



# **Report on (Phase 2) Ground Investigation**

**COURT LODGE  
OLD ROMNEY  
KENT TN29 9SW**

**For : S Chick Investigations Ltd**

**Report Ref: 720 / R03**

**Dated: 05<sup>th</sup> May 2020**

**Director : D I Grant BSc (Hons) PhD**

**Geotechnical & Geoenvironmental Consultants**

*Dig-Geotech Limited Registered in England and Wales.  
Company Number 5335508. VAT No 871 353 031*

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COURT LODGE  
OLD ROMNEY  
KENT TN29 9SW

Report No 720 / R03

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| Rev 0 | 05 05 2020 | First issue |

Prepared for S Chick Investigations Ltd

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GIReportMay2020.docx

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# 1. INTRODUCTION.

*Dig-Geotech Ltd* was requested by the Client to comment upon the findings of some exploratory holes and associated laboratory testing for a site at Court Lodge, Old Romney. The scope of investigations was given in the Dig-Geotech Ltd Report No's 720 / R01 & 720 / R02 (*Refs 1,2*)

This report summarises the ground investigation works carried out, presents the results and discusses the findings in relation to the proposed development.

## 2. THE SITE

### 2.1 Site Location and Topography

The site is located to the northwest of Wheelsgate Lane, New Romney (Figures 1 & 2). OS map information suggests the site to be at an elevation of about 3.7mOD. The site covers an area of about 0.18Ha.

At the time of the ground investigation, the area for development comprised an early 20<sup>th</sup> Century domestic house and gardens.

### 2.2 Geology

British Geological Survey (BGS) information shows the site to be underlain by

**Superficial deposits:** Tidal Flat Deposits - Sand. Sedimentary superficial deposit formed between 11.8 thousand years ago and the present during the Quaternary period.

**Bedrock geology:** Hastings Beds (subgroup) - Sandstone, siltstone and mudstone. Sedimentary bedrock formed between 145 and 133.9 million years ago during the Cretaceous period

No BGS borehole records are shown near to the site.

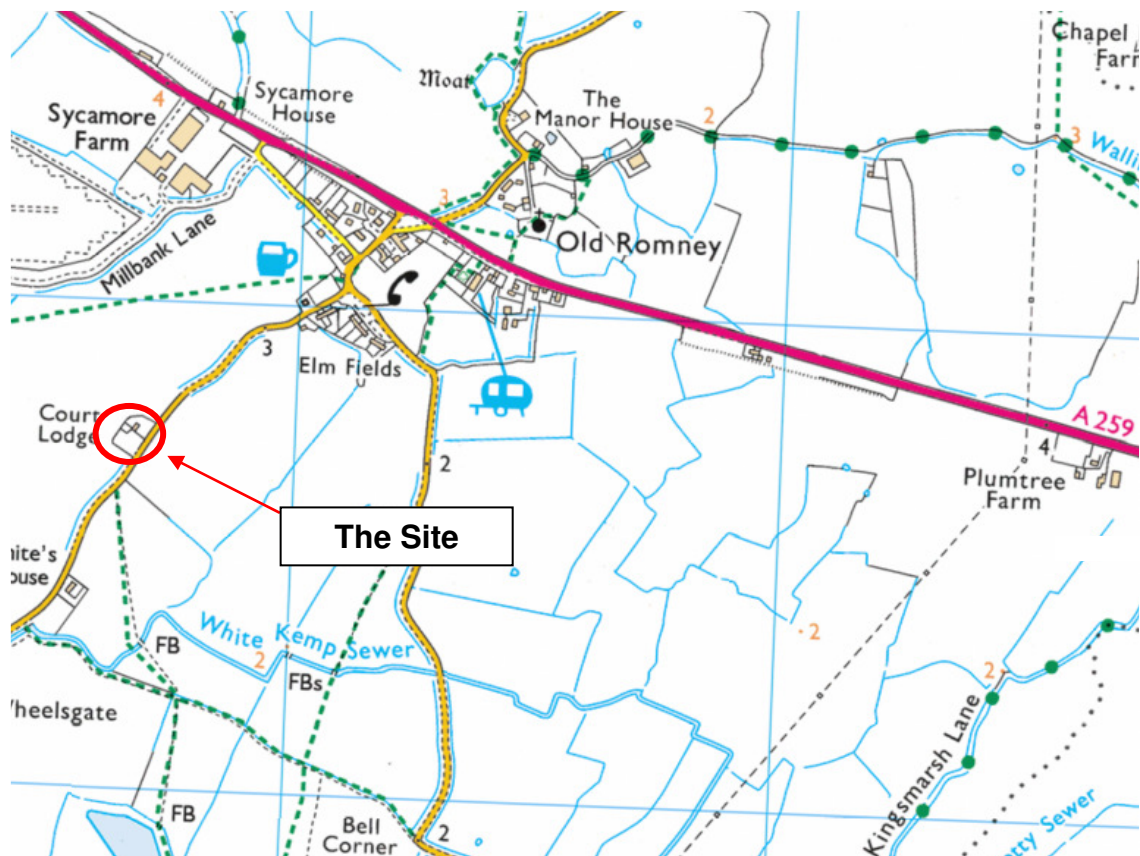
### 2.3 Previous Reports

A Phase 1 desk study report was prepared for the site in 2019 (*Ref 1*). It included the findings of some preliminary ground investigation works for geotechnical purposes. The Desk Study report recommended some additional exploratory holes in proposed garden areas. A Discovery Strategy (*Ref 2*) was prepared to detail the required works.

## 2.4 Proposed Development

Plans showing the existing & proposed site are enclosed as **Appendix A**. The existing house is to be demolished and replaced with a new domestic dwelling over a similar footprint. A new separate garage building shall be constructed to the north of the site. The remainder of the site is to be a private garden.

No significant earthworks are proposed as part of the new development.



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Figure 1 : Site Location



Figure 2 : Aerial Image (© Google 2019)

### 3. GROUND INVESTIGATION

#### 3.1 Fieldworks

Ground investigation fieldworks were carried out by S Chick Investigations Ltd.

The works comprised:

- 4 No boreholes to 1.5m depth
- Laboratory contamination testing.

The exploratory hole logs are enclosed as **Appendix B**. Figure 3 shows the exploratory hole locations.

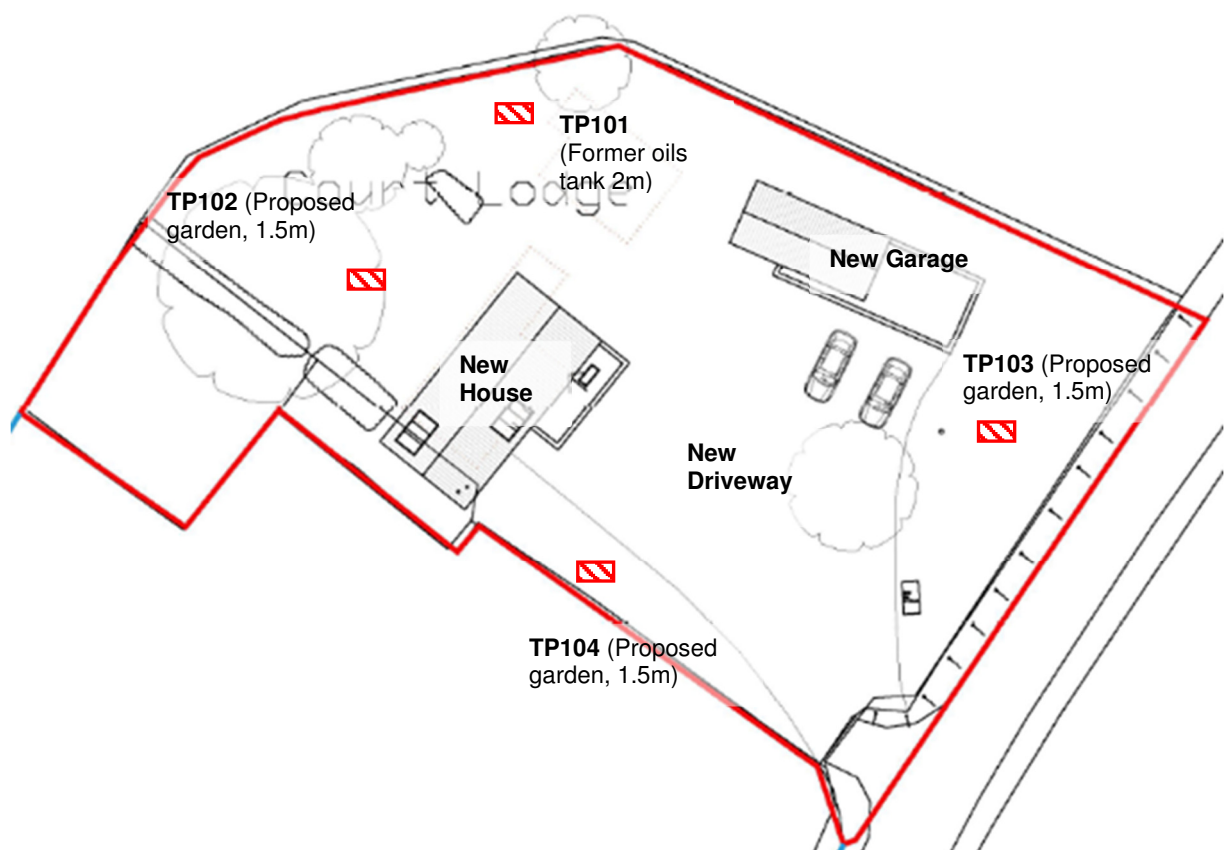


Figure 3 : Exploratory Hole Location Plan

### 3.2 Laboratory Geotechnical Testing

Laboratory geotechnical testing was not carried out as part of this investigation.

### 3.3 Laboratory Contamination Testing

Eleven soil samples were sent to DETS Ltd for chemical analysis. DETS Ltd is an MCerts and UKAS accredited laboratory. Results are enclosed as **Appendix C** and discussed at Section 4.2.

## 4. RESULTS

### 4.1 Ground conditions

The boreholes revealed turf & topsoils over a Made Ground to up to 1.0m depth with a natural medium dense sand below.

The topsoil was from ground level to between 0.2m and 0.3m depth. The Made Ground was immediately below the topsoil and comprised medium compact gravelly and or sandy silt / clay with fine pieces of rubble or brick. At TP101 a secondary layer of more sandy made ground was present. The base of the made ground was at between 0.9m and 1.0m depth.

Below the made ground was a (natural) medium dense light brown medium coarse sand proved to 1.5m depth.

