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Leo Griggs
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Dear Leo,

SUPPLEMENTARY GROUND INVESTIGATION & REMEDIATION REPORT FORMER RADNOR HOSPITAL, FOLKESTONE

Contents

1. *Introduction & Purpose of the Trial Pits Investigation*

Knapp Hicks & Partners Limited were instructed to undertake some supplementary investigations at the above site by Alliance Building Contractors (Alliance).

The purpose of the investigations was (a) to provide further detailed assessment of the findings of the original site investigation report by Hydrock (Reference 1) and (b) for submission for Final Planning Approval in relation to Planning Condition 22 Part 1. In addition, (c) soakage tests were carried out in three trial pits in accordance with BRE365 to assess infiltration rates in the Folkestone Sand Formation which is present beneath the site at all locations and results are provided in Section 4

Trial pits were selected as the optimum method of investigation to help expose and understand the extent and characteristics of all potential contamination sources. Based on the findings, Sections 6 & 7 of this document also provide details of an appropriate remediation scheme to address Planning Condition 22 Part 2.

At the time of our visit, the demolition work had been completed in two phases (1 & 2) and much of the site was covered in a layer of hardcore comprised mostly of crushed brick and concrete derived from the demolition process. Surplus material from the demolition is currently retained on site in Stockpiles referred to in this report as the Old stockpile (derived from the Phase 1 demolition) and Stockpiles 1 & 2 (derived from the Phase 2 demolition).

The site slopes from Radnor Park Avenue (the front) along the southern boundary, north towards Parkfield Road. A portion of the original hospital building has been retained in the south west corner of the site and it is understood this is being refurbished.

The northern and northwestern boundary of the site is bound by a fence and mature trees. The eastern portion of the site is bound by existing housing except for one opening connecting the site to Radnor Park Road to the east. This area will be developed as a later phase of the same project.

2. *Scope of the Supplementary Investigations*

The original site investigation report included windowless sampler boreholes at representative locations around the site. Hotspots of slightly elevated contamination were identified in boreholes WS3, WS6 and WS7. Therefore our recent investigation revisited these locations and machine dug trial pits were excavated to check the potential sources of the contamination encountered.

Representative samples were submitted for laboratory testing in order that the results from trial pits could be compared against the original results.

Trial Pit	Purpose
A1	Close to hotspot in original WS3
A2	Located in back gardens to townhouses further along from TP A1 to check continuity of ground
A3	Located within gardens of central terrace of 4 plots.
A4	Close to hotspot in original WS6
A5	Close to hotspot in original WS7

Three further representative samples were obtained from the three stockpiles located in the northern portion of the site. Approximate extents of the stockpiles are indicated on the attached site plan and they are labelled as follows:

- Old stockpile (eastern stockpile which was derived from Phase 1 of the demolition)
- Stockpile SP1 (central stockpile derived from Phase 2 demolition)
- Stockpile SP2 (western stockpile derived from Phase 2 demolition)

It is understood that SP1 and SP2 were selectively stockpiled from different parts of the site.

In addition, three trial pits (X1, X2 and X3) had been excavated in advance of our site visit and these were used to test soakage and provided a further opportunity to take sample to assess for potential contamination and to take samples as required.

The locations of all of the above pits, ground conditions encountered, and samples tested from each, are summarised on the attached site plan.

3. Summary of Ground Conditions Encountered

With the exception of Trial Pits A1, A2 and A4 located along the north and north-western boundary, and the stockpiles, all samples encountered a layer of 'hardcore' fill comprised mainly of crushed concrete and brick across the site. This is typically resting on another layer of made ground which is a mixture of topsoil, brick and silty fine sandy soil derived from the underlying Folkestone Formation.

Insitu Folkestone Formation was proved by Hydrock and the recent trial pits across all of the site. The Folkestone Formation is typically a fine or fine to medium SAND but it seems to become more clayey at depth as indicated by soakage test pit X1 compared to pits X2 and X3.

4. Soakage Testing

Soakage tests were carried out in Trial Pits X1, X2 and X3 with the water level being filled up to approximately level with the top of the Folkstone Formation strata to avoid cross contamination with the overlying Made Ground as described in the attached trial pit logs. The results of the tests are summarised below:

Trial Pit	Test	Infiltration Rate (m/sec)	Comments
X1	1	1.92 x 10-6	Only one test carried out in time available
X2	1	3.02 x 10-5	
X2	2	1.28 x 10-5	
X3	1	1.91 x 10-5	
X3	2	1.00 x 10-5	

5. Geoenvironmental Assessment

5.1 Geoenvironmental Assessment – Introduction to Contamination Results

The proposed development involves the construction of a mix of refurbished existing buildings, new residential houses and apartments with private and communal gardens and driveways and associated infrastructure. The most appropriate assessment option has been selected *Residential with home-grown produce*, unless otherwise stated within area of communal landscaping.

A Tier 1 assessment of the results of the chemical analysis on the soil samples has been made using the LQM/CIEH `Suitable 4 Use Levels` (S4ULs) 2015. The S4ULs are intended for use as 'Intervention Values' for risk assessment and are based on the regulatory framework for the assessment of risk to human health in relation to land use. They are calculated by considering the intended land use of the site, standard soil parameters (pH, organic matter content and grading) and depth from which the soils have been taken. Category 4 Screening Levels (C4SLs) developed by DEFRA (March 2014) are also included for reference below where a value currently exists.

Whilst reading the following assessment, please note the explanation of the following terms:

- **KH1 - Contamination Suite including pH, metals, sulphates, speciated PAH, speciated TPH, BTEEX & asbestos screen***
- ***Asbestos quantification – in the event that any sample reports the presence of asbestos containing materials then we carry out a quantification analysis to help assess if the material is hazardous i.e. has greater than 0.001% asbestos (by weight) within the sample**
- **KH2 - WAC & KH1 Contamination Suite**
- **TPHs - Petroleum hydrocarbons**
- **BTEX - Benzene, toluene, ethylbenzene and xylenes**
- **PAHs - Polycyclic aromatic hydrocarbons**

Please note that this report does not provide a full statistical re-assessment of the entire data set. Instead, we have taken specific targeted samples to address the risks identified by the Hydrock Phase 2 Report (Reference 1) to help assess what further remedial actions are required.

The Hydrock Phase 2 Report recommended that any garden areas with potential PAH contamination would be provided with imported clean cover up to 600mm. They have also recommended removal of TPH and SVOC from the hotspot at WS3. Further recommendations in respect of remediation and validation are provided in Section 6 of this report.

5.2 Geoenvironmental Assessment – Introduction to WAC (Waste Acceptance Criteria) Results

Our assessment of the WAC tests should be regarded as a preliminary assessment and we recommend that the chemical test results and WAC test provided with this report should be submitted to the groundworkers' waste handler at the earliest opportunity to confirm their waste classification of the soil and any requirements for further testing before soils are removed from site. This assessment should only be considered as a preliminary assessment and not a full waste classification of materials across the site.

5.3 Geoenvironmental Assessment – Trial Pits A1-A5

(Assessment of contamination hotspots identified in Hydrock Phase 2 SI Report)

Trial Pit TPA1 (Northwest corner within townhouse rear gardens)

TPA1 was undertaken near WS3 in which Hydrock had reported elevated TPH (820mg/kg at 0.40mbgl) and elevated SVOC's in soils at 0.80mbgl. The pit encountered an asphalt layer at 0.35m-0.60m which is assumed to be an old access road in to the site with a layer of chalk underneath and is the probable source of the high TPH identified in the Hydrock Report.

Contamination suites were undertaken on the sample overlying the asphalt (GL-0.40m) and on the underlying soil (0.75m to 1.00m) to check if it can be left in place.

The results found:

TPA1 (GL-0.40m) - The contamination suite identified no TPHs or BTEX. The heavy metals and PAHs concentrations were below the *Residential with homegrown-produce* thresholds. A small bundle of Chrysotile Asbestos was identified but further quantitative analysis has confirmed that asbestos is present at <0.001% and therefore the inert classification is unaffected by the small quantity of chrysotile encountered in the sample.

However, we suggest that excavations in this area should be attended and observed by an asbestos awareness trained and appropriately insured person to identify any suspected asbestos containing materials (ACM's) as the work proceeds.

- TPA1 (0.75m - 1.00m) – No TPHs, BTEX, or PAHs. The heavy metals concentrations were below the *Residential with homegrown-produce* thresholds. Therefore, the material is not considered to pose a risk to future site users. No asbestos was detected.

Trial Pit TPA2

TPA2 was located in the same area of rear gardens as TPA1 and encountered made ground to full depth at 0.80m. TPA2 did not encounter the asphalt and chalk layers encountered in TPA1. A blue plastic membrane extended across the pit at 0.2m and a plastic bag was noted at 0.45m. At the base of the pit there seemed to be a layer of crushed concrete.

Samples were recovered from GL-0.60m and 0.60-0.80m and both were assessed for contamination suites.

The results found:

- TPA2 (GL-0.60m) - the contamination suite identified no TPHs or BTEX. The heavy metals and PAHs concentrations were below the *Residential with homegrown-produce* thresholds. Therefore, the material is not considered to pose a risk to future site users. No asbestos was detected.
- TPA2 (0.60-0.80m) – No TPHs or BTEX. The heavy metals and PAH concentrations were below the *Residential with homegrown-produce* thresholds. Therefore, the material is not considered to pose a risk to future site users. No asbestos was detected.

Trial Pit TPA3

TPA3 was undertaken in the back gardens of the 4 unit terrace in the middle of the site. Samples were recovered from GL-0.60 (existing mostly hardcore layer) and of the sand underneath from 0.60-0.80.

Contamination suites were undertaken on the hardcore layer and for the lower layer to check that gardens can be placed directly onto the clean insitu sand.

The results found:

- TPA3 (GL-0.60) - The contamination suite identified no BTEX. The heavy metals, TPHs and PAHs concentrations were below the *Residential with homegrown-produce* thresholds. Therefore, the material is not considered to pose a risk to construction workers or future site users. No asbestos was detected
- TPA3 (0.60-0.80) - No TPHs, PAHs, or asbestos BTEX. The heavy metals concentrations were below the *Residential with homegrown-produce* thresholds. Therefore, the material is not considered not to pose a risk to future site users.

Trial Pit TPA4

TPA4 was located in the grass verge near WS6 in which Hydrock had encountered elevated PAH in soils (210mg/kg Total PAH at 0.40mbgl). The results are compared to the *Residential without homegrown-produce* as it will be communal landscaping in this area of the site.

TPA4 encountered mostly topsoil down to 0.6m but with occasional ash, asphalt and charcoal even though there is no tarmac layer above. A KH1 suite was undertaken.

The results found:

- A4 (0.00-0.50) - No BTEX. The heavy metals, TPH, and PAH concentrations were below the *Residential without homegrown-produce* thresholds. Therefore, the material is not considered to pose a risk to construction workers or future site users. This is more likely to be in an area of communal landscaping surrounding car parking areas. Therefore, subject to regulator approval, it may be acceptable to reduce this area by a lesser amount than suggested by Hydrock and provide a 400mm clean soil profile consisting of 300mm subsoil and 100mm clean topsoil to support growth of turf or shrubs.

Trial Pit A5

TPA5 was located near WS7 where Hydrock had found elevated PAH (200mg/kg Total PAH at 0.40mbgl).

Made ground was encountered to full depth with occasional ash, asphalt and charcoal mixed in. A KH1 suite was undertaken. The results are compared to the *Residential without homegrown-produce* as it will be communal landscaping surrounded by car parking and hardstanding in this area of the site.

- TPA5 (0.10-0.60) - - No BTEX. The heavy metals and TPH concentrations were below the *Residential with homegrown-produce* thresholds, but two of the PAH parameters (Dibenzo(a,h)anthracene and Benzo(a)pyrene) slightly exceeded the *Residential with homegrown-produce* threshold of 0.46mg/kg and 3.2mg/kg respectively. Therefore, the material could potentially pose a risk to future site users. Therefore, the material should be removed off site and a clean soil profile comprising 400mm clean soil profile consisting of 300mm subsoil and 100mm clean topsoil to support growth of turf or shrubs. The base 200mm could be made up with clean imported granular material such as Type 1 or clean soils from elsewhere on the site.

5.4 Geoenvironmental Assessment – Trial Pits X1-X3 (Soakage Test Pits)

Trial Pit X1

X1 was a sample taken of the top layer of original ground underlying Stockpile SP2. Subject to a review of existing vs proposed ground levels It is assumed this will be excavated when the stockpile is removed to provide a formation for car parking spaces to the front of the proposed townhouses. The soil encountered is a 600mm thick layer of dark coloured sandy soil with mixed in ash etc.

Preliminary WAC assessment around TPX1

A KH2 suite was undertaken to assist with disposal and the results found:

- X1 (GL- 0.60m) – The results indicate the soil would classify as **Non-hazardous** due to a slightly elevated concentration of Antimony.

  The contamination suite identified no BTEX. The PAH, TPH and heavy metals concentrations were all below the *Residential with homegrown-produce* thresholds. Therefore, the material is not considered to pose a risk to future site users.

As previously stated, subject to a review of ground levels etc this material could be left in place if it is underneath proposed buildings or hardstandings as it is not contaminated.

Trial Pit X2

No testing was done on any samples from TPX2 because it is located close to TPA3 and we suggest that the same comments for TPA3 are relevant to this location.

Trial Pit X3

TPX3 was a sample taken of the 1m layer of made ground overlying the natural ground. This area will be developed with hard landscaping, i.e. car parking.

Preliminary WAC Assessment (TPX3)

A KH2 suite was undertaken to aid with disposal and the results found:

- X3 (GL- 0.60m) – Based on the results, this material classifies as **Non-hazardous** due to a slightly elevated concentration of Antimony above the inert waste threshold.

  The contamination suite identified no BTEX or TPHs. The PAHs concentrations were below the *Residential with homegrown-produce* thresholds. The majority of the heavy metals concentrations were below the *Residential with homegrown-produce* threshold with the exception of an elevated concentration of Lead (371m/kg).

  In addition, Amosite asbestos board debris was noted within the sample and therefore the sample was submitted for quantitate analysis which recorded a % by weight of 0.001%. Therefore, it is proposed that the Waste Classification for this material does not need to be changed to hazardous. However, we suggest that excavations in this area should be attended and observed by an asbestos awareness trained and appropriately insured person to identify any suspected asbestos containing materials (ACM's) as the work proceeds.

5.5 Geoenvironmental Assessment – Preliminary WAC analysis of Phase 2 Demolition Stockpiles 1, 2 and Phase 1 Demolition Stockpile.

Representative samples were recovered from across the above stockpiles to assist with classification of them for off-site disposal in due course. All results should be submitted to your Waste Handler / Receiver to confirm their own classification of the materials prior to disposal.

Stockpile 1 - A sample was recovered and a KH2 suite was undertaken to aid with disposal.

The results found:

- Stockpile 1- Based on the results this material classifies as **Non-hazardous** due to elevated concentrations of Antimony and Sulphate above the inert waste threshold.

  The contamination suite identified no BTEX. The heavy metals, TPH concentrations were below the *Residential with homegrown-produce* thresholds. A number of the PAH parameters (Benzo(a)pyrene, Benzo(b)Fluoranthene, Dibenz(a,h)anthracene) exceeded the *Residential with homegrown-produce* threshold. Therefore, the material could potentially pose a risk to future site users.

  In addition, Amosite asbestos board debris was noted within the sample and therefore the sample was submitted for quantitative analysis which recorded a % by weight of less than 0.001%. Therefore, it is proposed that the Waste Classification for this material does not need to be changed to hazardous. However, we suggest that excavations in this area should be attended and observed by an asbestos

awareness trained and appropriately insured person to identify any suspected asbestos containing materials (ACM's) as the work proceeds.

