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Report

Remediation Action Plan (RAP)
Proposed Residential Subdivision Development
Stage 3, Lot 33 & Lot 34 in DP 700703 and
Lot 90 in DP 1166578 Copperfield Drive
Rosemeadow NSW

Prepared for
NSW Land and Housing Corporation
L2, 31-39 Macquarie Street
PARRAMATTA NSW 2150

Ref: JC17299C-r1
September 2019

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8th September 2019

Our Ref: JC17299C-r1

NSW Land and Housing Corporation
L2, 31-39 Macquarie Street
PARRAMATTA NSW 2150

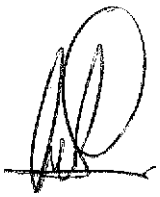
Attention: Ms Debbie Carlton

Dear Madam

Re: Remediation Action Plan (RAP)
Proposed Residential Subdivision Development
Stage 3, Lot 33 & Lot 34 in DP 700703 and Lot 90 in DP 1166578
Copperfield Drive Rosemeadow

We are pleased to submit our RAP report for the proposed residential subdivision development at the above address.

Yours faithfully,
GeoEnviro Consultancy Pty Ltd



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Director

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Appendix B Extracts of Previous Report (Reference 2) - "Additional Phase 2 Contamination Assessment – Stage 2 Lot 33 & Lot 34 in DP 700703 and Lot 90 in DP 1166578 Copperfield Drive, Rosemeadow" – GeoEnviro Consultancy Pty Ltd report referenced JC17299B-r1 dated September 2019

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1. INTRODUCTION

This report presents a Remediation Action Plan (RAP) for the proposed residential development site located at Stage 3, Lot 33 & Lot 34 in DP 700703 and Lot 90 in DP 1166578 Copperfield Drive in Rosemeadow as shown on Drawing No 1B.

We understand that the proposed development will include subdivision of the site for residential allotments and construction of roads.

An initial contamination assessment was undertaken in 2017 (Reference 1) and at the time of the initial investigation, about half the site was occupied by residential dwellings some of which were being demolished, whilst the remaining portion of the site consisted of vacant and cleared land. Subsequent to the 2017 investigation, all residential dwellings were demolished and an additional Phase 2 contamination investigation (Reference 2) was undertaken in August 2019 targeting the recently cleared residential area which was not fully investigated in 2017 and other areas of environmental concerns identified in our 2017 investigation

The reports concluded that the Subject Site is impacted by contamination with the majority of the site found to be impacted by topsoil/fill and fill containing building debris including fibro and asbestos fragments.

The objective of this RAP is to provide a strategy to remediate the site to ensure suitability of development for the intended landuse. This RAP is based on information obtained from our previous investigation.

2. SITE INFORMATION

2.1 Site Location

The site is situated on the north-western corner of Copperfield Drive and Julius Road with the northern boundary occupied by residential properties. The site is roughly semi-circle in shape with a frontage of about 330m to Copperfield Drive and consists of 3 lots (ie Lot 33 & Lot 34 in DP 700703 and Lot 90 in DP 1166578).

The site is within the jurisdiction of Campbelltown City Council, Parish of Menangle and County of Cumberland.

The site is situated within a residential area with surrounding properties generally consisting of residential properties and some vacant land.

2.2 Site Topography and Geology/Hydrogeology

The site is situated on gently undulating terrain. Natural ground surface within the site has a gentle slope of 4 and 8 degrees dipping to the east towards Copperfield Drive.

The 1:100,000 Soil Landscape Map of Wollongong – Port Hacking prepared by the Soil Conservation Services of NSW indicates the site to be generally underlain by residual soil belonging to the Blacktown Landscape group. Typical soil consists of highly plastic red and brown clays with moderate reactivity.

The 1:100,000 Geological Map of Wollongong - Port Hacking indicates the underlying bedrock to consist of Ashfield Shale of the Wianamatta Group consisting of shale, laminite and dark grey siltstone.

2.3 Site Description and History

The site appeared to have been vacant land with possibly agricultural activities such as grazing since the 1960s. Lots 34 and 90 were fully built up with houses in the late 1970's and early 1980's and in 2012, approximately half the houses were demolished and removed from the site.

The remaining houses were recently demolished and cleared from the site and the site is currently vacant with some driveways and access roads still remaining on the site.

3. PREVIOUS STUDIES

The site was the subject of a Phase 1 and 2 Contamination Assessment (Reference 1) in 2017 and an additional Phase 2 Contamination Assessment (Reference 2) in 2019. Refer to Appendix A and B for extracts of our previous reports.

Field investigation for the initial contamination investigation included excavation of test pits using a rubber tyred backhoe on the 29th and 30th June 2017 and a total of seventy-three test pits (TP 1 to 73) were excavated. The additional contamination investigation included excavation of test pits using a rubber tyred backhoe on the 3rd and 9th August 2019 and a total of sixty-nine test pits (TP 1A to 69A) were excavated.

Details of the subsurface profiles from the test pits for the entire site are summarised on Table 1 in Appendix A and Table 1A in Appendix B. Based on the test pit investigations, the following is a generalised description of the subsurface conditions encountered within the site;

- The majority of the site was found to be underlain by a layer of topsoil and topsoil/fill consisting of Clayey Silt, Gravelly Clayey Silt and Clayey Silt/Silty Clay with thickness ranging from 50mm to 500mm. Thicker topsoil and topsoil/fill greater than 500mm and up to 1.2m thick was encountered.

- The majority of the topsoil and topsoil/fill was found to have some building debris inclusion. Some fibro fragments were encountered in the topsoil and topsoil/fill in TP 1A, 13A, 14A, 19A, 27A, 33A, 37A, 38A, 40A, 46A, 58A and 61A and previous TP 35, 39, 40, 61 and 66. The laboratory tests confirmed only four fibro fragment samples (ie TP 13A, 37A, 61A and previous TP 61) to contain asbestos (ie Chrysotile, Amosite and Crocidolite) whilst the remaining fibro fragment samples were found to not contain asbestos.

- Buried rubbish fill in excess of 1.7m deep was encountered in previous TP 61 consisting of building rubble with fibro, steel reinforcement, bricks, PVC, metal and concrete. Similar rubbish fill was encountered in TP 7A which excavated adjacent to previous TP 61 and this fill was found to be about 0.7m thick. The laboratory test results confirmed the fibro fragment in previous TP 61 to contain asbestos.

- There is a western portion of the site (ie Previous TP 5 to 8, 14 to 30 and 33 location) and small south eastern portion of the site (ie Previous TP 34, 53, 56 and 57 location) where the topsoil and topsoil/fill were found to have no obvious signs of building debris.

Environmental samples were collected and were analysed for the contaminants of concern consisting of;

- Heavy metals - Arsenic (As), Cadmium (Cd), Chromium (Cr), Copper (Cu), Mercury (Hg), Lead (Pb), Nickel (Ni) and Zinc (Zn).
- Organochlorine Pesticides (OCP).
- Polychlorinated biphenyl's (PCB)
- Total Recoverable Hydrocarbon (TRH)
- Benzene, Toluene, Ethyl Benzene and Xylenes (BTEX)
- Polycyclic Aromatic Hydrocarbons (PAH)
- Asbestos
- pH

The analytical program is presented in Table 2 and 2A. Laboratory results for soil samples are summarised in Tables 3 to 8 and 3A to 8A. The laboratory test results indicate all other samples to have concentrations of contaminants of concern to be within the Site Criteria, however some asbestos was encountered in the fibro fragments from TP 13A, 37A, 61A and previous TP 61) containing Chrysotile, Amosite and Crocidolite asbestos.

Though only four out of the 17 fibro fragments obtained from the test pits were found to contain asbestos, it is highly likely in view of the wide spread occurrence of building debris found in the majority of the test pits, for more fibro fragments and asbestos to be present across the site in between test pit locations. Considering the probability of more asbestos present in the building debris impacted topsoil/fill and as it is not possible or practical to isolate asbestos fibre fragments (ie ACM) from non-asbestos fibre fragments, it is reasonable to consider that all areas impacted by building debris is also impacted by asbestos therefore requiring site remediation.

The report (Reference 2) concluded that the site is impacted by contamination with the majority of the site found to be impacted by topsoil/fill and fill containing building debris including fibro and asbestos fragments.

Three areas of environmental concerns (AEC I to AEC III) were identified to be impacted by asbestos and buried rubbish fill and the report recommended for these areas to be remediated to ensure suitability of the site for the proposed residential subdivision development.

4. INVESTIGATION AND CLEAN UP CRITERIA

The results of laboratory analyses for this investigation were compared with published Australian contamination assessment criteria. The guidelines such as those published by the OEH and National Environmental Health Forum (NEHF) (Reference 7) are commonly used to assess contaminant concentrations. The NEHF criteria which was recently updated by the National Environment Protection Council Service Corporation (NEPC) in the National Environmental Protection (Assessment of Contaminated Sites) Measure (NEPM) – Schedule B1 (Reference 8) includes health-based soil investigation levels (HBILs) and this was adopted by OEH in May 2014.

HBILs are scientifically based, generic assessment criteria designed to be used in the first stage (Tier 1 or 'screening') of an assessment of potential risks to human health from chronic exposure to contaminants. They are intentionally conservative and are based on a reasonable worst-case scenario

For the purpose of assessing the contamination status of the site, the criteria for the most sensitive landuse, that being HBIL A residential with garden/accessible soil, has been adopted as the Site Criteria.

The more recent updates to the NEPM criteria (Reference 8) have included Health Screening Levels (HSL) developed by the Cooperative Research Centre for Contamination Assessment and Remediation of the Environment (CRC CARE) leading to the adoption of health criteria for TRH, BTEX and PAH. The HSLs have been developed for selected petroleum compounds and fractions and are applicable to assessing human health risk via the inhalation and direct contact pathways. The HSLs depend on specific soil physicochemical properties, land use scenarios, and the characteristics of building structures and they apply to different soil types and depths below surface up to 4 m depth.

For the purpose of assessing the contamination status of the site for TRH, BTEX and PAH, the HSL A and B (Low to high density residential) have been adopted.

The NEPC also includes EIL criteria for the protection of species based on 95% survival and this criteria is based on average background concentrations (ABC) for individual sites and added contaminant levels (ACL) calculated from survival rates for various species to contaminant exposures in different settings. For ecological levels for TPH, BTEX and PAH, the NEPC has provided ecological screening level (ESL) for the assessment. The EIL and ESL criteria have been included in the relevant tables as a sensitivity measure for the protection of ecological diversity within the site.