Groundwater was not encountered.

### 4.2 Laboratory contamination testing

The results for the laboratory contamination testing are enclosed within **Appendix C**. The following paragraphs detail the test results and compare them to published guidance. The general approach to assessment of potential land contamination is to compare laboratory chemical test results to the 2014 published DEFRA guidance (*Ref 3*) and to 3<sup>rd</sup> edition LQM / CIEH derived S4UL's (*Ref 43*).

The DEFRA guidance uses the term C4SL's (*Category 4 Screening Levels*) and the LQM / CIEH guidance S4ULs (*Suitable 4 Use Levels*). All derived values are based on an assessment of Significant Possibility of Significant Harm (SPOSH). The guidance documents note that the concentrations given are purposefully conservative and can be used as a safe assessment of land for planning purposes. More exact concentrations can be derived by computer methods for individual sites or specific risks within a site.

The guidance values also relate to proposed land use. In this case the relevant land use is *Residential with Home Grown Produce*.

All samples were of soils and from depths of between 0.15m and 1.5m and included both samples of made ground and the lower in situ natural soils.

**Asbestos fibres.** Nine samples were subject to an asbestos fibres screen. No asbestos fibres were detected.

The results had a general suite of results for pH, cyanide (free & total) & sulphate (2:1 as SO<sub>4</sub>. **pH** values were near neutral at 7.2 to 8.3. The **sulphates** values were up to 0.06g/l and are relevant to concrete design and not discussed further here.

The metals suite comprised **As, Boron** (water soluble), **Cd, Cr, Cu, Pb, Hg, Ni, Se & Zn**. Comparison of the test results to published C4SL's & S4UL's for a residential use showed no risks.

**Speciated PAH's** showed no raised concentrations above those relevant to a Residential use with home grown produce.

**TPH - LQM Banded.** Comparison of the laboratory test results to published S4UL's showed all concentrations at well below the published criteria for a Residential use with home grown produce.

**BTEX.** Comparison of the laboratory test results to published LQM S4UL's showed all BTEX concentrations at well below the published criteria (Note the results for BTEX are presented as µg/kg i.e 10<sup>-3</sup> mg/kg). No risk to human health is hence considered likely due to BTEX compounds.

**MTBE** is an additive to petrol. The measured concentrations were very low at less than 0.005mg/kg compared to a recommended residential (with plant uptake) GAC of 49mg/kg. No risk to human health is considered likely.

*Note that results for cyanide and total phenols and are awaited and shall be commented on as a revision to this report.*

## 5. DISCUSSION

### 5.1 Potential Soil Contamination

Laboratory contamination testing showed no risk due to metals or organic contamination. No asbestos fibres were observed. The soil is hence likely to be suitable for use in a domestic setting. However the upper part of the soil was shown to be a thin layer of topsoil over a made ground. The made ground may not be suitable as topsoil due to other inclusion. No sharp objects, glass or metal were observed. Have the top soil is likely to be suitable as cover in the majority of the garden area. Where vegetable beds, flower planting, or trees require deeper cultivation it may be necessary to import soil to make a suitable growing medium. Where that is the case any imported soil must be provided with

certification to show it as suitable for use in a private domestic garden.

## **5.2 Potential gases contamination**

The Desk Study Report (*Ref 1*) identified a potential risk of ground gases related to an infilled pond or depression about 10m from the southern site boundary. The risk was considered likely to be low and a gases resistant membrane was recommended in lieu of a site specific ground investigation for gases. The Discovery Strategy and Remediation Statement noted that installation was to be witnessed and subsequently a completion of validation report required. This is still the case

## **5.3 Groundwater & surface water**

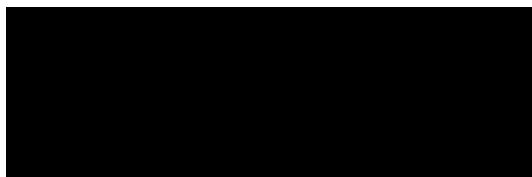
The Desk Study Report (*Ref 1*) identified a potential risk due to a former a heating oil tank. Further investigation to confirm the absence of hydrocarbons contamination was recommended. Initially that investigation was to be for soils only. No hydrocarbons were found in soil samples and hence further investigation for groundwater is not required.

# **6. CONCLUSIONS**

A ground investigation for a proposed replacement dwelling at Court Lodge, Old Romney has revealed Topsoil & Made Ground with sands at depth.

No soil contamination was revealed. Remediation for potential gases contamination is still outstanding. A gases resistant membrane was recommended and should be installed in line with the recommendations of the Discovery Strategy & Remediation Statement.

**Report prepared by**



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D I Grant BSc, PhD, GICE

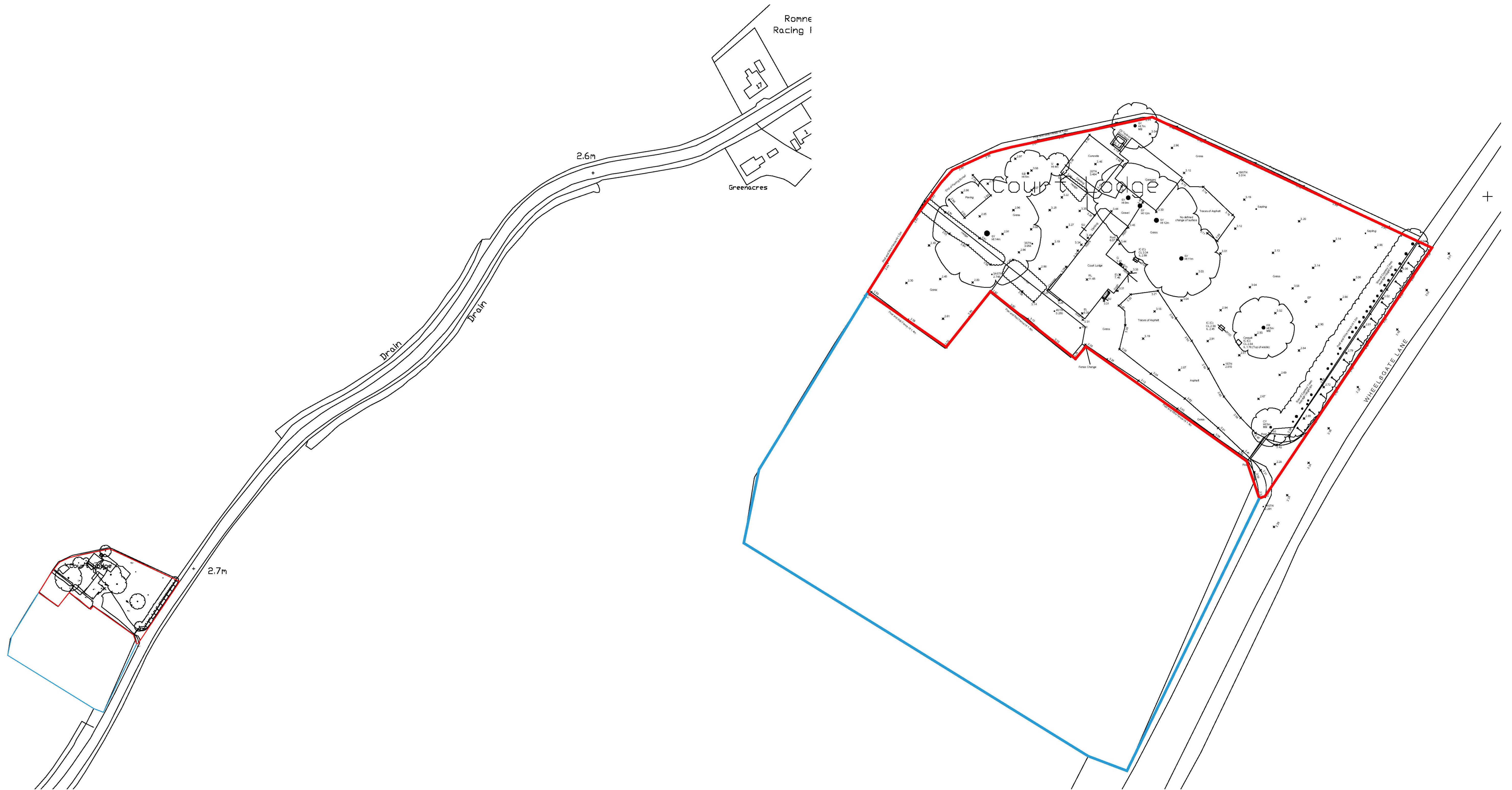
05 February 2020

## References :

1. Dig-Geotech Ltd (2019). Report on (Phase 1) Desk Study. Court Lodge, Old Romney, Kent TN29 9SW. Report No 720/R01. November 2019.
2. Dig-Geotech Ltd (2019a). Discovery Strategy & Remediation Statement. Court Lodge, Old Romney, Kent TN29 9SW. Report No 720/R02. November 2019.
3. DEFRA (2014). SP1010: Development of Category 4 Screening Levels for Assessment of Land Affected by Contamination – Policy Companion Document. March 2014 (accessed online March 2016).
4. LQM / CIEH (2014). The LQM / CIEH S4ULs for Human Health Risk. ISBN 978-0-9931084-0-2.
5. EIC/AGS/CL:AIR (2010). Soil Generic Assessment Criteria for Human Health Risk Assessment.

