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Mr Paul McGregor
Mildren Construction
120 Matchams Lane
Hurn
Christchurch
Dorset
BH23 6AN

Date: 4th March 2016

Our Ref: L-STM3093A-002

Dear Paul,

Supplementary contamination assessment at Daedalus Park, Gosport

Introduction and brief

Further to your instructions, we have now completed our investigations at the above site and can offer the following report.

A full ground investigation was undertaken at the site by Soiltechnics Ltd in May 2015. Following submission to the Local Authority, in November 2015 the Environmental Health Officer advised the location of a former fuel tank and possible associated contamination based on a drawing they had obtained from a previous ground investigation at the site. No excavations had been undertaken in this area during our investigations and therefore we recommended that trial trenches be excavated through this area to determine whether any contamination was present. Following excavation, we were advised by yourselves that hydrocarbon contamination was present within one of the excavations and therefore we attended site to undertake an inspection, together with sampling and testing, leading to the production of this risk assessment in relation to contamination.

The investigation was carried out in January 2016 and reported in February 2016 acting on your instructions. This report and its contents, remains the property of Soiltechnics Limited until payment in full of our invoices in connection with production of this report.

Fieldwork

Fieldwork was undertaken on the 6th January 2016 and comprised the visual inspection and sampling of three previously excavated trial trenches carried out within the identified contaminated area. The trial pits were observed to have been excavated using a mechanical excavator to a depth of 1.0m. TT01 was located adjacent to a concrete base, suspected to have been the location of the former tank. TT02 and TT03 were excavated adjacent to the existing tennis courts to the north, bisecting the edge of the previously recorded contaminated area.

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Soil samples for subsequent laboratory determination of concentration of chemical contaminants were taken from the sides of trial pits and stored in amber glass jars with a PTFE sealing washer and appropriately labelled.

Drawing 01 shows the approximate location of the trial pits. Trial pit records are presented in Appendix B.

Ground conditions encountered

The exploratory excavations generally encountered a similar profile of soils considered to be Made Ground overlying River Terrace Deposits. Made Ground generally consisted of brown and dark brown slightly gravelly sandy clay with gravel of brick and flint. These deposits extended to a maximum depth of 0.5m. River Terrace deposits were encountered as medium strength orange brown mottled blue grey clay. No groundwater was encountered in any of the exploratory excavations, however, water was observed within the southern end of the trench which was considered to be surface runoff. Visual and olfactory evidence of hydrocarbon contamination was encountered sporadically within TT01, with the majority located within the Made Ground close to the concrete base. No evidence of hydrocarbon contamination was observed within TT02 and TT03.

Contamination assessment

Laboratory testing

In order to carry out a quantitative contamination risk assessment, we have scheduled testing on three soil samples taken at shallow depths for determination of the concentrations of Total Petroleum Hydrocarbons (TPH). Laboratory testing was carried out using gas chromatography flame ionisation detection methods (GC–FID), determination of concentration TPH. Laboratory testing was carried out by an independent specialist testing house, which operates a quality assurance scheme. Copies of laboratory test result certificates are presented in Appendix C.

Criteria for assessment of test data – human receptors

Soil guideline values (SGVs) are used as a screening tool to assess the risks posed to health of humans from exposure to soil contamination in relation to land uses. SGVs represent 'intervention values'; indications to an assessor that soil concentrations above these levels might present an unacceptable risk to the health of site users. These soil guideline values have been produced using conceptual exposure models, which use assumptions and are applied to differing end uses of land. If the values are exceeded, it does not necessarily imply there is an actual risk to health and site-specific circumstances should be taken into account.

For evaluation of total petroleum hydrocarbon (TPH) and BTEX contamination we have compared measured concentrations directly to the relevant SGV or GAC. TPH contamination results are compared directly with the relevant guideline values.

As the development is for an industrial/commercial property, we have adopted an industrial/commercial land use for current site and proposed end users of the site.

Evaluation of test data

Analysis of chemical test data with respect to critical (adult) receptors for future site uses, indicates all tested samples for Total Petroleum Hydrocarbons are below their respective relevant guideline values for industrial/commercial use and thus are unlikely to pose a significant risk to end users of the site. A copy of our analysis is presented in Appendix D.

With regard to water receptors, the site is located within an area designated a secondary A aquifer and groundwater was encountered at depth (>2m). The Made Ground and underlying River Terraced deposits in this area comprised clays and are considered to be relatively impermeable. In addition, the site is to be redeveloped as industrial/commercial and therefore such soils are likely to be located beneath buildings/hardstandings, which will significantly reduce the likelihood of leachate formation.