We advise that the hardcore in this area be selectively excavated and stockpiled and re-tested prior to disposal.

Stockpile 2 - A sample was recovered and a KH2 suite was undertaken to aid with disposal.

The results found:

Stockpile 2 – Based on the results the material classifies as **Non-hazardous** due to elevated concentrations of Total Dissolved Solids (TDS), Antimony and Sulphate above the inert waste threshold.

The contamination suite identified no BTEX. The heavy metals, TPH concentrations were below the *Residential with homegrown-produce* thresholds. A number of the PAH parameters (Benzo(a)pyrene, Benzo(b)Fluoranthene, Dibenz(a,h)anthracene) exceeded the *Residential with homegrown-produce* threshold. Therefore, the material could potentially pose a risk to future site users.

Phase 1 Demolition Stockpile (Referred to as the 'Old' Stockpile to distinguish from Phase 2 Demolition) - A sample was recovered and a KH2 suite was undertaken to aid with disposal.

The results found:

- Phase 1 Demolition 'Old' Stockpile – Based on the results the material classifies as **Non-hazardous** due to elevated concentrations of Total Dissolved Solids (TDS), Mineral oil and Sulphate above the inert waste threshold.

  The contamination suite identified no BTEX. The heavy metals, were below the *Residential with homegrown-produce* thresholds. A number of the TPH parameters had recordable concentrations above their respective laboratory detection limit, but Mineral oil (C21-C35) recorded a concentration above he *Residential with homegrown-produce* threshold.

  A number of the PAH parameters (Benzo(a)pyrene, Benzo(b)Fluoranthene, Dibenz(a,h)anthracene) exceeded the *Residential with homegrown-produce* threshold. Therefore, the material could potentially pose a risk to future site users.

6. Proposed Remediation Scheme

6.1 Proposed Remediation Scheme - Introduction

The following sections describe the measures proposed to address the remediation requirements of Planning Condition 22 Part 2:

6.2 Proposed Remediation Scheme – General Remediation Requirements

a) The typical soil conditions and variations are described in the Hydrock Report (Reference 1) and in earlier sections of this Letter Report, i.e. hardcore working surface derived from demolition of the original buildings overlying localised topsoils and/or Made Ground to varying depths up to a maximum of 1.3mbgl, with sands of the Folkestone Formation below.

b) All demolition works have been completed and no fragments of potential asbestos containing materials (ACM) were noted in any of the pits carried out across the site. All samples during the recent site investigation were screened for asbestos and just three results detected trace quantities of asbestos at <0.001% by weight which means the samples are not assessed to be hazardous. However, the developer and their groundworkers should ensure that their Risk Assessments and Method Statements incorporate appropriate measures for suitably trained and insured staff working to be on site to note if any fragments or accumulations of ACM's are encountered and that appropriate procedures are in place to deal with them in a safe and competent manner.

c) Site Investigation Reports should be submitted to the Local Water Authority / supplier to confirm any specific barrier requirements for their pipes.

d) In-line with the Hydrock Report garden areas with potential PAH contamination would be provided with imported clean cover up to 600mm. Hydrock also recommended removal of TPH and SVOC from the hotspot at WS3, i.e. the buried tarmac layer described in trial pit TPA1. Further advice about confirming it's extents and removal is provided in Section 6 of this report.

e) Where insitu clean Folkestone Sand Formation strata are encountered at less than 600mm depth it is acceptable to cease excavation as the Folkestone Sand provides a satisfactory subsoil.

f) Based on the findings, it is not considered that any form of separator geotextile is required prior to the placement of the imported clean verified material.

g) All excavations in soft landscaped/play/garden areas should be confirmed by a visual assessment by the site manager and a suitably qualified geoenvironmental engineer and this should include taking representative photographs of all areas as they are carried out, copies of photographs should be included in the final validation report. In particular, the groundworker should inspect each area of communal landscaping following stripping and take representative photographs prior to placing remedial cover soils.

h) Representative samples of the proposed subsoils and topsoil will be provided to the site manager or his representative a minimum of 1 week before commencement of the remedial works. The topsoil will be accompanied by M-Certs approved test certificates BS3882 certificates, which should be obtained from the topsoil supplier. Topsoil certificates should be recent and their provenance open to scrutiny and shall be provided for each source used. These documents shall be included in the final validation report.

i) The topsoil supplier should also certify the imported soils to be free of pernicious and invasive weeds such as Japanese knotweed, and physical contaminants e.g. sharps. Should the soils be found to fail the chemical testing or should physical contaminants or Japanese knotweed be discovered after delivery/placement, then the soils should be removed and replaced.

j) Imported subsoil and topsoil should be sampled on delivery to site and tested to ensure it is suitable for use. One sample per 50m3, minimum of three samples. (precise volumes of imported material to be confirmed).

6.3 Discovery Strategy

The developer should prepare the groundworkers for any unforeseen ground conditions.

Should contaminated materials be encountered, i.e. over-and-above those already identified within the previous site investigations, then work should cease in that area until further inspection, sampling and assessment has been undertaken. The groundworker should seek professional support on this matter.

6.4 Validation

A validation report shall be prepared upon completion of the remediation works and should incorporate the following records:

a) Dates of excavation and infilling.
b) Dates of validation visits by suitably qualified engineer.
c) Site plans or sketches with supporting photographs to confirm final remediation works carried out.
d) Evidence of inspection of excavations before placement of remedial soils (photographs)
e) Export tickets for excavated soils and delivery tickets for imported soils. These should be related to the works carried out on site.
f) Current test certificates for imported topsoils, subsoils, and details of provenance and supplier.
g) Test certificates for any subsoils used in the remediation works from elsewhere on the site and/or provide sufficient details when arisings from piles and/or trenches are selectively excavated and stockpiled for use on site as subsoils for remediation works.
h) Confirmation that soils are free of pernicious and invasive plant species and free of physical contaminants or sharps.
i) Details of any unexpected ground conditions, contamination or asbestos encountered during the works.
j) Photographs.

We also advise that this document be submitted to the Local Authority for consultation.

We trust the assessment is satisfactory to allow Planning Condition 22 Part 2 to be discharged/to progress and look forward to receiving your instructions in due course.

6.5 Proposed Remediation Scheme – Summary of Specific Area Requirements

Site Area (Relevant Trial Pit)	**Proposed Remediation including preliminary advice for disposal of excavated soils**
Northwest Corner – townhouse rear gardens (Trial Pit TPA1)	The extents of the asphalt and chalk layers found in TPA1 and WS3 in relation to the soft landscaped areas should be delineated in due course and removed from the footprint of the soft landscaping. We suggest they are selectively excavated and stockpiled or removed directly from site. The waste handler should be able to assign separate waste codes for asphalt and chalk. The layer of soil overlying the asphalt layer is uncontaminated but as it contains lumps of concrete, brick etc is not considered suitable for re-use as subsoil and we recommend it is excavated and stockpiled separately. Gardens should be supplied with a 600mm clean cover and we recommend this consist of 450mm clean subsoil overlain by 150mm clean topsoil. This can be placed directly onto the soils beneath the asphalt and chalk which were found to have no contamination

Site Area (Relevant Trial Pit)	Proposed Remediation including preliminary advice for disposal of excavated soils
	Subject to regulator approval, and a review of levels, we suggest the asphalt and chalk layers can be left in place underneath proposed buildings and hardstandings. *Preliminary WAC assessment for TPA1 area:* A sample of the 400 thick layer above the asphalt was tested for the KH2 suite so it can be dug out and either stockpiled or removed in an appropriate manner without delaying the works: • TPA1 (GL-0.40m) – Based on the WAC test alone this classifies as **Inert waste** A small bundle of Chrysotile Asbestos was identified but further quantitative analysis has confirmed that asbestos is present at <0.001% and therefore the inert classification is unaffected by the small quantity of chrysotile encountered in the sample.
Northwest Corner – townhouse rear gardens (Trial Pit TPA2)	*Recommended remediation for TPA2 area:* Both layers of soil down to 0.80m are uncontaminated but as they contain sheets of plastic and lumps of concrete, brick etc they are not considered suitable for re-use as subsoil and we recommend it is excavated and stockpiled separately. Remediation in the gardens can be the same as specified for the adjoining area around TPA1 and WS3 *Preliminary WAC Assessment (TPA2 area)* A WAC test was undertaken on the upper layer (GL-0.60m) and the results indicate the sample is Inert and no elevated contamination was encountered. This material can be selectively excavated and stockpiled along with the uppermost layer from TPA1 taking care not to let it be contaminated with any asphalt layers encountered.
Gardens to rear of central terrace (Trial Pit TPA3)	Based on the results of testing of the insitu Folkestone Formation underlying the temporary hardcore layer, and assuming the hardcore will be fully stripped prior to preparation of gardens, it is considered that no particular remediation is required other than providing suitable clean soils for the soft landscaping. Elsewhere, under buildings and hard landscaping, the hardcore layer could be left in place. *Preliminary WAC Assessment (TPA3 and TPX2)* A KH2 suite was undertaken on the hardcore layer. TPA3 (GL-0.60) – Based on the test certificate this classifies as **Non-hazardous** due to elevated concentrations of Antimony and Sulphate above the Inert waste threshold. (Note: Antimony is often associated with lead and is used in alloys, batteries and micro-electrics). These results should be taken into account when the hardcore layer is being stripped and we recommend that this area is selectively stripped and stockpiled and re-tested prior to disposal.
Limited Communal Landscaping around car parking at Radnor Park site frontage (Trial Pit TPA4)	Under roads and hardstandings and buildings we propose that the soils only need to be stripped to whatever depth is required to facilitate construction. The material is not considered to pose a risk to construction workers or future site users. Communal soft landscaping is likely to be of limited extent in this area eg strips alongside car parking areas. Therefore, subject to regulator approval, it may be acceptable to reduce this area by a lesser amount than suggested by Hydrock and provide a 400mm clean soil profile consisting of 300mm subsoil and 100mm clean topsoil to support growth of turf or shrubs.

Site Area **(Relevant Trial Pit)**	**Proposed Remediation including preliminary advice for disposal of excavated soils**
Area of car parking and limited communal landscaping to rear of retained buildings in southwest corner of site **Trial Pit TPA5**	Under roads and hardstandings and buildings we propose that the soils only need to be stripped to whatever depth is required to facilitate construction. Communal soft landscaping is understood to be of limited extent in this area eg strips alongside car parking areas. The heavy metals and TPH concentrations were below the *Residential with homegrown-produce* thresholds, but two of the PAH parameters (Dibenzo(a,h)anthracene and Benzo(a)pyrene) slightly exceeded the *Residential with homegrown-produce* threshold of 0.46mg/kg and 3.2mg/kg respectively. Therefore, the material could potentially pose a risk to future site users so, in the limited areas of soft landscaping, the material should be removed off site and, subject to regulator approval, a reduced 400mm clean soil profile comprising 300mm subsoil and 100mm clean topsoil is proposed to support growth of turf or shrubs.
Car parking and possible limited communal landscaping to front of townhouses **(Trial Pit X1)**	Under roads and hardstandings and buildings we propose that the soils only need to be stripped to whatever depth is required to facilitate construction. **X1** was a sample taken of the top layer of original ground underlying Stockpile SP2. Subject to a review of existing vs proposed ground levels It is assumed this will be excavated when the stockpile is removed to provide a formation for car parking spaces to the front of the proposed townhouses. The soil encountered is a 600mm thick layer of dark coloured sandy soil with mixed in ash etc. *Preliminary WAC assessment around TPX1* A KH2 suite was undertaken to assist with disposal and the results found: X1 (GL- 0.60m) – The results indicate the soil would classify as **Non-hazardous** due to a slightly elevated concentration of Antimony. The contamination suite identified no BTEX. The PAH, TPH and heavy metals concentrations were all below the *Residential with homegrown-produce* thresholds. Therefore, the material is not considered to pose a risk to future site users. We propose that remediation of any soft landscaped areas can be as per Trial Pits A4 & A5 above.
Car parking and possible limited communal landscaping to front of townhouses and central terrace **(Trial Pit X2)**	Under roads and hardstandings and buildings we propose that the soils only need to be stripped to whatever depth is required to facilitate construction. No testing was done on any samples from TPX2 because it is located close to TPA3 and we suggest that the same comments for TPA3 are relevant to this location. We propose that remediation of any soft landscaped areas can be as per Trial Pits A4 and A5 above.
Car parking area to rear of next proposed phase of development **(Trial Pit X3)**	**TPX3** was a sample taken of the 1m layer of made ground overlying the natural ground. This area will be developed with hard landscaping, i.e. car parking. Under roads and hardstandings and buildings we propose that the soils only need to be stripped to whatever depth is required to facilitate construction. *Preliminary WAC Assessment (TPX3)* A KH2 suite was undertaken to aid with disposal and the results found:

Site Area (**Relevant Trial Pit**)	**Proposed Remediation including preliminary advice for disposal of excavated soils**
	X3 (GL- 0.60m) – Based on the results, this material classifies as **Non-hazardous** due to a slightly elevated concentration of Antimony above the inert waste threshold. The contamination suite identified no BTEX or TPHs. The PAHs concentrations were below the *Residential with homegrown-produce* thresholds. The majority of the heavy metals concentrations were below the *Residential with homegrown-produce* threshold with the exception of an elevated concentration of Lead (371m/kg). In addition, Amosite asbestos board debris was noted within the sample and therefore the sample was submitted for quantitate analysis which recorded a % by weight of 0.001%. Therefore, it is proposed that the Waste Classification for this material does not need to be changed to hazardous.
Stockpile from *Phase 1 Demolition*	Based on the results the material classifies as **Non-hazardous** due to elevated concentrations of Total Dissolved Solids (TDS), Mineral oil and Sulphate above the inert waste threshold. The contamination suite identified no BTEX. The heavy metals, were below the *Residential with homegrown-produce* thresholds. A number of the TPH parameters had recordable concentrations above their respective laboratory detection limit, but Mineral oil (C21-C35) recorded a concentration above he *Residential with homegrown-produce* threshold. A number of the PAH parameters (Benzo(a)pyrene, Benzo(b)Fluoranthene, Dibenz(a,h)anthracene) exceeded the *Residential with homegrown-produce* threshold. Therefore, the material could potentially pose a risk to future site users. It is assumed this material will be stripped and removed from site in due course and the test results may be submitted to a waste handler as required to assist with its disposal.
Stockpile 1 *Phase 2 Demolition*	Based on the results this material classifies as **Non-hazardous** due to elevated concentrations of Antimony and Sulphate above the inert waste threshold. The contamination suite identified no BTEX. The heavy metals, TPH concentrations were below the *Residential with homegrown-produce* thresholds. A number of the PAH parameters (Benzo(a)pyrene, Benzo(b)Fluoranthene, Dibenz(a,h)anthracene) exceeded the *Residential with homegrown-produce* threshold. Therefore, the material could potentially pose a risk to future site users. In addition, Amosite asbestos board debris was noted within the sample and therefore the sample was submitted for quantitative analysis which recorded a % by weight of less than 0.001%. Therefore, it is proposed that the Waste Classification for this material does not need to be changed to hazardous. It is assumed this material will be removed from site in due course and the test results may be submitted to a waste handler to confirm their classification.
Stockpile 3 *Phase 2 Demolition*	Based on the results the material classifies as **Non-hazardous** due to elevated concentrations of Total Dissolved Solids (TDS), Antimony and Sulphate above the inert waste threshold. The contamination suite identified no BTEX. The heavy metals, TPH concentrations were below the *Residential with homegrown-produce* thresholds. A number of the PAH parameters (Benzo(a)pyrene, Benzo(b)Fluoranthene,

Site Area **(Relevant Trial Pit)**	**Proposed Remediation including preliminary advice for disposal of excavated soils**
	Dibenz(a,h)anthracene) exceeded the *Residential with homegrown-produce* threshold. Therefore, the material could potentially pose a risk to future site users. It is assumed this material will be removed from site in due course and the test results may be submitted to a waste handler to confirm their classification.