# **APPENDICES**

## **Appendix A - Site Plans**



SITE LOCATION PLAN  
1:1000 @ A1

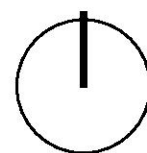
PROPOSED SITE PLAN  
1:250 @ A1

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Notes:



Hatch = Demolish



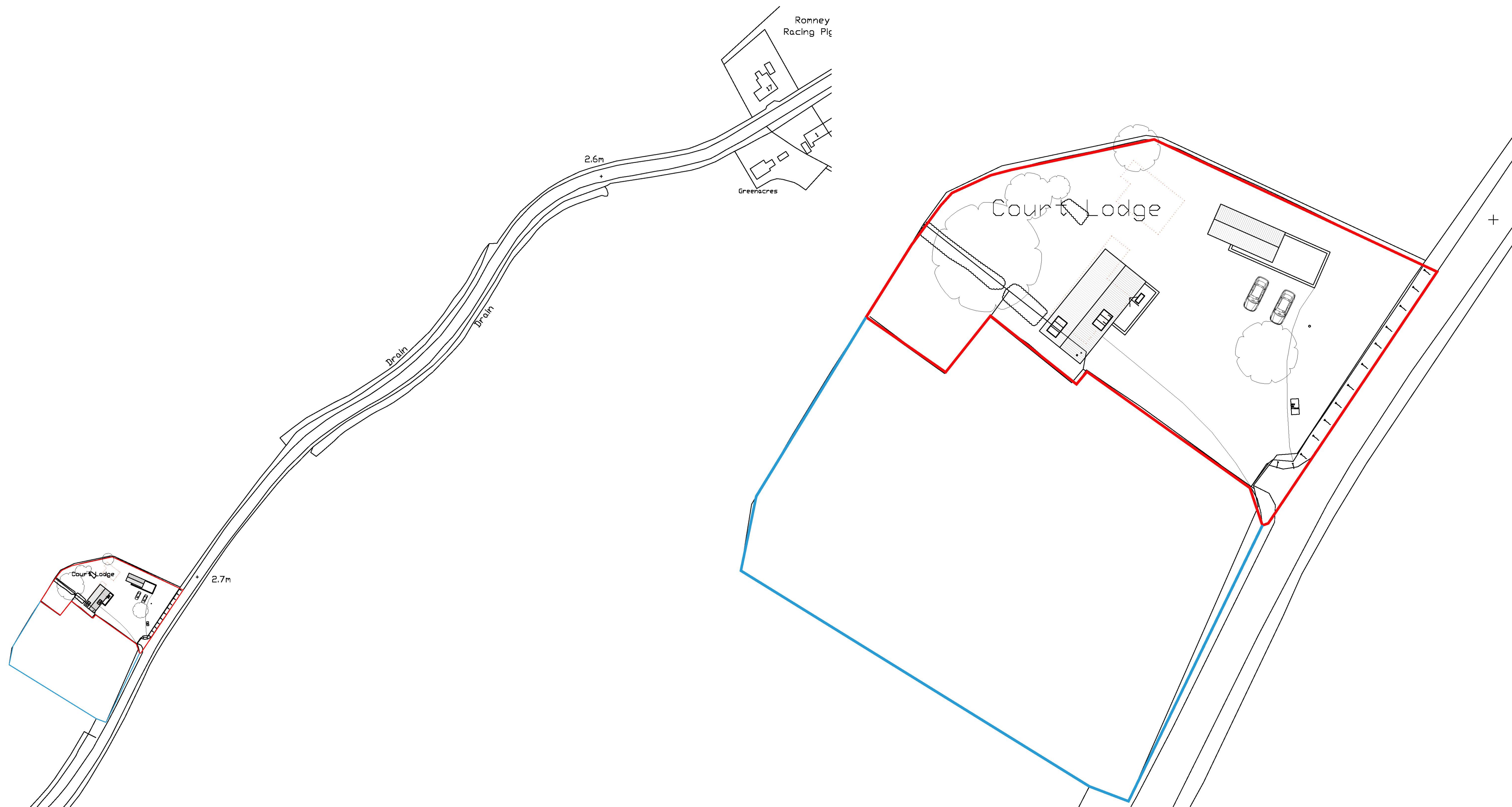
STATUS: Planning  
SCALE: VARIES @ A1  
DATE: MARCH 2019

DRAWING NO:  
TITLE:  
PROJECT:

02418-PL-100  
Existing Floor Plans  
Court Lodge, Old Romney



**RX Architects Limited**  
Rye Creative Centre, New Road, Rye,  
East Sussex TN31 7LS  
t 01797 330198 www.rxaarchitects.com  
e studio@rxarchitects.com



SITE LOCATION PLAN  
1:1000 @ A1

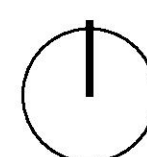
PROPOSED SITE PLAN  
1:250 @ A1

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Notes:



Hatch = Demolish



STATUS: Planning  
SCALE: VARIES @ A1  
DATE: MARCH 2019

DRAWING NO:  
TITLE:  
PROJECT:

02418-PL-150  
Proposed Floor Plans  
Court Lodge, Old Romney



**RX Architects Limited**

Rye Creative Centre, New Road, Rye,  
East Sussex TN31 7LS  
t: 01797 330198 www.rxaarchitects.com  
e: studio@rxaarchitects.com

## **Appendix B - Exploratory hole logs**

|                                     |                                                                                                                           |                |                                                                                                                                                               |           |                               |           |                               |                    |
|-------------------------------------|---------------------------------------------------------------------------------------------------------------------------|----------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------|-------------------------------|-----------|-------------------------------|--------------------|
| <b>TP 101</b>                       |                                                                                                                           |                | Sheet: 1 of 1                                                                                                                                                 |           | Site: Court Lodge, Old Romney |           |                               |                    |
| Boring Method:                      |                                                                                                                           |                | Job No:                                                                                                                                                       |           |                               |           |                               |                    |
| Diameter: 100mm                     |                                                                                                                           |                | Coordinates:                                                                                                                                                  |           |                               |           |                               |                    |
| Ground Level mOD:                   |                                                                                                                           |                | Work Carried out for:                                                                                                                                         |           | Freddie Pack                  |           |                               |                    |
| Depth (m)                           | Description of Strata                                                                                                     | Thick-ness (m) | Sample                                                                                                                                                        | Test Type | Result                        | Depth (m) | Field Records/Comments        | Depth to water (m) |
| GL                                  | Turf over topsoil                                                                                                         | 0.20           | D + J                                                                                                                                                         |           |                               | 0.15      | BH dry and open on completion |                    |
| 0.20                                | MADE GROUND, medium compact, dark brown slightly gravelly sandy clayey SILT/silty CLAY with small pieces of brick rubble. | 0.60           | D + J                                                                                                                                                         |           |                               | 0.50      |                               |                    |
| 0.80                                | MADE GROUND, medium compact dark brown silty clayey SAND with fine pieces of rubble                                       | 0.20           | D + J                                                                                                                                                         |           |                               | 1.00      |                               |                    |
| 1.00                                | Medium dense, light to mid brown medium coarse SAND                                                                       | 0.50           | D + J                                                                                                                                                         |           |                               | 1.50      |                               |                    |
|                                     | TP Ends 1.5m                                                                                                              |                |                                                                                                                                                               |           |                               |           |                               |                    |
| Remarks:                            |                                                                                                                           |                | Key: T.D.T.D. Too Dense to Drive<br>D Small disturbed sample J Jar sample<br>B Bulk disturbed sample V Pilcon Vane (kPa)<br>W Water sample M Mackintosh Probe |           |                               |           |                               |                    |
| X(Y) = X blows for Ymm penetration. |                                                                                                                           |                |                                                                                                                                                               |           |                               |           |                               |                    |
| Logged: SC                          | Checked:                                                                                                                  | Approved:      | Scale: NTS                                                                                                                                                    |           |                               | Weather:  |                               |                    |

|                                     |                                                                                                        |          |                                             |            |                               |        |           |                               |                    |
|-------------------------------------|--------------------------------------------------------------------------------------------------------|----------|---------------------------------------------|------------|-------------------------------|--------|-----------|-------------------------------|--------------------|
| TP: 102                             |                                                                                                        |          | Sheet: 1 of 1                               |            | Site: Court Lodge, Old Romney |        |           |                               |                    |
| Boring Method:                      |                                                                                                        |          | Job No:                                     |            |                               |        |           |                               |                    |
| Diameter: 100mm                     |                                                                                                        |          | Coordinates:                                |            |                               |        |           |                               | Date: 22/04/2020   |
| Ground Level mOD:                   |                                                                                                        |          | Work Carried out for:                       |            | Freddie Pack                  |        |           |                               |                    |
| Depth (m)                           | Description of Strata                                                                                  |          | Thick-ness (m)                              | Sample     | Test Type                     | Result | Depth (m) | Field Records/Comments        | Depth to water (m) |
| GL                                  | Topsoil                                                                                                |          | 0.30                                        |            |                               |        |           |                               |                    |
| 0.30                                | MADE GROUND, medium compact, dark brown slightly gravelly sandy clayey SILT with fine pieces of rubble |          | 0.60                                        | D + J      |                               |        | 0.15      |                               |                    |
|                                     |                                                                                                        |          |                                             | D + J      |                               |        | 0.50      |                               |                    |
| 0.90                                | Medium dense, light brown medium coarse SAND                                                           |          | 0.60                                        | D + J      |                               |        | 1.00      |                               |                    |
|                                     | TP Ends 1.5m                                                                                           |          |                                             | D + J      |                               |        | 1.50      | BH dry and open on completion |                    |
| Remarks:                            |                                                                                                        |          | Key: T.D.T.D. Too Dense to Drive            |            |                               |        |           |                               |                    |
| X(Y) = X blows for Ymm penetration. |                                                                                                        |          | D Small disturbed sample J Jar sample       |            |                               |        |           |                               |                    |
|                                     |                                                                                                        |          | B Bulk disturbed sample V Pilcon Vane (kPa) |            |                               |        |           |                               |                    |
|                                     |                                                                                                        |          | W Water sample M Mackintosh Probe           |            |                               |        |           |                               |                    |
| Logged: SC                          |                                                                                                        | Checked: | Approved:                                   | Scale: NTS |                               |        | Weather:  |                               |                    |

|                                     |                                                                                                                    |                |                                                                                                                                                               |           |                               |           |                               |                    |
|-------------------------------------|--------------------------------------------------------------------------------------------------------------------|----------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------|-------------------------------|-----------|-------------------------------|--------------------|
| <b>TP 103</b>                       |                                                                                                                    |                | Sheet: 1 of 1                                                                                                                                                 |           | Site: Court Lodge, Old Romney |           |                               |                    |
| Boring Method:                      |                                                                                                                    |                | Job No:                                                                                                                                                       |           |                               |           |                               |                    |
| Diameter: 100mm                     |                                                                                                                    |                | Coordinates:                                                                                                                                                  |           |                               |           |                               |                    |
| Ground Level mOD:                   |                                                                                                                    |                | Work Carried out for:                                                                                                                                         |           | Freddie Pack                  |           |                               |                    |
| Depth (m)                           | Description of Strata                                                                                              | Thick-ness (m) | Sample                                                                                                                                                        | Test Type | Result                        | Depth (m) | Field Records/Comments        | Depth to water (m) |
| GL                                  | Turf over topsoil                                                                                                  | 0.20           | D + J                                                                                                                                                         |           |                               | 0.15      | BH dry and open on completion |                    |
| 0.20                                | MADE GROUND, medium compact, dark brown slightly gravelly sandy SILT/silty CLAY with small pieces of brick rubble. | 0.60           | D + J                                                                                                                                                         |           |                               | 0.50      |                               |                    |
| 0.80                                | Made ground, medium compact dark brown silty clayey SAND with fine pieces of rubble                                | 0.20           | D + J                                                                                                                                                         |           |                               | 1.00      |                               |                    |
| 1.00                                | Medium dense, light to mid brown medium coarse SAND                                                                | 0.50           | D + J                                                                                                                                                         |           |                               | 1.50      |                               |                    |
| TP Ends 1.5m                        |                                                                                                                    |                |                                                                                                                                                               |           |                               |           |                               |                    |
| Remarks:                            |                                                                                                                    |                | Key: T.D.T.D. Too Dense to Drive<br>D Small disturbed sample J Jar sample<br>B Bulk disturbed sample V Pilcon Vane (kPa)<br>W Water sample M Mackintosh Probe |           |                               |           |                               |                    |
| X(Y) = X blows for Ymm penetration. |                                                                                                                    |                |                                                                                                                                                               |           |                               |           |                               |                    |
| Logged:                             | SC                                                                                                                 | Checked:       | Approved:                                                                                                                                                     | Scale:    | NTS                           | Weather:  |                               |                    |