Remedial action

Based on the above, measured TPH levels within TT01 are not considered to be a risk to proposed end users of the site. One of the test results (SP1) was elevated in comparison to the other two tested samples and was taken from the area where the suspected filling point is likely to have been, adjacent to the concrete slab. The other remaining samples recorded minor concentrations of TPH. The laboratory testing confirms our observations that the contamination is relatively localised to the area immediately to the north of the existing concrete slab. As groundwater is considered to be a potentially viable receptor, we recommend soils containing significant amounts of hydrocarbon contamination (based on visual and olfactory evidence) be excavated out and removed from site. In our opinion, these soils are likely to be local to SP1 and SP2 and comprise Made Ground only. The concentrations recorded elsewhere in the area are considered unlikely to pose a significant risk to groundwater based on low concentrations, soil type and development proposals.

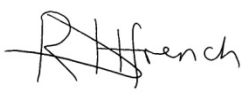
There is a possibility that additional areas of contamination are present in this area that have not been identified by this investigation. Should such soils be encountered during the construction phase, again, we recommend significantly contaminated soils be excavated out and removed from site.

Recommendations and conclusions

Providing the recommendations described above are satisfactorily completed, we are of the opinion the proposed development will be safe and suitable for use for the purpose for which it is intended, thus meeting the requirements of the National Planning Policy Framework section 121, and compliant with the Building Regulations Part C, '*Site preparation and resistance to contaminants and moisture'.*

We trust the above and enclosures provides the information you require but should you have any queries please do not hesitate to contact the undersigned.

Yours sincerely,



James French B.A. (Hons)
Geo-environmental Engineer, Soiltechnics Limited



Karen Boothby B.Sc,(Hons) (Open), MIEnvSc.
Senior Geo-environmental Engineer, Soiltechnics Limited

Enc:

Drawing 01 – Plan showing existing site features and location of exploratory points.

Appendix A – Definitions of geo-environmental terms
Appendix B – Trial trench records
Appendix C – Copy of laboratory test result certificates
Appendix D – Analysis of laboratory test results

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Proposed redevelopment,
Daedalus Park, Gosport

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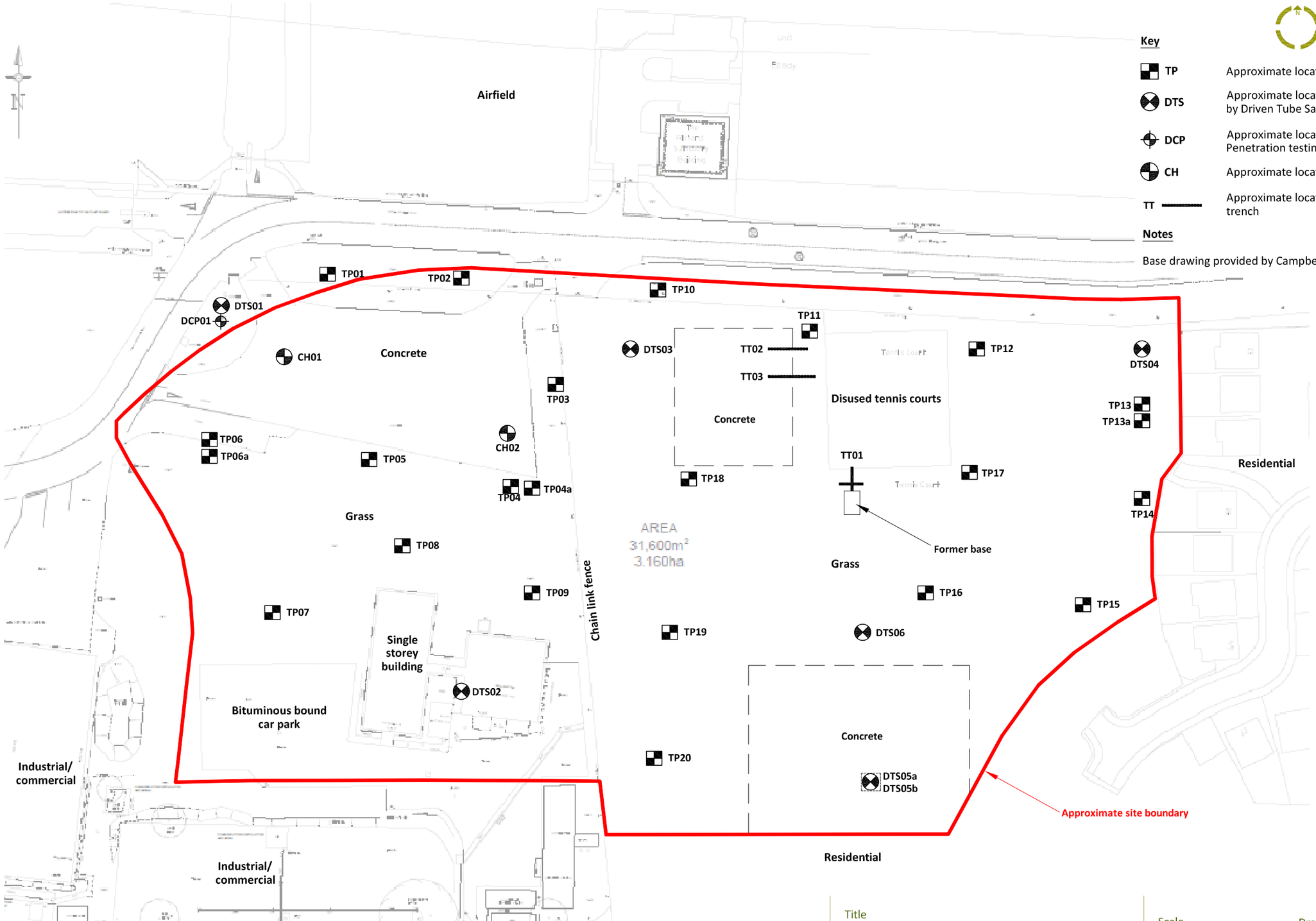