7. Geoenvironmental Conclusions

a) Subject to verification of the following measures, the investigations and remediation measures proposed in this report will address the potential risks to all receptors listed in Planning Condition 22 Part 1.
b) Modified reduced thicknesses of remedial cover (400mm) have been proposed in communal landscaped areas where landscaping will be confined to shrubs etc without homegrown produce.
c) Based on the findings in areas of hardstandings and buildings it is considered that no particular remediation is required.
d) 600mm remedial cover is recommended for all private gardens, house numbers 1-19, including those in NW corner.
e) Asbestos aware / insured attendance is required during excavation of the hardcore and near surface soils where asbestos was identified in the samples and prior to disposal. RAMS for this and for any hand picking should be prepared in advance.
f) A verification report should be prepared documenting the correct actions have been taken in respect of remediation of contamination and disposal of soils. Requirements for this report are listed in Section 6 of this report.
g) All laboratory test results to be submitted to waste handler / receiver to confirm appropriate Waste classification.
h) Selective excavation / stockpiling to be carried out as described in Section 6.
i) The extents of asphalt in NW corner (rear gardens of townhouses) is to be removed from soft landscaped areas.

We trust that we have carried out the agreed scope of works to your satisfaction and that the findings described above have addressed your current requirements. Please do not hesitate to contact us if we can provide any further assistance.

For Knapp Hicks & Partners Limited
Yours Sincerely

Richard Moore
Technical Director

Attachments

References

1. Desk Study & Ground Investigation at Royal Victoria Hospital, Folkestone, April 2007, Hydrock Ref:R/07060/001

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6th August 2020

Attachments
Planning Condition 22
Site Plans
Trial Pit Logs & Photographs
Soakage Test Results
Chemical Laboratory Test Results (Contamination Suites & WAC Tests)
Asbestos Quantitative Analysis

36897.L.001.R2.A.G.RJM
6th August 2020

Attachment
Planning Condition 22

APPLICATION NO. Y12/0980/SH

22 1. No ground works on the full planning permission phase and no development in the outline planning permission phase shall take place until further investigation and risk assessment has taken place as identified in the Desk Study and Ground Investigation report submitted with the application which shall be undertaken by competent persons and a written report of the findings shall be submitted to and approved in writing by the Local Planning Authority prior to commencement of the development. It shall include an assessment of the nature and extent of any contamination on the site, whether or not it originates on the site. The report of the findings shall include:

- A survey of the extent, scale and nature of contamination
- An assessment of the potential risks to
- Human health
- Property (existing or proposed) including buildings, crops, livestock, pets, woodland and service lines and pipes,
- Adjoining land,
- Ground waters and surface waters,
- Ecological systems,
- Archaeological sites and ancient monuments and
- An appraisal of remedial options and identification of the preferred option(s).

All work pursuant to this Condition shall be conducted in accordance with the DEFRA and Environment Agency document Model Procedures for the Management of Land Contamination (Contamination Report 11).

2. If investigation and risk assessment shows that remediation is necessary, a detailed remediation scheme to bring the site to a condition suitable for the intended use by removing unacceptable risks to human health, buildings and other property and the natural and historical environment shall be submitted to and approved in writing by the Local Planning Authority prior to commencement of the development. The scheme shall include details of all works to be undertaken, proposed remediation objectives and remediation criteria, a timetable of works, site management procedures and a verification plan. The scheme shall ensure that the site will not qualify as contaminated land under Part 2A of the Environmental Protection Act 1990 in relation to the intended use of the land after remediation. The approved remediation scheme shall be carried out in accordance with the approved terms including the timetable, unless otherwise agreed in writing by the Local Planning Authority. The Local Planning Authority shall be given two weeks written notification of commencement of the remediation scheme works.

3. Prior to commencement of development of the outline element of the scheme, a verification report demonstrating completion of the works set out in the approved remediation scheme and the effectiveness of the remediation shall be submitted to and approved in writing by the Local Planning Authority. The report shall include results of sampling and monitoring carried out in accordance with the approved verification plan to demonstrate that the site remediation criteria have been met. It shall also include details of longer-term monitoring of pollutant linkages and maintenance and arrangements for contingency action, as identified in the verification plan, and for the reporting of this to the Local Planning Authority.

4. In the event that, at any time while the development is being carried out, contamination is found that was not previously identified, it shall be reported in writing immediately to the Local Planning Authority. An investigation and risk assessment shall be undertaken and where remediation is necessary a remediation scheme shall be prepared. The results shall be submitted to the Local Planning Authority. Following completion of measures identified in the approved remediation scheme a verification report shall be prepared and submitted to the Local Planning Authority.

Reason:
To protect the environment and human health against contamination and pollution, in accordance with saved Local Plan Review policies SD1 and U10a and the NPPF: 2019.

Attachments – Site Plans

1. Proposed Site Layout with trial pit locations A1-A5, X1-X3 and stockpiles
2. Annotated Plan for reference with notes on soils encountered and samples tested

1. Proposed Site Layout with trial pit locations A1-A5, X1-X3 and stockpiles

Hollaway

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Project | Proposed Residential Development
RVH, Radnor Park Avenue, Folkestone, Kent

Client | RVH Folkestone

Title | Proposed Site Plan

Status | DRAFT

Scale@A1 | 1:200 Date | — Drawn | — Chk'd | —

Project Number 18.140 Drawing Number 020 Revision —

BIM Number ~~#####-CHA-##-##-DR-A-####-##-####~~

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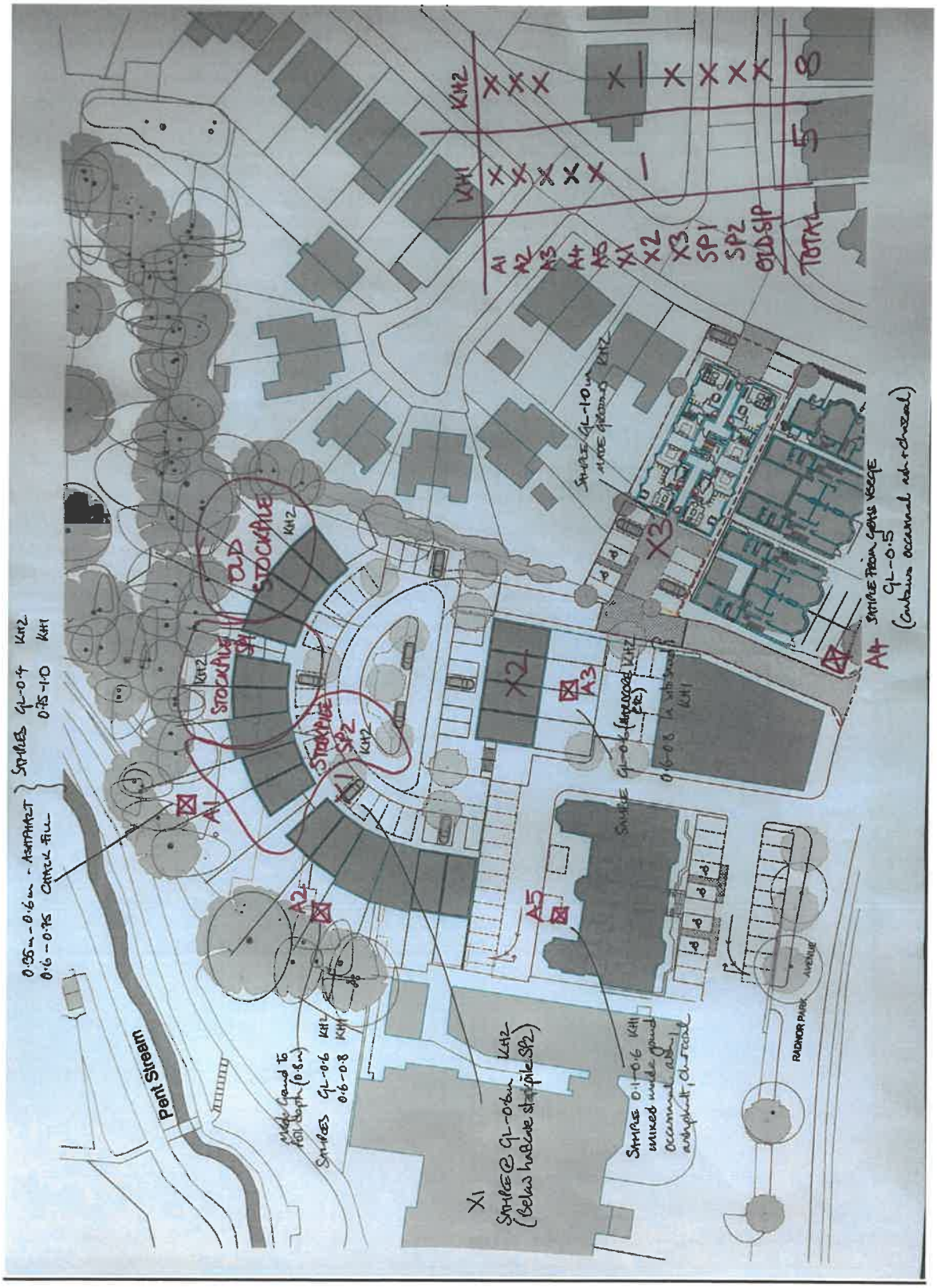
6th August 2020

Site Plan 2. Annotated Plan for reference with notes on soils encountered and samples tested

Note:
KH1 refers to a Standard contamination Suite
KH2 refers to a suite including the KH1 parameters plus a Waste Acceptance Criteria (WAC) Test



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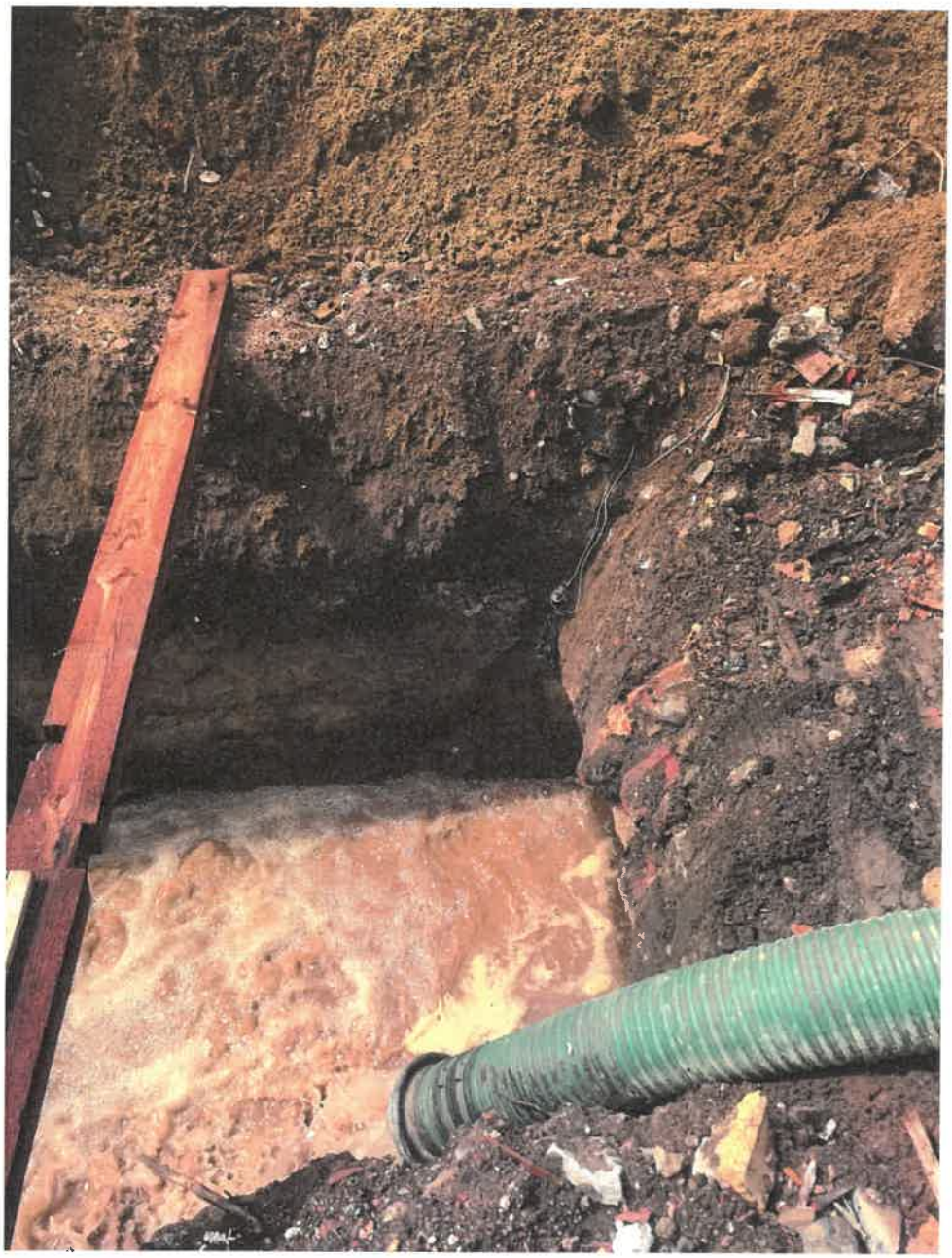
6th August 2020

Attachments
Trial Pit Logs & Photographs

Trial Pit X1 – Soakage Test	
Depth	Description
Ground Level – 0.60m	MADE GROUND: Mix of topsoil and demolition rubble of crushed brick and concrete
0.60m – 0.80m	Dark greyish green clayey fine grained SAND (Folkestone Formation)
Notes Soakage test carried out and reported on separate sheet.	



Trial Pit X2 – Soakage Test	
Depth	Description
Ground Level – 1.0m/1.2m	MADE GROUND: mix of fine to medium sand and crushed brick & concrete with occasional layers of sand.
1.0m/1.2m – 1.85m	Greyish green silty fine to medium SAND (Folkestone Formation)
Notes Soakage test carried out and reported on separate sheet.	

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Trial Pit X3 – Soakage Test	
Depth	Description
Ground Level – 1.32m	MADE GROUND: mix of fine to medium sand and crushed brick & concrete with occasional layers of sand.
1.32m – 1.95m	Greyish green silty fine to medium SAND (Folkestone Formation)
Notes Soakage test carried out and reported on separate sheet.	