|                                     |                                                                                                       |          |                                             |            |                               |          |           |                               |                    |
|-------------------------------------|-------------------------------------------------------------------------------------------------------|----------|---------------------------------------------|------------|-------------------------------|----------|-----------|-------------------------------|--------------------|
| TP: 104                             |                                                                                                       |          | Sheet: 1 of 1                               |            | Site: Court Lodge, Old Romney |          |           |                               |                    |
| Boring Method:                      |                                                                                                       |          | Job No:                                     |            |                               |          |           |                               |                    |
| Diameter: 100mm                     |                                                                                                       |          | Coordinates:                                |            |                               |          |           |                               | Date: 22/04/2020   |
| Ground Level mOD:                   |                                                                                                       |          | Work Carried out for:                       |            | Freddie Pack                  |          |           |                               |                    |
| Depth (m)                           | Description of Strata                                                                                 |          | Thick-ness (m)                              | Sample     | Test Type                     | Result   | Depth (m) | Field Records/Comments        | Depth to water (m) |
| GL                                  | Topsoil                                                                                               |          | 0.30                                        | D + J      |                               |          | 0.15      | BH dry and open on completion |                    |
| 0.30                                | MADE GROUND, medium compact, dark brown slightly gravelly sandy clayeySILT with fine pieces of rubble |          | 0.60                                        | D + J      |                               |          | 0.50      |                               |                    |
| 0.90                                | Medium dense, light brown medium coarse SAND                                                          |          | 0.60                                        | D + J      |                               |          | 1.00      |                               |                    |
|                                     | TP Ends 1.5m                                                                                          |          |                                             | D + J      |                               |          | 1.50      |                               |                    |
| Remarks:                            |                                                                                                       |          | Key: T.D.T.D. Too Dense to Drive            |            |                               |          |           |                               |                    |
| X(Y) = X blows for Ymm penetration. |                                                                                                       |          | D Small disturbed sample J Jar sample       |            |                               |          |           |                               |                    |
|                                     |                                                                                                       |          | B Bulk disturbed sample V Pilcon Vane (kPa) |            |                               |          |           |                               |                    |
|                                     |                                                                                                       |          | W Water sample M Mackintosh Probe           |            |                               |          |           |                               |                    |
| Logged: SC                          |                                                                                                       | Checked: | Approved:                                   | Scale: NTS |                               | Weather: |           |                               |                    |

## **Appendix C - Laboratory Contamination Test Results**



Steve Chick  
S Chick Investigations Ltd  
Northgate Street  
Ipswich  
Suffolk  
IP1 3BX

**DETS Ltd**  
Unit 1  
Rose Lane Industrial Estate  
Rose Lane  
Lenham Heath  
Kent  
ME17 2JN  
t: 01622 850410

## **DETS Report No: 20-04621**

**Site Reference:** Court Lodge, Romney Marsh

**Project / Job Ref:** None Supplied

**Order No:** None Supplied

**Sample Receipt Date:** 23/04/2020

**Sample Scheduled Date:** 23/04/2020

**Report Issue Number:** 1

**Reporting Date:** 29/04/2020

**Authorised by:**

Dave Ashworth  
Technical Manager

Dates of laboratory activities for each tested analyte are available upon request.

Opinions and interpretations are outside the laboratory's scope of ISO 17025 accreditation. 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 except in full, without the prior written approval of the laboratory.



**DETS Ltd**  
**Unit 1, Rose Lane Industrial Estate**  
**Rose Lane**  
**Lenham Heath**  
**Maidstone**  
**Kent ME17 2JN**  
**Tel : 01622 850410**



| Soil Analysis Certificate                        |                        |               |               |               |               |               |
|--------------------------------------------------|------------------------|---------------|---------------|---------------|---------------|---------------|
| <b>DETS Report No: 20-04621</b>                  | <b>Date Sampled</b>    | 22/04/20      | 22/04/20      | 22/04/20      | 22/04/20      | 22/04/20      |
| <b>S Chick Investigations Ltd</b>                | <b>Time Sampled</b>    | None Supplied | None Supplied | None Supplied | None Supplied | None Supplied |
| <b>Site Reference: Court Lodge, Romney Marsh</b> | <b>TP / BH No</b>      | TP 101        | TP 101        | TP 101        | TP 102        | TP 102        |
| <b>Project / Job Ref: None Supplied</b>          | <b>Additional Refs</b> | None Supplied | None Supplied | None Supplied | None Supplied | None Supplied |
| <b>Order No: None Supplied</b>                   | <b>Depth (m)</b>       | 0.15          | 0.50          | 1.00          | 0.15          | 0.50          |
| <b>Reporting Date: 29/04/2020</b>                | <b>DETS Sample No</b>  | 474294        | 474295        | 474296        | 474297        | 474298        |

| Determinand                           | Unit     | RL     | Accreditation |              |              |              |              |              |
|---------------------------------------|----------|--------|---------------|--------------|--------------|--------------|--------------|--------------|
| Asbestos Screen <sup>(S)</sup>        | N/a      | N/a    | ISO17025      | Not Detected | Not Detected | Not Detected | Not Detected | Not Detected |
| pH                                    | pH Units | N/a    | MCERTS        | 7.4          | 7.7          | 8.0          | 7.5          | 7.7          |
| W/S Sulphate as SO <sub>4</sub> (2:1) | mg/l     | < 10   | MCERTS        | 63           | 26           | 20           | 31           | 27           |
| W/S Sulphate as SO <sub>4</sub> (2:1) | g/l      | < 0.01 | MCERTS        | 0.06         | 0.03         | 0.02         | 0.03         | 0.03         |
| Sulphide                              | mg/kg    | < 5    | NONE          | < 5          | < 5          | < 5          | < 5          | < 5          |
| Total Organic Carbon (TOC)            | %        | < 0.1  | MCERTS        | 2.4          | 1.2          | 0.4          | 2.9          | 1.8          |
| Arsenic (As)                          | mg/kg    | < 2    | MCERTS        | 12           | 13           | 10           | 13           | 11           |
| W/S Boron                             | mg/kg    | < 1    | NONE          | < 1          | 1.2          | < 1          | 1.2          | 1.1          |
| Cadmium (Cd)                          | mg/kg    | < 0.2  | MCERTS        | 0.5          | 0.4          | 0.3          | 0.4          | 0.4          |
| Chromium (Cr)                         | mg/kg    | < 2    | MCERTS        | 13           | 13           | 10           | 14           | 13           |
| Copper (Cu)                           | mg/kg    | < 4    | MCERTS        | 37           | 29           | 17           | 30           | 30           |
| Lead (Pb)                             | mg/kg    | < 3    | MCERTS        | 144          | 61           | 16           | 127          | 35           |
| Mercury (Hg)                          | mg/kg    | < 1    | NONE          | < 1          | < 1          | < 1          | < 1          | < 1          |
| Nickel (Ni)                           | mg/kg    | < 3    | MCERTS        | 13           | 11           | 7            | 10           | 9            |
| Selenium (Se)                         | mg/kg    | < 3    | NONE          | < 3          | < 3          | < 3          | < 3          | < 3          |
| Zinc (Zn)                             | mg/kg    | < 3    | MCERTS        | 169          | 84           | 40           | 100          | 75           |
| EPH (C10 - C40)                       | mg/kg    | < 6    | MCERTS        |              |              |              | 23           | < 6          |

Analytical results are expressed on a dry weight basis where samples are assisted-dried at less than 30°C. The Samples Descriptions page describes if the test is performed on the dried or as-received portion  
 Subcontracted analysis (S)



**DETS Ltd**  
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**Lenham Heath**  
**Maidstone**  
**Kent ME17 2JN**  
**Tel : 01622 850410**



| Soil Analysis Certificate                        |                        |               |               |               |               |               |
|--------------------------------------------------|------------------------|---------------|---------------|---------------|---------------|---------------|
| <b>DETS Report No: 20-04621</b>                  | <b>Date Sampled</b>    | 22/04/20      | 22/04/20      | 22/04/20      | 22/04/20      | 22/04/20      |
| <b>S Chick Investigations Ltd</b>                | <b>Time Sampled</b>    | None Supplied | None Supplied | None Supplied | None Supplied | None Supplied |
| <b>Site Reference: Court Lodge, Romney Marsh</b> | <b>TP / BH No</b>      | TP 102        | TP 103        | TP 103        | TP 104        | TP 104        |
| <b>Project / Job Ref: None Supplied</b>          | <b>Additional Refs</b> | None Supplied | None Supplied | None Supplied | None Supplied | None Supplied |
| <b>Order No: None Supplied</b>                   | <b>Depth (m)</b>       | 1.00          | 0.15          | 0.50          | 0.15          | 0.50          |
| <b>Reporting Date: 29/04/2020</b>                | <b>DETS Sample No</b>  | 474299        | 474300        | 474301        | 474302        | 474303        |