Key

TP	Approximate location of trial pit excavation
DTS	Approximate location of borehole formed by Driven Tube Sampling techniques
DCP	Approximate location of Dynamic Cone Penetration testing
CH	Approximate location of corehole
TT	Approximate location and extent of trial trench

Notes

Base drawing provided by Campbell Reith Consulting Engineers

Title	Scale	Drawing number
Plan showing existing site features and location of exploratory positions	1:1000 @ *A3*	01

Definition of geo-environmental terms used in this report

Conceptual model
Textual and/or schematic hypothesis of the nature and sources of contamination, potential migration pathways (including description of the ground and groundwater) and potential receptors, developed on the basis of the information obtained from the investigatory process.

Contamination
Presence of a substance which is in, on or under land, and which has the potential to cause harm or to cause pollution of controlled water.

Controlled water
Inland freshwater (any lake, pond or watercourse above the freshwater limit), water contained in underground strata and any coastal water between the limit of highest tide or the freshwater line to the three mile limit of territorial waters.

Harm
Adverse effect on the health of living organisms, or other interference with ecological systems of which they form part, and, in the case of humans, including property.

Pathway
Mechanism or route by which a contaminant comes into contact with, or otherwise affects, a receptor.

Receptor
Persons, living organisms, ecological systems, controlled waters, atmosphere, structures and utilities that could be adversely affected by the contaminant(s).

Risk
Probability of the occurrence of, and magnitude of the consequences of, an unwanted adverse effect on a receptor.

Risk Assessment
Process of establishing, to the extent possible, the existence, nature and significance of risk.

Definition of environmental risk/hazard terms used in this report.

Based on CIRIA report C552 '*Contaminated land risk assessment – A guide to good practice*'.

Potential hazard severity definition

Category	Definition
Severe	Acute risks to human health, catastrophic damage to buildings/property, major pollution of controlled waters
Medium	Chronic risk to human health, pollution of sensitive controlled waters, significant effects on sensitive ecosystems or species, significant damage to buildings or structures.
Mild	Pollution of non sensitive waters, minor damage to buildings or structures.
Minor	Requirement for protective equipment during site works to mitigate health effects, damage to non sensitive ecosystems or species.

Probability of risk definition

Category	Definition
High likelihood	Pollutant linkage may be present, and risk is almost certain to occur in long term, or there is evidence of harm to the receptor.
Likely	Pollutant linkage may be present, and it is probable that the risk will occur over the long term
Low likelihood	Pollutant linkage may be present, and there is a possibility of the risk occurring, although there is no certainty that it will do so.
Unlikely	Pollutant linkage may be present, but the circumstances under which harm would occur are improbable.

Level of risk for potential hazard definition

Probability of risk	Potential severity			
	Severe	Medium	Mild	Minor
High Likelihood	Very high	High	Moderate	Low/Moderate
Likely	High	Moderate	Low/Moderate	Low
Low Likelihood	Moderate	Low/Moderate	Low	Very low
Unlikely	Low/Moderate	Low	Very low	Very low

Refer sheet 2 for definitions of 'very high' to 'low'

Definition of environmental risk/hazard terms used in this report.

Based on CIRIA report C552 '*Contaminated land risk assessment – A guide to good practice'.*

Risk classifications and likely action required:

Very high risk
High probability that severe harm could arise to a designated receptor from an identified hazard OR there is evidence that severe harm to a designated receptor is currently happening. This risk, if realised is likely to result in substantial liability. Urgent investigation and remediation are likely to be required.

High risk
Harm is likely to arise to a designated receptor from an identified hazard. This risk, if realised, is likely to result in substantial liability. Urgent investigation is required and remedial works may be necessary in the short term and are likely over the long term.

Moderate risk
It is possible that harm could arise to a designated receptor from an identified hazard. However, it is either relatively unlikely that any such harm would be severe, or if any harm were to occur it is likely that the harm would be relatively mild. Investigation is normally required to clarify risks and to determine potential liability. Some remedial works may be required in the long term.

Low risk
It is possible that harm could arise to a designated receptor from an identified hazard but it is likely that this harm, if realised, would at worst normally be mild.