Trial Pit A1 – Located near Hydrock WS3 (proposed rear gardens)	
Depth	Description
Ground Level – 0.35m/0.40m	MADE GROUND: Brown fine sandy CLAY with occasional brick, flint, ash, concrete and roots
0.35m – 0.60m	MADE GROUND: Dark grey ASHPHALT – recovered as dark grey to black sand gravel and cobble size fragments
0.60m – 0.75m	MADE GROUND: Mostly chalk fill
0.75m – 1.00m	MADE GROUND: Dark greenish clayey fine to medium sand with rare fragments of brick and clay pottery
Notes Similar to WS3 borehole log but in trial pit it is easier to avoid cross contamination between layers	

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Trial Pit A2 (proposed rear gardens)	
Depth	Description
Ground Level – 0.80m	Generally dark brown and greenish brown mix of fine sand and silty fine sandy topsoil with occasional fragments of concrete, brick, tile, charcoal and ashphalt. Note blue membrane at 0.20mbgl Note red orange plastic discontinuous in side of pit at 0.45m Note increasing fragments of concrete gravel at base of pit
Notes	

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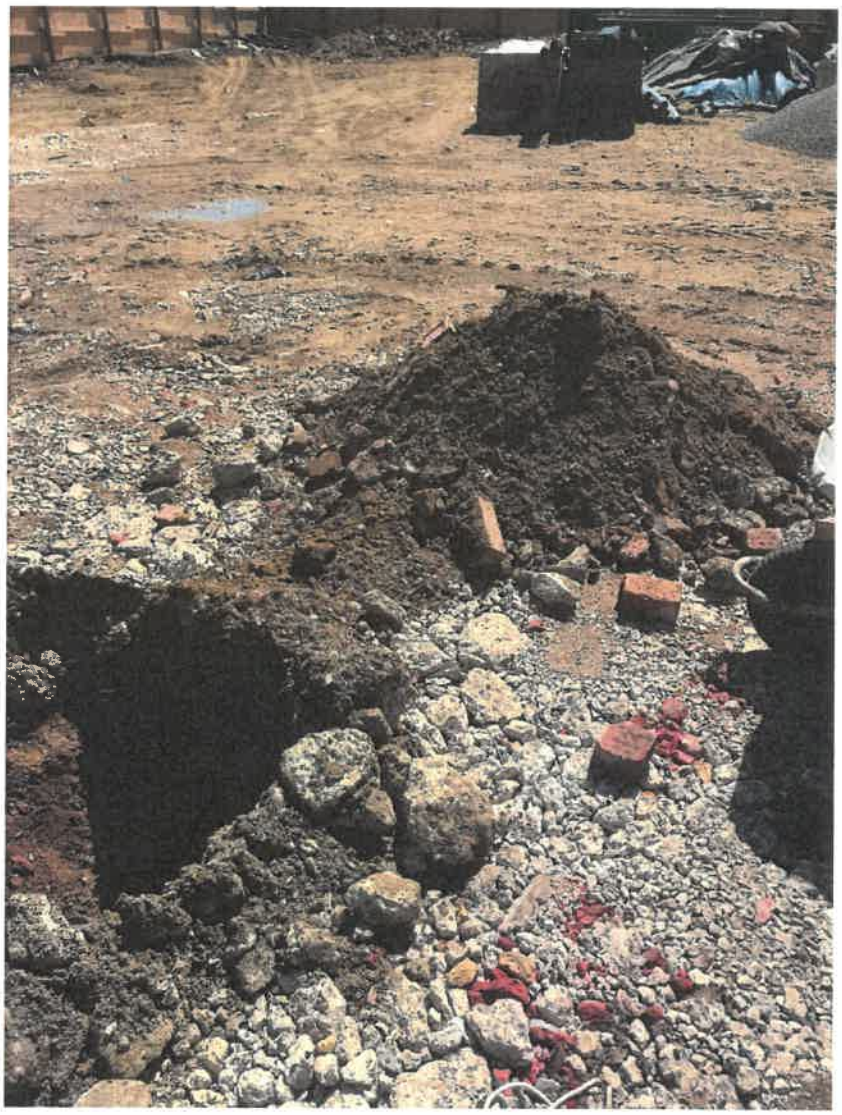
Trial Pit A3 (proposed rear gardens in centre of site)	
Depth	Description
Ground Level – 0.60m	MADE GROUND: Mix of greyish green fine to medium SAND and medium gravel to cobble of concrete and brick
0.60m – 0.80m	Greenish fine to medium SAND (Folkestone Formation)
Notes	



Trial Pit A4 – Located near Hydrock WS6 in grass verge	
Depth	Description
Ground Level – 0.50m	Thin layer of brown turf over brown silty fine sandy TOPSOIL with rootlets and occasional coarse sand to fine gravel of brick, tile, ash and charcoal
Notes	

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Trial Pit A5 – Located near Hydrock WS7	
Depth	Description
Ground Level – 0.10m	MADE GROUND: Tracked-in hardcore
0.10m – 0.60m	MADE GROUND: Mid brown silty and fine sandy CLAY with occasional fragments of brick, concrete, occasional ashphalt and ash/charcoal
Notes	

Stockpile SP1
Description
MADE GROUND: Mix of crushed concrete, occasional brick fragment, and rare fragment of steel bar, metal and plastic
Notes

Stockpile SP2
Description
MADE GROUND: Mix of crushed brick, concrete and occasional tile fragment with random fragments of plastic, wood, steel, metal pipe and bitumen sheet recovered with matrix of fine crushed concrete
Notes

Stockpiles 1 (left) and 2 (right) viewed from Trial Pit X2

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Old Stockpile
Description
MADE GROUND: Crushed brick with some fragments of crushed concrete, ashphalt, wood, steel, tile, plastic, geotextile and bitumen sheeting.
Notes

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Attachments
Soakage Test Results

KNAPP HICKS & PARTNERS LTD

CONSULTING STRUCTURAL, CIVIL & GEOTECHNICAL ENGINEERS

ISO 9001 REGISTERED FIRM

Soakaway Test

Site Radnor Park
Job No. 36897G
Trial Pit TPX1

	Width	Length	Depth
Trial Pit Dimensions	1.25 m	1.9 m	1.65 m

Filled Water Level	0.705 m
75% effective depth	0.94125 m
50% effective depth	1.1775 m
25% effective depth	1.41375 m
Soil type at test depth	Folkestone Beds-clayey fine Sand.

The infiltration rate (f) is given by;

$$f = \frac{V_{p75\text{-}25}}{a_{p50} \times t_{p75\text{-}25}}$$

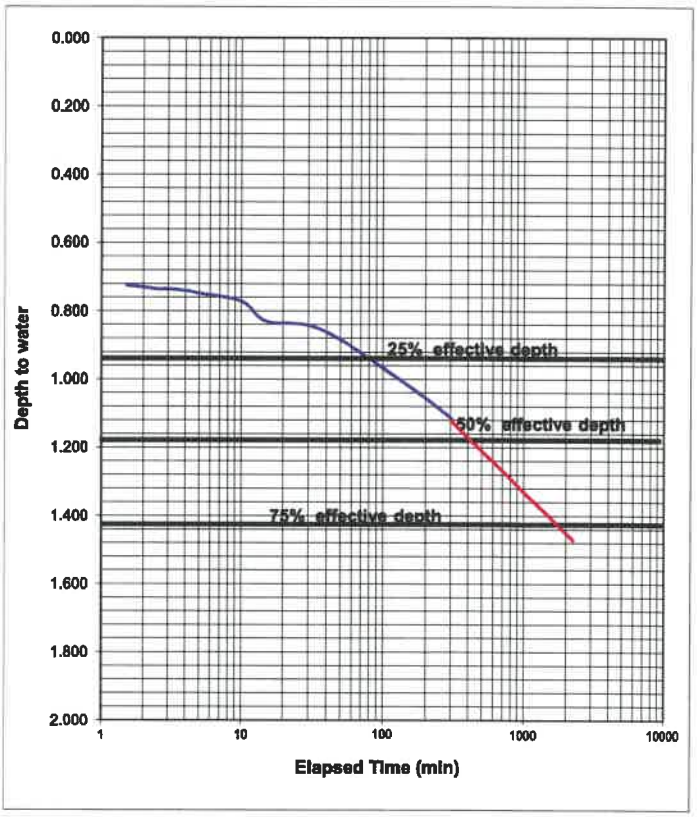
where:

$V_{p75\text{-}25}$ = the effective storage volume of water in the trial pit between 75% and 25% effective depth

a_{p50} = the internal surface area of the trial pit up to 50% effective depth and including the base area

$t_{p75\text{-}25}$ = the time for the water level to fall from 75% to 25% effective depth

Time (mins)	Depth m
0	0.705
1	0.719
1.5	0.725
2	0.730
2.5	0.735
3	0.735
4	0.740
5	0.748
10	0.772
15	0.830
37	0.855
152	1.020
306	1.116



$V_{p75\text{-}25}$ = 1.1221875 m3 m3

a_{p50} = 5.35175 m2 **Infiltration factor**

* $t_{p75\text{-}25}$ = 109200 seconds f = 1.92E-06 ms^{-1}

Note;
* Indicates that the full drainage was not achieved within the duration of the test. Consequently, the infiltration valu has been calculated using the reduced depth test as outlined in BRE 365. Caution should be applied to the value obtained and where possible further long term testing carried out.

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ISO 9001 REGISTERED FIRM

Soakaway Test

Site Radnor Park
Job No. 36897G
Trial Pit TPX2-Test 1

	Width	Length	Depth
Trial Pit Dimensions	1.45 m	2.6 m	1.86 m
Filled Water Level	0.86 m		
75% effective depth	1.11 m		
50% effective depth	1.36 m		
25% effective depth	1.61 m		
Soil type at test depth	Folkestone Sands		

The infiltration rate (f) is given by;

$$f = \frac{V_{p75\text{-}25}}{a_{p50} \times t_{p75\text{-}25}}$$

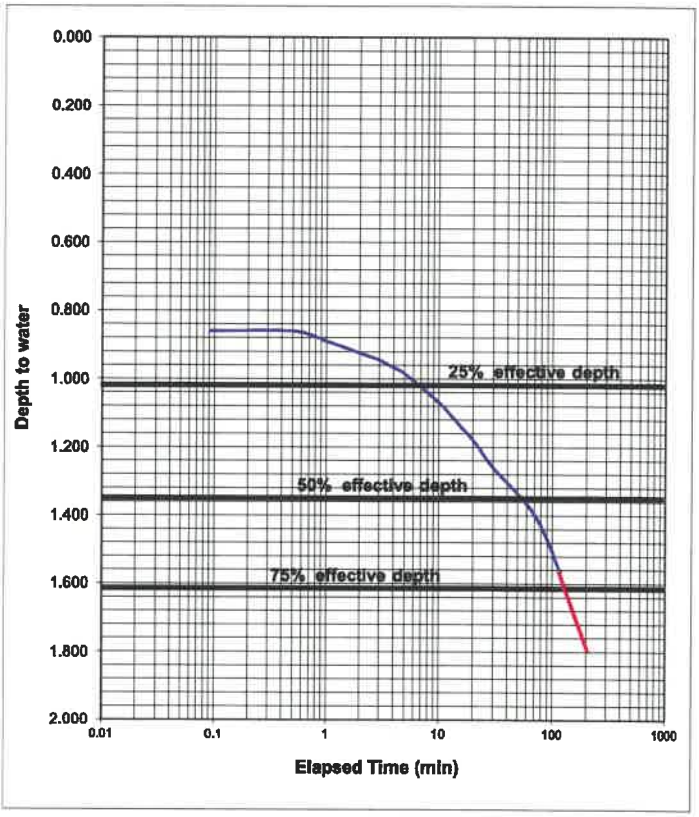
where:

$V_{p75\text{-}25}$ = the effective storage volume of water in the trial pit between 75% and 25% effective depth

a_{p50} = the internal surface area of the trial pit up to 50% effective depth and including the base area

$t_{p75\text{-}25}$ = the time for the water level to fall from 75% to 25% effective depth

Time (mins)	Depth m
0.09	0.860
0.5	0.860
1	0.890
1.5	0.910
2	0.925
2.5	0.935
3	0.945
4.15	0.970
5	0.985
10	1.070
15	1.135
20	1.180
30	1.260
69	1.395
117	1.565



$V_{p75\text{-}25}$ = 1.885 m3 m3

a_{p50} = 7.82 m2 **Infiltration factor**

* $t_{p75\text{-}25}$ = 7980 seconds f = 3.021E-05 ms^{-1}

Note;
* Indicates that the full drainage was not achieved within the duration of the test. Consequently, the infiltration valu has been calculated using the reduced depth test as outlined in BRE 365. Caution should be applied to the value obtained and where possible further long term testing carried out.

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Soakaway Test

Site Radnor Park
Job No. 36897G
Trial Pit TPX2-Test 2

	Width	Length	Depth
Trial Pit Dimensions	1.45 m	2.6 m	1.86 m

Filled Water Level	0.85 m
75% effective depth	1.1025 m
50% effective depth	1.355 m
25% effective depth	1.6075 m
Soil type at test depth	Folkestone Sands

The infiltration rate (f) is given by;

$$f = \frac{V_{p75-25}}{a_{p50} \times t_{p75-25}}$$

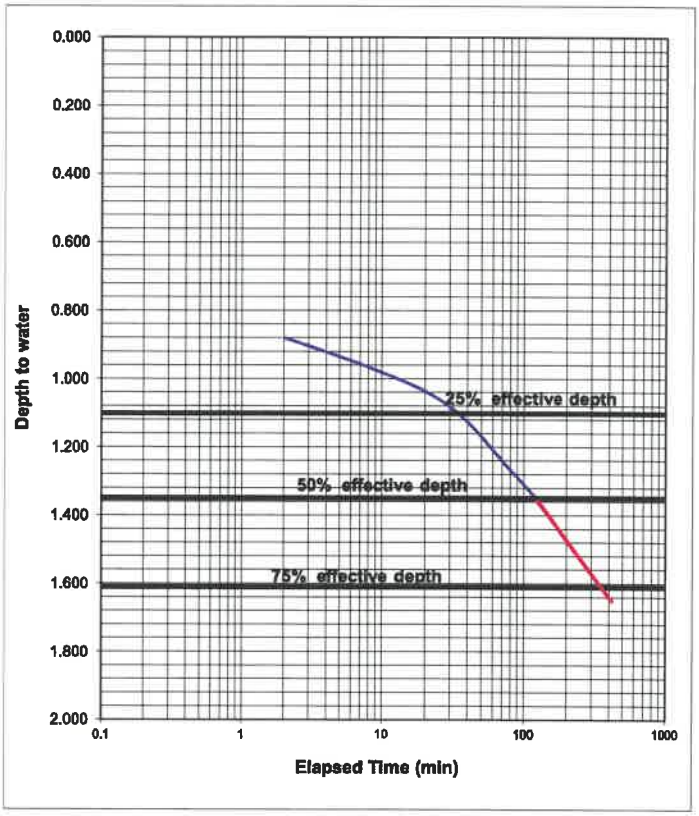
where:

V_{p75-25} = the effective storage volume of water in the trial pit between 75% and 25% effective depth

a_{p50} = the internal surface area of the trial pit up to 50% effective depth and including the base area

t_{p75-25} = the time for the water level to fall from 75% to 25% effective depth

Time (mins)	Depth m
0	0.850
1	0.860
2	0.880
23	1.050
79	1.265
122	1.350



V_{p75-25} = 1.90385 m3 m3

a_{p50} = 7.8605 m2 **Infiltration factor**

* t_{p75-25} = 18900 seconds f = 1.282E-05 ms^{-1}

Note;
* Indicates that the full drainage was not achieved within the duration of the test. Consequently, the infiltration valu has been calculated using the reduced depth test as outlined in BRE 365. Caution should be applied to the value obtained and where possible further long term testing carried out.