For the purpose of assessing the contamination status of the site, the criteria for residential with garden setting (HBILs 'A' level) is applicable. This and the Environmental Investigation Levels (EIL) (reference 9) were used as the Acceptance Criteria (also known as the Clean-up Criteria) for this RAP. The clean up criteria (Acceptance Criteria) relevant to the site is in the following Table A;

Table A: Clean Up Criteria

Analyte	**HBILs A Criteria (mg/kg)**	**EIL/ESL (mg/kg)**	**Clean-Up Criteria "Acceptance Criteria" (mg/kg)**
Cu	6000	156	156
Pb	300	1123	300
Zn	7400	311	311
Cd	20	-	20
Cr	100	265	100
Ni	400	160	160
As	100	106	100
Hg	40	-	40
DDT	240	-	240
Deldrin	6	-	6
PCB	1	-	1
Benzo(a)pyrene	-	0.7	0.7
Benzo(a)pyrene (TEQ)	3		3
Total PAH	300	-	300
Benzene	0.7	65	0.7
Toluene	480	105	105
Ethyl-Benzene	480	125	125
Xylene	110	45	45
Naphthalene	5	-	5
F1 C_6-C_{10}	50	180	50
F2 >C_{10}-C_{16}	280	120	120
Asbestos (ACM)	0.01%		0.01%
Asbestos (AF/FA)	0.001%		0.001%

a) - No Criteria Available
b) Chromium III
c) Chromium V1

In addition to the above criteria, considerations should be given to;

- Odour (eg hydrocarbon and solvents) where adoption of lower threshold criteria may be required if causes significant nuisance.
- Asbestos in fill or ground surface. All visible signs of asbestos fragments from the stockpiles and soil surface should be eliminated.
- The NEPM 2013 guidelines address the issue of aesthetic considerations in relation to non-hazardous inert foreign material (refuse) in soil or fill resulting from human activities. The guidelines permit the presence of foreign matter within the fill to be retained within the site subject to compliant of the fill material to the Site Criteria and aesthetically acceptable (eg malodorous soils, discoloured chemical deposits, stained soil, large monolithic deposits/large inert foreign matter, putrescible refuse and animal remains). Though the guidelines do not outline specific trigger values, we consider fill containing greater than 5% by weight of foreign matter to be aesthetically unacceptable, therefore the insitu fill is within acceptable limits

For off-site disposal of fill, contaminated material and surplus soil excavated as part of the proposed developments works is regulated by the provision of the Protection of the Environment Operations Act (POEO Act 1997) and associated regulations and guidelines including the DEC guideline on classification of waste (Reference 10).

5. CONCEPTUAL SITE MODEL

A conceptual site model (CSM) is a representation of site-related information regarding contamination sources and exposure pathways between those sources and receptors. The model provides the framework for identifying how the site became contaminated and how potential receptors may be exposed to contamination either in the present or the future and it enables an assessment of the potential pathways.

5.1 Areas of Uncertainty & Data Gap Investigation

During our investigation, a number of areas were in-accessible at the site due the presence of existing structures preventing investigation (ie. Road and underground services). It was not considered practical/permissible to investigate these at the time. The area where data uncertainty has been identified are listed as follows;

- Areas identified as location of on-site underground services including the buried rubbish fill area to the north of TP 61.
- Beneath concrete hard-stand areas and existing roadways.

5.2 Potentially Contaminated Media

The potential for contaminated media for the subject site includes topsoil, natural soil and surface water. Some fill may also be present in previous building areas which may also be classified as potentially contaminated media. The site appeared to be mainly on natural ground and therefore not likely to have significant fill as a potential contaminated media.

Any fill encountered within the site has the potential to be contaminated with Heavy Metals, OCP, PCB TRH/BTEX/PAH and asbestos (ACM, AF/FA).

The potential leachability through rainfall and stormwater runoffs can lead to infiltration of the contaminated media through the topsoil/surface fill material and contaminating the underlying natural soil.

In view of the relatively low permeability of the underlying natural soil and as the property was used for residential and is situated away from contaminating activities (eg industrial, workshop) and water bodies (eg creek, drainage channel), contamination through ground water media is not conceivable.

5.3 Exposure Pathways

Taking into consideration the existing landuse as residential and the future potential site development activities, the potential contaminants in the above media has the potential to be mobilised through the following pathways;

- Dermal and oral contact to contaminated topsoil and surface fill (and associated dust) during excavation and construction works.
- Leaching of lead and other contaminants into the ground and uptake of contaminants by vegetation (eg vegetables and fruit trees)/
- Ingestion via eating edible plants (eg vegetables and fruit trees) by site occupants.
- Direct ingestion of soil by children playing on the ground surface in unpaved areas and
- Inhalation of dust (including asbestos) by site occupants and construction workers.

5.4 Potential for Migration

Contaminants can migrate from site through wind, stormwater runoffs, infiltration of surface water and groundwater flows. The factors influencing the potential for contaminants to migrate include;

- Type of contaminants (eg mobility characteristics, bioability).
- Extent (eg localised or widespread) and concentrations of contaminants.
- Locality and source of contaminants
- Physical characteristics of the site (eg topography, geology, hydrology and hydrogeology).

The potential contaminants identified on this site are present in soil (eg impacted soil or fill and asbestos). There are no known liquid forms of contaminants on this site.

There is a potential for stormwater runoff infiltrating through the contaminated fill and leaching contaminants into the underlying natural soil. Excess stormwater runoffs has the potential to carry asbestos dust downstream and into adjoining sites.

There is no potential for vapours or ground gases associated with volatile contaminants generated from the site and impacting on adjoining sites.

5.5 Sensitive Receptors

Potential receptors of environmental impacts on the subject site include'

- Construction and maintenance workers during construction site redevelopment.
- Future site users following development of the site with the most sensitive receptor being a child.
- Land users in adjacent areas.

6. REMEDIATION ACTION PLAN

The following sections describe the components essential for the remediation of the site. Appropriate modification of these components may be required depending upon actual site conditions encountered during the remediation process and other factors involving the logistics of the work to be carried out.

6.1 Remediation Goals

Based on our previous report, we have identified three of environmental concern (AEC I to III) impacted by asbestos and some rubbish as shown on Drawing No 1B that needs to be remediated in order to ensure suitability of the site for the intended landuse.

The remediation goal is to clean up all areas of environmental concerns as described in above Section 4 to ensure the site is suitable for the proposed residential subdivision development.

6.2 Remediation Criteria

The Acceptance Criteria as outlined in Table A is adopted as the remediation criteria to clean up the site.

6.3 Remediation Strategy and Process

The development of the site-specific remediation strategy initially involves comparing potential remediation options used to mitigate, remove and/or manage any exposure from contamination at the site.

The NEPM 2013 guidelines outline the preferred hierarchy of options for site clean-up and/or management as follows;

1. On-site remediation of the contaminated material for re-use within the site.
2. Excavation and disposal of material off-site to an approved landfill.
3. On-site encapsulation and containment with suitable capping layer.

The preferred remediation strategy was determined based on the following considerations;

- Human health issues; dust suppression should be implemented during remediation works – particularly for asbestos.
- Ecological terrestrial ecosystems; appropriate consideration should be given to sensitive ecological communities when determining ecological investigation levels and screening levels.
- Reliability; only experienced contractors should be engaged to remediate contaminated materials at the site.
- Site remediation supervision and validation; all methods, whether treatment or disposal will require validation by experienced consultant prior to being considered suitable. This may include assessment by a suitably experienced occupational hygienist. We recommend full time supervision during bulk excavation of un-suitable materials to ensure appropriate waste segregation – mitigating waste bulking – likely reducing the volume disposed and subsequent landfill tipping fees.
- Lawful disposal – receipts for waste disposal must be retained by the waste contractor for inclusion in the validation report. The consultant should perform spot checks on trucks to ensure they are tipping at licensed facilities only.

- Regulatory Approvals; Category 2 remediation work should be notified to Council under the SEP55 planning instrument. Category 2 remediation generally does not require development consent.
- Long term management; the risk of harm is eliminated following the successful treatment/ remediation or off-site disposal.
- Cost & Time; it is likely that the remediation activities will be required to happen swiftly to prevent further delay. Therefore, a cost/ time benefit analysis should be conducted to determine the most suitable method following excavation and realisation of the quantity.
- Proficient identification and management of unexpected finds; should any material be identified that differs from the descriptions provided in earlier environmental reports be observed during the works, the council must be notified and a suitably experienced environmental consultant should be engaged to direct the on-going works to ensure all risks are mitigated.

The remediation strategy for AEC I to III is as follows;

- Removal of all surface rubbish and asbestos fragments.
- Excavation of all topsoil/fill and fill to expose natural ground.
- All excavated fill should be noted for buried rubbish inclusion including bonded asbestos. Clean fill should be isolated from rubbish impacted fill.
- The asbestos impacted topsoil/fill and fill if encountered should be classified in accordance to NSW EPA 2013 guidelines "Part 1 – Classifying Waste" (Reference 10) and to be disposed off-site to a landfill as "Special Waste – Asbestos". Removal of asbestos impacted fill should be carried out by an asbestos licensed contractor in accordance with Workcover and other regulatory requirements.
- Alternatively, the asbestos impacted soil may be screened and the cleaned topsoil/fill and fill may be reuse on-site. Fill containing fragments of building debris and traces of asbestos may be treated based on the NEPM 2013 procedure and this includes;
    - Placement of fill in 7 to 10m3 stockpiles and labelling each stockpile for reference during the remediation process

- Spreading of the labelled stockpiles thinly over an area and manually picking of asbestos fragments.
- Tilling of the spread stockpiles and manually picking the asbestos fragments and this process should be repeated about 3 times.
- The screened stockpiled with no visible signs of asbestos should be stockpiled and identified with stakes.

- The stockpiles should be sampled and assessed for presence of asbestos in accordance to the NEPM 2013 procedure (Reference 8). The NEPM provides a guideline on health screening levels for asbestos in soil which may be classified in three types of asbestos; Bonded asbestos-containing-material (ACM), Fibrous asbestos (FA) and Asbestos fines (AF).
- Stockpiles with Asbestos Containing Material, Fibrous Asbestos or Asbestos Fines (FA/AF) above the allowable limits should be disposed off-site to a landfill. The stockpiles should also be checked for other contaminants of concern including heavy metals, pesticides and hydrocarbon and if the contamination levels exceed the Acceptance Criteria, the fill should be disposed off-site.
- Stockpiles with Asbestos Containing Material, Fibrous Asbestos or Asbestos Fines (FA/AF) within the allowable limits may be reused on-site subject to Council's approval.
- All clean fill intended to be reused on-site should be validated by laboratory analysis to ensure suitability of the material for reuse on-site

In addition to the above, the following issues relating to site contamination which need to be addressed prior to development of the site are as follows;

- All other surface rubbish material not mentioned above and asbestos material where encountered on-site should be appropriate disposed off-site to an OEH approved landfill. All asbestos impacted material should be handled by Asbestos Licensed contractor and all works to be undertaken in accordance to Workcover and other regulatory requirements.
- Demolition of the existing residential roads should be carefully undertaken to ensure the asphaltic or bituminous wearing course and underlying road base material be stripped and this material may be reused by road recycler. We note that old bituminous wearing course may contain Coal Tar or PAH and this may be hazardous to workers through dust inhalation during construction. The existing pavement wearing course should be checked for potential coal tar/PAH contamination and approrpriate OH&S measures be implemented including wearing of PPE and dust suppression measures by wetting
- Rubbish fill containing bonded asbestos may still be present elsewhere within the site in between test pit locations and should bonded asbestos be encountered during construction works, all works should cease and an "Unexpected Finds Protocol" as outlined in Appendix C should be initiated. Should asbestos be encountered, the asbestos impacted fill should be disposed to a landfill as "Special Waste- Asbestos".

- All site remediation and validation works should be carried out under the supervision of an environmental consultant and this should include soil sampling and validation sampling to ensure these areas are adequately remediated.
- All fill material requiring off-site disposal should be laboratory tested and characterised in accordance with NSW EPA guidelines (Reference 11).

7. VALIDATION PLAN

7.1 Excavation Area

All excavation areas from the rubbish/asbestos remediation process should be adequately validated in order to ensure the area is adequately cleaned of contaminated soil.

Validation of the excavated areas should include;

- Visual inspection for signs of anthropogenic material including ACM and building demolition rubbish/waste. The visual inspection will be conducted on a 2m grid.
- The results of the visual inspection will be confirmed through soil sampling if considered necessary. Validation sampling to be collected at regular spatial intervals of one every 5m apart for laboratory analysis.
- Should asbestos contamination be encountered during validation of the excavated areas, further remediation works should be carried out.
- The validation laboratory test results should be compared with the appropriate acceptance criteria as outlined in Section 5.2 of this RAP.

7.2 Imported Fill Material

All imported fill materials if required should be assessed for their suitability for use at the Site. Imported fill includes VENM and ENM or any other material for which a valid and applicable NSW EPA Waste Exemption Order is in force.