| Determinand                           | Unit     | RL     | Accreditation |              |              |              |              |      |
|---------------------------------------|----------|--------|---------------|--------------|--------------|--------------|--------------|------|
| Asbestos Screen <sup>(S)</sup>        | N/a      | N/a    | ISO17025      | Not Detected | Not Detected | Not Detected | Not Detected |      |
| pH                                    | pH Units | N/a    | MCERTS        | 7.9          | 7.2          | 7.6          | 7.7          | 8.1  |
| W/S Sulphate as SO <sub>4</sub> (2:1) | mg/l     | < 10   | MCERTS        | 27           | 18           | 22           | 12           | 17   |
| W/S Sulphate as SO <sub>4</sub> (2:1) | g/l      | < 0.01 | MCERTS        | 0.03         | 0.02         | 0.02         | 0.01         | 0.02 |
| Sulphide                              | mg/kg    | < 5    | NONE          | < 5          | < 5          | < 5          | < 5          | < 5  |
| Total Organic Carbon (TOC)            | %        | < 0.1  | MCERTS        | 0.7          | 3.2          | 1.1          | 1.7          | 0.6  |
| Arsenic (As)                          | mg/kg    | < 2    | MCERTS        | 11           | 9            | 9            | 6            | 9    |
| W/S Boron                             | mg/kg    | < 1    | NONE          | < 1          | < 1          | < 1          | < 1          | 1.5  |
| Cadmium (Cd)                          | mg/kg    | < 0.2  | MCERTS        | 0.3          | 0.4          | 0.3          | 0.2          | 0.3  |
| Chromium (Cr)                         | mg/kg    | < 2    | MCERTS        | 12           | 11           | 9            | 7            | 10   |
| Copper (Cu)                           | mg/kg    | < 4    | MCERTS        | 15           | 23           | 15           | 22           | 21   |
| Lead (Pb)                             | mg/kg    | < 3    | MCERTS        | 22           | 54           | 20           | 42           | 15   |
| Mercury (Hg)                          | mg/kg    | < 1    | NONE          | < 1          | < 1          | < 1          | < 1          | < 1  |
| Nickel (Ni)                           | mg/kg    | < 3    | MCERTS        | 8            | 7            | 6            | 6            | 8    |
| Selenium (Se)                         | mg/kg    | < 3    | NONE          | < 3          | < 3          | < 3          | < 3          | < 3  |
| Zinc (Zn)                             | mg/kg    | < 3    | MCERTS        | 48           | 85           | 50           | 65           | 51   |
| EPH (C10 - C40)                       | mg/kg    | < 6    | MCERTS        | < 6          | 49           | < 6          | 825          |      |

Analytical results are expressed on a dry weight basis where samples are assisted-dried at less than 30°C. The Samples Descriptions page describes if the test is performed on the dried or as-received portion  
 Subcontracted analysis (S)



DETS Ltd  
Unit 1, Rose Lane Industrial Estate  
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Lenham Heath  
Maidstone  
Kent ME17 2JN  
Tel : 01622 850410



| Soil Analysis Certificate                 |                 |               |  |  |  |  |
|-------------------------------------------|-----------------|---------------|--|--|--|--|
| DETS Report No: 20-04621                  | Date Sampled    | 22/04/20      |  |  |  |  |
| S Chick Investigations Ltd                | Time Sampled    | None Supplied |  |  |  |  |
| Site Reference: Court Lodge, Romney Marsh | TP / BH No      | TP 104        |  |  |  |  |
| Project / Job Ref: None Supplied          | Additional Refs | None Supplied |  |  |  |  |
| Order No: None Supplied                   | Depth (m)       | 1.00          |  |  |  |  |
| Reporting Date: 29/04/2020                | DETS Sample No  | 474304        |  |  |  |  |

| Determinand                           | Unit     | RL     | Accreditation |      |  |  |  |
|---------------------------------------|----------|--------|---------------|------|--|--|--|
| Asbestos Screen <sup>(S)</sup>        | N/a      | N/a    | ISO17025      |      |  |  |  |
| pH                                    | pH Units | N/a    | MCERTS        | 8.3  |  |  |  |
| W/S Sulphate as SO <sub>4</sub> (2:1) | mg/l     | < 10   | MCERTS        | 13   |  |  |  |
| W/S Sulphate as SO <sub>4</sub> (2:1) | g/l      | < 0.01 | MCERTS        | 0.01 |  |  |  |
| Sulphide                              | mg/kg    | < 5    | NONE          | < 5  |  |  |  |
| Total Organic Carbon (TOC)            | %        | < 0.1  | MCERTS        | 0.4  |  |  |  |
| Arsenic (As)                          | mg/kg    | < 2    | MCERTS        | 10   |  |  |  |
| W/S Boron                             | mg/kg    | < 1    | NONE          | < 1  |  |  |  |
| Cadmium (Cd)                          | mg/kg    | < 0.2  | MCERTS        | 0.3  |  |  |  |
| Chromium (Cr)                         | mg/kg    | < 2    | MCERTS        | 10   |  |  |  |
| Copper (Cu)                           | mg/kg    | < 4    | MCERTS        | 12   |  |  |  |
| Lead (Pb)                             | mg/kg    | < 3    | MCERTS        | 11   |  |  |  |
| Mercury (Hg)                          | mg/kg    | < 1    | NONE          | < 1  |  |  |  |
| Nickel (Ni)                           | mg/kg    | < 3    | MCERTS        | 8    |  |  |  |
| Selenium (Se)                         | mg/kg    | < 3    | NONE          | < 3  |  |  |  |
| Zinc (Zn)                             | mg/kg    | < 3    | MCERTS        | 34   |  |  |  |
| EPH (C10 - C40)                       | mg/kg    | < 6    | MCERTS        |      |  |  |  |

Analytical results are expressed on a dry weight basis where samples are assisted-dried at less than 30°C. The Samples Descriptions page describes if the test is performed on the dried or as-received portion  
Subcontracted analysis (S)



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| Soil Analysis Certificate - Speciated PAHs       |                        |               |               |               |               |               |
|--------------------------------------------------|------------------------|---------------|---------------|---------------|---------------|---------------|
| <b>DETS Report No: 20-04621</b>                  | <b>Date Sampled</b>    | 22/04/20      | 22/04/20      | 22/04/20      | 22/04/20      | 22/04/20      |
| <b>S Chick Investigations Ltd</b>                | <b>Time Sampled</b>    | None Supplied | None Supplied | None Supplied | None Supplied | None Supplied |
| <b>Site Reference: Court Lodge, Romney Marsh</b> | <b>TP / BH No</b>      | TP 101        | TP 101        | TP 101        | TP 102        | TP 102        |
| <b>Project / Job Ref: None Supplied</b>          | <b>Additional Refs</b> | None Supplied | None Supplied | None Supplied | None Supplied | None Supplied |
| <b>Order No: None Supplied</b>                   | <b>Depth (m)</b>       | 0.15          | 0.50          | 1.00          | 0.15          | 0.50          |
| <b>Reporting Date: 29/04/2020</b>                | <b>DETS Sample No</b>  | 474294        | 474295        | 474296        | 474297        | 474298        |

| Determinand            | Unit  | RL    | Accreditation |       |       |       |       |       |
|------------------------|-------|-------|---------------|-------|-------|-------|-------|-------|
| Naphthalene            | mg/kg | < 0.1 | MCERTS        | < 0.1 | < 0.1 | < 0.1 | < 0.1 | < 0.1 |
| Acenaphthylene         | mg/kg | < 0.1 | MCERTS        | < 0.1 | < 0.1 | < 0.1 | < 0.1 | < 0.1 |
| Acenaphthene           | mg/kg | < 0.1 | MCERTS        | < 0.1 | < 0.1 | < 0.1 | < 0.1 | < 0.1 |
| Fluorene               | mg/kg | < 0.1 | MCERTS        | < 0.1 | < 0.1 | < 0.1 | < 0.1 | < 0.1 |
| Phenanthrene           | mg/kg | < 0.1 | MCERTS        | 0.59  | < 0.1 | < 0.1 | 0.13  | < 0.1 |
| Anthracene             | mg/kg | < 0.1 | MCERTS        | 0.12  | < 0.1 | < 0.1 | < 0.1 | < 0.1 |
| Fluoranthene           | mg/kg | < 0.1 | MCERTS        | 1.30  | < 0.1 | < 0.1 | 0.18  | < 0.1 |
| Pyrene                 | mg/kg | < 0.1 | MCERTS        | 1.16  | < 0.1 | < 0.1 | 0.16  | < 0.1 |
| Benzo(a)anthracene     | mg/kg | < 0.1 | MCERTS        | 0.75  | < 0.1 | < 0.1 | 0.14  | < 0.1 |
| Chrysene               | mg/kg | < 0.1 | MCERTS        | 0.79  | < 0.1 | < 0.1 | < 0.1 | < 0.1 |
| Benzo(b)fluoranthene   | mg/kg | < 0.1 | MCERTS        | 1.10  | < 0.1 | < 0.1 | < 0.1 | < 0.1 |
| Benzo(k)fluoranthene   | mg/kg | < 0.1 | MCERTS        | 0.28  | < 0.1 | < 0.1 | < 0.1 | < 0.1 |
| Benzo(a)pyrene         | mg/kg | < 0.1 | MCERTS        | 0.75  | < 0.1 | < 0.1 | < 0.1 | < 0.1 |
| Indeno(1,2,3-cd)pyrene | mg/kg | < 0.1 | MCERTS        | 0.56  | < 0.1 | < 0.1 | < 0.1 | < 0.1 |
| Dibenz(a,h)anthracene  | mg/kg | < 0.1 | MCERTS        | 0.12  | < 0.1 | < 0.1 | < 0.1 | < 0.1 |
| Benzo(ghi)perylene     | mg/kg | < 0.1 | MCERTS        | 0.40  | < 0.1 | < 0.1 | < 0.1 | < 0.1 |
| Total EPA-16 PAHs      | mg/kg | < 1.6 | MCERTS        | 7.9   | < 1.6 | < 1.6 | < 1.6 | < 1.6 |