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Soakaway Test

Site Radnor Park
Job No. 36897G
Trial Pit TPX3-Test 1

	Width	Length	Depth
Trial Pit Dimensions	1.4 m	1.7 m	1.95 m
Filled Water Level	1.02 m		
75% effective depth	1.2525 m		
50% effective depth	1.485 m		
25% effective depth	1.7175 m		
Soil type at test depth	Made Ground/Folkestone Sands		

The infiltration rate (f) is given by;

$$f = \frac{V_{p75-25}}{a_{p50} \times t_{p75-25}}$$

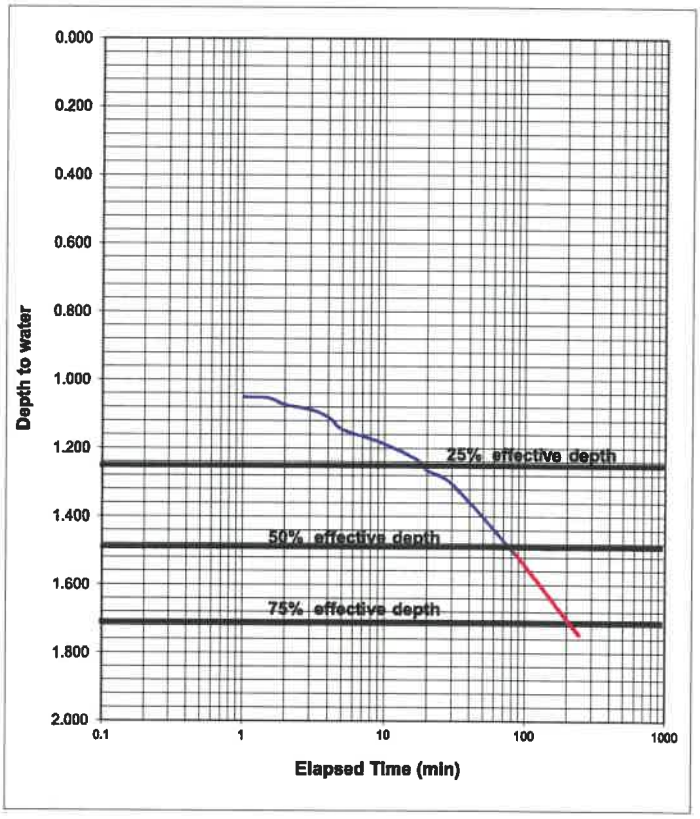
where:

V_{p75-25} = the effective storage volume of water in the trial pit between 75% and 25% effective depth

a_{p50} = the internal surface area of the trial pit up to 50% effective depth and including the base area

t_{p75-25} = the time for the water level to fall from 75% to 25% effective depth

Time (mins)	Depth m
0	1.020
0.5	1.035
1	1.050
1.5	1.053
2	1.073
3	1.087
4	1.110
5	1.145
9	1.180
16.5	1.230
20	1.265
30	1.305
87	1.515



V_{p75-25} = 1.07415 m3 m3

a_{p50} = 5.1465 m2 **Infiltration factor**

* t_{p75-25} = 10920 seconds f = 1.911E-05 ms^{-1}

Note;
* Indicates that the full drainage was not achieved within the duration of the test. Consequently, the infiltration valu has been calculated using the reduced depth test as outlined in BRE 365. Caution should be applied to the value obtained and where possible further long term testing carried out.

KNAPP HICKS & PARTNERS LTD
CONSULTING STRUCTURAL, CIVIL & GEOTECHNICAL ENGINEERS
ISO 9001 REGISTERED FIRM

Soakaway Test

Site Radnor Park
Job No. 36897G
Trial Pit TPX3-Test 2

	Width	Length	Depth
Trial Pit Dimensions	1.4 m	1.7 m	1.95 m

Filled Water Level	0.905 m
75% effective depth	1.16625 m
50% effective depth	1.4275 m
25% effective depth	1.68875 m
Soil type at test depth	Made Ground/Folkestone Sands

The infiltration rate (f) is given by;

$$f = \frac{V_{p75-25}}{a_{p50} \times t_{p75-25}}$$

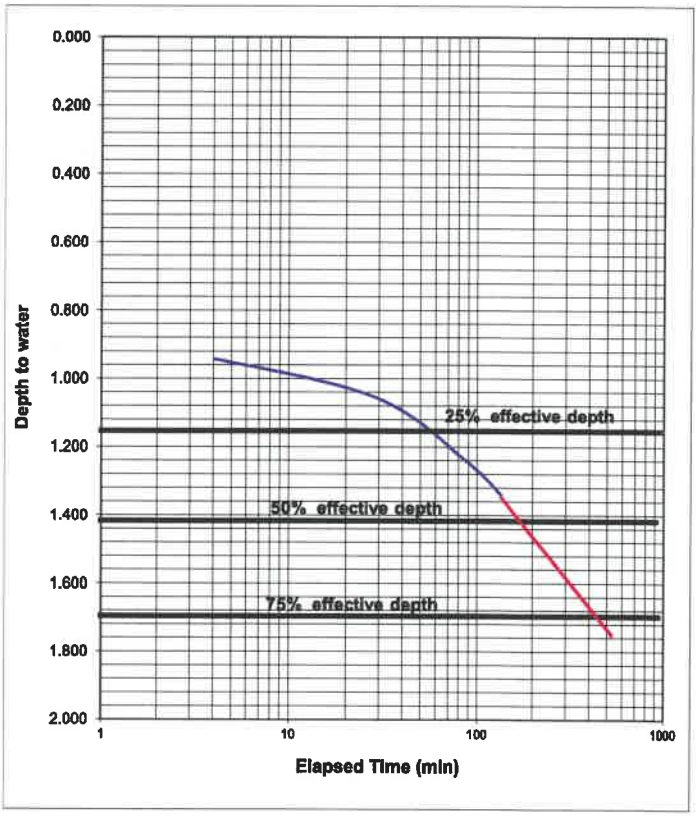
where:

V_{p75-25} = the effective storage volume of water in the trial pit between 75% and 25% effective depth

a_{p50} = the internal surface area of the trial pit up to 50% effective depth and including the base area

t_{p75-25} = the time for the water level to fall from 75% to 25% effective depth

Time (mins)	Depth m
0	0.905
2	0.925
4	0.942
29	1.055
87	1.240
134	1.340



V_{p75-25} = 1.206975 m3 m3

a_{p50} = 5.49725 m2 **Infiltration factor**

* t_{p75-25} = 21900 seconds f = 1.003E-05 ms^{-1}

Note;
* Indicates that the full drainage was not achieved within the duration of the test. Consequently, the infiltration valu has been calculated using the reduced depth test as outlined in BRE 365. Caution should be applied to the value obtained and where possible further long term testing carried out.

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6th August 2020

Attachments
Chemical Laboratory Test Results (Contamination Suites & WAC Tests)

DETS

UKAS TESTING
4480

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Knapp Hicks & Partners Ltd
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DETS Ltd
Unit 1
Rose Lane Industrial Estate
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Lenham Heath
Kent
ME17 2JN
t: 01622 850410

DETS Report No: 20-06674

Site Reference:	Radnor Park
Project / Job Ref:	None Supplied
Order No:	None Supplied
Sample Receipt Date:	19/06/2020
Sample Scheduled Date:	22/06/2020
Report Issue Number:	1
Reporting Date:	01/07/2020

Authorised by:

Dave Ashworth
Technical Manager

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

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

4480

Soil Analysis Certificate						
DETS Report No: 20-06674	Date Sampled	19/06/20	19/06/20	19/06/20	19/06/20	19/06/20
Knapp Hicks & Partners Ltd	Time Sampled	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Site Reference: Radnor Park	TP / BH No	A1	A1	A2	A2	A3
Project / Job Ref: None Supplied	Additional Refs	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Order No: None Supplied	Depth (m)	GL - 0.40	0.75 - 1.00	GL - 0.60	0.60 - 0.80	GL - 0.60
Reporting Date: 01/07/2020	DETS Sample No	482390	482391	482392	482393	482394

Determinand	Unit	RL	Accreditation					
Asbestos Screen (S)	N/a	N/a	ISO17025	Detected	Not Detected	Not Detected	Not Detected	Not Detected
Sample Matrix (S)	Material Type	N/a	NONE	Small bundle of Chrysotile				
Asbestos Type (S)	PLM Result	N/a	ISO17025	Chrysotile				
pH	pH Units	N/a	MCERTS	8.0	7.8	7.8	7.7	10.4
Total Cyanide	mg/kg	< 2	NONE	< 2	< 2	< 2	< 2	< 2
Total Sulphate as SO_4	mg/kg	< 200	NONE	1388		674		2576
Total Sulphate as SO_4	%	< 0.02	NONE	0.14		0.07		0.26
W/S Sulphate as SO_4 (2:1)	mg/l	< 10	MCERTS	328	< 10	36	16	571
W/S Sulphate as SO_4 (2:1)	g/l	< 0.01	MCERTS	0.33	< 0.01	0.04	0.02	0.57
Sulphide	mg/kg	< 5	NONE		< 5		< 5	
Organic Matter	%	< 0.1	MCERTS	3.4	11	2.1	2.3	4.4
Total Organic Carbon (TOC)	%	< 0.1	MCERTS	2	6.4	1.2	1.4	2.6
Ammonia as NH_4	mg/kg	< 0.5	NONE		1.8		1	
Arsenic (As)	mg/kg	< 2	MCERTS	5	4	7	7	4
W/S Boron	mg/kg	< 1	NONE		< 1		< 1	
Cadmium (Cd)	mg/kg	< 0.2	MCERTS	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
Chromium (Cr)	mg/kg	< 2	MCERTS	18	17	21	23	16
Chromium (hexavalent)	mg/kg	< 2	NONE	< 2	< 2	< 2	< 2	< 2
Copper (Cu)	mg/kg	< 4	MCERTS	8	8	11	9	4
Lead (Pb)	mg/kg	< 3	MCERTS	23	16	41	25	55
Mercury (Hg)	mg/kg	< 1	MCERTS	< 1	< 1	< 1	< 1	< 1
Nickel (Ni)	mg/kg	< 3	MCERTS	16	17	21	23	18
Selenium (Se)	mg/kg	< 2	MCERTS	< 3	< 3	< 3	< 3	< 3
Vanadium (V)	mg/kg	< 1	MCERTS	26	25	31	31	21
Zinc (Zn)	mg/kg	< 3	MCERTS	40	31	63	46	57
Total Phenols (monohydric)	mg/kg	< 2	NONE	< 2	< 2	< 2	< 2	< 2

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						
DETS Report No: 20-06674	Date Sampled	19/06/20	19/06/20	19/06/20	19/06/20	19/06/20
Knapp Hicks & Partners Ltd	Time Sampled	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Site Reference: Radnor Park	TP / BH No	A3	A4	A5	X1	X3
Project / Job Ref: None Supplied	Additional Refs	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Order No: None Supplied	Depth (m)	0.60 - 0.80	GL - 0.50	0.10 - 0.60	GL - 0.60	GL - 0.10
Reporting Date: 01/07/2020	DETS Sample No	482395	482396	482397	482398	482399

Determinand	Unit	RL	Accreditation					
Asbestos Screen (S)	N/a	N/a	ISO17025	Not Detected	Not Detected	Not Detected	Not Detected	Detected
Sample Matrix (S)	Material Type	N/a	NONE					Amosite present in microscopic fragment of asbestos sheeting board debris
Asbestos Type (S)	PLM Result	N/a	ISO17025					Amosite
pH	pH Units	N/a	MCERTS	8.5	8.1	7.9	7.7	9.0
Total Cyanide	mg/kg	< 2	NONE	< 2	< 2	< 2	< 2	< 2
Total Sulphate as SO_4	mg/kg	< 200	NONE				910	2854
Total Sulphate as SO_4	%	< 0.02	NONE				0.09	0.29
W/S Sulphate as SO_4 (2:1)	mg/l	< 10	MCERTS	46	26	129	166	179
W/S Sulphate as SO_4 (2:1)	g/l	< 0.01	MCERTS	0.05	0.03	0.13	0.17	0.18
Sulphide	mg/kg	< 5	NONE	< 5	< 5	< 5		
Organic Matter	%	< 0.1	MCERTS	0.7	0.5	5.5	3.2	2
Total Organic Carbon (TOC)	%	< 0.1	MCERTS	0.4	0.3	3.2	1.8	1.2
Ammonia as NH_4	mg/kg	< 0.5	NONE	0.7	1.6	0.7		
Arsenic (As)	mg/kg	< 2	MCERTS	3	7	6	7	5
W/S Boron	mg/kg	< 1	NONE	< 1	< 1	< 1		
Cadmium (Cd)	mg/kg	< 0.2	MCERTS	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
Chromium (Cr)	mg/kg	< 2	MCERTS	21	20	23	22	17
Chromium (hexavalent)	mg/kg	< 2	NONE	< 2	< 2	< 2	< 2	< 2
Copper (Cu)	mg/kg	< 4	MCERTS	< 4	15	9	13	7
Lead (Pb)	mg/kg	< 3	MCERTS	9	63	27	60	371
Mercury (Hg)	mg/kg	< 1	MCERTS	< 1	< 1	< 1	< 1	< 1
Nickel (Ni)	mg/kg	< 3	MCERTS	53	18	23	23	19
Selenium (Se)	mg/kg	< 2	MCERTS	< 3	< 3	< 3	< 3	< 3
Vanadium (V)	mg/kg	< 1	MCERTS	31	33	30	36	24
Zinc (Zn)	mg/kg	< 3	MCERTS	33	59	53	76	55
Total Phenols (monohydric)	mg/kg	< 2	NONE	< 2	< 2	< 2	< 2	< 2

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							
DETS Report No: 20-06674	Date Sampled	19/06/20	19/06/20	19/06/20		
Knapp Hicks & Partners Ltd	Time Sampled	None Supplied	None Supplied	None Supplied		
Site Reference: Radnor Park	TP / BH No	SP1	SP2	Old S/P		
Project / Job Ref: None Supplied	Additional Refs	None Supplied	None Supplied	None Supplied		
Order No: None Supplied	Depth (m)	None Supplied	None Supplied	None Supplied		
Reporting Date: 01/07/2020	DETS Sample No	482400	482401	482402		

Determinand	Unit	RL	Accreditation					
Asbestos Screen (S)	N/a	N/a	ISO17025	Detected	Not Detected	Not Detected		
Sample Matrix (S)	Material Type	N/a	NONE	Amosite present in microscopic fragments of asbestos sheeting board debris				
Asbestos Type (S)	PLM Result	N/a	ISO17025	Amosite				
pH	pH Units	N/a	MCERTS	10.7	9.1	8.0		
Total Cyanide	mg/kg	< 2	NONE	< 2	< 2	< 2		
Total Sulphate as SO_4	mg/kg	< 200	NONE	5413	12140	8021		
Total Sulphate as SO_4	%	< 0.02	NONE	0.54	1.21	0.80		
W/S Sulphate as SO_4 (2:1)	mg/l	< 10	MCERTS	764	1650	1670		
W/S Sulphate as SO_4 (2:1)	g/l	< 0.01	MCERTS	0.76	1.65	1.67		
Sulphide	mg/kg	< 5	NONE					
Organic Matter	%	< 0.1	MCERTS	4.6	2.2	4		
Total Organic Carbon (TOC)	%	< 0.1	MCERTS	2.7	1.3	2.3		
Ammonia as NH_4	mg/kg	< 0.5	NONE					
Arsenic (As)	mg/kg	< 2	MCERTS	5	8	8		
W/S Boron	mg/kg	< 1	NONE					
Cadmium (Cd)	mg/kg	< 0.2	MCERTS	< 0.2	0.3	< 0.2		
Chromium (Cr)	mg/kg	< 2	MCERTS	20	29	19		
Chromium (hexavalent)	mg/kg	< 2	NONE	< 2	< 2	< 2		
Copper (Cu)	mg/kg	< 4	MCERTS	9	25	31		
Lead (Pb)	mg/kg	< 3	MCERTS	76	158	100		
Mercury (Hg)	mg/kg	< 1	MCERTS	< 1	< 1	< 1		
Nickel (Ni)	mg/kg	< 3	MCERTS	19	24	18		
Selenium (Se)	mg/kg	< 2	MCERTS	< 3	< 3	< 3		
Vanadium (V)	mg/kg	< 1	MCERTS	27	39	31		
Zinc (Zn)	mg/kg	< 3	MCERTS	79	468	157		
Total Phenols (monohydric)	mg/kg	< 2	NONE	< 2	< 2	< 2		