Material shall only be considered suitable for use on-site if the following criteria (minimum) are satisfied:

- The material should be defined as VEMN based on NSW EPA 2014. The assessment should be undertaken in accordance with the NSW EPA 2014 Guidelines. One validation sample per 1000m^3 of earth fill or a minimum of 3 samples should generally be adequate depending on the homogeneity of the fill material. More samples per unit volume of earthfill may be required if the fill material is found to be variable.
- The material source site should be assessed by an experienced consultant for suitability.

- The concentrations of metals are within the accepted background concentrations.
- The other selected analytes (ie. TPH, BTEX, PAH, OCP, asbestos) are all less than the laboratory limit of reporting (LOR).
- The composition, type and colour of the material should be generally consistent with the local geology.
- Imported material should be assessed for its aesthetic suitability to the site.
- Imported material should not affect the surrounding ecosystem or sensitive environmental receptors.

The supervising environmental consultant should perform routine inspections of the VENM upon arrival to site. The consultant should inspect the material to ensure it is consistent with the material characteristic/ descriptions provided in its respective source VENM report. Should any unexpected find, uncharacteristic material or visible/ olfactory contamination be observed in the VENM the load should be rejected from import to site.

We recommend the supervising consultant consider use of a *'Fill Import, Load Inspection Proforma'* which can be completed during the import works to verify each load of imported material

7.3 Final Validation Report

The validation plan should be prepared by an experienced consultant. The report should be prepared in general accordance with the *NSW OEH 2011 Guidelines for Consultants Reporting on Contaminated Sites.* The report should comprehensively address:

- Historical investigations undertaken at the site
- Detail the remediation works undertaken at the site
- Present field and laboratory information satisfying the objectives of the RAP
- Demonstrate that the remediation outcomes have been achieved
- Include all waste tracking and disposal information, both for all exported wastes and all imported products.

- Detail any unexpected finds or pollution incidents which may have occurred during the works.
- Outline any variance from the remedial strategy and discuss how this was appropriately implemented.
- Outline any long-term environmental management or monitoring requirements for the site
- Include any other information relevant to the contamination status of the site
- Provide a statement regarding the future suitability of land for its intended use from a contamination perspective

8. QUALITY ASSURANCE PLAN

Appropriate quality assurance/quality control (QA/QC) procedures should be maintained during the course of validation sampling. The samples should be analysed at a National Associate of Testing Authority (NATA) accredited laboratory. The QA/QC procedures and results adopted should be included in the final validation report.

9. SITE MANAGEMENT PLAN

It is the responsibility of the Contractor to develop a Site Management Plan (SMP) detailing overall site management, environmental management (including soil, air and water) and work health and safety (WHS) plans. This section provides a brief summary of some of the items which need to be included in the Contractor's plans.

Works shall comply with all legislative requirements including but not limited to those set out under the following Acts (and subsequent amendments and regulations);

- Environmentally Hazardous Chemicals Act (1985)
- Hazardous Chemicals Act (1985) (under review)
- Environmental Offences and Penalties Act (1989)
- Agricultural and Veterinary Chemicals Act (1994)
- Protection of the Environmental Operations Act (POEO) (1997) and associated exclusions;
- Pesticide Act (1999)
- OHS Amendment (Dangerous Goods) Act 2003 including OHS Amendment (Dangerous Goods Regulation 2005) and
- POEO Amendment Act 2005 (including POEO Amendment (Scheduled Activities and Waste) Regulation 2008).

9.1 Site Operations

The schedule of remedial works, including timing and staging is to be prepared by the Contractor to meet the requirement of this RAP.

Remediation works will be restricted to the hours set out by Council.

It is the site owner/developers responsibilities to ensure that appropriate personnel are appointed to manage and conduct the remediation and validation works. This will include;

- The Principal's representative who is responsible for overseeing the implementation of this RAP
- The asbestos licensed Contractor, who is responsible for overseeing the implementation of this RAP, conducting the remediation works and managing the site and

- An environmental consultant who will be responsible for providing advice as required for the remedial works and undertaking the validation works in accordance with this RAP.

Other parties who may be employed to assist in the implementation of this RAP include but not limited to Occupational Hygienist and Asbestos Licensed Contractor.

The Contractor will be responsible for preparing a list of contacts for the works, including emergency contacts for the site operations and provision of signage at the site to allow the public to contact nominated site personnel out of hours.

9.2 Environmental Management Plan

Generally, an approved EMP should be prepared for implementation during site works. The requirements of the EMP may include the following measures (but are not limited to):

- Measures to control noise emissions
- Measures to suppress odours and dust emissions
- Measures to monitor and control airborne asbestos.
- Selection of traffic routes to minimise residential noise intrusions
- Soil and sediment controls to prevent erosion/ run-off
- Measures to identify hazardous and industrial wastes and procedures for removal including asbestos
- Community consultation

Further:

- The development shall not result in increased sediment deposition to water bodies, wetlands, bushlands or environmentally significant lands.
- All disturbed areas shall be progressively stabilised and re-vegetated so no area remains exposed for extended periods.
- Sediment and erosion measures should be maintained until establishment of ground cover
- Vehicular access shall be controlled through installation of wash bays or shaker ramps to prevent tracking of sediment or dirt onto adjoining roadways. Wet washing of roadways to remove sediment is not permitted – another means must be implemented.

- All topsoil, aggregate, sand or spoil shall be stored clear of drainage lines, easements, water bodies, stormwater drains, footpaths, kerbs, roads and there shall be measures in place with the approved sediment and erosion control plan.
- The remediation works shall comply with the *NSW EPA Interim Construction Noise Guideline* for the control of noise from construction sites. No works shall occur outside the allowed hours as specified. It is preferable all noisy activities are focused in the mid-morning or mid-afternoon when most neighbours may not be at home.
- Any litter and refuse on-site should be immediately collected and placed in bins with plastic liners for disposal offsite in the general waste bins. Any outdoor bins should have secured lids to prevent birdlife picking items and dispersing rubbish across site.
- Good civil work practises and overall housekeeping should be maintained on-site, potential run-off from excavations and stockpiles should be appropriately protected using control measures such as hay bales and silt fencing.
- The project design and environmental protection measures should also consider the requirements specified in Landcom 2004 'The Blue Book Managing Urban Stormwater

9.3 Traffic Control and Management Plans

Generally, a Construction Traffic Management Plan is required for development works. The plan should detail:

- Vehicle route
- Number of trucks
- Hours of operation
- Access arrangements
- Traffic control

The plan is to be submitted to council for approval and in some cases the RMS. The plans should be prepared in accordance with the *NSW RMS Traffic Control at Work Sites V4.*

9.4 Dust and Odour Management

Given the sensitive location and general nature of remediation it is crucial adequate dust control measures are implemented during the remediation works. Dust shall be managed using techniques that may include (but not be limited to):

- Utilising a water cart to control dust on all exposed areas of site.
- Wetting down material prior to loading or handling
- Covering, grassing or stabilising exposed earth stockpiles that will be left for an extended period of time

It is overall good practice to prevent the generation of any nuisance dust during the works. Due to the nature of the contaminants and site conditions, odour is unlikely to be an issue at the site.

9.5 Airborne Asbestos Control and Management

Regular air sampling and monitoring should eb undertaken during and after completion of the site remediation works. In the event where a significant amount of friable asbestos (AF/FA) is uncovered during remediation works, daily air monitoring of airborne Asbestos Fines should be undertaken.

The levels of airborne Asbestos Fines should be analysed using the Standard Polarised Light Microscopy Method. The airborne asbestos fibre level of 0.1 fibre/ml is adopted as the occupational exposure standard.

Exceedance of this level will trigger the requirements for;

- The engagement of a Class A asbestos licensed remediation contractor and an Occupation Hygenist.
- A review of remediation work methodology to limit generation of airborne asbestos.
- Additional PPE requirements including P2 disposal dusk mask or a particulate half-face mask with a P3 filter and disposal coveralls.
- Establishment of decontamination facilities.

10. CONTINGENCY PLAN

A review of the RAP identified data gaps and potential risks to meeting the specified site validation criteria. A number of possible risks are outlined as well as contingencies to be implemented should unexpected finds occur. Health and environmental risks, and hazards associated with the remediation work and their minimisation or mitigation measures are discussed in Section 9.

10.1 Unexpected Finds Protocol

Whilst undertaking remediation and civil works, should any site specific geologically-uncharacteristic material be observed that was not identified during earlier site investigations the following precautions and actions should be implemented:

- Works in the vicinity of the material are to cease immediately
- The area is to be sign posted and cordoned off from other site workers
- Advise the local government authority (council) of the discovery – to the assigned principal compliance officer (PCA).
- Engage a suitably qualified consultant to attend site to assess the materials
- Photographic records should be collected
- Do not disturb any suspected contaminated material until further observation and determination of the material (should it be hazardous) has been be undertaken by an experienced consultant.
- PPE should be used (if required).
- Environmental Sampling, removal, off-site disposal and validation
- The engaged EPA accredited environmental site auditor should be kept informed of un-expected occurrences and consulted with if required.

Uncharacteristic soil may be characterised as:

- Distinctively different to other soils on-site
- Appear to be concentrated to a localised area (ie. burial pits)

- Stained, oil soaked or containing a petroleum sheen. Includes other products such as batteries etc
- May contain offensive odours, including sulfur-based leachate impacts or sewerage
- Buried building products and debris/ waste or other anthropogenic materials
- May contain potential asbestos containing materials. In the event where bonded asbestos fragments are encountered on the site other those areas identified, an unexpected finds protocol as detailed in Appendix C should be initiated.
- May contain buried animal carcasses or evidence of decomposition

10.2 Complaints

In view of the nature of the activities and type of contaminants identified at the site there is a potential for complaints to be received from members of the public relating to environmental emissions including:

- Noise and vibration arising from excavation; and
- Dust emissions arising from excavation, soil handling, and placement.

Management of environmental emissions shall be undertaken during the work as detailed in Section 9 and appropriate actions taken to further control emissions following receipt of a complaint. Such additional controls may include the following actions:

- Limiting disturbance and exposure of contaminated soil to meteorologically favourable periods (ie dry weather and not windy/gusty conditions); and
- Covering or wetting down soil, which are generating dust.

11. CONCLUSION

Subject to site remediation as outlined in the Remediation Action Plan (RAP) above, we consider the subject site to be suitable for the proposed residential subdivision development.

12. LIMITATIONS

The findings contained in this report are the results of discreet/specific sampling methodologies used in accordance with normal practices and standards. There is no investigation which is thorough enough to preclude the presence of material which presently, or in future, may be considered hazardous to the site. The site may be subject of dumping of rubbish fill in the past and the scope of this report do not cover for future dumping and burial of such material on the subject site.

As regulatory evaluation criteria are constantly updated, concentrations of contaminants presently considered low, may in the future fall short of regulatory standards that require further investigation/redemption.

The statements presented in these documents are intended to advise you of what should be your realistic expectations of this report, and to present you with recommendations on how to minimise the risks associated with the groundworks for this project. The document is not intended to reduce the level of responsibility accepted by GeoEnviro Consultancy Pty Ltd, but rather to ensure that all parties who may rely on this report are aware of the responsibilities each assumes in so doing.

Attached in Appendix D are documents entitled "Important Information about Your Environmental Site Assessment" in conjunction with which this report must be read, as it details important limitations regarding the investigation undertaken and this report.

