention time on a non-polar b.p. gas chromatographic (GC) column

SOM = Soil Organic Matter

WASTE TREATMENT

The Landfill (England and Wales) Regulations 2002 require that waste (including inert arisings and contaminated soil) must be treated before it is disposed of at non-hazardous and inert landfills. The proposed treatment option must be compared against a 'three-point test'.

1) It must be a physical, thermal, chemical or biological process including sorting.
2) It must change the characteristics of the waste; and
3) It must do so in order to:
   a) reduce its volume; or
   b) reduce its hazardous nature; or
   c) facilitate its handling; or
   d) enhance its recovery.

There are limited exceptions to the above:

- it is inert waste for which treatment is not technically feasible
- it is waste other than inert waste and treatment would not reduce its quantity or the hazards that it poses to human heath or the environment

The waste producer should either

- treat their own waste and provide information about the treatment for subsequent holders, or
- ensure that the waste would be treated by a subsequent holder prior to landfilling

The waste producer or holder should produce a written statement detailing the type of treatment and if relevant the amount of waste sorted out for recovery or alternative treatment.

Based on the foregoing Guidance, it is evident that the current methods of simply removing "contaminated" soil from the site will have to be amended. Preferably as much soil as possible should remain on site, where possible; for example, under areas of hard cover, paths, drives etc. Soils that are to be removed from site must be treated and this may simply be sorting for example the removal of brick and concrete, which can be crushed and used elsewhere. Contaminated soils will require treatment either on site or at a specialist facility prior to disposal. It will be important therefore to ensure that the new guidelines are followed during the development of the site. This is likely to have implications on the development both in terms of cost and these should be carefully considered prior to commencement.