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						
DETS Report No: 20-06674	Date Sampled	19/06/20	19/06/20	19/06/20	19/06/20	19/06/20
Knapp Hicks & Partners Ltd	Time Sampled	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Site Reference: Radnor Park	TP / BH No	A1	A1	A2	A2	A3
Project / Job Ref: None Supplied	Additional Refs	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Order No: None Supplied	Depth (m)	GL - 0.40	0.75 - 1.00	GL - 0.60	0.60 - 0.80	GL - 0.60
Reporting Date: 01/07/2020	DETS Sample No	482390	482391	482392	482393	482394

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	0.14	< 0.1	0.59	< 0.1	0.82
Anthracene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	0.17
Fluoranthene	mg/kg	< 0.1	MCERTS	0.32	< 0.1	1.61	0.12	2.72
Pyrene	mg/kg	< 0.1	MCERTS	0.28	< 0.1	1.39	< 0.1	2.89
Benzo(a)anthracene	mg/kg	< 0.1	MCERTS	0.18	< 0.1	0.90	< 0.1	2.26
Chrysene	mg/kg	< 0.1	MCERTS	0.19	< 0.1	0.81	< 0.1	1.83
Benzo(b)fluoranthene	mg/kg	< 0.1	MCERTS	0.24	< 0.1	1.20	0.12	3.08
Benzo(k)fluoranthene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	0.44	< 0.1	0.97
Benzo(a)pyrene	mg/kg	< 0.1	MCERTS	0.18	< 0.1	0.89	< 0.1	2.37
Indeno(1,2,3-cd)pyrene	mg/kg	< 0.1	MCERTS	0.12	< 0.1	0.70	< 0.1	1.34
Dibenz(a,h)anthracene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	0.27
Benzo(ghi)perylene	mg/kg	< 0.1	MCERTS	0.12	< 0.1	0.57	< 0.1	1.02
Coronene	mg/kg	< 0.1	NONE	< 0.1	< 0.1	0.32	< 0.1	0.46
Total Oily Waste PAHs	mg/kg	< 1	MCERTS	< 1	< 1	4.9	< 1	12.1
Total Dutch 10 PAHs	mg/kg	< 1	MCERTS	1.2	< 1	6.5	< 1	13.5
Total EPA-16 PAHs	mg/kg	< 1.6	MCERTS	1.8	< 1.6	9.1	< 1.6	19.7
Total WAC-17 PAHs	mg/kg	< 1.7	NONE	1.8	< 1.7	9.4	< 1.7	20.2

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Soil Analysis Certificate - Speciated PAHs						
DETS Report No: 20-06674	Date Sampled	19/06/20	19/06/20	19/06/20	19/06/20	19/06/20
Knapp Hicks & Partners Ltd	Time Sampled	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Site Reference: Radnor Park	TP / BH No	A3	A4	A5	X1	X3
Project / Job Ref: None Supplied	Additional Refs	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Order No: None Supplied	Depth (m)	0.60 - 0.80	GL - 0.50	0.10 - 0.60	GL - 0.60	GL - 0.10
Reporting Date: 01/07/2020	DETS Sample No	482395	482396	482397	482398	482399

Determinand	Unit	RL	Accreditation					
Naphthalene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	0.12	< 0.1	< 0.1
Acenaphthylene	mg/kg	< 0.1	MCERTS	< 0.1	0.17	0.35	0.11	< 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	0.16	< 0.1	< 0.1
Phenanthrene	mg/kg	< 0.1	MCERTS	< 0.1	0.79	3.17	0.60	0.15
Anthracene	mg/kg	< 0.1	MCERTS	< 0.1	0.24	0.90	0.14	< 0.1
Fluoranthene	mg/kg	< 0.1	MCERTS	< 0.1	3.60	8.49	1.82	0.47
Pyrene	mg/kg	< 0.1	MCERTS	< 0.1	3.25	7.12	1.66	0.38
Benzo(a)anthracene	mg/kg	< 0.1	MCERTS	< 0.1	2.29	4.41	1.35	0.26
Chrysene	mg/kg	< 0.1	MCERTS	< 0.1	1.87	3.72	1.34	0.27
Benzo(b)fluoranthene	mg/kg	< 0.1	MCERTS	< 0.1	3.12	5.12	2.28	0.38
Benzo(k)fluoranthene	mg/kg	< 0.1	MCERTS	< 0.1	1.27	1.65	0.74	0.14
Benzo(a)pyrene	mg/kg	< 0.1	MCERTS	< 0.1	2.58	4.04	1.66	0.24
Indeno(1,2,3-cd)pyrene	mg/kg	< 0.1	MCERTS	< 0.1	1.92	2.72	1.33	0.23
Dibenz(a,h)anthracene	mg/kg	< 0.1	MCERTS	< 0.1	0.31	0.46	0.23	< 0.1
Benzo(ghi)perylene	mg/kg	< 0.1	MCERTS	< 0.1	1.49	1.95	1.06	0.20
Coronene	mg/kg	< 0.1	NONE	< 0.1	0.63	0.69	0.56	0.23
Total Oily Waste PAHs	mg/kg	< 1	MCERTS	< 1	13.4	22.1	8.9	1.5
Total Dutch 10 PAHs	mg/kg	< 1	MCERTS	< 1	16	31.2	10	2
Total EPA-16 PAHs	mg/kg	< 1.6	MCERTS	< 1.6	22.9	44.4	14.3	2.7
Total WAC-17 PAHs	mg/kg	< 1.7	NONE	< 1.7	23.5	45.1	14.9	3

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Soil Analysis Certificate - Speciated PAHs							
DETS Report No: 20-06674	Date Sampled	19/06/20	19/06/20	19/06/20		
Knapp Hicks & Partners Ltd	Time Sampled	None Supplied	None Supplied	None Supplied		
Site Reference: Radnor Park	TP / BH No	SP1	SP2	Old S/P		
Project / Job Ref: None Supplied	Additional Refs	None Supplied	None Supplied	None Supplied		
Order No: None Supplied	Depth (m)	None Supplied	None Supplied	None Supplied		
Reporting Date: 01/07/2020	DETS Sample No	482400	482401	482402		

Determinand	Unit	RL	Accreditation					
Naphthalene	mg/kg	< 0.1	MCERTS	0.28	0.63	0.87		
Acenaphthylene	mg/kg	< 0.1	MCERTS	0.11	0.11	0.31		
Acenaphthene	mg/kg	< 0.1	MCERTS	0.71	0.54	1.16		
Fluorene	mg/kg	< 0.1	MCERTS	0.40	0.37	0.82		
Phenanthrene	mg/kg	< 0.1	MCERTS	4.70	3.49	8.37		
Anthracene	mg/kg	< 0.1	MCERTS	0.86	0.65	1.71		
Fluoranthene	mg/kg	< 0.1	MCERTS	6.81	5.45	18.70		
Pyrene	mg/kg	< 0.1	MCERTS	5.83	4.74	16.60		
Benzo(a)anthracene	mg/kg	< 0.1	MCERTS	3.50	3.33	7.82		
Chrysene	mg/kg	< 0.1	MCERTS	2.58	2.56	6.69		
Benzo(b)fluoranthene	mg/kg	< 0.1	MCERTS	3.97	4	9.41		
Benzo(k)fluoranthene	mg/kg	< 0.1	MCERTS	1.24	1.21	2.95		
Benzo(a)pyrene	mg/kg	< 0.1	MCERTS	3.05	2.96	6.91		
Indeno(1,2,3-cd)pyrene	mg/kg	< 0.1	MCERTS	2.14	1.91	4.57		
Dibenz(a,h)anthracene	mg/kg	< 0.1	MCERTS	0.35	0.35	0.79		
Benzo(ghi)perylene	mg/kg	< 0.1	MCERTS	1.53	1.48	3.25		
Coronene	mg/kg	< 0.1	NONE	0.52	0.54	0.92		
Total Oily Waste PAHs	mg/kg	< 1	MCERTS	16.8	16.3	39.1		
Total Dutch 10 PAHs	mg/kg	< 1	MCERTS	26.7	23.7	61.9		
Total EPA-16 PAHs	mg/kg	< 1.6	MCERTS	38	33.8	90.9		
Total WAC-17 PAHs	mg/kg	< 1.7	NONE	38.5	34.3	91.8		

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Soil Analysis Certificate - TPH CWG Banded						
DETS Report No: 20-06674	Date Sampled	19/06/20	19/06/20	19/06/20	19/06/20	19/06/20
Knapp Hicks & Partners Ltd	Time Sampled	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Site Reference: Radnor Park	TP / BH No	A1	A1	A2	A2	A3
Project / Job Ref: None Supplied	Additional Refs	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Order No: None Supplied	Depth (m)	GL - 0.40	0.75 - 1.00	GL - 0.60	0.60 - 0.80	GL - 0.60
Reporting Date: 01/07/2020	DETS Sample No	482390	482391	482392	482393	482394

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 - C21	mg/kg	< 3	MCERTS	< 3	< 3	< 3	< 3	< 3
Aliphatic >C21 - C34	mg/kg	< 10	MCERTS	< 10	< 10	< 10	< 10	< 10
Aliphatic (C5 - C34)	mg/kg	< 21	NONE	< 21	< 21	< 21	< 21	< 21
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	11
Aromatic >C21 - C35	mg/kg	< 10	MCERTS	< 10	< 10	< 10	< 10	44
Aromatic (C5 - C35)	mg/kg	< 21	NONE	< 21	< 21	< 21	< 21	57
Total >C5 - C35	mg/kg	< 42	NONE	< 42	< 42	< 42	< 42	57

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Soil Analysis Certificate - TPH CWG Banded						
DETS Report No: 20-06674	Date Sampled	19/06/20	19/06/20	19/06/20	19/06/20	19/06/20
Knapp Hicks & Partners Ltd	Time Sampled	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Site Reference: Radnor Park	TP / BH No	A3	A4	A5	X1	X3
Project / Job Ref: None Supplied	Additional Refs	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Order No: None Supplied	Depth (m)	0.60 - 0.80	GL - 0.50	0.10 - 0.60	GL - 0.60	GL - 0.10
Reporting Date: 01/07/2020	DETS Sample No	482395	482396	482397	482398	482399

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 - C21	mg/kg	< 3	MCERTS	< 3	< 3	< 3	< 3	< 3
Aliphatic >C21 - C34	mg/kg	< 10	MCERTS	< 10	< 10	< 10	< 10	< 10
Aliphatic (C5 - C34)	mg/kg	< 21	NONE	< 21	< 21	< 21	< 21	< 21
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	3	3	< 2
Aromatic >C16 - C21	mg/kg	< 3	MCERTS	< 3	9	25	8	< 3
Aromatic >C21 - C35	mg/kg	< 10	MCERTS	< 10	31	42	22	< 10
Aromatic (C5 - C35)	mg/kg	< 21	NONE	< 21	40	70	32	< 21
Total >C5 - C35	mg/kg	< 42	NONE	< 42	< 42	70	< 42	< 42

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Soil Analysis Certificate - TPH CWG Banded						
DETS Report No: 20-06674	Date Sampled	19/06/20	19/06/20	19/06/20		
Knapp Hicks & Partners Ltd	Time Sampled	None Supplied	None Supplied	None Supplied		
Site Reference: Radnor Park	TP / BH No	SP1	SP2	Old S/P		
Project / Job Ref: None Supplied	Additional Refs	None Supplied	None Supplied	None Supplied		
Order No: None Supplied	Depth (m)	None Supplied	None Supplied	None Supplied		
Reporting Date: 01/07/2020	DETS Sample No	482400	482401	482402		

Determinand	Unit	RL	Accreditation					
Aliphatic >C5 - C6	mg/kg	< 0.01	NONE	< 0.01	< 0.01	< 0.01		
Aliphatic >C6 - C8	mg/kg	< 0.05	NONE	< 0.05	< 0.05	< 0.05		
Aliphatic >C8 - C10	mg/kg	< 2	MCERTS	< 2	< 2	< 2		
Aliphatic >C10 - C12	mg/kg	< 2	MCERTS	< 2	< 2	< 2		
Aliphatic >C12 - C16	mg/kg	< 3	MCERTS	9	< 3	< 3		
Aliphatic >C16 - C21	mg/kg	< 3	MCERTS	14	3	19		
Aliphatic >C21 - C34	mg/kg	< 10	MCERTS	49	113	439		
Aliphatic (C5 - C34)	mg/kg	< 21	NONE	73	117	458		
Aromatic >C5 - C7	mg/kg	< 0.01	NONE	< 0.01	< 0.01	< 0.01		
Aromatic >C7 - C8	mg/kg	< 0.05	NONE	< 0.05	< 0.05	< 0.05		
Aromatic >C8 - C10	mg/kg	< 2	MCERTS	< 2	< 2	< 2		
Aromatic >C10 - C12	mg/kg	< 2	MCERTS	< 2	< 2	< 2		
Aromatic >C12 - C16	mg/kg	< 2	MCERTS	7	5	9		
Aromatic >C16 - C21	mg/kg	< 3	MCERTS	33	23	77		
Aromatic >C21 - C35	mg/kg	< 10	MCERTS	55	58	434		
Aromatic (C5 - C35)	mg/kg	< 21	NONE	94	86	519		
Total >C5 - C35	mg/kg	< 42	NONE	167	203	977		

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Soil Analysis Certificate - BTEX / MTBE							
DETS Report No: 20-06674	Date Sampled	19/06/20	19/06/20	19/06/20	19/06/20	19/06/20
Knapp Hicks & Partners Ltd	Time Sampled	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Site Reference: Radnor Park	TP / BH No	A1	A1	A2	A2	A3
Project / Job Ref: None Supplied	Additional Refs	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Order No: None Supplied	Depth (m)	GL - 0.40	0.75 - 1.00	GL - 0.60	0.60 - 0.80	GL - 0.60
Reporting Date: 01/07/2020	DETS Sample No	482390	482391	482392	482393	482394

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	< 2	< 2	< 2	< 2
o-xylene	ug/kg	< 2	MCERTS	< 2	< 2	< 2	< 2	< 2
MTBE	ug/kg	< 5	MCERTS	< 5	< 5	< 5	< 5	< 5

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Soil Analysis Certificate - BTEX / MTBE							
DETS Report No: 20-06674	Date Sampled	19/06/20	19/06/20	19/06/20	19/06/20	19/06/20
Knapp Hicks & Partners Ltd	Time Sampled	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Site Reference: Radnor Park	TP / BH No	A3	A4	A5	X1	X3
Project / Job Ref: None Supplied	Additional Refs	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Order No: None Supplied	Depth (m)	0.60 - 0.80	GL - 0.50	0.10 - 0.60	GL - 0.60	GL - 0.10
Reporting Date: 01/07/2020	DETS Sample No	482395	482396	482397	482398	482399

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	< 2	< 2	< 2	< 2
o-xylene	ug/kg	< 2	MCERTS	< 2	< 2	< 2	< 2	< 2
MTBE	ug/kg	< 5	MCERTS	< 5	< 5	< 5	< 5	< 5

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Soil Analysis Certificate - BTEX / MTBE							
DETS Report No: 20-06674	Date Sampled	19/06/20	19/06/20	19/06/20		
Knapp Hicks & Partners Ltd	Time Sampled	None Supplied	None Supplied	None Supplied		
Site Reference: Radnor Park	TP / BH No	SP1	SP2	Old S/P		
Project / Job Ref: None Supplied	Additional Refs	None Supplied	None Supplied	None Supplied		
Order No: None Supplied	Depth (m)	None Supplied	None Supplied	None Supplied		
Reporting Date: 01/07/2020	DETS Sample No	482400	482401	482402		

