

# **HERTS & ESSEX SITE INVESTIGATIONS**

'THE OLD POST OFFICE', WELLPOND GREEN,  
STANDON, WARE, HERTS, SG11 1NJ

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**GEOTECHNICAL ASSESSMENTS – ENVIRONMENTAL ASSESSMENTS - DESKTOP STUDY – CONTAMINATED LAND**

12<sup>th</sup> August 2019

Our Ref : CSG / 14246

Mead Building Contractors  
The 10 Centre  
Unit 29  
Hearle Way,  
Hatfield  
AL10 9EW

**For the attention of L.Mead Esq.,**

Dear Sir,

**RE : 1 - 11a Swains Lane, London N6 6QX : Hydrocarbon Validation.**

Further to your recent instructions, we have undertaken a site inspection of the above site with the purpose of sampling the from soils exposed in four locations around the western block to further assess if the risks from Hydrocarbons have been removed from the site and therefore no further mitigation measure are required within the site.

Four location around the foundation of the new building were exposed by the client. Within each of these locations a hand auger was extended to retrieve a soil sample to be tested for TPH CWG.

The soils seen in place within all the locations was a firm to stiff orange brown CLAY, no staining nor odour was in place.

The results of the chemical testing showed that no elevated levels of Hydrocarbons are in place which would confirm the finding of the tank validation works completed at the site previously, in that the underground fuel storage tanks is unlikely to have caused a future risk to human health or the environment, and no further mitigation measures are required within the building

I hope the foregoing is sufficient for your requirements, although, please do not hesitate to contact us should you require any additional information.