Very low risk
It is a low possibility that harm could arise to a designated receptor. On the event of such harm being realised it is not likely to be severe.

Gaseous contamination -
Extract copy of table 3 of BS8485:2007 Solutions scores

PROTECTION ELEMENT/SYSTEM		SCORE	COMMENTS
a) Venting/dilution (see Annex A of BS8485)			
Passive sub-floor ventilation (venting layer can be a clear void or formed using gravel, geocomposites, polystyrene void formers, etc) [A)]	Very good performance	2.5	*Ventilation performance in accordance with Annex A of BS8485.*
	Good performance	1	*If passive ventilation is poor this is generally unacceptable and some form of active system will be required.*
Subfloor ventilation with active abstraction/pressurization (venting layers can be a clear void or formed using gravel, geocomposites, polystyrene void formers, etc)A)		2.5	*There have to be robust management systems in place to ensure the continued maintenance of any ventilation system.* *Active ventilation can always be designed to meet good performance.* *Mechanically assisted systems come in two main forms: extraction and positive pressurization*
Ventilated car park (basement or undercroft)		4	*Assume car park is vented to deal with car exhaust fumes, designed to Building Regulations Document F and IStructE guidance.*
b) Barriers			
Floor Slabs			*It is good practice to install ventilation in all foundation systems to effect pressure relief as a minimum.*
Block and beam floor slab		0	
Reinforced concrete ground bearing floor slab		0.5	
Reinforced concrete ground bearing foundation raft with limited service penetrations that are cast into slab		1.5	*Breaches in floor slabs such as joints have to be effectively sealed against gas ingress in order to maintain these performances.*
Reinforced concrete cast in situ suspended slab with minimal service penetrations and water bars around all slab penetrations and at joints		1.5	
Fully tanked basement		2	
c) Membranes			
Taped and sealed membrane to reasonable levels of workmanship/in line with current good practice with validation [B), C)]		0.5	*The performance of membranes is heavily dependent on the quality and design of the installation, resistance to damage after installations, and the integrity of joints.*
Proprietary gas resistant membrane to reasonable levels of workmanship/in line with current good practice under independent inspection (CQA) [B), C)]		1	
Proprietary gas resistant membrane installed to reasonable levels of workmanship/in line with current good practice under CQA with integrity testing and independent validation.		2	
d) Monitoring and detection (not applicable to non-managed property, or in isolation)			
Intermittent monitoring using hand held equipment		0.5	Where fitted, permanent monitoring system ought to be installed in the underfloor venting/dilution system in the first instance but can also be provided within the occupied space as a fail safe.
Permanent monitoring and alarm system [A)]	Installed in the underfloor venting/dilution system	2	
	Installed in the building	1	
e) Pathway Intervention			
Pathway intervention		-	*This can consist of site protection measures for off-site or on-site sources (see Annex A of BS8485)*

NOTE In practice the choice of materials might well rely on factors such as construction method and the risk of damage after installation. It is important to ensure that the chosen combination gives an appropriate level of protection.

[A)] It is possible to test ventilation systems by installing monitoring probes for post installation validation.

[B)] If a 200g DPM material is to function as a gas barrier it should be installed according to BRE 212)/BRE 414), being taped and sealed to all penetrations.

[C)] Polymeric Materials > 1 200g can be used to improve confidence in the barrier. Remember that their gas resistance is little more than the standard 1 200g (proportional to thickness) but their physical properties mean that they are more robust and resistant to site damage.

List of documents used in assessment of chemical contamination

No.	Title	Publication reference / publisher
1	Human health toxicological assessment of contaminants in soil	EA Science Report – SC050021/SR2
2	Updated technical background to the CLEA model	EA Science Report – SC050021/SR3
3	CLEA Software (Version 1.03 beta) Handbook	EA Science Report - SC050021/SR4
4	Guidance on comparing Soil Contamination Data with a Critical Concentration	CIEH
5	Generic Assessment Criteria for Human Health Risk Assessment	LQM/CIEH
6	Assessment of Risks to Human Health from Land Contamination: An overview of the development of soil guideline values and related research	R&D Publication, Contaminated Land Report CLR 7
7	Contaminants of Soil: Collation of Toxicological Data and Intake Values for Humans	R&D Publication, Contaminated Land Report CLR 9
8	The Contaminated Land Exposure Assessment Model (CLEA): Technical Basis and Algorithms	R&D Publication, Contaminated Land Report CLR 10
9	Model Procedures for the Management of Land Contamination	R&D Publication, Contaminated Land Report CLR 11
10	Contaminants in Soil: Collection of Toxicological Data and Intake Values for Human Values	R&D Publications, Tox. 6
11	Soil Guideline Values for Contamination (2002)	R&D Publications, SGV 10
12	Soil Guideline Values (2009)	EA Science Reports – SC050021

CIEH Chartered institute of Environmental Health
LQM Land Quality Management
EA Environment Agency