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**Kent ME17 2JN**  
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| Soil Analysis Certificate - Speciated PAHs       |                        |               |               |               |               |               |
|--------------------------------------------------|------------------------|---------------|---------------|---------------|---------------|---------------|
| <b>DETS Report No: 20-04621</b>                  | <b>Date Sampled</b>    | 22/04/20      | 22/04/20      | 22/04/20      | 22/04/20      | 22/04/20      |
| <b>S Chick Investigations Ltd</b>                | <b>Time Sampled</b>    | None Supplied | None Supplied | None Supplied | None Supplied | None Supplied |
| <b>Site Reference: Court Lodge, Romney Marsh</b> | <b>TP / BH No</b>      | TP 102        | TP 103        | TP 103        | TP 104        | TP 104        |
| <b>Project / Job Ref: None Supplied</b>          | <b>Additional Refs</b> | None Supplied | None Supplied | None Supplied | None Supplied | None Supplied |
| <b>Order No: None Supplied</b>                   | <b>Depth (m)</b>       | 1.00          | 0.15          | 0.50          | 0.15          | 0.50          |
| <b>Reporting Date: 29/04/2020</b>                | <b>DETS Sample No</b>  | 474299        | 474300        | 474301        | 474302        | 474303        |

| Determinand            | Unit  | RL    | Accreditation |       |       |       |       |       |
|------------------------|-------|-------|---------------|-------|-------|-------|-------|-------|
| Naphthalene            | mg/kg | < 0.1 | MCERTS        | < 0.1 | < 0.1 | < 0.1 | 1.42  | < 0.1 |
| Acenaphthylene         | mg/kg | < 0.1 | MCERTS        | < 0.1 | < 0.1 | < 0.1 | 1.60  | < 0.1 |
| Acenaphthene           | mg/kg | < 0.1 | MCERTS        | < 0.1 | < 0.1 | < 0.1 | 0.49  | < 0.1 |
| Fluorene               | mg/kg | < 0.1 | MCERTS        | < 0.1 | < 0.1 | < 0.1 | 3.86  | < 0.1 |
| Phenanthrene           | mg/kg | < 0.1 | MCERTS        | < 0.1 | 0.39  | < 0.1 | 42.30 | < 0.1 |
| Anthracene             | mg/kg | < 0.1 | MCERTS        | < 0.1 | < 0.1 | < 0.1 | 17.70 | < 0.1 |
| Fluoranthene           | mg/kg | < 0.1 | MCERTS        | < 0.1 | 0.87  | < 0.1 | 73.20 | < 0.1 |
| Pyrene                 | mg/kg | < 0.1 | MCERTS        | < 0.1 | 0.76  | < 0.1 | 57.10 | < 0.1 |
| Benzo(a)anthracene     | mg/kg | < 0.1 | MCERTS        | < 0.1 | 0.40  | < 0.1 | 42.20 | < 0.1 |
| Chrysene               | mg/kg | < 0.1 | MCERTS        | < 0.1 | 0.39  | < 0.1 | 33.40 | < 0.1 |
| Benzo(b)fluoranthene   | mg/kg | < 0.1 | MCERTS        | < 0.1 | 0.44  | < 0.1 | 37.50 | < 0.1 |
| Benzo(k)fluoranthene   | mg/kg | < 0.1 | MCERTS        | < 0.1 | < 0.1 | < 0.1 | 8.68  | < 0.1 |
| Benzo(a)pyrene         | mg/kg | < 0.1 | MCERTS        | < 0.1 | 0.32  | < 0.1 | 26.10 | < 0.1 |
| Indeno(1,2,3-cd)pyrene | mg/kg | < 0.1 | MCERTS        | < 0.1 | 0.30  | < 0.1 | 9.78  | < 0.1 |
| Dibenz(a,h)anthracene  | mg/kg | < 0.1 | MCERTS        | < 0.1 | < 0.1 | < 0.1 | 2.80  | < 0.1 |
| Benzo(ghi)perylene     | mg/kg | < 0.1 | MCERTS        | < 0.1 | 0.16  | < 0.1 | 7.20  | < 0.1 |
| Total EPA-16 PAHs      | mg/kg | < 1.6 | MCERTS        | < 1.6 | 4     | < 1.6 | 365   | < 1.6 |



DETS Ltd  
Unit 1, Rose Lane Industrial Estate  
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Maidstone  
Kent ME17 2JN  
Tel : 01622 850410



| Soil Analysis Certificate - Speciated PAHs |                 |               |  |  |  |  |
|--------------------------------------------|-----------------|---------------|--|--|--|--|
| DETS Report No: 20-04621                   | Date Sampled    | 22/04/20      |  |  |  |  |
| S Chick Investigations Ltd                 | Time Sampled    | None Supplied |  |  |  |  |
| Site Reference: Court Lodge, Romney Marsh  | TP / BH No      | TP 104        |  |  |  |  |
| Project / Job Ref: None Supplied           | Additional Refs | None Supplied |  |  |  |  |
| Order No: None Supplied                    | Depth (m)       | 1.00          |  |  |  |  |
| Reporting Date: 29/04/2020                 | DETS Sample No  | 474304        |  |  |  |  |

| Determinand            | Unit  | RL    | Accreditation |       |  |  |  |
|------------------------|-------|-------|---------------|-------|--|--|--|
| Naphthalene            | mg/kg | < 0.1 | MCERTS        | < 0.1 |  |  |  |
| Acenaphthylene         | mg/kg | < 0.1 | MCERTS        | < 0.1 |  |  |  |
| Acenaphthene           | mg/kg | < 0.1 | MCERTS        | < 0.1 |  |  |  |
| Fluorene               | mg/kg | < 0.1 | MCERTS        | < 0.1 |  |  |  |
| Phenanthrene           | mg/kg | < 0.1 | MCERTS        | < 0.1 |  |  |  |
| Anthracene             | mg/kg | < 0.1 | MCERTS        | < 0.1 |  |  |  |
| Fluoranthene           | mg/kg | < 0.1 | MCERTS        | < 0.1 |  |  |  |
| Pyrene                 | mg/kg | < 0.1 | MCERTS        | < 0.1 |  |  |  |
| Benzo(a)anthracene     | mg/kg | < 0.1 | MCERTS        | < 0.1 |  |  |  |
| Chrysene               | mg/kg | < 0.1 | MCERTS        | < 0.1 |  |  |  |
| Benzo(b)fluoranthene   | mg/kg | < 0.1 | MCERTS        | < 0.1 |  |  |  |
| Benzo(k)fluoranthene   | mg/kg | < 0.1 | MCERTS        | < 0.1 |  |  |  |
| Benzo(a)pyrene         | mg/kg | < 0.1 | MCERTS        | < 0.1 |  |  |  |
| Indeno(1,2,3-cd)pyrene | mg/kg | < 0.1 | MCERTS        | < 0.1 |  |  |  |
| Dibenz(a,h)anthracene  | mg/kg | < 0.1 | MCERTS        | < 0.1 |  |  |  |
| Benzo(ghi)perylene     | mg/kg | < 0.1 | MCERTS        | < 0.1 |  |  |  |
| Total EPA-16 PAHs      | mg/kg | < 1.6 | MCERTS        | < 1.6 |  |  |  |



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**Lenham Heath**  
**Maidstone**  
**Kent ME17 2JN**  
**Tel : 01622 850410**



**Soil Analysis Certificate - TPH LQM Banded**

|                                                  |                        |               |               |               |               |               |
|--------------------------------------------------|------------------------|---------------|---------------|---------------|---------------|---------------|
| <b>DETS Report No: 20-04621</b>                  | <b>Date Sampled</b>    | 22/04/20      | 22/04/20      | 22/04/20      | 22/04/20      | 22/04/20      |
| <b>S Chick Investigations Ltd</b>                | <b>Time Sampled</b>    | None Supplied | None Supplied | None Supplied | None Supplied | None Supplied |
| <b>Site Reference: Court Lodge, Romney Marsh</b> | <b>TP / BH No</b>      | TP 101        | TP 101        | TP 101        | TP 104        | TP 104        |
| <b>Project / Job Ref: None Supplied</b>          | <b>Additional Refs</b> | None Supplied | None Supplied | None Supplied | None Supplied | None Supplied |
| <b>Order No: None Supplied</b>                   | <b>Depth (m)</b>       | 0.15          | 0.50          | 1.00          | 0.50          | 1.00          |
| <b>Reporting Date: 29/04/2020</b>                | <b>DETS Sample No</b>  | 474294        | 474295        | 474296        | 474303        | 474304        |

| Determinand          | Unit  | RL     | Accreditation |        |        |        |        |        |
|----------------------|-------|--------|---------------|--------|--------|--------|--------|--------|
| Aliphatic >C5 - C6   | mg/kg | < 0.01 | NONE          | < 0.01 | < 0.01 | < 0.01 | < 0.01 | < 0.01 |
| Aliphatic >C6 - C8   | mg/kg | < 0.05 | NONE          | < 0.05 | < 0.05 | < 0.05 | < 0.05 | < 0.05 |
| Aliphatic >C8 - C10  | mg/kg | < 2    | MCERTS        | < 2    | < 2    | < 2    | < 2    | < 2    |
| Aliphatic >C10 - C12 | mg/kg | < 2    | MCERTS        | < 2    | < 2    | < 2    | < 2    | < 2    |
| Aliphatic >C12 - C16 | mg/kg | < 3    | MCERTS        | < 3    | < 3    | < 3    | < 3    | < 3    |
| Aliphatic >C16 - C35 | mg/kg | < 10   | MCERTS        | < 10   | < 10   | < 10   | < 10   | < 10   |
| Aliphatic >C35 - C44 | mg/kg | < 10   | NONE          | < 10   | < 10   | < 10   | < 10   | < 10   |
| Aliphatic (C5 - C44) | mg/kg | < 30   | NONE          | < 30   | < 30   | < 30   | < 30   | < 30   |
| Aromatic >C5 - C7    | mg/kg | < 0.01 | NONE          | < 0.01 | < 0.01 | < 0.01 | < 0.01 | < 0.01 |
| Aromatic >C7 - C8    | mg/kg | < 0.05 | NONE          | < 0.05 | < 0.05 | < 0.05 | < 0.05 | < 0.05 |
| Aromatic >C8 - C10   | mg/kg | < 2    | MCERTS        | < 2    | < 2    | < 2    | < 2    | < 2    |
| Aromatic >C10 - C12  | mg/kg | < 2    | MCERTS        | < 2    | < 2    | < 2    | < 2    | < 2    |
| Aromatic >C12 - C16  | mg/kg | < 2    | MCERTS        | < 2    | < 2    | < 2    | < 2    | < 2    |
| Aromatic >C16 - C21  | mg/kg | < 3    | MCERTS        | < 3    | < 3    | < 3    | < 3    | < 3    |
| Aromatic >C21 - C35  | mg/kg | < 10   | MCERTS        | < 10   | < 10   | < 10   | < 10   | < 10   |
| Aromatic >C35 - C44  | mg/kg | < 10   | NONE          | < 10   | < 10   | < 10   | < 10   | < 10   |
| Aromatic (>C5 - C44) | mg/kg | < 30   | NONE          | < 30   | < 30   | < 30   | < 30   | < 30   |
| Total >C5 - C44      | mg/kg | < 60   | NONE          | < 60   | < 60   | < 60   | < 60   | < 60   |