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8/9/2019 7:58:06 AM

REFERENCES

1. *"Phase 1 and 2 Contamination, Salinity and Geotechnical Investigation – Stage 2 Lot 33 & Lot 34 in DP 700703 and Lot 90 in DP 1166578 Copperfield Drive, Rosemeadow" – GeoEnviro Consultancy Pty Ltd report referenced JC17299A-r1 dated 10th August 2017*
2. *"Additional Phase 2 Contamination Assessment – Stage 2 Lot 33 & Lot 34 in DP 700703 and Lot 90 in DP 1166578 Copperfield Drive, Rosemeadow" – GeoEnviro Consultancy Pty Ltd report referenced JC17299B-r1 dated September 2019*
3. *1:100,000 Soil Landscape Map of Wollongong – Soil Landscape Series – Sheet 9029-9129 [Edition 1 Reprint]*
4. *1:100,000 Geological Map of Wollongong– Geological Series Sheet 9029-9129 (Edition 1) 1985*
5. *Australian & New Zealand Guidelines for the Assessment and Management of Contaminated Sites, Australian and New Zealand Conservation Council and National Health and Medical Research Council, 1992.*
6. *Assessment of Orchard and Market Garden Contamination - Contaminated Sites Discussion Paper, NSW EPA 1995.*
7. *Health Based Soil Investigation Levels, National Environmental Health Forum Monographs Soil Series No. 1 – 1996*
8. *National Environment Protection (Assessment of Site Contamination) Measure 1999(including updated Schedule B1 – 2013*
9. *Guidelines for Assessment Service Station-sites – NSW EPA 1994*
10. *Guidelines for the NSW Auditor Scheme (2nd Edition), NSW EPA 2004*
11. *NSW EPA 2014 guidelines "Part 1 – Classifying Waste*
12. *Guidelines for the Assessment, Remediation and Management of Asbestos-Contaminated Sites in Western Australia – Department of Health -May 2009*

Legend

- Subject Site
- Test Pit
- Previous Test Pit

GeoEnviro Consultancy
Unit 5, 39-41 Fourth Avenue, Blacktown NSW 2148, Australia
Tel: (02) 96798733 Fax: (02) 96798744

Drawn By: AT	Date: 16/8/19	NSW Land and Housing Corporation Stage 3 - Copperfield Drive Rosemeadow Area of Environmental Concern Plan	
Checked By: SL	Date: 16/8/19		
Revision By:	Date:		
Scale: Not to Scale	A3	Project No: JC17299C	Drawing No: 1B

APPENDIX A

Extracts of Previous Report (Reference 1_

Phase 1 and 2 Contamination, Salinity and Geotechnical Investigation – Stage 2 Lot 33 & Lot 34 in DP 700703 and Lot 90 in DP 1166578 Copperfield Drive, Rosemeadow" – GeoEnviro Consultancy Pty Ltd report referenced JC17299A-r1 dated 10th August 2017

GeoEnviro Consultancy Pty Ltd
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Report

Phase 1 and 2 Contamination, Salinity and Geotechnical Investigation Proposed Residential Subdivision Development Stage 3, Lot 33 & Lot 34 in DP 700703 and Lot 90 in DP 1166578 Copperfield Drive Rosemeadow NSW

Prepared for

SMEC - Australia & New Zealand Division Pty Ltd
PO Box 232
CAMPBELLTOWN NSW 2560

Ref: JC17299A-r1
August 2017

Legend

Subject Site

GeoEnviro Consultancy
Unit 5, 39-41 Fourth Avenue, Blacktown NSW 2148, Australia
Tel: (02) 96798733 Fax: (02) 96798744

Drawn By: AT	Date: 10/8/17	SMEC	
Checked By: SL	Date: 10/8/17	Stage 3 - Copperfield Drive Rosemeadow	
Revision By:	Date:	Site Locality Plan	
Scale: Not to Scale	A3	Project No: JC17299A	Drawing No: 1

Legend

Subject Site

Test Pit

GeoEnviro Consultancy

Unit 5, 39-41 Fourth Avenue, Blacktown NSW 2148, Australia

Tel: (02) 96798733 Fax: (02) 96798744

Drawn By: AT	Date: 10/8/17	SMEC	
Checked By: SL	Date: 10/8/17	Stage 3 - Copperfield Drive Rosemeadow	
Revision By:	Date:	Test Pit Location Plan	
Scale: Not to Scale	A3	Project No: JC17299A	Drawing No: 2

Legend

- Subject Site
- Test Pit
- Area of Environmental Concern (AEC)

GeoEnviro Consultancy

Unit 5, 39-41 Fourth Avenue, Blacktown NSW 2148, Australia

Tel: (02) 96798733 Fax: (02) 96798744

Drawn By: AT	Date: 10/8/17	SMEC	
Checked By: SL	Date: 10/8/17	Stage 3 - Copperfield Drive Rosemeadow	
Revision By:	Date:	Area of Environmental Concern Plan	
Scale: Not to Scale	A3	Project No: JC17299A	Drawing No: 3

Test Pit Number	Depth (m)	Profile Type	Description
1	0.00-0.25	Topsoil/Fill	Gravelly Clayey Silt: Low liquid limit, brown, with fine to coarse grained gravel, 1 x 5cm clay tile, with Silty Clay inclusions, dry
	0.25-0.45	Topsoil	Clayey Silt: Low liquid limit, brown, dry
	0.45-0.70	Natural	(CH) Silty Clay: High plasticity, red brown, trace of fine grained ironstone gravel, dry, MC<PL
2	0.00-0.30	Topsoil/Fill	Gravelly Clayey Silt: Low liquid limit, brown, with fine to coarse grained gravel, with tile and Sandstone inclusions, with Silty Clay inclusions, dry
	0.30-0.45	Topsoil	Clayey Silt: Low liquid limit, brown, dry
	0.45-0.70	Natural	(CH) Silty Clay: High plasticity, red brown, trace of fine grained ironstone gravel, dry, MC<PL
3	0.00-0.20	Topsoil/Fill	Gravelly Clayey Silt: Low liquid limit, brown, with fine to coarse grained gravel, with Silty Clay inclusions, dry
	0.20-0.45	Topsoil	Clayey Silt: Low liquid limit, brown, dry
	0.45-0.90	Natural	(CH) Silty Clay: High plasticity, red brown, trace of fine grained ironstone gravel, dry to moist, MC<=PL, PP=350kPa, very stiff
	0.90-1.30	Natural	(CI) Silty Clay: Medium plasticity, grey and brown, dry, MC<PL, PP>600kPa, hard
	1.30-1.60	Natural	(CI) Shaley Clay: Medium plasticity, grey brown, with distinctly weathered shale, dry
	1.60-1.90	Bedrock	Shale: Grey to dark grey, extremely to distinctly weathered, low to medium strength
4	0.00-0.20	Topsoil/Fill	Gravelly Clayey Silt: Low liquid limit, brown, with fine to coarse grained gravel, 1 glass fragment, with Silty Clay inclusions, dry
	0.20-0.40	Topsoil	Clayey Silt: Low liquid limit, brown, dry to moist
	0.40-0.70	Natural	(CH) Silty Clay: High plasticity, red brown, trace of fine grained ironstone gravel, dry to moist, MC<=PL
5	0.00-0.50	Topsoil/Fill	Gravelly Clayey Silt: Low liquid limit, brown, with fine to coarse grained shale gravel, with Silty Clay inclusions, dry
	0.50-0.75	Topsoil	Clayey Silt: Low liquid limit, brown, dry to moist
	0.75-1.00	Natural	(CH) Silty Clay: High plasticity, red brown, trace of fine grained ironstone gravel, dry to moist, MC<=PL
6	0.00-0.30	Topsoil/Fill	Gravelly Clayey Silt: Low liquid limit, brown, with fine to coarse grained shale gravel, with Silty Clay inclusions, dry
	0.30-0.50	Topsoil	Clayey Silt: Low liquid limit, brown, dry to moist
	0.50-0.80	Natural	(CH) Silty Clay: High plasticity, red brown, trace of fine grained ironstone gravel, dry to moist, MC<=PL
7	0.00-0.25	Topsoil	Clayey Silt: Low liquid limit, dark brown, dry
	0.25-0.60	Natural	(CH) Silty Clay: High plasticity, red brown, trace of fine grained ironstone gravel, dry to moist, MC<=PL
8	0.00-0.20	Topsoil/Fill	Gravelly Clayey Silt: Low liquid limit, brown, with fine to coarse grained shale gravel, with Silty Clay inclusions, dry
	0.20-0.40	Topsoil	Clayey Silt: Low liquid limit, brown, dry to moist
	0.40-0.70	Natural	(CH) Silty Clay: High plasticity, red brown, trace of fine grained ironstone gravel, dry to moist, MC<=PL
9	0.00-0.30	Topsoil	Clayey Silt: Low liquid limit, dark brown, dry
	0.30-0.60	Natural	(CH) Silty Clay: High plasticity, red brown, trace of fine grained ironstone gravel, dry to moist, MC<=PL

Note:
PP = Pocket Penetrometer
MC = Moisture Content
PL = Plastic Limit

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TABLE 1 (Page 1 of 8)
SUMMARY OF SOIL PROFILE

SMEC
Proposed Residential Subdivision Development
Stage 3 - Copperfield Drive Rosemeadow

Test Pit Number	Depth (m)	Profile Type	Description
10	0.00-0.30	Topsoil	Clayey Silt: Low liquid limit, dark brown, dry
	0.30-0.60	Natural	(CH) Silty Clay: High plasticity, red brown, trace of fine grained ironstone gravel, dry to moist, MC<=PL
11	0.00-0.30	Topsoil/Fill	Gravelly Clayey Silt: Low liquid limit, brown, with fine to coarse grained gravel, with glass fragment, with Silty Clay inclusions, dry
	0.30-0.50	Topsoil	Clayey Silt: Low liquid limit, brown, dry to moist
	0.50-0.80	Natural	(CH) Silty Clay: High plasticity, red brown, trace of fine grained ironstone gravel, dry to moist, MC<=PL
12	0.00-0.25	Topsoil	Clayey Silt: Low liquid limit, brown, dry to moist
	0.25-0.50	Natural	(CH) Silty Clay: High plasticity, red brown, trace of fine grained ironstone gravel, dry to moist, MC<=PL
13	0.00-0.10	Topsoil	Clayey Silt: Low liquid limit, dark brown, dry
	0.10-0.40	Natural	(CH) Silty Clay: High plasticity, red brown, trace of fine grained ironstone gravel, dry to moist, MC<=PL
14	0.00-0.15	Topsoil/Fill	Gravelly Clayey Silt: Low liquid limit, brown, with fine to coarse grained shale gravel, with Silty Clay inclusions, dry
	0.15-0.40	Topsoil	Clayey Silt: Low liquid limit, dark brown, dry to moist
	0.40-0.70	Natural	(CH) Silty Clay: High plasticity, red brown, trace of fine grained ironstone gravel, dry to moist, MC<=PL
15	0.00-0.25	Topsoil	Clayey Silt: Low liquid limit, dark brown, dry to moist
	0.25-0.70	Natural	(CH) Silty Clay: High Plasticity, red brown, dry to moist, MC<=PL, very stiff PP=320-390kPa
	0.70-1.40	Natural	(CI) Shaley Clay: Medium plasticity, grey brown with extremely weathered to distinctly weathered shale bands, dry, MC<PL, hard PP>600kPa
	1.40-1.70	Bedrock	Shale: grey with siltstone bands, distinctly weathered, low to medium strength
16	0.00-0.25	Topsoil	Clayey Silt: Low liquid limit, dark brown, dry to moist
	0.25-0.50	Natural	(CH) Silty Clay: High Plasticity, red brown, dry to moist, MC<=PL
17	0.00-0.30	Topsoil	Clayey Silt: Low liquid limit, dark brown, dry to moist
	0.30-0.60	Natural	(CH) Silty Clay: High Plasticity, red brown, dry to moist, MC<=PL
18	0.00-0.25	Topsoil	Clayey Silt: Low liquid limit, dark brown, dry
	0.25-0.60	Natural	(CH) Silty Clay: High Plasticity, red brown, dry to moist, MC<=PL, very stiff PP=320-360kPa
	0.60-1.30	Natural	(CI) Silty Clay: Medium plasticity, grey brown, dry, MC<PL
	1.30-1.90	Natural	(CI) Shaley Clay: Medium plasticity, grey brown with extremely weathered to distinctly weathered shale bands, dry, MC<PL
	1.90-2.20	Bedrock	Shale: grey with siltstone bands, distinctly weathered, low to medium strength
19	0.00-0.05	Topsoil	Clayey Silt: Low liquid limit, dark brown, dry to moist
	0.05-0.40	Natural	(CH) Silty Clay: High Plasticity, red brown, dry to moist, MC<=PL