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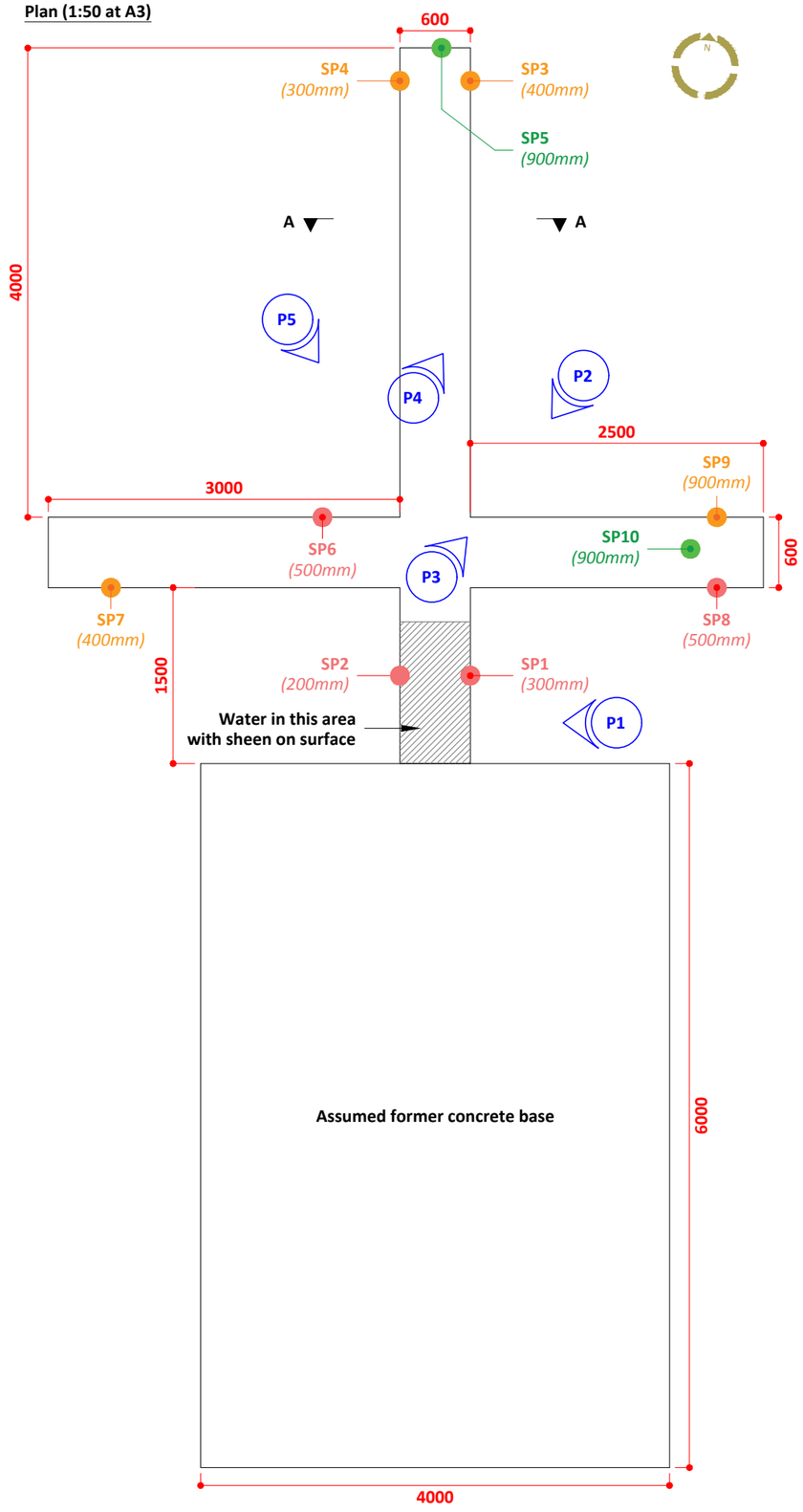
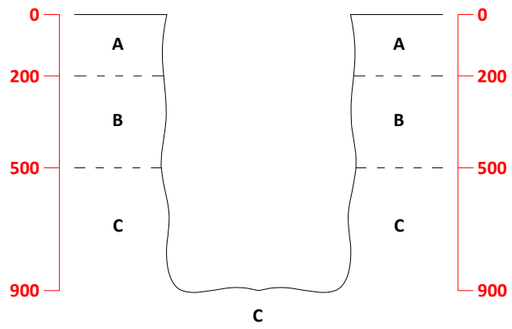
Plan (1:50 at A3)



Section A-A (1:20 at A3)



Photographic record P1



Photographic record P2



Photographic record P3



Photographic record P4



Photographic record P5



Key

A. Grass and vegetation over brown and dark brown slightly gravelly sandy CLAY. Gravel consists of brick and flint.
(MADE GROUND)