Yours Faithfully



**C.S.Gray, M.Sc**  
Contract Engineer.

# HERTS & ESSEX SITE INVESTIGATIONS

The Old Post Office, Wellpond Green, Standon, Ware, Herts SG11 1NJ

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Appendix No. 1

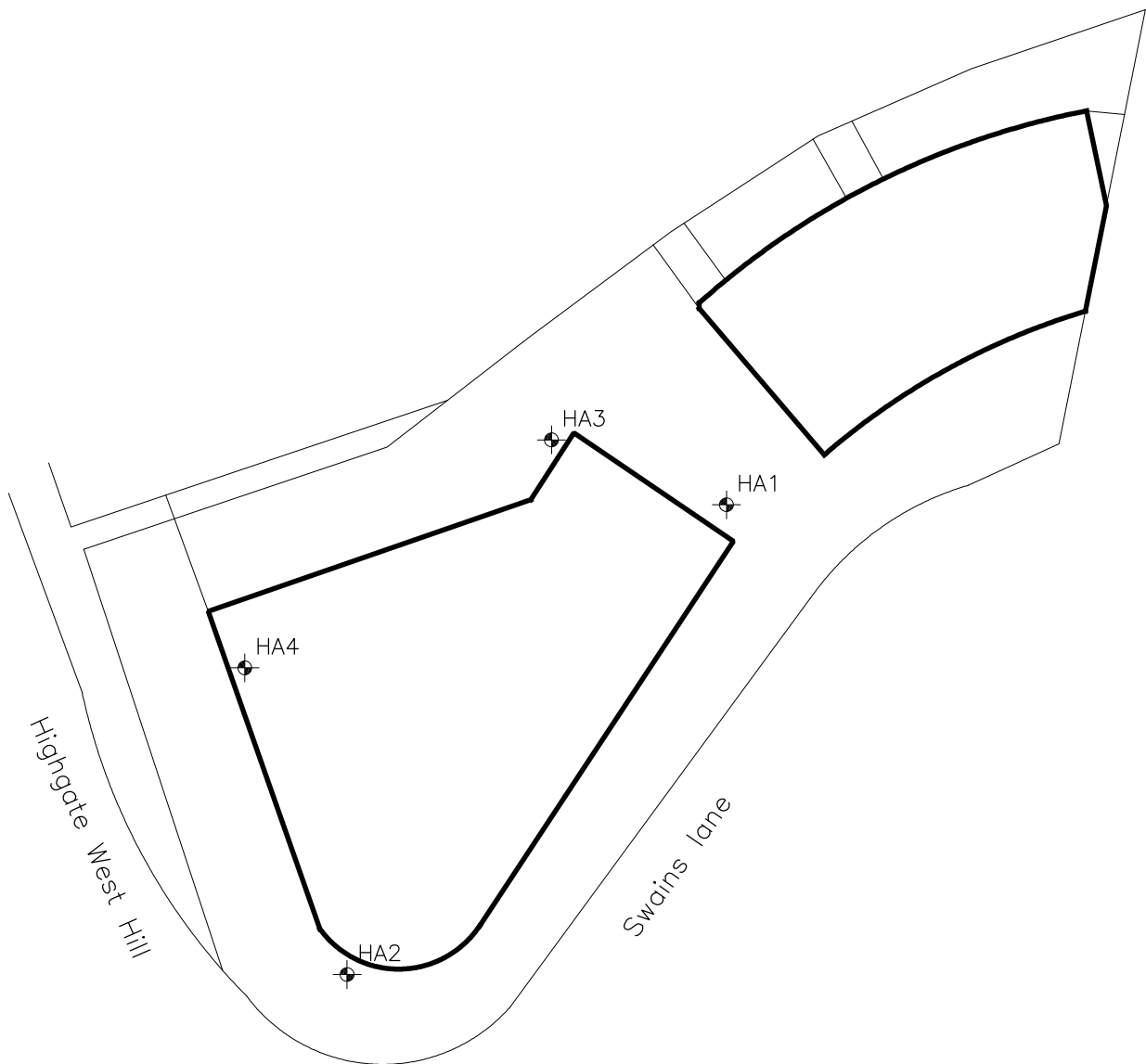
Sheet No. 1

Job No. 14246

Date July 2019

1-11a Swains lane Redbridge N6 6QX

Site Plan with Hand Auger Locations



Not To Scale  
Sketch No: LTR/14246/01/01



Chris Gray  
Herts and Essex Site Investigations  
The Old Post Office  
Wellpond Green  
Standon  
Ware  
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SH11 1DJ

**DETS Ltd**  
Unit 1  
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Lenham Heath  
Kent  
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## **DETS Report No: 19-10371**

**Site Reference:** 1 - 11a Swains Lane, London, N6 6QX

**Project / Job Ref:** 14246

**Order No:** 14246

**Sample Receipt Date:** 19/07/2019

**Sample Scheduled Date:** 19/07/2019

**Report Issue Number:** 1

**Reporting Date:** 25/07/2019

**Authorised by:**

A handwritten signature in grey ink, appearing to read "Dave Ashworth".

Dave Ashworth  
Deputy Quality Manager

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| Soil Analysis Certificate - TPH CWG Banded             |                 |               |               |               |               |  |
|--------------------------------------------------------|-----------------|---------------|---------------|---------------|---------------|--|
| DETS Report No: 19-10371                               | Date Sampled    | 18/07/19      | 18/07/19      | 18/07/19      | 18/07/19      |  |
| Herts and Essex Site Investigations                    | Time Sampled    | None Supplied | None Supplied | None Supplied | None Supplied |  |
| Site Reference: 1 - 11a Swains Lane,<br>London, N6 6QX | TP / BH No      | HA1           | HA2           | HA3           | HA4           |  |
| Project / Job Ref: 14246                               | Additional Refs | AJ250         | AJ250         | AJ250         | AJ250         |  |
| Order No: 14246                                        | Depth (m)       | 0.30          | 0.40          | 0.50          | 0.60          |  |
| Reporting Date: 25/07/2019                             | DETS Sample No  | 422533        | 422534        | 422535        | 422536        |  |