Note:
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TABLE 1 (Page 2 of 8)
SUMMARY OF SOIL PROFILE

SMEC
Proposed Residential Subdivision Development
Stage 3 - Copperfield Drive Rosemeadow

Test Pit Number	Depth (m)	Profile Type	Description
20	0.00-0.25	Topsoil	Clayey Silt: Low liquid limit, dark brown, dry
	0.25-0.50	Natural	(CH) Silty Clay: High Plasticity, red brown, dry to moist, MC<=PL
21	0.00-0.20	Topsoil	Clayey Silt: Low liquid limit, dark brown, dry to moist
	0.20-0.45	Natural	(CH) Silty Clay: High Plasticity, red brown, dry to moist, MC<=PL
22	0.00-0.30	Topsoil	Clayey Silt: Low liquid limit, dark brown, dry
	0.30-0.60	Natural	(CH) Silty Clay: High Plasticity, red brown, dry to moist, MC<=PL
23	0.00-0.10	Topsoil	Clayey Silt: Low liquid limit, dark brown with trace of gravel, dry
	0.10-0.40	Natural	(CH) Silty Clay: High Plasticity, red brown, dry to moist, MC<=PL
24	0.00-0.15	Topsoil	Clayey Silt: Low liquid limit, dark brown, dry
	0.15-0.50	Natural	(CH) Silty Clay: High Plasticity, red brown with trace of fine grained gravel, dry to moist, MC<PL, hard PP=550kPa
	0.50-1.40	Natural	(CI) Shaley Clay: Medium plasticity, grey brown with extremely weathered to distinctly weathered shale, dry, MC<PL
	1.40-1.70	Bedrock	Shale: grey brown with ironstaining and siltstone bands, extremely weathered to distinctly weathered, low to medium strength
25	0.00-0.30	Topsoil	Clayey Silt: Low liquid limit, dark brown, dry to moist
	0.30-0.55	Natural	(CH) Silty Clay: High Plasticity, red brown, dry to moist, MC<=PL
26	0.00-0.20	Topsoil/Fill	Clayey Silt/Silty Clay: Low liquid limit, brown with fine to medium grained gravel, dry to moist
	0.20-0.50	Topsoil	Clayey Silt: Low liquid limit, dark brown, dry to moist
	0.50-0.70	Natural	(CH) Silty Clay: High Plasticity, red brown, dry to moist, MC<=PL
27	0.00-0.30	Topsoil	Clayey Silt: Low liquid limit, dark brown, dry to moist
	0.30-0.60	Natural	(CH) Silty Clay: High Plasticity, red brown, dry to moist, MC<=PL
28	0.00-0.20	Topsoil	Clayey Silt: Low liquid limit, dark brown, dry to moist
	0.20-0.30	Natural	(CH) Silty Clay: High Plasticity, red brown, dry to moist, MC<=PL
	0.30-0.60	Natural	(CI) Shaley Clay: Medium plasticity, grey brown with extremely weathered to distinctly weathered shale, dry, MC<PL
29	0.00-0.35	Topsoil/Fill	Clayey Silt: Low liquid limit, dark brown with shale/siltstone cobble and boulders, dry to moist
	0.35-0.60	Natural	(CH) Silty Clay: High Plasticity, red brown, dry to moist, MC<=PL

Note:
PP = Pocket Penetrometer
MC = Moisture Content
PL = Plastic Limit

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TABLE 1 (Page 3 of 8)
SUMMARY OF SOIL PROFILE

SMEC
Proposed Residential Subdivision Development
Stage 3 - Copperfield Drive Rosemeadow

Test Pit Number	Depth (m)	Profile Type	Description
30	0.00-0.25	Topsoil	Clayey Silt: Low liquid limit, brown, dry
	0.25-0.50	Natural	(CH) Silty Clay: High plasticity, red brown with trace of fine grained gravel, dry to moist, MC<=PL, very stiff PP=340-380kPa
	0.50-1.10	Natural	(CI) Silty Clay: Medium plasticity, grey brown with trace of gravel, dry to moist, MC<PL
	1.10-1.50	Natural	(CI) Shaley Clay: Medium plasticity, grey brown with extremely weathered to distinctly weathered shale bands, dry, MC<PL
	1.50-1.80	Bedrock	Shale: grey brown with ironstaining, extremely weathered to distinctly weathered, low to medium strength
31	0.00-0.30	Topsoil	Clayey Silt: Low liquid limit, brown, dry to moist
	0.30-0.50	Natural	(CH) Silty Clay: High plasticity, red brown, moist, MC<=PL
32	0.00-0.45	Topsoil/Fill	Gravelly Clayey Silt: Low liquid limit, dark brown with brick fragments, tile fragments, PVC pipe, tree roots, plastic sheets and terracotta pipe fragments, moist
	0.45-0.70	Natural	(CH) Silty Clay: High plasticity, red brown, moist, MC<=PL
33	0.00-0.30	Topsoil	Clayey Silt: Low liquid limit, brown, dry to moist
	0.30-0.60	Natural	(CH) Silty Clay: High plasticity, red brown, moist, MC<=PL
34	0.00-0.30	Topsoil	Clayey Silt: Low liquid limit, brown, dry to moist
	0.30-0.60	Natural	(CH) Silty Clay: High plasticity, red brown, dry, MC<=PL
35	0.00-0.60	Topsoil/Fill	Clayey Silt: Low liquid limit, brown with brick fragments and 1x fibro piece, dry to moist
	0.60-0.70	Topsoil	Clayey Silt: Low liquid limit, brown, dry to moist
	0.70-1.20	Natural	(CH) Silty Clay: High plasticity, red brown, dry to moist, MC<=PL, very stiff PP=380kPa
	1.20-1.90	Natural	(CI) Shaley Clay: Medium plasticity, grey brown with extremely weathered to distinctly weathered shale bands, dry, MC<PL
	1.90-2.20	Bedrock	Shale: grey brown with ironstaining, extremely weathered to distinctly weathered, low to medium strength
36	0.00-0.20	Topsoil/Fill	Clayey Silt: Low liquid limit, brown with terracotta, tile and glass fragments, dry
	0.20-0.50	Natural	(CH) Silty Clay: High plasticity, red brown, dry, MC<=PL
37	0.00-0.40	Topsoil/Fill	Clayey Silt: Low liquid limit, brown with brick, terracotta and tile fragments, dry
	0.40-0.70	Topsoil	Clayey Silt: Low liquid limit, brown with trace of gravel, dry
	0.70-1.00	Natural	(CH) Silty Clay: High plasticity, red brown, dry, MC<=PL
38	0.00-0.25	Topsoil/Fill	Clayey Silt/Silty Clay: Low plasticity, brown with gravel, dry
	0.25-1.30	Natural	(CH) Silty Clay: High plasticity, red brown, dry, MC<=PL, hard PP=430kPa
	1.30-1.80	Natural	(CI) Shaley Clay: Medium plasticity, grey brown with extremely weathered to distinctly weathered shale bands, dry, MC<PL
	1.80-2.00	Bedrock	Shale: grey brown with ironstaining, extremely weathered to distinctly weathered, low to medium strength

Note:
PP = Pocket Penetrometer
MC = Moisture Content
PL = Plastic Limit

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TABLE 1 (Page 4 of 8)
SUMMARY OF SOIL PROFILE

SMEC
Proposed Residential Subdivision Development
Stage 3 - Copperfield Drive Rosemeadow

Test Pit Number	Depth (m)	Profile Type	Description
39	0.00-0.20	Topsoil/Fill	Clayey Silt/Silty Clay: Low plasticity, brown with gravel, tile, brick fragments and fibro piece, dry
	0.20-0.50	Natural	(CH) Silty Clay: High plasticity, red brown, dry, MC<=PL
40	0.00-0.80	Topsoil/Fill	Clayey Silt/Silty Clay: Low plasticity, brown with gravel, tile, brick fragments, PVC pipe and fibro piece, dry
	0.80-1.10	Natural	(CH) Silty Clay: High plasticity, red brown, dry, MC<=PL
41	0.00-0.90	Topsoil/Fill	Clayey Silt/Silty Clay: Low plasticity, brown with gravel, tile and brick fragments, dry
	0.90-1.10	Natural	(CH) Silty Clay: High plasticity, red brown, dry, MC<=PL
42	0.00-0.20	Topsoil/Fill	Clayey Silt: Low liquid limit, brown with brick fragments, plastic and tiles, dry to moist
	0.20-0.80	Natural	(CH) Silty Clay: High plasticity, red brown, dry to moist, MC<=PL, very stiff PP=310kPa
	0.80-1.40	Natural	(CI) Silty Clay: Medium plasticity, grey brown, dry to moist, MC<PL, hard PP=430kPa
	1.40-1.70	Bedrock	Shale: grey brown with ironstaining, extremely weathered to distinctly weathered, low to medium strength
43	0.00-0.30	Topsoil/Fill	Clayey Silt: Low liquid limit, brown with brick fragments, plastic, tiles and metal fence piece, dry to moist
	0.30-0.55	Natural	(CH) Silty Clay: High plasticity, red brown, dry to moist, MC<=PL
44	0.00-0.60	Topsoil/Fill	Clayey Silt/Silty Clay: Low liquid limit, brown with tile fragments, dry to moist
	0.60-0.90	Natural	(CH) Silty Clay: High plasticity, red brown, dry to moist, MC<=PL
45	0.00-0.40	Topsoil/Fill	Clayey Silt/Silty Clay: Low liquid limit, brown with tile and brick fragments, concrete cobble and terracotta pipe, moist
	0.40-0.70	Natural	(CH) Silty Clay: High plasticity, red brown, dry to moist, MC<=PL
46	0.00-0.30	Topsoil/Fill	Clayey Silt/Silty Clay: Low liquid limit, brown, moist
	0.30-0.60	Topsoil	Clayey Silt: Low liquid limit, brown, dry
	0.60-1.00	Natural	(CH) Silty Clay: High plasticity, red brown, dry to moist, MC<=PL, hard PP=480kPa
	1.00-1.80	Natural	(CI) Shaley Clay: Medium plasticity, grey brown with ironstaining, dry, MC<PL
	1.80-2.30	Bedrock	Shale: grey brown with ironstaining, extremely weathered to distinctly weathered, low to medium strength
47	0.00-0.50	Topsoil/Fill	Clayey Silt: Low liquid limit, brown, dry
	0.50-0.75	Topsoil	Clayey Silt: Low liquid limit, brown, dry
	0.75-1.00	Natural	(CH) Silty Clay: High plasticity, red brown, dry, MC<PL
48	0.00-0.50	Topsoil/Fill	Clayey Silt: Low liquid limit, brown with 1 concrete cobble, dry
	0.50-0.70	Topsoil	Clayey Silt: Low liquid limit, brown, dry
	0.70-1.00	Natural	(CH) Silty Clay: High plasticity, red brown, dry, MC<PL

Note:
PP = Pocket Penetrometer
MC = Moisture Content
PL = Plastic Limit

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TABLE 1 (Page 5 of 8)
SUMMARY OF SOIL PROFILE