B. Medium strength orange brown slightly gravelly sandy CLAY. Gravel consists of brick and flint.
(MADE GROUND)

C. Medium strength orange brown mottled blue grey CLAY.
(RIVER TERRACE DEPOSITS)

Observed features
Assumed features

SP1 (Xmm) — Approximate location of sample and sample depth

SP1 (Xmm) — Approximate location of sample and sample depth (GREEN represents no odour)

SP1 (Xmm) — Approximate location of sample and sample depth (ORANGE represents slight odour)

SP1 (Xmm) — Approximate location of sample and sample depth (RED represents odour)

P1 — Approximate location and orientation of photographic record

Notes

1. All dimensions shown in millimetres
2. Sample taken at each location (SP1-SP10)

Table summarising hydrocarbon odours

Location	Hydrocarbon odour details
SP1	Odour
SP2	Odour
SP3	Slight odour
SP4	Slight odour
SP5	No odour
SP6	Odour
SP7	Slight odour
SP8	Odour
SP9	Slight odour
SP10	No odour

Method of excavation
Mechanical excavator
Dimensions
As shown
Groundwater observations
No groundwater encountered. Standing water in trial pit at southern end

Title
Trial trench record
Date of works
06.01.2016
Scale
As shown

Location reference
TT01
Location plan on drawing number
01
Appendix
B

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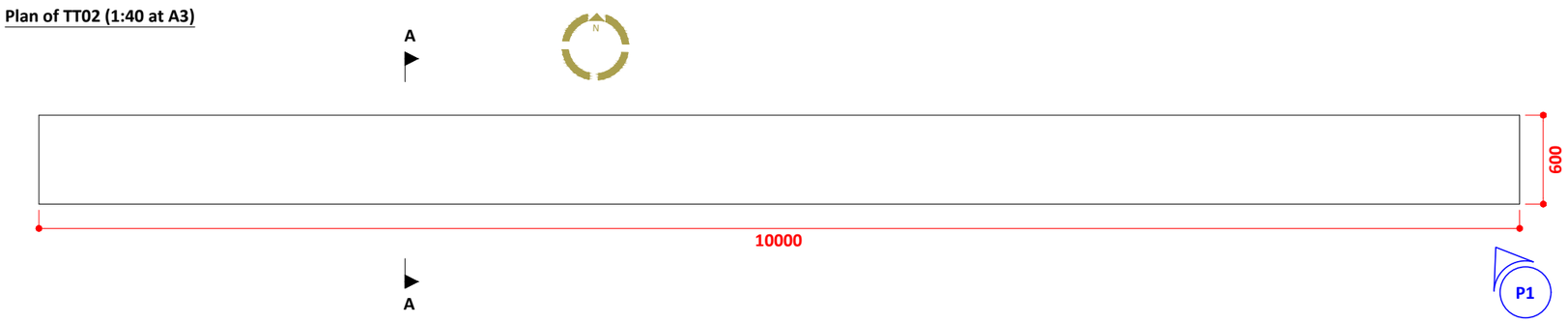
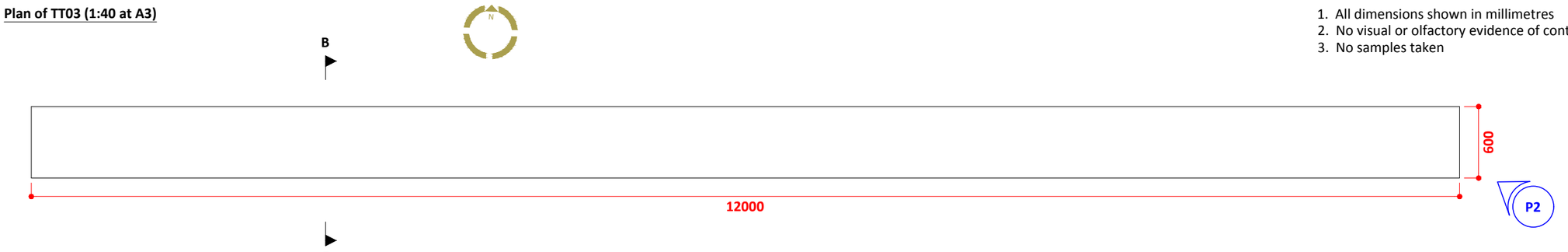
Plan of TT02 (1:40 at A3)



Plan of TT03 (1:40 at A3)



Key

A. Grass onto brown slightly clayey gravelly SAND. Gravel consists of ash, glass, brick, plastic and metal. (MADE GROUND)