| Determinand          | Unit  | RL     | Accreditation |        |        |        |        |  |
|----------------------|-------|--------|---------------|--------|--------|--------|--------|--|
| Aliphatic >C5 - C6   | mg/kg | < 0.01 | NONE          | < 0.01 | < 0.01 | < 0.01 | < 0.01 |  |
| Aliphatic >C6 - C8   | mg/kg | < 0.05 | NONE          | < 0.05 | < 0.05 | < 0.05 | < 0.05 |  |
| Aliphatic >C8 - C10  | mg/kg | < 2    | MCERTS        | < 2    | < 2    | < 2    | < 2    |  |
| Aliphatic >C10 - C12 | mg/kg | < 2    | MCERTS        | < 2    | < 2    | < 2    | < 2    |  |
| Aliphatic >C12 - C16 | mg/kg | < 3    | MCERTS        | < 3    | < 3    | < 3    | < 3    |  |
| Aliphatic >C16 - C21 | mg/kg | < 3    | MCERTS        | < 3    | < 3    | < 3    | < 3    |  |
| Aliphatic >C21 - C34 | mg/kg | < 10   | MCERTS        | < 10   | < 10   | < 10   | < 10   |  |
| Aliphatic (C5 - C34) | mg/kg | < 21   | NONE          | < 21   | < 21   | < 21   | < 21   |  |
| Aromatic >C5 - C7    | mg/kg | < 0.01 | NONE          | < 0.01 | < 0.01 | < 0.01 | < 0.01 |  |
| Aromatic >C7 - C8    | mg/kg | < 0.05 | NONE          | < 0.05 | < 0.05 | < 0.05 | < 0.05 |  |
| Aromatic >C8 - C10   | mg/kg | < 2    | MCERTS        | < 2    | < 2    | < 2    | < 2    |  |
| Aromatic >C10 - C12  | mg/kg | < 2    | MCERTS        | < 2    | < 2    | < 2    | < 2    |  |
| Aromatic >C12 - C16  | mg/kg | < 2    | MCERTS        | < 2    | < 2    | < 2    | < 2    |  |
| Aromatic >C16 - C21  | mg/kg | < 3    | MCERTS        | < 3    | < 3    | < 3    | < 3    |  |
| Aromatic >C21 - C35  | mg/kg | < 10   | MCERTS        | < 10   | < 10   | < 10   | < 10   |  |
| Aromatic (C5 - C35)  | mg/kg | < 21   | NONE          | < 21   | < 21   | < 21   | < 21   |  |
| Total >C5 - C35      | mg/kg | < 42   | NONE          | < 42   | < 42   | < 42   | < 42   |  |

Analytical results are expressed on a dry weight basis where samples are assisted-dried at less than 30°C



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| Soil Analysis Certificate - BTEX / MTBE                |                 |               |               |               |               |  |
|--------------------------------------------------------|-----------------|---------------|---------------|---------------|---------------|--|
| DETS Report No: 19-10371                               | Date Sampled    | 18/07/19      | 18/07/19      | 18/07/19      | 18/07/19      |  |
| Herts and Essex Site Investigations                    | Time Sampled    | None Supplied | None Supplied | None Supplied | None Supplied |  |
| Site Reference: 1 - 11a Swains Lane,<br>London, N6 6QX | TP / BH No      | HA1           | HA2           | HA3           | HA4           |  |
| Project / Job Ref: 14246                               | Additional Refs | AJ250         | AJ250         | AJ250         | AJ250         |  |
| Order No: 14246                                        | Depth (m)       | 0.30          | 0.40          | 0.50          | 0.60          |  |
| Reporting Date: 25/07/2019                             | DETS Sample No  | 422533        | 422534        | 422535        | 422536        |  |

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

Analytical results are expressed on a dry weight basis where samples are assisted-dried at less than 30°C



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| Soil Analysis Certificate - Sample Descriptions     |  |
|-----------------------------------------------------|--|
| DETS Report No: 19-10371                            |  |
| Herts and Essex Site Investigations                 |  |
| Site Reference: 1 - 11a Swains Lane, London, N6 6QX |  |
| Project / Job Ref: 14246                            |  |
| Order No: 14246                                     |  |
| Reporting Date: 25/07/2019                          |  |

| DETS Sample No | TP / BH No | Additional Refs | Depth (m) | Moisture Content (%) | Sample Matrix Description |
|----------------|------------|-----------------|-----------|----------------------|---------------------------|
| 422533         | HA1        | AJ250           | 0.30      | 19.4                 | Brown clay                |
| 422534         | HA2        | AJ250           | 0.40      | 16.4                 | Brown clayey sand         |
| 422535         | HA3        | AJ250           | 0.50      | 23                   | Brown clay                |
| 422536         | HA4        | AJ250           | 0.60      | 25.7                 | Brown clay                |

Moisture content is part of procedure E003 & is not an accredited test  
Insufficient Sample <sup>U/S</sup>  
Unsuitable Sample <sup>U/S</sup>





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| Soil Analysis Certificate - Methodology & Miscellaneous Information |  |
|---------------------------------------------------------------------|--|
| DETS Report No: 19-10371                                            |  |
| Herts and Essex Site Investigations                                 |  |
| Site Reference: 1 - 11a Swains Lane, London, N6 6QX                 |  |
| Project / Job Ref: 14246                                            |  |
| Order No: 14246                                                     |  |
| Reporting Date: 25/07/2019                                          |  |

| 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 diphenylcarbazide 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**