SMEC

Proposed Residential Subdivision Development

Stage 3 - Copperfield Drive Rosemeadow

Test Pit Number	Depth (m)	Profile Type	Description
49	0.00-0.35	Topsoil/Fill	Gravelly Silty Clay/Clayey Silt: Low plasticity, brown, dry
	0.35-0.65	Topsoil	Clayey Silt: Low liquid limit, dark brown, dry
	0.65-0.90	Natural	(CH) Silty Clay: High plasticity, red brown, dry to moist, MC<=PL
50	0.00-0.40	Topsoil/Fill	Clayey Silt: Low liquid limit, brown with brick and PVC, dry
	0.40-0.70	Natural	(CH) Silty Clay: High plasticity, red brown, dry to moist, MC<=PL
51	0.00-0.50	Topsoil/Fill	Clayey Silt: Low liquid limit, brown, dry
	0.50-0.80	Natural	(CH) Silty Clay: High plasticity, red brown, dry, MC<PL, hard PP=480kPa
	0.80-1.40	Natural	(CI) Silty Clay: Medium plasticity, grey brown with shale gravel, dry, MC<PL, hard PP=550kPa
	1.40-1.60	Bedrock	Shale: grey brown with ironstaining, extremely weathered to distinctly weathered, low to medium strength
52	0.00-0.30	Topsoil/Fill	Gravelly Silty Clay/Clayey Silt: Low plasticity, brown with plastic sheet and brick fragments, dry
	0.30-0.50	Topsoil	Clayey Silt: Low liquid limit, dark brown, dry
	0.50-0.80	Natural	(CH) Silty Clay: High plasticity, red brown, dry to moist, MC<=PL
53	0.00-0.35	Topsoil/Fill	Clayey Silt: Low liquid limit, dark brown, dry
	0.35-0.60	Natural	(CH) Silty Clay: High plasticity, red brown, dry to moist, MC<=PL
54	0.00-0.40	Topsoil/Fill	Clayey Silt: Low liquid limit, dark brown, dry
	0.40-0.70	Natural	(CH) Silty Clay: High plasticity, red brown, dry to moist, MC<=PL
55	0.00-0.80	Topsoil/Fill	Gravelly Clayey Silt: Low liquid limit, dark brown with brick and tile fragments and concrete, dry
	0.80-1.10	Natural	(CH) Silty Clay: High plasticity, red brown, dry to moist, MC<=PL
56	0.00-0.25	Topsoil	Clayey Silt: Low liquid limit, dark brown, dry
	0.25-0.45	Natural	(CH) Silty Clay: High plasticity, red brown, dry to moist, MC<=PL
57	0.00-0.30	Topsoil	Clayey Silt: Low liquid limit, dark brown, dry
	0.30-0.60	Natural	(CH) Silty Clay: High plasticity, red brown, dry, MC<PL
58	0.00-0.35	Topsoil/Fill	Clayey Silt: Low liquid limit, dark brown with brick fragments, dry
	0.35-0.60	Natural	(CH) Silty Clay: High plasticity, red brown, dry to moist, MC<=PL
59	0.00-0.40	Topsoil/Fill	Clayey Silt: Low liquid limit, dark brown with glass, tile and brick fragments, dry
	0.40-1.00	Natural	(CH) Silty Clay: High plasticity, red brown, dry, MC<PL, hard PP>600kPa
	1.00-1.70	Natural	(CI) Shaley Clay: Medium plasticity, grey brown, dry, MC<PL, hard PP>600kPa
	1.70-2.00	Bedrock	Shale: grey brown, extremely weathered to distinctly weathered, low to medium strength

Note:
PP = Pocket Penetrometer
MC = Moisture Content
PL = Plastic Limit

GeoEnviro Consultancy

TABLE 1 (Page 6 of 8)
SUMMARY OF SOIL PROFILE

SMEC
Proposed Residential Subdivision Development
Stage 3 - Copperfield Drive Rosemeadow

Test Pit Number	Depth (m)	Profile Type	Description
60	0.00-0.45	Topsoil/Fill	Silty Clay/Clayey Silt: Low liquid limit, brown with 1 brick fragment, dry
	0.45-0.60	Natural	(CH) Silty Clay: High plasticity, red brown, dry, MC<PL
61	0.00-1.70	Rubbish Fill	Rubble Fill with fibro, reo, bricks, PVC metal and concrete (Terminated due to proximity of sewer)
62	0.00-0.20	Topsoil	Clayey Silt: Low liquid limit, dark brown, dry
	0.20-0.60	Natural	(CH) Silty Clay: High plasticity, red brown, dry, MC<PL
63	0.00-0.30	Topsoil/Fill	Silty Clay/Clayey Silt: Low liquid limit, brown, dry
	0.30-0.50	Topsoil	Clayey Silt: Low liquid limit, dark brown, dry
	0.50-1.20	Natural	(CH) Silty Clay: High plasticity, red brown, dry, MC<PL
	1.20	Natural	(CI) Silty Clay: Medium plasticity, grey brown, dry, MC<PL
64	0.00-0.55	Topsoil/Fill	Clayey Silt: Low liquid limit, dark brown with 1 concrete boulder, brick and tile fragments, dry
	0.55-0.80	Natural	(CH) Silty Clay: High plasticity, red brown, dry, MC<PL
65	0.00-0.50	Topsoil/Fill	Clayey Silt: Low liquid limit, dark brown with plastic sheet, brick, tile and concrete fragments, dry
	0.50-0.70	Natural	(CH) Silty Clay: High plasticity, red brown, dry, MC<PL
66	0.00-0.55	Topsoil/Fill	Clayey Silt: Low liquid limit, dark brown with 1x fibro fragment, dry
	0.55-0.80	Natural	(CH) Silty Clay: High plasticity, red brown, dry, MC<PL
67	0.00-0.70	Topsoil/Fill	Clayey Silt: Low liquid limit, dark brown with abundant bricks, dry
	0.70-1.40	Natural	(CH) Silty Clay: High plasticity, red brown, dry, MC<PL, hard PP=550-600kPa
	1.40-1.90	Natural	(CI) Silty Clay: Medium plasticity, grey brown with shale, dry, hard PP>600kPa
	1.90-2.20	Bedrock	Shale: grey brown, extremely weathered to distinctly weathered, low to medium strength
68	0.00-0.80	Topsoil/Fill	Clayey Silt: Low liquid limit, dark brown, dry
	0.80-1.10	Natural	(CH) Silty Clay: High plasticity, red brown, dry to moist, MC<PL
69	0.00-0.35	Topsoil/Fill	Clayey Silt: Low liquid limit, dark brown with plastic sheet and shale cobble, dry
	0.35-0.60	Natural	(CH) Silty Clay: High plasticity, red brown, dry to moist, MC<PL
70	0.00-0.35	Topsoil/Fill	Clayey Silt: Low liquid limit, dark brown, dry
	0.35-0.70	Natural	(CH) Silty Clay: High plasticity, red brown, dry to moist, MC<PL
71	0.00-0.30	Topsoil/Fill	Clayey Silt: Low liquid limit, dark brown with PVC, hessian, brick and tiles, dry
	0.30-0.60	Natural	(CH) Silty Clay: High plasticity, red brown, dry to moist, MC<PL

Note:
PP = Pocket Penetrometer
MC = Moisture Content
PL = Plastic Limit

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TABLE 1 (Page 7 of 8)
SUMMARY OF SOIL PROFILE

SMEC
Proposed Residential Subdivision Development
Stage 3 - Copperfield Drive Rosemeadow

Test Pit Number	Depth (m)	Profile Type	Description
72	0.00-0.50	Topsoil/Fill	Clayey Silt: Low liquid limit, brown with brick and tile fragments, dry
	0.50-1.10	Natural	(CH) Silty Clay: High plasticity, red brown, dry to moist, MC<=PL, very stiff to hard PP=380-410kPa
	1.10-1.50	Natural	(CI) Silty Clay: Medium plasticity, grey brown, dry, MC<=PL, hard PP=400-430kPa
	1.50-1.90	Natural	(CI) Shaley Clay: Medium plasticity, grey brown with extremely weathered to distinctly weathered shale, dry, MC<PL, hard PP>600kPa
	1.90-2.30	Bedrock	Shale: grey brown, extremely weathered to distinctly weathered, low to medium strength
73	0.00-0.60	Topsoil/Fill	Clayey Silt: Low liquid limit, brown, dry
	0.60-0.80	Natural	(CH) Silty Clay: High plasticity, red brown, dry to moist, MC<=PL

Note:
PP = Pocket Penetrometer
MC = Moisture Content
PL = Plastic Limit

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TABLE 1 (Page 8 of 8)
SUMMARY OF SOIL PROFILE

SMEC
Proposed Residential Subdivision Development
Stage 3 - Copperfield Drive Rosemeadow

Sample	Depths (m)	Sample Date	Sample Type	Composite Schedule Depths (m)			Analysis													
							pH	Heavy Metals								OCP	PCB	TRH	BTEX	PAH	Asbestos
								As	Cd	Cr	Cu	Pb	Hg	Ni	Zn						
C1	0.0-0.10	29/06/2017	Soil	TP 1 (0.0-0.1 m)	TP 2 (0.0-0.1 m)	TP 3 (0.0-0.1 m)	o	o	o	o	o	o	o	o	o	o	o				
C2	0.00-0.10	29/06/2017	Soil	TP 7 (0.0-0.1 m)	TP 16 (0.0-0.1 m)	TP 20 (0.0-0.1 m)		o	o	o	o	o	o	o	o	o	o				
C3	0.00-0.10	29/06/2017	Soil	TP 13 (0.0-0.1 m)	TP 23 (0.0-0.1 m)	TP 25 (0.0-0.1 m)	o	o	o	o	o	o	o	o	o	o	o				
C4	0.00-0.10	29/06/2017	Soil	TP 21 (0.0-0.1 m)	TP 22 (0.0-0.1 m)	TP 27 (0.0-0.1 m)		o	o	o	o	o	o	o	o	o	o				
C5	0.00-0.10	29/06/2017	Soil	TP 36 (0.0-0.1 m)	TP 37 (0.0-0.1 m)	TP 41 (0.0-0.1 m)	o	o	o	o	o	o	o	o	o	o	o				
C6	0.00-0.10	29/06/2017	Soil	TP 43 (0.0-0.1 m)	TP 44 (0.0-0.1 m)	TP 45 (0.0-0.1 m)		o	o	o	o	o	o	o	o	o	o				
C7	0.00-0.10	29/06/2017	Soil	TP 47 (0.0-0.1 m)	TP 48 (0.0-0.1 m)	TP 49 (0.0-0.1 m)	o	o	o	o	o	o	o	o	o	o	o				
C8	0.00-0.10	29/06/2017	Soil	TP 53 (0.0-0.1 m)	TP 54 (0.0-0.1 m)	TP 55 (0.0-0.1 m)		o	o	o	o	o	o	o	o	o	o				
C9	0.00-0.10	29/06/2017	Soil	TP 58 (0.0-0.1 m)	TP 59 (0.0-0.1 m)	TP 60 (0.0-0.1 m)	o	o	o	o	o	o	o	o	o	o	o				
C10	0.00-0.10	29/06/2017	Soil	TP 63 (0.0-0.1 m)	TP 64 (0.0-0.1 m)	TP 65 (0.0-0.1 m)		o	o	o	o	o	o	o	o	o	o				
C11	0.00-0.10	29/06/2017	Soil	TP 68 (0.0-0.1 m)	TP 69 (0.0-0.1 m)	TP 71 (0.0-0.1 m)	o	o	o	o	o	o	o	o	o	o	o				
TP28	0.00-0.10	29/06/2017	Soil					o	o	o	o	o	o	o	o	o	o	o	o	o	o
TP30	0.00-0.10	29/06/2017	Soil				o	o	o	o	o	o	o	o	o	o	o	o	o	o	o
TP35	0.00-0.10	29/06/2017	Soil				o	o	o	o	o	o	o	o	o	o	o	o	o	o	o
TP35	-	29/06/2017	Fibro																		o
TP39	0.00-0.10	29/06/2017	Soil					o	o	o	o	o	o	o	o	o	o	o	o	o	o
TP39	-	29/06/2017	Fibro																		o
TP40	0.00-0.10	29/06/2017	Soil					o	o	o	o	o	o	o	o	o	o	o	o	o	o
TP40	-	29/06/2017	Fibro																		o
TP61	0.00-0.10	29/06/2017	Soil					o	o	o	o	o	o	o	o	o	o	o	o	o	o
TP61	-	29/06/2017	Fibro																		o
TP72	0.00-0.10	29/06/2017	Soil					o	o	o	o	o	o	o	o	o	o	o	o	o	o
DUP A	-	29/06/2017	Soil					o	o	o	o	o	o	o	o	o	o	o	o	o	