B. Medium strength orange brown mottled blue grey CLAY. (RIVER TERRACE DEPOSITS)

———— Observed features
– – – – – Assumed features

P1 Approximate location and orientation of photographic record

Notes

1. All dimensions shown in millimetres
2. No visual or olfactory evidence of contamination
3. No samples taken

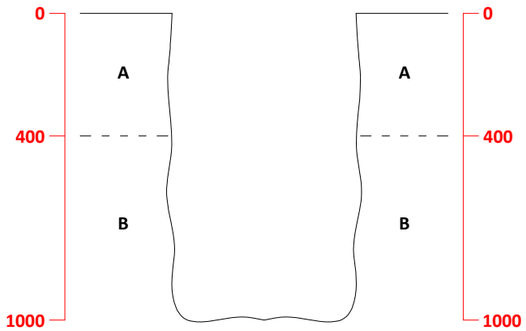
Photographic record P1



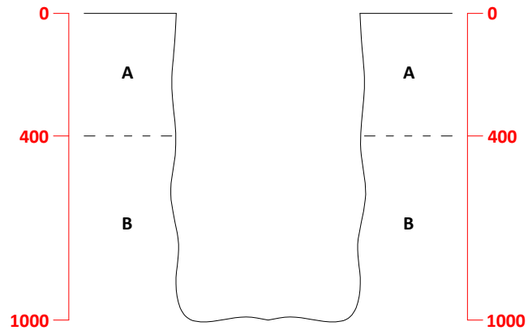
Photographic record P2



Section A-A (1:20 at A3)



Section B-B (1:20 at A3)



Method of excavation		Title	Location reference
Mechanical excavator		Trial trench record	TT02 and TT03
Dimensions		Date of works	Location plan on drawing number
As shown		06.01.2016	01
Groundwater observations		Scale	Appendix
Groundwater encountered at 0.4m depth		As shown	B

Chemtest
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Chemtest Ltd.
Depot Road
Newmarket
CB8 0AL
Tel: 01638 606070
Email: info@chemtest.co.uk

UKAS TESTING
2183

Final Report

Report No.:	16-00329-1
Initial Date of Issue:	13-Jan-2016
Client	Soiltechnics Limited
Client Address:	Cedar Barn White Lodge Walgrave Northampton Northamptonshire NN6 9PY
Contact(s):	Rachel Brown
Project	STM3093A Daedalus Park, Gosport

Quotation No.:		**Date Received:**	08-Jan-2016
Order No.:	20661	**Date Instructed:**	07-Jan-2016
No. of Samples:	3	**Target Date:**	12-Jan-2016
Turnaround (Wkdays):	5	**Results Due:**	14-Jan-2016

Date Approved: 13-Jan-2016

Approved By:



Details: Keith Jones, Technical Manager

Chemtest
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Results - Soil

Project: STM3093A Daedalus Park, Gosport

Client: Soiltechnics Limited			**Chemtest Job No.:**		16-00329	16-00329	16-00329
Quotation No.:			**Chemtest Sample ID.:**		238212	238213	238214
Order No.: 20661			Client Sample Ref.:		SP1	SP5	SP6
			Client Sample ID.:		48	52	53
			Sample Type:		SOIL	SOIL	SOIL
			Top Depth (m):		0.30	0.90	0.50
			Date Sampled:		06-Jan-2016	06-Jan-2016	06-Jan-2016
Determinand	**Accred.**	**SOP**	**Units**	**LOD**			
Moisture	N	2030	%	0.020	16	17	17
Organic Matter	U	2625	%	0.40	1.5	1.3	0.60
Total Organic Carbon	U	2625	%	0.20	0.86	0.76	0.35
Aliphatic TPH >C5-C6	N	2680	mg/kg	0.010	< 0.010	< 0.010	< 0.010
Aliphatic TPH >C6-C8	N	2680	mg/kg	0.010	< 0.010	< 0.010	< 0.010
Aliphatic TPH >C8-C10	N	2680	mg/kg	0.10	20	< 0.10	< 0.10
Aliphatic TPH >C10-C12	N	2680	mg/kg	0.10	84	< 0.10	< 0.10
Aliphatic TPH >C12-C16	N	2680	mg/kg	0.10	530	< 0.10	0.82
Aliphatic TPH >C16-C21	N	2680	mg/kg	0.10	1100	< 0.10	12
Aliphatic TPH >C21-C35	N	2680	mg/kg	0.10	360	< 0.10	2.9
Aliphatic TPH >C35-C44	N	2680	mg/kg	0.10	12	< 0.10	< 0.10
Total Aliphatic Hydrocarbons	N	2680	mg/kg	1.0	2100	< 1.0	16
Aromatic TPH >C5-C7	N	2680	mg/kg	0.010	< 0.010	< 0.010	< 0.010
Aromatic TPH >C7-C8	N	2680	mg/kg	0.010	< 0.010	< 0.010	< 0.010
Aromatic TPH >C8-C10	N	2680	mg/kg	0.10	2.3	< 0.10	< 0.10
Aromatic TPH >C10-C12	N	2680	mg/kg	0.10	66	< 0.10	< 0.10
Aromatic TPH >C12-C16	N	2680	mg/kg	0.10	650	< 0.10	< 0.10
Aromatic TPH >C16-C21	N	2680	mg/kg	0.10	540	< 0.10	6.3
Aromatic TPH >C21-C35	N	2680	mg/kg	0.10	350	< 0.10	1.6
Aromatic TPH >C35-C44	N	2680	mg/kg	0.10	< 0.10	< 0.10	< 0.10
Total Aromatic Hydrocarbons	N	2680	mg/kg	1.0	1600	< 1.0	8.0
Total Petroleum Hydrocarbons	N	2680	mg/kg	2.0	3700	< 2.0	24
Benzene	U	2760	µg/kg	1.0	< 1.0	< 1.0	< 1.0
Toluene	U	2760	µg/kg	1.0	< 1.0	< 1.0	< 1.0
Ethylbenzene	U	2760	µg/kg	1.0	< 1.0	< 1.0	< 1.0
m & p-Xylene	U	2760	µg/kg	1.0	< 1.0	< 1.0	< 1.0
o-Xylene	U	2760	µg/kg	1.0	< 1.0	< 1.0	< 1.0