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

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Waste Acceptance Criteria Analytical Certificate - BS EN 12457/3

DETS Report No: 20-06674	**Date Sampled**	19/06/20	
Knapp Hicks & Partners Ltd	**Time Sampled**	None Supplied	
Site Reference: Radnor Park	**TP / BH No**	A1	
Project / Job Ref: None Supplied	**Additional Refs**	None Supplied	
Order No: None Supplied	**Depth (m)**	GL - 0.40	
Reporting Date: 01/07/2020	**DETS Sample No**	482390	

Determinand	**Unit**	**MDL**		**Landfill Waste Acceptance Criteria Limits**		
				Inert Waste Landfill	**Stable Non-reactive HAZARDOUS waste in non-hazardous Landfill**	**Hazardous Waste Landfill**
TOC[MU]	%	< 0.1	2	3%	5%	6%
Loss on Ignition	%	< 0.01	3.50	--	--	10%
BTEX[MU]	mg/kg	< 0.05	< 0.05	6	--	--
Sum of PCBs	mg/kg	< 0.1	< 0.1	1	--	--
Mineral Oil[MU]	mg/kg	< 10	< 10	500	--	--
Total PAH[MU]	mg/kg	< 1.7	1.8	100	--	--
pH[MU]	pH Units	N/a	8.0	--	>6	--
Acid Neutralisation Capacity	mol/kg (+/-)	< 1	< 1	--	To be evaluated	To be evaluated

Eluate Analysis	**2:1 mg/l**	**8:1 mg/l**		**Cumulative 10:1 mg/kg**	**Limit values for compliance leaching test using BS EN 12457-3 at L/S 10 l/kg (mg/kg)**		
Arsenic[U]	< 0.01	< 0.01		< 0.2	0.5	2	25
Barium[U]	0.02	< 0.02		0.1	20	100	300
Cadmium[U]	< 0.0005	< 0.0005		< 0.02	0.04	1	5
Chromium[U]	< 0.005	< 0.005		< 0.20	0.5	10	70
Copper[U]	0.01	0.02		< 0.5	2	50	100
Mercury[U]	< 0.0005	< 0.0005		< 0.005	0.01	0.2	2
Molybdenum[U]	0.011	0.003		< 0.1	0.5	10	30
Nickel[U]	< 0.007	< 0.007		< 0.2	0.4	10	40
Lead[U]	< 0.005	< 0.005		< 0.2	0.5	10	50
Antimony[U]	< 0.005	< 0.005		< 0.05	0.06	0.7	5
Selenium[U]	< 0.005	< 0.005		< 0.05	0.1	0.5	7
Zinc[U]	< 0.005	0.006		< 0.2	4	50	200
Chloride[U]	26	12		130	800	15000	25000
Fluoride[U]	0.8	0.5		5.3	10	150	500
Sulphate[U]	243	33		547	1000	20000	50000
TDS	393	137		1640	4000	60000	100000
Phenol Index	< 0.01	< 0.01		< 0.5	1	-	-
DOC	16.3	19.1		188	500	800	1000
Leach Test Information							
Sample Mass (kg)	0.19						
Dry Matter (%)	91.3						
Moisture (%)	9.6						
Stage 1							
Volume Eluate L2 (litres)	0.33						
Filtered Eluate VE1 (litres)	0.19						

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
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Waste Acceptance Criteria Analytical Certificate - BS EN 12457/3

DETS Report No: 20-06674	**Date Sampled**	19/06/20	
Knapp Hicks & Partners Ltd	**Time Sampled**	None Supplied	
Site Reference: Radnor Park	**TP / BH No**	A2	
Project / Job Ref: None Supplied	**Additional Refs**	None Supplied	
Order No: None Supplied	**Depth (m)**	GL - 0.60	
Reporting Date: 01/07/2020	**DETS Sample No**	482392	

Determinand	Unit	MDL		Landfill Waste Acceptance Criteria Limits: Inert Waste Landfill	Stable Non-reactive HAZARDOUS waste in non-hazardous Landfill	Hazardous Waste Landfill
TOC[MU]	%	< 0.1	1.2	3%	5%	6%
Loss on Ignition	%	< 0.01	1.80	--	--	10%
BTEX[MU]	mg/kg	< 0.05	< 0.05	6	--	--
Sum of PCBs	mg/kg	< 0.1	< 0.1	1	--	--
Mineral Oil[MU]	mg/kg	< 10	< 10	500	--	--
Total PAH[MU]	mg/kg	< 1.7	9.4	100	--	--
pH[MU]	pH Units	N/a	7.8	--	>6	--
Acid Neutralisation Capacity	mol/kg (+/-)	< 1	< 1	--	To be evaluated	To be evaluated

Eluate Analysis	2:1 mg/l	8:1 mg/l		Cumulative 10:1 mg/kg	Limit values for compliance leaching test using BS EN 12457-3 at L/S 10 l/kg (mg/kg)		
Arsenic[U]	< 0.01	< 0.01		< 0.2	0.5	2	25
Barium[U]	0.02	< 0.02		0.1	20	100	300
Cadmium[U]	< 0.0005	< 0.0005		< 0.02	0.04	1	5
Chromium[U]	< 0.005	< 0.005		< 0.20	0.5	10	70
Copper[U]	< 0.01	0.01		< 0.5	2	50	100
Mercury[U]	< 0.0005	< 0.0005		< 0.005	0.01	0.2	2
Molybdenum[U]	0.009	0.003		< 0.1	0.5	10	30
Nickel[U]	< 0.007	< 0.007		< 0.2	0.4	10	40
Lead[U]	< 0.005	< 0.005		< 0.2	0.5	10	50
Antimony[U]	< 0.005	< 0.005		< 0.05	0.06	0.7	5
Selenium[U]	< 0.005	< 0.005		< 0.05	0.1	0.5	7
Zinc[U]	< 0.005	0.010		< 0.2	4	50	200
Chloride[U]	9	9		88	800	15000	25000
Fluoride[U]	0.5	< 0.5		< 1	10	150	500
Sulphate[U]	115	31		394	1000	20000	50000
TDS	254	119		1325	4000	60000	100000
Phenol Index	< 0.01	< 0.01		< 0.5	1	-	-
DOC	10.8	16.6		160	500	800	1000
Leach Test Information							
Sample Mass (kg)	0.19						
Dry Matter (%)	91.1						
Moisture (%)	9.8						
Stage 1							
Volume Eluate L2 (litres)	0.33						
Filtered Eluate VE1 (litres)	0.18						

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Waste Acceptance Criteria Analytical Certificate - BS EN 12457/3

DETS Report No: 20-06674	**Date Sampled**	19/06/20	
Knapp Hicks & Partners Ltd	**Time Sampled**	None Supplied	
Site Reference: Radnor Park	**TP / BH No**	A3	
Project / Job Ref: None Supplied	**Additional Refs**	None Supplied	
Order No: None Supplied	**Depth (m)**	GL - 0.60	
Reporting Date: 01/07/2020	**DETS Sample No**	482394	

Determinand	Unit	MDL		Landfill Waste Acceptance Criteria Limits: Inert Waste Landfill	Stable Non-reactive HAZARDOUS waste in non-hazardous Landfill	Hazardous Waste Landfill
TOC[MU]	%	< 0.1	2.6	3%	5%	6%
Loss on Ignition	%	< 0.01	4.52	--	--	10%
BTEX[MU]	mg/kg	< 0.05	< 0.05	6	--	--
Sum of PCBs	mg/kg	< 0.1	< 0.1	1	--	--
Mineral Oil[MU]	mg/kg	< 10	< 10	500	--	--
Total PAH[MU]	mg/kg	< 1.7	20.2	100	--	--
pH[MU]	pH Units	N/a	10.4	--	>6	--
Acid Neutralisation Capacity	mol/kg (+/-)	< 1	1.4	--	To be evaluated	To be evaluated

Eluate Analysis	2:1 mg/l	8:1 mg/l		Cumulative 10:1 mg/kg	Limit values for compliance leaching test using BS EN 12457-3 at L/S 10 l/kg (mg/kg)		
Arsenic[U]	< 0.01	< 0.01		< 0.2	0.5	2	25
Barium[U]	0.04	< 0.02		0.1	20	100	300
Cadmium[U]	< 0.0005	< 0.0005		< 0.02	0.04	1	5
Chromium[U]	0.029	0.007		< 0.20	0.5	10	70
Copper[U]	0.02	0.02		< 0.5	2	50	100
Mercury[U]	< 0.0005	< 0.0005		< 0.005	0.01	0.2	2
Molybdenum[U]	0.007	0.002		< 0.1	0.5	10	30
Nickel[U]	< 0.007	< 0.007		< 0.2	0.4	10	40
Lead[U]	< 0.005	< 0.005		< 0.2	0.5	10	50
Antimony[U]	0.010	0.016		0.15	**0.06**	0.7	5
Selenium[U]	< 0.005	< 0.005		< 0.05	0.1	0.5	7
Zinc[U]	< 0.005	< 0.005		< 0.2	4	50	200
Chloride[U]	17	7		80	800	15000	25000
Fluoride[U]	< 0.5	< 0.5		< 1	10	150	500
Sulphate[U]	666	129		1953	**1000**	20000	50000
TDS	769	221		2889	4000	60000	100000
Phenol Index	< 0.01	< 0.01		< 0.5	1	-	-
DOC	15.7	11.1		117	500	800	1000
Leach Test Information							
Sample Mass (kg)	0.19						
Dry Matter (%)	93.2						
Moisture (%)	7.4						
Stage 1							
Volume Eluate L2 (litres)	0.34						
Filtered Eluate VE1 (litres)	0.22						

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
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Waste Acceptance Criteria Analytical Certificate - BS EN 12457/3

DETS Report No: 20-06674	**Date Sampled**	19/06/20	
Knapp Hicks & Partners Ltd	**Time Sampled**	None Supplied	
Site Reference: Radnor Park	**TP / BH No**	X1	
Project / Job Ref: None Supplied	**Additional Refs**	None Supplied	
Order No: None Supplied	**Depth (m)**	GL - 0.60	
Reporting Date: 01/07/2020	**DETS Sample No**	482398	

Determinand	Unit	MDL		Landfill Waste Acceptance Criteria Limits: Inert Waste Landfill	Stable Non-reactive HAZARDOUS waste in non-hazardous Landfill	Hazardous Waste Landfill
TOC[MU]	%	< 0.1	1.8	3%	5%	6%
Loss on Ignition	%	< 0.01	2	--	--	10%
BTEX[MU]	mg/kg	< 0.05	< 0.05	6	--	--
Sum of PCBs	mg/kg	< 0.1	< 0.1	1	--	--
Mineral Oil[MU]	mg/kg	< 10	< 10	500	--	--
Total PAH[MU]	mg/kg	< 1.7	14.9	100	--	--
pH[MU]	pH Units	N/a	7.7	--	>6	--
Acid Neutralisation Capacity	mol/kg (+/-)	< 1	< 1	--	To be evaluated	To be evaluated

Eluate Analysis	2:1 mg/l	8:1 mg/l		Cumulative 10:1 mg/kg	Limit values for compliance leaching test using BS EN 12457-3 at L/S 10 l/kg (mg/kg)		
Arsenic[U]	< 0.01	< 0.01		< 0.2	0.5	2	25
Barium[U]	0.06	0.03		0.3	20	100	300
Cadmium[U]	< 0.0005	< 0.0005		< 0.02	0.04	1	5
Chromium[U]	< 0.005	< 0.005		< 0.20	0.5	10	70
Copper[U]	0.02	0.02		< 0.5	2	50	100
Mercury[U]	< 0.0005	< 0.0005		< 0.005	0.01	0.2	2
Molybdenum[U]	0.003	0.002		< 0.1	0.5	10	30
Nickel[U]	< 0.007	< 0.007		< 0.2	0.4	10	40
Lead[U]	< 0.005	< 0.005		< 0.2	0.5	10	50
Antimony[U]	0.015	0.008		0.09	**0.06**	0.7	5
Selenium[U]	< 0.005	< 0.005		< 0.05	0.1	0.5	7
Zinc[U]	< 0.005	0.014		< 0.2	4	50	200
Chloride[U]	5	10		93	800	15000	25000
Fluoride[U]	< 0.5	< 0.5		< 1	10	150	500
Sulphate[U]	117	18		247	1000	20000	50000
TDS	220	123		1300	4000	60000	100000
Phenol Index	< 0.01	< 0.01		< 0.5	1	-	-
DOC	15.6	22		216	500	800	1000
Leach Test Information							
Sample Mass (kg)	0.19						
Dry Matter (%)	92.3						
Moisture (%)	8.4						
Stage 1							
Volume Eluate L2 (litres)	0.34						
Filtered Eluate VE1 (litres)	0.13						

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
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Waste Acceptance Criteria Analytical Certificate - BS EN 12457/3

DETS Report No: 20-06674	**Date Sampled**	19/06/20	
Knapp Hicks & Partners Ltd	**Time Sampled**	None Supplied	
Site Reference: Radnor Park	**TP / BH No**	X3	
Project / Job Ref: None Supplied	**Additional Refs**	None Supplied	
Order No: None Supplied	**Depth (m)**	GL - 0.10	
Reporting Date: 01/07/2020	**DETS Sample No**	482399	

Determinand	Unit	MDL		Landfill Waste Acceptance Criteria Limits: Inert Waste Landfill	Stable Non-reactive HAZARDOUS waste in non-hazardous Landfill	Hazardous Waste Landfill
TOC[MU]	%	< 0.1	1.2	3%	5%	6%
Loss on Ignition	%	< 0.01	2.10	--	--	10%
BTEX[MU]	mg/kg	< 0.05	< 0.05	6	--	--
Sum of PCBs	mg/kg	< 0.1	< 0.1	1	--	--
Mineral Oil[MU]	mg/kg	< 10	< 10	500	--	--
Total PAH[MU]	mg/kg	< 1.7	3	100	--	--
pH[MU]	pH Units	N/a	9.0	--	>6	--
Acid Neutralisation Capacity	mol/kg (+/-)	< 1	1.7	--	To be evaluated	To be evaluated

Eluate Analysis	2:1 mg/l	8:1 mg/l		Cumulative 10:1 mg/kg	Limit values for compliance leaching test using BS EN 12457-3 at L/S 10 l/kg (mg/kg)		
Arsenic[U]	< 0.01	< 0.01		< 0.2	0.5	2	25
Barium[U]	0.02	< 0.02		0.1	20	100	300
Cadmium[U]	< 0.0005	< 0.0005		< 0.02	0.04	1	5
Chromium[U]	0.026	0.006		< 0.20	0.5	10	70
Copper[U]	0.01	0.02		< 0.5	2	50	100
Mercury[U]	< 0.0005	< 0.0005		< 0.005	0.01	0.2	2
Molybdenum[U]	0.006	0.002		< 0.1	0.5	10	30
Nickel[U]	< 0.007	< 0.007		< 0.2	0.4	10	40
Lead[U]	< 0.005	0.007		< 0.2	0.5	10	50
Antimony[U]	0.012	0.006		0.06	**0.06**	0.7	5
Selenium[U]	< 0.005	< 0.005		< 0.05	0.1	0.5	7
Zinc[U]	< 0.005	< 0.005		< 0.2	4	50	200
Chloride[U]	17	10		110	800	15000	25000
Fluoride[U]	< 0.5	< 0.5		< 1	10	150	500
Sulphate[U]	155	39		482	1000	20000	50000
TDS	332	141		1564	4000	60000	100000
Phenol Index	< 0.01	< 0.01		< 0.5	1	-	-
DOC	9.2	13.7		133	500	800	1000
Leach Test Information							
Sample Mass (kg)	0.19						
Dry Matter (%)	94.1						
Moisture (%)	6.4						
Stage 1							
Volume Eluate L2 (litres)	0.34						
Filtered Eluate VE1 (litres)	0.14						