Note: O denotes tested

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TABLE 2

Analytical Program

SMEC

Proposed Residential Subdivision Development

Stage 3 - Copperfield Drive Rosemeadow

Composite Sample

Sample	Depths (m)	pH	Arsenic	Cadmium	Chromium	Copper	Lead	Mercury	Nickel	Zinc
C1	0.0-0.10	6.50	7	<0.4	19	24	28	<0.1	15	44
C2	0.00-0.10		6	<0.4	16	25	27	<0.1	15	46
C3	0.00-0.10	6.70	6	<0.4	14	22	24	<0.1	11	56
C4	0.00-0.10		5	<0.4	14	23	25	<0.1	12	39
C5	0.00-0.10	7.20	5	<0.4	12	19	23	<0.1	8	36
C6	0.00-0.10		6	<0.4	21	22	23	<0.1	12	41
C7	0.00-0.10	7.00	4	<0.4	10	15	16	<0.1	7	32
C8	0.00-0.10		8	<0.4	15	32	28	<0.1	9	79
C9	0.00-0.10	6.60	8	<0.4	18	25	24	<0.1	10	43
C10	0.00-0.10		7	<0.4	17	33	24	<0.1	11	110
C11	0.00-0.10	7.80	6	<0.4	15	21	23	<0.1	11	57
Modified HBILs 'A' Criteria			***33***	***7***	***33 (VI)***	***200***	***100***	***13***	***133***	***2467***
Modified EIL Criteria*			***35***		***89***	***55***	***375***		***60***	***78***

Individual Samples

Sample	Depths (m)	pH	Arsenic	Cadmium	Chromium	Copper	Lead	Mercury	Nickel	Zinc
TP28	0.00-0.10		5	<0.4	13	19	21	<0.1	10	23
TP30	0.00-0.10	6.40	7	<0.4	15	31	39	<0.1	14	47
TP35	0.00-0.10	7.70	6	<0.4	14	22	22	<0.1	11	40
TP39	0.00-0.10		7	<0.4	13	24	19	<0.1	9	76
TP40	0.00-0.10		6	<0.4	15	31	86	<0.1	10	57
TP61	0.00-0.10		<4	<0.4	8	26	18	<0.1	16	90
TP72	0.00-0.10		6	<0.4	19	23	23	<0.1	13	36
DUP A	-		6	<0.4	14	29	32	<0.1	15	40
HBILs 'A' Criteria			***100***	***20***	***100 (VI)***	***600***	***300***	***40***	***400***	***7400***
EIL Criteria*			***106***	***NA***	***266***	***164***	***1124***	***NA***	***181***	***233***

EIL Derivation

ABC[3]	***6***	***NA***	***16***	***24***	***24***	***NA***	***11***	***53***
ACL[4]	***100***	***NA***	***250***	***140***	***1100***	***NA***	***170***	***180***

Notes

1) All results are expressed as mg/kg and pH (units).

2) Figures in bold italics that are underlined exceed the modified HBILs 'A' or HBIL 'A' Criteria

3) Figures in bold italics exceed the modified EIL or EIL Criteria

3) Ambient Background Concentrations

4) Added Contaminant Limits

GeoEnviro Consultancy

TABLE 3
Summary of Analytical Results - Heavy Metals

SMEC

Proposed Residential Subdivision Development

Stage 3 - Copperfield Drive Rosemeadow

Prepared By: SL Date: 16/08/2017
Checked By:__SG___Date:16/08/2017

Composite Sample

Sample	Depths (m)	HCB	alpha-BHC	gamma-BHC	beta-BHC	Heptachlor	delta-BHC	Aldrin	Heptachlor Epoxide	gamma-Chlordane	alpha-chlordane	Endosulfan I	pp-DDE	Dieldrin	Endrin	pp-DDD	Endosulfan II	pp-DDT	Endrin Aldehyde	Endosulfan Sulphate	Methoxychlor	Total OCP
C1	0.0-0.10	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	ND
C2	0.00-0.10	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	ND
C3	0.00-0.10	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	ND
C4	0.00-0.10	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	ND
C5	0.00-0.10	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	ND
C6	0.00-0.10	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	ND
C7	0.00-0.10	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.4	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.4
C8	0.00-0.10	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.2	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.2
C9	0.00-0.10	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	ND
C10	0.00-0.10	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	ND
C11	0.00-0.10	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	ND
Modified HBILs 'A' Criteria		***3***				***2***		***2***		***17***		***90***	***80***	***2***	***3***	***80***		***80***			***100***	

Individual Sample

Sample	Depths (m)	HCB	alpha-BHC	gamma-BHC	beta-BHC	Heptachlor	delta-BHC	Aldrin	Heptachlor Epoxide	gamma-Chlordane	alpha-chlordane	Endosulfan I	pp-DDE	Dieldrin	Endrin	pp-DDD	Endosulfan II	pp-DDT	Endrin Aldehyde	Endosulfan Sulphate	Methoxychlor	Total OCP
TP28	0.00-0.10	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	ND
TP30	0.00-0.10	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	ND
TP35	0.00-0.10	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.3	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.3
TP39	0.00-0.10	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	ND
TP40	0.00-0.10	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.2	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.2
TP61	0.00-0.10	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	ND
TP72	0.00-0.10	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	ND
DUP A	-	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	ND
HBILs 'A' Criteria		***10***				***6***		***6***		***50***		***270***	***240***	***6***	***10***	***240***		***240***			***300***	

Notes

1) All results are expressed as mg/kg and pH (units).

2) Figures in bold italics exceed the modified HBILs 'A' or HBIL 'A' Criteria

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TABLE 4

Summary of Analytical Results - OCP

SMEC

Proposed Residential Subdivision Development

Stage 3 - Copperfield Drive Rosemeadow

Composite Sample

Sample	Depths (m)	Arochlor 1016	Arochlor 1221	Arochlor 1232	Arochlor 1242	Arochlor 1248	Arochlor 1254	Arochlor 1260	Total PCB
C1	0.0-0.10	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	ND
C2	0.00-0.10	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	ND
C3	0.00-0.10	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	ND
C4	0.00-0.10	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	ND
C5	0.00-0.10	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	ND
C6	0.00-0.10	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	ND
C7	0.00-0.10	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	ND
C8	0.00-0.10	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	ND
C9	0.00-0.10	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	ND
C10	0.00-0.10	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	ND
C11	0.00-0.10	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	ND
Modified HBILs 'A' Criteria									***0.3***

Individual Sample

Sample	Depths (m)	Arochlor 1016	Arochlor 1221	Arochlor 1232	Arochlor 1242	Arochlor 1248	Arochlor 1254	Arochlor 1260	Total PCB
TP28	0.00-0.10	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	ND
TP30	0.00-0.10	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	ND
TP35	0.00-0.10	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	ND
TP39	0.00-0.10	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	ND
TP40	0.00-0.10	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	ND
TP61	0.00-0.10	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	ND
TP72	0.00-0.10	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	ND
DUP A	-	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	ND
HBILs 'A' Criteria									***1***

Notes

1) All results are expressed as mg/kg and pH (units).

2) Figures in bold italics exceed the modified HBILs 'A' or HBIL 'A' Criteria

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TABLE 5
Summary of Analytical Results - PCB

SMEC

Proposed Residential Subdivision Development

Stage 3 - Copperfield Drive Rosemeadow

Sample	Depths (m)	C_6-C_9	C_{10}-C_{14}	C_{15}-C_{28}	C_{29}-C_{36}	C_{10}-C_{36}	F1 (4) C_6-C_{10}	F2 (5) $>C_{10}$-C_{16}	F3 C_{16}-C_{34}	F4 C_{34}-C_{40}	Volatile Organic Compounds (VOC)					
											Benzene	Toluene	Ethylbenzene	m+p-xylene	o-Xylene	Naphthalene
TP28	0.00-0.10	<25	<50	<100	<100	<250	<25	<50	<100	<100	<0.2	<0.5	<1	<2	<1	<1
TP30	0.00-0.10	<25	<50	<100	<100	<250	<25	<50	<100	<100	<0.2	<0.5	<1	<2	<1	<1
TP35	0.00-0.10	<25	<50	<100	<100	<250	<25	<50	<100	<100	<0.2	<0.5	<1	<2	<1	<1
TP39	0.00-0.10	<25	<50	<100	<100	<250	<25	<50	<100	<100	<0.2	<0.5	<1	<2	<1	<1
TP40	0.00-0.10	<25	<50	<100	<100	<250	<25	<50	<100	<100	<0.2	<0.5	<1	<2	<1	<1
TP61	0.00-0.10	<25	<50	<100	<100	<250	<25	<50	<100	<100	<0.2	<0.5	<1	<2	<1	<1
TP72	0.00-0.10	<25	<50	<100	<100	<250	<25	<50	<100	<100	<0.2	<0.5	<1	<2	<1	<1
DUP A	-	<25	<50	<100	<100	<250	<25	<50	<100	<100	<0.2	<0.5	<1	<2	<1	<1
NSW DEC (1994)		***65***				***1000***					***1***	***1.4***	***3.1***	***14***		
HSLs 'A and B' Criteria (CLAY)	***0m to <1m***						***50***	***280***			***0.7***	***480***	***480***	***110***		***5***
	1m to <2m						***90***				***1***			***310***		
	2m to < 4m						***150***				***2***					
	4m+						***290***				***3***					
ESL Criteria							***180***	***120***	***1300***	***5600***	***65***	***105***	***125***	***45***		

Notes

1) All results are expressed as mg/kg unless otherwise specified

2) Figures in bold exceed the NSW DEC criteria

3) ND Not detected

4) F1 is C_6-C_{10} minus the sum of the BTEX concentrations

5) F2 is $>C_{10}$-C_{16} Minus Napthalene

6) Figures in bold italics that have been underlined exceed the HSLs 'A and B' Criteria

7) Figures in bold italics exceed the ESL Criteria

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TABLE 6
Summary of Analytical Results - TRH and VOC

SMEC

Proposed Residential Subdivision Development

Stage 3 - Copperfield Drive Rosemeadow

Sample	Depths (m)	Naphthalene	Acenaphthylene	Acenaphthene	Fluorene	Phenanthrene	Anthracene	Fluoranthene	Pyrene	Benzo(a)anthracene	Chrysene	Benzo(b+k)fluoranthene	Benzo(a)pyrene	Indeno(1,2,3-c,d)pyrene	Dibenzo(a,h)anthracene	Benzo(g,h,i)perylene	Benzo(a)pyrene TEQ	Total PAHs
TP28	0.00-0.10	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.2	<0.05	<0.1	<0.1	<0.1	<0.5	<0.8
TP30	0.00-0.10	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.2	<0.05	<0.1	<0.1	<0.1	<0.5	<0.8
TP35	0.00-0.10	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.2	<0.05	<0.1	<0.1	<0.1	<0.5	<0.8
TP39	0.00-0.10	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.2	<0.05	<0.1	<0.1	<0.1	<0.5	<0.8
TP40	0.00-0.10	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.2	<0.05	<0.1	<0.1	<0.1	<0.5	<0.8
TP61	0.00-0.10	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.2	<0.05	<0.1	<0.1	<0.1	<0.5	<0.8
TP72	0.00-0.10	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.2	<0.05	<0.1	<0.1	<0.1	<0.5	<0.8
DUP A	-	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.2	<0.05	<0.1	<0.1	<0.1	<0.5	<0.8
HBILs 'A' Criteria		***3***															***3****	***300***
ESL Criteria													0.7					