DETS Ltd  
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Lenham Heath  
Maidstone  
Kent ME17 2JN  
Tel : 01622 850410



| Soil Analysis Certificate - BTEX / MTBE   |                 |               |               |               |               |               |
|-------------------------------------------|-----------------|---------------|---------------|---------------|---------------|---------------|
| DETS Report No: 20-04621                  | Date Sampled    | 22/04/20      | 22/04/20      | 22/04/20      | 22/04/20      | 22/04/20      |
| S Chick Investigations Ltd                | Time Sampled    | None Supplied | None Supplied | None Supplied | None Supplied | None Supplied |
| Site Reference: Court Lodge, Romney Marsh | TP / BH No      | TP 101        | TP 101        | TP 101        | TP 104        | TP 104        |
| Project / Job Ref: None Supplied          | Additional Refs | None Supplied | None Supplied | None Supplied | None Supplied | None Supplied |
| Order No: None Supplied                   | Depth (m)       | 0.15          | 0.50          | 1.00          | 0.50          | 1.00          |
| Reporting Date: 29/04/2020                | DETS Sample No  | 474294        | 474295        | 474296        | 474303        | 474304        |

| Determinand  | Unit  | RL  | Accreditation |     |     |     |     |     |
|--------------|-------|-----|---------------|-----|-----|-----|-----|-----|
| Benzene      | ug/kg | < 2 | MCERTS        | < 2 | < 2 | < 2 | < 2 | < 2 |
| Toluene      | ug/kg | < 5 | MCERTS        | < 5 | < 5 | < 5 | < 5 | < 5 |
| Ethylbenzene | ug/kg | < 2 | MCERTS        | < 2 | < 2 | < 2 | < 2 | < 2 |
| p & m-xylene | ug/kg | < 2 | MCERTS        | < 2 | 3   | < 2 | < 2 | < 2 |
| o-xylene     | ug/kg | < 2 | MCERTS        | < 2 | < 2 | < 2 | < 2 | < 2 |
| MTBE         | ug/kg | < 5 | MCERTS        | < 5 | < 5 | < 5 | < 5 | < 5 |



DETS Ltd  
Unit 1, Rose Lane Industrial Estate  
Rose Lane  
Lenham Heath  
Maidstone  
Kent ME17 2JN  
Tel : 01622 850410



# Soil Analysis Certificate - Volatile Organic Compounds (VOC)

|                                           |                 |               |               |               |  |  |
|-------------------------------------------|-----------------|---------------|---------------|---------------|--|--|
| DETS Report No: 20-04621                  | Date Sampled    | 22/04/20      | 22/04/20      | 22/04/20      |  |  |
| S Chick Investigations Ltd                | Time Sampled    | None Supplied | None Supplied | None Supplied |  |  |
| Site Reference: Court Lodge, Romney Marsh | TP / BH No      | TP 101        | TP 104        | TP 104        |  |  |
| Project / Job Ref: None Supplied          | Additional Refs | None Supplied | None Supplied | None Supplied |  |  |
| Order No: None Supplied                   | Depth (m)       | 1.00          | 0.50          | 1.00          |  |  |
| Reporting Date: 29/04/2020                | DETS Sample No  | 474296        | 474303        | 474304        |  |  |

| Determinand                 | Unit  | RL   | Accreditation |      |      |      |  |
|-----------------------------|-------|------|---------------|------|------|------|--|
| Dichlorodifluoromethane     | ug/kg | < 5  | MCERTS        | < 5  | < 5  | < 5  |  |
| Vinyl Chloride              | ug/kg | < 5  | MCERTS        | < 5  | < 5  | < 5  |  |
| Chloromethane               | ug/kg | < 10 | MCERTS        | < 10 | < 10 | < 10 |  |
| Chloroethane                | ug/kg | < 5  | MCERTS        | < 5  | < 5  | < 5  |  |
| Bromomethane                | ug/kg | < 10 | MCERTS        | < 10 | < 10 | < 10 |  |
| Trichlorofluoromethane      | ug/kg | < 5  | MCERTS        | < 5  | < 5  | < 5  |  |
| 1,1-Dichloroethene          | ug/kg | < 5  | MCERTS        | < 5  | < 5  | < 5  |  |
| MTBE                        | ug/kg | < 5  | MCERTS        | < 5  | < 5  | < 5  |  |
| trans-1,2-Dichloroethene    | ug/kg | < 5  | MCERTS        | < 5  | < 5  | < 5  |  |
| 1,1-Dichloroethane          | ug/kg | < 5  | MCERTS        | < 5  | < 5  | < 5  |  |
| cis-1,2-Dichloroethene      | ug/kg | < 5  | MCERTS        | < 5  | < 5  | < 5  |  |
| 2,2-Dichloropropane         | ug/kg | < 5  | MCERTS        | < 5  | < 5  | < 5  |  |
| Chloroform                  | ug/kg | < 5  | MCERTS        | < 5  | < 5  | < 5  |  |
| Bromochloromethane          | ug/kg | < 5  | MCERTS        | < 5  | < 5  | < 5  |  |
| 1,1,1-Trichloroethane       | ug/kg | < 5  | MCERTS        | < 5  | < 5  | < 5  |  |
| 1,1-Dichloropropene         | ug/kg | < 10 | MCERTS        | < 10 | < 10 | < 10 |  |
| Carbon Tetrachloride        | ug/kg | < 5  | MCERTS        | < 5  | < 5  | < 5  |  |
| 1,2-Dichloroethane          | ug/kg | < 5  | MCERTS        | < 5  | < 5  | < 5  |  |
| Benzene                     | ug/kg | < 2  | MCERTS        | < 2  | < 2  | < 2  |  |
| 1,2-Dichloropropane         | ug/kg | < 5  | MCERTS        | < 5  | < 5  | < 5  |  |
| Trichloroethene             | ug/kg | < 5  | MCERTS        | < 5  | < 5  | < 5  |  |
| Bromodichloromethane        | ug/kg | < 5  | MCERTS        | < 5  | < 5  | < 5  |  |
| Dibromomethane              | ug/kg | < 5  | MCERTS        | < 5  | < 5  | < 5  |  |
| TAME                        | ug/kg | < 5  | MCERTS        | < 5  | < 5  | < 5  |  |
| cis-1,3-Dichloropropene     | ug/kg | < 5  | MCERTS        | < 5  | < 5  | < 5  |  |
| Toluene                     | ug/kg | < 5  | MCERTS        | < 5  | < 5  | < 5  |  |
| trans-1,3-Dichloropropene   | ug/kg | < 5  | MCERTS        | < 5  | < 5  | < 5  |  |
| 1,1,2-Trichloroethane       | ug/kg | < 10 | MCERTS        | < 10 | < 10 | < 10 |  |
| 1,3-Dichloropropane         | ug/kg | < 5  | MCERTS        | < 5  | < 5  | < 5  |  |
| Tetrachloroethene           | ug/kg | < 5  | MCERTS        | < 5  | < 5  | < 5  |  |
| Dibromochloromethane        | ug/kg | < 5  | MCERTS        | < 5  | < 5  | < 5  |  |
| 1,2-Dibromoethane           | ug/kg | < 5  | MCERTS        | < 5  | < 5  | < 5  |  |
| Chlorobenzene               | ug/kg | < 5  | MCERTS        | < 5  | < 5  | < 5  |  |
| 1,1,1,2-Tetrachloroethane   | ug/kg | < 5  | MCERTS        | < 5  | < 5  | < 5  |  |
| Ethyl Benzene               | ug/kg | < 2  | MCERTS        | < 2  | < 2  | < 2  |  |
| m,p-Xylene                  | ug/kg | < 2  | MCERTS        | < 2  | < 2  | < 2  |  |
| o-Xylene                    | ug/kg | < 2  | MCERTS        | < 2  | < 2  | < 2  |  |
| Styrene                     | ug/kg | < 5  | MCERTS        | < 5  | < 5  | < 5  |  |
| Bromoform                   | ug/kg | < 10 | MCERTS        | < 10 | < 10 | < 10 |  |
| Isopropylbenzene            | ug/kg | < 5  | MCERTS        | < 5  | < 5  | < 5  |  |
| 1,1,2,2-Tetrachloroethane   | ug/kg | < 5  | MCERTS        | < 5  | < 5  | < 5  |  |
| 1,2,3-Trichloropropane      | ug/kg | < 5  | MCERTS        | < 5  | < 5  | < 5  |  |
| n-Propylbenzene             | ug/kg | < 5  | MCERTS        | < 5  | < 5  | < 5  |  |
| Bromobenzene                | ug/kg | < 5  | MCERTS        | < 5  | < 5  | < 5  |  |
| 2-Chlorotoluene             | ug/kg | < 5  | MCERTS        | < 5  | < 5  | < 5  |  |
| 1,3,5-Trimethylbenzene      | ug/kg | < 5  | MCERTS        | < 5  | < 5  | < 5  |  |
| 4-Chlorotoluene             | ug/kg | < 5  | MCERTS        | < 5  | < 5  | < 5  |  |
| tert-Butylbenzene           | ug/kg | < 5  | MCERTS        | < 5  | < 5  | < 5  |  |
| 1,2,4-Trimethylbenzene      | ug/kg | < 5  | MCERTS        | < 5  | < 5  | < 5  |  |
| sec-Butylbenzene            | ug/kg | < 5  | MCERTS        | < 5  | < 5  | < 5  |  |
| p-Isopropyltoluene          | ug/kg | < 5  | MCERTS        | < 5  | < 5  | < 5  |  |
| 1,3-Dichlorobenzene         | ug/kg | < 5  | MCERTS        | < 5  | < 5  | < 5  |  |
| 1,4-Dichlorobenzene         | ug/kg | < 5  | MCERTS        | < 5  | < 5  | < 5  |  |
| n-Butylbenzene              | ug/kg | < 5  | MCERTS        | < 5  | < 5  | < 5  |  |
| 1,2-Dichlorobenzene         | ug/kg | < 5  | MCERTS        | < 5  | < 5  | < 5  |  |
| 1,2-Dibromo-3-chloropropane | ug/kg | < 10 | MCERTS        | < 10 | < 10 | < 10 |  |
| Hexachlorobutadiene         | ug/kg | < 5  | MCERTS        | < 5  | < 5  | < 5  |  |