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
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Waste Acceptance Criteria Analytical Certificate - BS EN 12457/3

DETS Report No: 20-06674	**Date Sampled**	19/06/20	
Knapp Hicks & Partners Ltd	**Time Sampled**	None Supplied	
Site Reference: Radnor Park	**TP / BH No**	SP1	
Project / Job Ref: None Supplied	**Additional Refs**	None Supplied	
Order No: None Supplied	**Depth (m)**	None Supplied	
Reporting Date: 01/07/2020	**DETS Sample No**	482400	

Determinand	Unit	MDL		Landfill Waste Acceptance Criteria Limits: Inert Waste Landfill	Stable Non-reactive HAZARDOUS waste in non-hazardous Landfill	Hazardous Waste Landfill
TOC[MU]	%	< 0.1	2.7	3%	5%	6%
Loss on Ignition	%	< 0.01	4.70	--	--	10%
BTEX[MU]	mg/kg	< 0.05	< 0.05	6	--	--
Sum of PCBs	mg/kg	< 0.1	< 0.1	1	--	--
Mineral Oil[MU]	mg/kg	< 10	83	500	--	--
Total PAH[MU]	mg/kg	< 1.7	38.5	100	--	--
pH[MU]	pH Units	N/a	10.7	--	>6	--
Acid Neutralisation Capacity	mol/kg (+/-)	< 1	1.4	--	To be evaluated	To be evaluated

Eluate Analysis	2:1 mg/l	8:1 mg/l		Cumulative 10:1 mg/kg	Limit values for compliance leaching test using BS EN 12457-3 at L/S 10 l/kg (mg/kg)		
Arsenic[U]	< 0.01	< 0.01		< 0.2	0.5	2	25
Barium[U]	0.05	< 0.02		0.2	20	100	300
Cadmium[U]	< 0.0005	< 0.0005		< 0.02	0.04	1	5
Chromium[U]	0.042	0.011		< 0.20	0.5	10	70
Copper[U]	0.03	0.01		< 0.5	2	50	100
Mercury[U]	< 0.0005	< 0.0005		< 0.005	0.01	0.2	2
Molybdenum[U]	0.008	0.002		< 0.1	0.5	10	30
Nickel[U]	0.008	< 0.007		< 0.2	0.4	10	40
Lead[U]	< 0.005	< 0.005		< 0.2	0.5	10	50
Antimony[U]	0.015	0.026		0.24	**0.06**	0.7	5
Selenium[U]	< 0.005	< 0.005		< 0.05	0.1	0.5	7
Zinc[U]	< 0.005	< 0.005		< 0.2	4	50	200
Chloride[U]	37	7		105	800	15000	25000
Fluoride[U]	< 0.5	< 0.5		< 1	10	150	500
Sulphate[U]	466	141		1824	**1000**	20000	50000
TDS	584	234		2784	4000	60000	100000
Phenol Index	< 0.01	< 0.01		< 0.5	1	-	-
DOC	23.2	11.5		130	500	800	1000
Leach Test Information							
Sample Mass (kg)	0.19						
Dry Matter (%)	93.5						
Moisture (%)	7						
Stage 1							
Volume Eluate L2 (litres)	0.34						
Filtered Eluate VE1 (litres)	0.22						

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
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UKAS TESTING 4480

Waste Acceptance Criteria Analytical Certificate - BS EN 12457/3

DETS Report No: 20-06674	**Date Sampled**	19/06/20	
Knapp Hicks & Partners Ltd	**Time Sampled**	None Supplied	
Site Reference: Radnor Park	**TP / BH No**	SP2	
Project / Job Ref: None Supplied	**Additional Refs**	None Supplied	
Order No: None Supplied	**Depth (m)**	None Supplied	
Reporting Date: 01/07/2020	**DETS Sample No**	482401	

Determinand	**Unit**	**MDL**		**Landfill Waste Acceptance Criteria Limits**		
				Inert Waste Landfill	**Stable Non-reactive HAZARDOUS waste in non-hazardous Landfill**	**Hazardous Waste Landfill**
TOC[MU]	%	< 0.1	1.3	3%	5%	6%
Loss on Ignition	%	< 0.01	1.70	--	--	10%
BTEX[MU]	mg/kg	< 0.05	< 0.05	6	--	--
Sum of PCBs	mg/kg	< 0.1	< 0.1	1	--	--
Mineral Oil[MU]	mg/kg	< 10	152	500	--	--
Total PAH[MU]	mg/kg	< 1.7	34.3	100	--	--
pH[MU]	pH Units	N/a	9.1	--	>6	--
Acid Neutralisation Capacity	mol/kg (+/-)	< 1	1.5	--	To be evaluated	To be evaluated

Eluate Analysis	**2:1 mg/l**	**8:1 mg/l**		**Cumulative 10:1 mg/kg**	**Limit values for compliance leaching test using BS EN 12457-3 at L/S 10 l/kg (mg/kg)**		
Arsenic[U]	< 0.01	< 0.01		< 0.2	0.5	2	25
Barium[U]	0.06	0.03		0.3	20	100	300
Cadmium[U]	< 0.0005	< 0.0005		< 0.02	0.04	1	5
Chromium[U]	0.032	0.019		0.20	0.5	10	70
Copper[U]	0.02	0.02		< 0.5	2	50	100
Mercury[U]	< 0.0005	< 0.0005		< 0.005	0.01	0.2	2
Molybdenum[U]	0.014	0.004		< 0.1	0.5	10	30
Nickel[U]	< 0.007	< 0.007		< 0.2	0.4	10	40
Lead[U]	< 0.005	< 0.005		< 0.2	0.5	10	50
Antimony[U]	0.033	0.027		0.27	**0.06**	0.7	5
Selenium[U]	< 0.005	< 0.005		< 0.05	0.1	0.5	7
Zinc[U]	0.009	< 0.005		< 0.2	4	50	200
Chloride[U]	52	10		135	800	15000	25000
Fluoride[U]	< 0.5	< 0.5		< 1	10	150	500
Sulphate[U]	1651	640		7253	**1000**	20000	50000
TDS	1790	724		8145	**4000**	60000	100000
Phenol Index	< 0.01	< 0.01		< 0.5	1	-	-
DOC	28.4	14.2		154	500	800	1000
Leach Test Information							
Sample Mass (kg)	0.19						
Dry Matter (%)	94.1						
Moisture (%)	6.2						
Stage 1							
Volume Eluate L2 (litres)	0.34						
Filtered Eluate VE1 (litres)	0.15						

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
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Waste Acceptance Criteria Analytical Certificate - BS EN 12457/3

DETS Report No: 20-06674	**Date Sampled**	19/06/20	
Knapp Hicks & Partners Ltd	**Time Sampled**	None Supplied	
Site Reference: Radnor Park	**TP / BH No**	Old S/P	
Project / Job Ref: None Supplied	**Additional Refs**	None Supplied	
Order No: None Supplied	**Depth (m)**	None Supplied	
Reporting Date: 01/07/2020	**DETS Sample No**	482402	

Determinand	Unit	MDL		Landfill Waste Acceptance Criteria Limits: Inert Waste Landfill	Stable Non-reactive HAZARDOUS waste in non-hazardous Landfill	Hazardous Waste Landfill
TOC[MU]	%	< 0.1	2.3	3%	5%	6%
Loss on Ignition	%	< 0.01	3.40	--	--	10%
BTEX[MU]	mg/kg	< 0.05	< 0.05	6	--	--
Sum of PCBs	mg/kg	< 0.1	< 0.1	1	--	--
Mineral Oil[MU]	mg/kg	< 10	588	**500**	--	--
Total PAH[MU]	mg/kg	< 1.7	91.8	100	--	--
pH[MU]	pH Units	N/a	8.0	--	>6	--
Acid Neutralisation Capacity	mol/kg (+/-)	< 1	1	--	To be evaluated	To be evaluated

Eluate Analysis	2:1 mg/l	8:1 mg/l		Cumulative 10:1 mg/kg	Limit values for compliance leaching test using BS EN 12457-3 at L/S 10 l/kg (mg/kg)		
Arsenic[U]	< 0.01	< 0.01		< 0.2	0.5	2	25
Barium[U]	0.09	0.05		0.5	20	100	300
Cadmium[U]	< 0.0005	< 0.0005		< 0.02	0.04	1	5
Chromium[U]	0.011	0.005		< 0.20	0.5	10	70
Copper[U]	0.01	0.02		< 0.5	2	50	100
Mercury[U]	< 0.0005	< 0.0005		< 0.005	0.01	0.2	2
Molybdenum[U]	0.024	0.007		< 0.1	0.5	10	30
Nickel[U]	< 0.007	< 0.007		< 0.2	0.4	10	40
Lead[U]	< 0.005	< 0.005		< 0.2	0.5	10	50
Antimony[U]	0.008	< 0.005		< 0.05	0.06	0.7	5
Selenium[U]	< 0.005	< 0.005		< 0.05	0.1	0.5	7
Zinc[U]	0.007	0.014		< 0.2	4	50	200
Chloride[U]	46	10		145	800	15000	25000
Fluoride[U]	< 0.5	< 0.5		< 1	10	150	500
Sulphate[U]	1677	444		5917	**1000**	20000	50000
TDS	1800	564		7122	**4000**	60000	100000
Phenol Index	< 0.01	< 0.01		< 0.5	1	-	-
DOC	17.4	12.6		132	500	800	1000
Leach Test Information							
Sample Mass (kg)	0.19						
Dry Matter (%)	91.5						
Moisture (%)	9.4						
Stage 1							
Volume Eluate L2 (litres)	0.33						
Filtered Eluate VE1 (litres)	0.21						

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
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Soil Analysis Certificate - Sample Descriptions
DETS Report No: 20-06674
Knapp Hicks & Partners Ltd
Site Reference: Radnor Park
Project / Job Ref: None Supplied
Order No: None Supplied
Reporting Date: 01/07/2020

DETS Sample No	TP / BH No	Additional Refs	Depth (m)	Moisture Content (%)	Sample Matrix Description
482390	A1	None Supplied	GL - 0.40	8.7	Brown sandy clay with brick
482391	A1	None Supplied	0.75 - 1.00	7.7	Brown sandy clay with vegetation
482392	A2	None Supplied	GL - 0.60	8.9	Brown sandy clay with brick
482393	A2	None Supplied	0.60 - 0.80	9.8	Brown loamy sand with stones
482394	A3	None Supplied	GL - 0.60	6.8	Brown sandy gravel with brick and concrete
482395	A3	None Supplied	0.60 - 0.80	7.4	Brown sandy clay
482396	A4	None Supplied	GL - 0.50	6.9	Brown sandy clay with stones and brick
482397	A5	None Supplied	0.10 - 0.60	10.4	Brown sandy clay
482398	X1	None Supplied	GL - 0.60	7.7	Brown sandy clay with brick
482399	X3	None Supplied	GL - 0.10	5.9	Brown sandy clay with brick and concrete
482400	SP1	None Supplied	None Supplied	6.5	Brown sandy clay with brick and concrete
482401	SP2	None Supplied	None Supplied	5.9	Brown sandy gravel with brick and concrete
482402	Old S/P	None Supplied	None Supplied	8.5	Brown loamy sand with stones and brick

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

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Soil Analysis Certificate - Methodology & Miscellaneous Information

DETS Report No: 20-06674
Knapp Hicks & Partners Ltd
Site Reference: Radnor Park
Project / Job Ref: None Supplied
Order No: None Supplied
Reporting Date: 01/07/2020

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 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

Parameter	Matrix Type	Suite Reference	Expanded Uncertainity Measurement	Unit
TOC	Soil	BS EN 12457	13.49	%
Loss on Ignition	Soil	BS EN 12457	17	%
BTEX	Soil	BS EN 12457	14	%
Sum of PCBs	Soil	BS EN 12457	23	%
Mineral Oil	Soil	BS EN 12457	9	%
Total PAH	Soil	BS EN 12457	20	%
pH	Soil	BS EN 12457	0.399	Units
Acid Neutralisation Capacity	Soil	BS EN 12457	18	%
Arsenic	Leachate	BS EN 12457	16.63	%
Barium	Leachate	BS EN 12457	14.29	%
Cadmium	Leachate	BS EN 12457	14.44	%
Chromium	Leachate	BS EN 12457	18.06	%
Copper	Leachate	BS EN 12457	21.27	%
Mercury	Leachate	BS EN 12457	24.13	%
Molybdenum	Leachate	BS EN 12457	12.55	%
Nickel	Leachate	BS EN 12457	20.08	%
Lead	Leachate	BS EN 12457	13.43	%
Antimony	Leachate	BS EN 12457	18.85	%
Selenium	Leachate	BS EN 12457	18.91	%
Zinc	Leachate	BS EN 12457	13.71	%
Chloride	Leachate	BS EN 12457	16	%
Fluoride	Leachate	BS EN 12457	19.4	%
Sulphate	Leachate	BS EN 12457	19.63	%
TDS	Leachate	BS EN 12457	12	%
Phenol Index	Leachate	BS EN 12457	14	%
DOC	Leachate	BS EN 12457	10	%
Clay Content	Soil	BS 3882: 2015	15	%
Silt Content	Soil	BS 3882: 2015	14	%
Sand Content	Soil	BS 3882: 2015	13	%
Loss on Ignition	Soil	BS 3882: 2015	17	%
pH	Soil	BS 3882: 2015	0.399	Units
Carbonate	Soil	BS 3882: 2015	16	%
Total Nitrogen	Soil	BS 3882: 2015	12	%
Phosphorus (Extractable)	Soil	BS 3882: 2015	24	%
Potassium (Extractable)	Soil	BS 3882: 2015	20	%
Magnesium (Extractable)	Soil	BS 3882: 2015	26	%
Zinc	Soil	BS 3882: 2015	14.9	%
Copper	Soil	BS 3882: 2015	16	%
Nickel	Soil	BS 3882: 2015	17.7	%
Available Sodium	Soil	BS 3882: 2015	23	%
Available Calcium	Soil	BS 3882: 2015	23	%
Electrical Conductivity	Soil	BS 3882: 2015	10	%

36897.L.001.R2.A.G.RJM
6th August 2020

Attachments
Asbestos Quantitative Analysis

DETS

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DETS Report No: 20-07251

Site Reference:	Radnor Park
Project / Job Ref:	None Supplied
Order No:	None Supplied
Sample Receipt Date:	03/07/2020
Sample Scheduled Date:	03/07/2020
Report Issue Number:	1
Reporting Date:	09/07/2020

Authorised by:

Dave Ashworth
Technical Manager

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

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Soil Analysis Certificate							
DETS Report No: 20-07251	Date Sampled	19/06/20	19/06/20	19/06/20		
Knapp Hicks & Partners Ltd	Time Sampled	None Supplied	None Supplied	None Supplied		
Site Reference: Radnor Park	TP / BH No	A1	X3 C3	SP1		
Project / Job Ref: None Supplied	Additional Refs	None Supplied	None Supplied	None Supplied		
Order No: None Supplied	Depth (m)	GL - 0.40	GL - 0.10	None Supplied		
Reporting Date: 09/07/2020	DETS Sample No	484638	484639	484640		

Determinand	Unit	RL	Accreditation					
Asbestos Quantification (S)	%	< 0.001	ISO17025	< 0.001	0.001	< 0.001		

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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Soil Analysis Certificate - Methodology & Miscellaneous Information

DETS Report No: 20-07251
Knapp Hicks & Partners Ltd
Site Reference: Radnor Park
Project / Job Ref: None Supplied
Order No: None Supplied
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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

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AR As Received