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Report Information

Key

U	UKAS accredited
M	MCERTS and UKAS accredited
N	Unaccredited
S	This analysis has been subcontracted to a UKAS accredited laboratory that is accredited for this analysis
SN	This analysis has been subcontracted to a UKAS accredited laboratory that is not accredited for this analysis
T	This analysis has been subcontracted to an unaccredited laboratory
I/S	Insufficient Sample
U/S	Unsuitable Sample
N/E	not evaluated
<	"less than"
>	"greater than"

Comments or interpretations are beyond the scope of UKAS accreditation
The results relate only to the items tested
Uncertainty of measurement for the determinands tested are available upon request
None of the results in this report have been recovery corrected
All results are expressed on a dry weight basis
The following tests were analysed on samples as received and the results subsequently corrected to a dry weight basis TPH, BTEX, VOCs, SVOCs, PCBs, Phenols
For all other tests the samples were dried at < 37°C prior to analysis
All Asbestos testing is performed at our Coventry laboratory
Issue numbers are sequential starting with 1 all subsequent reports are incremented by 1

Sample Deviation Codes

A - Date of sampling not supplied
B - Sample age exceeds stability time (sampling to extraction)
C - Sample not received in appropriate containers
D - Broken Container

Sample Retention and Disposal

All soil samples will be retained for a period of 60 days from the date of receipt
All water samples will be retained for 14 days from the date of receipt
Charges may apply to extended sample storage

If you require extended retention of samples, please email your requirements to:
customerservices@chemtest.co.uk

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Summary of petroleum hydrocarbon test results

BTEX (Red highlights indicate exceedance of guideline value)

Indicator	unit	Guideline value	Concentration		
			SP1	SP5	SP6
			0.30	0.90	0.50
Benzene	mg/kg	95	< 0.001	< 0.001	< 0.001
Toluene	mg/kg	4400	< 0.001	< 0.001	< 0.001
Ethylbenzene	mg/kg	2800	< 0.001	< 0.001	< 0.001
o-Xylene	mg/kg	2600	< 0.001	< 0.001	< 0.001
m,p-Xylene	mg/kg	3200	< 0.001	< 0.001	< 0.001

Hydrocarbon banding (Red highlights indicate exceedance of GAC value)

Fraction	unit	GAC	Concentration		
			SP1	SP5	SP6
			0.30	0.90	0.50
Aliphatic					
EC 5 - 6	mg/kg	3400	< 0.010	< 0.010	< 0.010
EC >6 - 8	mg/kg	8300	< 0.010	< 0.010	< 0.010
EC >8 - 10	mg/kg	2100	20	< 0.10	< 0.10
EC >10 - 12	mg/kg	10000	84	< 0.10	< 0.10
EC >12 - 16	mg/kg	61000	530	< 0.10	0.82
EC >16 - 35	mg/kg	1600000	1460	< 0.10	14.9
EC >35 - 44	mg/kg	1600000	12	< 0.10	< 0.10
Aromatic					
EC 5 - 7 (benzene)	mg/kg	28000	< 0.010	< 0.010	< 0.010
EC >7 - 8 (toluene)	mg/kg	59000	< 0.010	< 0.010	< 0.010
EC >8 - 10	mg/kg	3700	2.3	< 0.10	< 0.10
EC >10 - 12	mg/kg	17000	66	< 0.10	< 0.10
EC >12 - 16	mg/kg	36000	650	< 0.10	< 0.10
EC >16 - 21	mg/kg	28000	540	< 0.10	6.3
EC >21 - 35	mg/kg	28000	350	< 0.10	1.6
EC >35 - 44	mg/kg	28000	< 0.10	< 0.10	< 0.10

Notes

1. Generic Assessment Criteria (GAC) as presented in "Generic Assessment Criteria for Human Health Risk Assessment" published by Land Quality Management (LQM) and the Chartered Institute of Environmental Health (CIEH).

Title	Table number
Comparison of measured concentrations of petroleum hydrocarbons with guideline values.	1