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#### Soil Analysis Certificate - Sample Descriptions

|                                           |  |
|-------------------------------------------|--|
| DETS Report No: 20-04621                  |  |
| S Chick Investigations Ltd                |  |
| Site Reference: Court Lodge, Romney Marsh |  |
| Project / Job Ref: None Supplied          |  |
| Order No: None Supplied                   |  |
| Reporting Date: 29/04/2020                |  |

| DETS Sample No | TP / BH No | Additional Refs | Depth (m) | Moisture Content (%) | Sample Matrix Description                    |
|----------------|------------|-----------------|-----------|----------------------|----------------------------------------------|
| 474294         | TP 101     | None Supplied   | 0.15      | 10.1                 | Brown clayey sand with stones and vegetation |
| 474295         | TP 101     | None Supplied   | 0.50      | 16                   | Brown sandy clay                             |
| 474296         | TP 101     | None Supplied   | 1.00      | 15.4                 | Brown clayey sand                            |
| 474297         | TP 102     | None Supplied   | 0.15      | 13.2                 | Brown clayey sand with vegetation and stones |
| 474298         | TP 102     | None Supplied   | 0.50      | 15.3                 | Brown sandy clay with vegetation             |
| 474299         | TP 102     | None Supplied   | 1.00      | 16.1                 | Brown clayey sand                            |
| 474300         | TP 103     | None Supplied   | 0.15      | 14.6                 | Brown clayey sand with vegetation            |
| 474301         | TP 103     | None Supplied   | 0.50      | 13.4                 | Brown clayey sand with stones                |
| 474302         | TP 104     | None Supplied   | 0.15      | 11                   | Brown clayey sand with stones                |
| 474303         | TP 104     | None Supplied   | 0.50      | 15.5                 | Brown sandy clay                             |
| 474304         | TP 104     | None Supplied   | 1.00      | 16.4                 | Brown sandy clay                             |

Moisture content is part of procedure E003 & is not an accredited test

Insufficient Sample <sup>1/5</sup>

Unsuitable Sample <sup>U/S</sup>



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#### Soil Analysis Certificate - Methodology & Miscellaneous Information

**DETS Report No: 20-04621**

**S Chick Investigations Ltd**

**Site Reference: Court Lodge, Romney Marsh**

**Project / Job Ref: None Supplied**

**Order No: None Supplied**

**Reporting Date: 29/04/2020**

| Matrix | Analysed On | Determinand                                                                                                                                     | Brief Method Description                                                                                                                            | Method No |
|--------|-------------|-------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------|-----------|
| Soil   | D           | Boron - Water Soluble                                                                                                                           | Determination of water soluble boron in soil by 2:1 hot water extract followed by ICP-OES                                                           | E012      |
| Soil   | AR          | BTEX                                                                                                                                            | Determination of BTEX by headspace GC-MS                                                                                                            | E001      |
| Soil   | D           | Cations                                                                                                                                         | Determination of cations in soil by aqua-regia digestion followed by ICP-OES                                                                        | E002      |
| Soil   | D           | Chloride - Water Soluble (2:1)                                                                                                                  | Determination of chloride by extraction with water & analysed by ion chromatography                                                                 | E009      |
| Soil   | AR          | Chromium - Hexavalent                                                                                                                           | Determination of hexavalent chromium in soil by extraction in water then by acidification, addition of 1,5 dphenylcarbazine followed by colorimetry | E016      |
| Soil   | AR          | Cyanide - Complex                                                                                                                               | Determination of complex cyanide by distillation followed by colorimetry                                                                            | E015      |
| Soil   | AR          | Cyanide - Free                                                                                                                                  | Determination of free cyanide by distillation followed by colorimetry                                                                               | E015      |
| Soil   | AR          | Cyanide - Total                                                                                                                                 | Determination of total cyanide by distillation followed by colorimetry                                                                              | E015      |
| Soil   | D           | Cyclohexane Extractable Matter (CEM)                                                                                                            | Gravimetrically determined through extraction with cyclohexane                                                                                      | E011      |
| Soil   | AR          | Diesel Range Organics (C10 - C24)                                                                                                               | Determination of hexane/acetone extractable hydrocarbons by GC-FID                                                                                  | E004      |
| Soil   | AR          | Electrical Conductivity                                                                                                                         | Determination of electrical conductivity by addition of saturated calcium sulphate followed by electrometric measurement                            | E022      |
| Soil   | AR          | Electrical Conductivity                                                                                                                         | Determination of electrical conductivity by addition of water followed by electrometric measurement                                                 | E023      |
| Soil   | D           | Elemental Sulphur                                                                                                                               | Determination of elemental sulphur by solvent extraction followed by GC-MS                                                                          | E020      |
| Soil   | AR          | EPH (C10 - C40)                                                                                                                                 | Determination of acetone/hexane extractable hydrocarbons by GC-FID                                                                                  | E004      |
| Soil   | AR          | EPH Product ID                                                                                                                                  | Determination of acetone/hexane extractable hydrocarbons by GC-FID                                                                                  | E004      |
| Soil   | AR          | EPH TEXAS (C6-C8, C8-C10, C10-C12, C12-C16, C16-C21, C21-C40)                                                                                   | Determination of acetone/hexane extractable hydrocarbons by GC-FID for C8 to C40. C6 to C8 by headspace GC-MS                                       | E004      |
| Soil   | D           | Fluoride - Water Soluble                                                                                                                        | Determination of Fluoride by extraction with water & analysed by ion chromatography                                                                 | E009      |
| Soil   | D           | FOC (Fraction Organic Carbon)                                                                                                                   | Determination of fraction of organic carbon by oxidising with potassium dichromate followed by titration with iron (II) sulphate                    | E010      |
| Soil   | D           | Loss on Ignition @ 450oC                                                                                                                        | Determination of loss on ignition in soil by gravimetrically with the sample being ignited in a muffle furnace                                      | E019      |
| Soil   | D           | Magnesium - Water Soluble                                                                                                                       | Determination of water soluble magnesium by extraction with water followed by ICP-OES                                                               | E025      |
| Soil   | D           | Metals                                                                                                                                          | Determination of metals by aqua-regia digestion followed by ICP-OES                                                                                 | E002      |
| Soil   | AR          | Mineral Oil (C10 - C40)                                                                                                                         | Determination of hexane/acetone extractable hydrocarbons by GC-FID fractionating with SPE cartridge                                                 | E004      |
| Soil   | AR          | Moisture Content                                                                                                                                | Moisture content; determined gravimetrically                                                                                                        | E003      |
| Soil   | D           | Nitrate - Water Soluble (2:1)                                                                                                                   | Determination of nitrate by extraction with water & analysed by ion chromatography                                                                  | E009      |
| Soil   | D           | Organic Matter                                                                                                                                  | Determination of organic matter by oxidising with potassium dichromate followed by titration with iron (II) sulphate                                | E010      |
| Soil   | AR          | PAH - Speciated (EPA 16)                                                                                                                        | Determination of PAH compounds by extraction in acetone and hexane followed by GC-MS with the use of surrogate and internal standards               | E005      |
| Soil   | AR          | PCB - 7 Congeners                                                                                                                               | Determination of PCB by extraction with acetone and hexane followed by GC-MS                                                                        | E008      |
| Soil   | D           | Petroleum Ether Extract (PEE)                                                                                                                   | Gravimetrically determined through extraction with petroleum ether                                                                                  | E011      |
| Soil   | AR          | pH                                                                                                                                              | Determination of pH by addition of water followed by electrometric measurement                                                                      | E007      |
| Soil   | AR          | Phenols - Total (monohydric)                                                                                                                    | Determination of phenols by distillation followed by colorimetry                                                                                    | E021      |
| Soil   | D           | Phosphate - Water Soluble (2:1)                                                                                                                 | Determination of phosphate by extraction with water & analysed by ion chromatography                                                                | E009      |
| Soil   | D           | Sulphate (as SO4) - Total                                                                                                                       | Determination of total sulphate by extraction with 10% HCl followed by ICP-OES                                                                      | E013      |
| Soil   | D           | Sulphate (as SO4) - Water Soluble (2:1)                                                                                                         | Determination of sulphate by extraction with water & analysed by ion chromatography                                                                 | E009      |
| Soil   | D           | Sulphate (as SO4) - Water Soluble (2:1)                                                                                                         | Determination of water soluble sulphate by extraction with water followed by ICP-OES                                                                | E014      |
| Soil   | AR          | Sulphide                                                                                                                                        | Determination of sulphide by distillation followed by colorimetry                                                                                   | E018      |
| Soil   | D           | Sulphur - Total                                                                                                                                 | Determination of total sulphur by extraction with aqua-regia followed by ICP-OES                                                                    | E024      |
| Soil   | AR          | SVOC                                                                                                                                            | Determination of semi-volatile organic compounds by extraction in acetone and hexane followed by GC-MS                                              | E006      |
| Soil   | AR          | Thiocyanate (as SCN)                                                                                                                            | Determination of thiocyanate by extraction in caustic soda followed by acidification followed by addition of ferric nitrate followed by colorimetry | E017      |
| Soil   | D           | Toluene Extractable Matter (TEM)                                                                                                                | Gravimetrically determined through extraction with toluene                                                                                          | E011      |
| Soil   | D           | Total Organic Carbon (TOC)                                                                                                                      | Determination of organic matter by oxidising with potassium dichromate followed by titration with iron (II) sulphate                                | E010      |
| Soil   | AR          | TPH CWG (ali: C5- C6, C6-C8, C8-C10, C10-C12, C12-C16, C16-C21, C21-C34, aro: C5-C7, C7-C8, C8-C10, C10-C12, C12-C16, C16-C21, C21-C35)         | Determination of hexane/acetone extractable hydrocarbons by GC-FID fractionating with SPE cartridge for C8 to C35. C5 to C8 by headspace GC-MS      | E004      |
| Soil   | AR          | TPH LQM (ali: C5-C6, C6-C8, C8-C10, C10-C12, C12-C16, C16-C35, C35-C44, aro: C5-C7, C7-C8, C8-C10, C10-C12, C12-C16, C16-C21, C21-C35, C35-C44) | Determination of hexane/acetone extractable hydrocarbons by GC-FID fractionating with SPE cartridge for C8 to C44. C5 to C8 by headspace GC-MS      | E004      |
| Soil   | AR          | VOCs                                                                                                                                            | Determination of volatile organic compounds by headspace GC-MS                                                                                      | E001      |
| Soil   | AR          | VPH (C6-C8 & C8-C10)                                                                                                                            | Determination of hydrocarbons C6-C8 by headspace GC-MS & C8-C10 by GC-FID                                                                           | E001      |

**D Dried**  
**AR As Received**

*Dig-Geotech Limited*

South View  
Easthams Road  
Crewkerne  
Somerset TA18 7AQ

*[www.dig-geotech.com](http://www.dig-geotech.com)*

Tel : 01460 768 38