Notes

1) All results are expressed as mg/kg

2) Figures in bold italics that have been underlined exceed the HBILs 'A' Criteria

3) Figures in bold italic exceed the ESL Criteria

* B(a)P TEQ is calculated by multiplying the concentration of each carcinogenic PAH in the sample by its B(a)P TEF, given below, and summing these products

PAH Species	***TEF***
Benzo(a)anthracene	0.1
Benzo(a)pyrene	1
Benzo(b+j)fluoranthene	0.1
Benzo(k)fluoranthene	0.1
Benzo(g,h,i)perylene	0.01
Chrysene	0.01
Dibenzo(a,h)anthracene	1
Indeno(1,2,3-c,d)pyrene	0.1

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TABLE 7

Summary of Analytical Results - PAH

SMEC

Proposed Residential Subdivision Development

Stage 3 - Copperfield Drive Rosemeadow

Sample	Depths (m)	Asbestos
TP28	0.00-0.10	ND
TP30	0.00-0.10	ND
TP35	0.00-0.10	ND
TP35	Fibro	ND
TP39	0.00-0.10	ND
TP39	Fibro	ND
TP40	0.00-0.10	ND
TP40	Fibro	ND
TP61	0.00-0.10	ND
TP61	Fibro	Chrysotile asbestos detected
TP72	0.00-0.10	ND
HBILs 'A' Criteria		***0.01% / 0.001%*** [1]

Note: ND = Not detected

Measured in %w/w

1) Bonded Asbestos Contaminaint Material / Fiberous Asbestos and Asbestos Fines

2) Figures in bold italics exceed the HBILs 'A' Criteria

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TABLE 8

Summary of Analytical Results - Asbestos

SMEC

Proposed Residential Subdivision Development

Stage 3 - Copperfield Drive Rosemeadow

Sample	Depths (m)	Metals							
		Arsenic	Cadmium	Chromium	Copper	Lead	Mercury	Nickel	Zinc
TP30	0.00-0.10	7	<0.4	15	31	39	<0.1	14	47
DUP A		6	<0.4	14	29	32	<0.1	15	40
Relative Percentage Difference (RPD)		15.4	NA	6.9	6.7	19.7	NA	6.9	16.1

Sample	Depths (m)	OCP	PCB	TRH	BTEX	PAH
TP30	0.00-0.10	ND	ND	ND	ND	ND
DUP A		ND	ND	ND	ND	ND
Relative Percentage Difference (RPD)		NA	NA	NA	NA	NA

Notes

1) All results are expressed as mg/kg .

2) ND - Not Detected

3) NA - Not Applicable

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TABLE 9
Summary of Analytical Results - Quality Assurance

SMEC

Proposed Residential Subdivision Development

Stage 3 - Copperfield Drive Rosemeadow

12 Ashley Street, Chatswood, NSW 2067
tel: +61 2 9910 6200

email: sydney@envirolab.com.au
envirolab.com.au

Envirolab Services Pty Ltd - Sydney | ABN 37 112 535 645

CERTIFICATE OF ANALYSIS 170689

Client:

Geoenviro Consultancy Pty Ltd
PO Box 1543, Macquarie Centre
North Ryde
NSW 2113

Attention: Solern Liew

Sample log in details:

Your Reference:	**JC17299A, Rosemeadow Stage 3**
No. of samples:	88 soils, 4 materials
Date samples received / completed instructions received	04/07/17 / 04/07/17

Analysis Details:

Please refer to the following pages for results, methodology summary and quality control data.
Samples were analysed as received from the client. Results relate specifically to the samples as received.
Results are reported on a dry weight basis for solids and on an as received basis for other matrices.
Please refer to the last page of this report for any comments relating to the results.

Report Details:

Date results requested by: / Issue Date:	11/07/17 / 11/07/17
Date of Preliminary Report:	Not Issued

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Accredited for compliance with ISO/IEC 17025 - Testing **Tests not covered by NATA are denoted with *.**

Results Approved By:

David Springer
General Manager

vTRH(C6-C10)/BTEXN in Soil						
Our Reference:	UNITS	170689-45	170689-46	170689-47	170689-49	170689-51
Your Reference	---------- -	TP28	TP30	TP35	TP39	TP40
Composite Reference	----------	-	-	-	-	-
Depth		0.00-0.10	0.00-0.10	0.00-0.10	0.00-0.10	0.00-0.10
Date Sampled		29/06/2017	29/06/2017	29/06/2017	29/06/2017	29/06/2017
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	07/07/2017	07/07/2017	07/07/2017	07/07/2017	07/07/2017
Date analysed	-	07/07/2017	07/07/2017	07/07/2017	07/07/2017	07/07/2017
TRHC$_6$ - C$_9$	mg/kg	<25	<25	<25	<25	<25
TRHC$_6$ - C$_{10}$	mg/kg	<25	<25	<25	<25	<25
vTPHC$_6$ - C$_{10}$ less BTEX (F1)	mg/kg	<25	<25	<25	<25	<25
Benzene	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Toluene	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Ethylbenzene	mg/kg	<1	<1	<1	<1	<1
m+p-xylene	mg/kg	<2	<2	<2	<2	<2
o-Xylene	mg/kg	<1	<1	<1	<1	<1
Total +ve Xylenes	mg/kg	<1	<1	<1	<1	<1
naphthalene	mg/kg	<1	<1	<1	<1	<1
Surrogate aaa-Trifluorotoluene	%	96	100	91	98	101

vTRH(C6-C10)/BTEXN in Soil					
Our Reference:	UNITS	170689-53	170689-54	170689-56	170689-57
Your Reference	---------- -	TP42	TP61	TP72	DUP A
Composite Reference	----------	-	-	-	-
Depth		0.00-0.10	0.00-0.10	0.00-0.10	-
Date Sampled		29/06/2017	29/06/2017	29/06/2017	29/06/2017
Type of sample		Soil	Soil	Soil	Soil
Date extracted	-	07/07/2017	07/07/2017	07/07/2017	07/07/2017
Date analysed	-	07/07/2017	07/07/2017	07/07/2017	07/07/2017
TRHC$_6$ - C$_9$	mg/kg	<25	<25	<25	<25
TRHC$_6$ - C$_{10}$	mg/kg	<25	<25	<25	<25
vTPHC$_6$ - C$_{10}$ less BTEX (F1)	mg/kg	<25	<25	<25	<25
Benzene	mg/kg	<0.2	<0.2	<0.2	<0.2
Toluene	mg/kg	<0.5	<0.5	<0.5	<0.5
Ethylbenzene	mg/kg	<1	<1	<1	<1
m+p-xylene	mg/kg	<2	<2	<2	<2
o-Xylene	mg/kg	<1	<1	<1	<1
Total +ve Xylenes	mg/kg	<1	<1	<1	<1
naphthalene	mg/kg	<1	<1	<1	<1
Surrogate aaa-Trifluorotoluene	%	98	98	103	103

svTRH (C10-C40) in Soil						
Our Reference:	UNITS	170689-45	170689-46	170689-47	170689-49	170689-51
Your Reference	---------- -	TP28	TP30	TP35	TP39	TP40
Composite Reference	----------	-	-	-	-	-
Depth		0.00-0.10	0.00-0.10	0.00-0.10	0.00-0.10	0.00-0.10
Date Sampled		29/06/2017	29/06/2017	29/06/2017	29/06/2017	29/06/2017
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	07/07/2017	07/07/2017	07/07/2017	07/07/2017	07/07/2017
Date analysed	-	07/07/2017	07/07/2017	07/07/2017	07/07/2017	07/07/2017
TRHC$_{10}$ - C$_{14}$	mg/kg	<50	<50	<50	<50	<50
TRHC$_{15}$ - C$_{28}$	mg/kg	<100	<100	<100	<100	<100
TRHC$_{29}$ - C$_{36}$	mg/kg	<100	<100	<100	<100	<100
TRH>C$_{10}$-C$_{16}$	mg/kg	<50	<50	<50	<50	<50
TRH>C$_{10}$ - C$_{16}$ less Naphthalene (F2)	mg/kg	<50	<50	<50	<50	<50
TRH>C$_{16}$-C$_{34}$	mg/kg	<100	<100	<100	<100	<100
TRH>C$_{34}$-C$_{40}$	mg/kg	<100	<100	<100	<100	<100
Total +ve TRH (>C10-C40)	mg/kg	<50	<50	<50	<50	<50
Surrogate o-Terphenyl	%	91	93	91	89	89

svTRH (C10-C40) in Soil					
Our Reference:	UNITS	170689-53	170689-54	170689-56	170689-57
Your Reference	---------- -	TP42	TP61	TP72	DUP A
Composite Reference	----------	-	-	-	-
Depth		0.00-0.10	0.00-0.10	0.00-0.10	-
Date Sampled		29/06/2017	29/06/2017	29/06/2017	29/06/2017
Type of sample		Soil	Soil	Soil	Soil
Date extracted	-	07/07/2017	07/07/2017	07/07/2017	07/07/2017
Date analysed	-	07/07/2017	07/07/2017	07/07/2017	07/07/2017
TRHC$_{10}$ - C$_{14}$	mg/kg	<50	<50	<50	<50
TRHC$_{15}$ - C$_{28}$	mg/kg	<100	<100	<100	<100
TRHC$_{29}$ - C$_{36}$	mg/kg	<100	<100	<100	<100
TRH>C$_{10}$-C$_{16}$	mg/kg	<50	<50	<50	<50
TRH>C$_{10}$ - C$_{16}$ less Naphthalene (F2)	mg/kg	<50	<50	<50	<50
TRH>C$_{16}$-C$_{34}$	mg/kg	<100	<100	<100	<100
TRH>C$_{34}$-C$_{40}$	mg/kg	<100	<100	<100	<100
Total +ve TRH (>C10-C40)	mg/kg	<50	<50	<50	<50
Surrogate o-Terphenyl	%	92	89	91	110

PAHs in Soil						
Our Reference:	UNITS	170689-45	170689-46	170689-47	170689-49	170689-51
Your Reference	----------	TP28	TP30	TP35	TP39	TP40
Composite Reference	----------	-	-	-	-	-
Depth		0.00-0.10	0.00-0.10	0.00-0.10	0.00-0.10	0.00-0.10
Date Sampled		29/06/2017	29/06/2017	29/06/2017	29/06/2017	29/06/2017
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	07/07/2017	07/07/2017	07/07/2017	07/07/2017	07/07/2017
Date analysed	-	10/07/2017	10/07/2017	10/07/2017	10/07/2017	10/07/2017
Naphthalene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Acenaphthylene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Acenaphthene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Fluorene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Phenanthrene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Anthracene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Fluoranthene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Pyrene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(a)anthracene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Chrysene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(b,j+k)fluoranthene	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Benzo(a)pyrene	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Indeno(1,2,3-c,d)pyrene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Dibenzo(a,h)anthracene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(g,h,i)perylene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(a)pyrene TEQ calc (zero)	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(a)pyrene TEQ calc(half)	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(a)pyrene TEQ calc(PQL)	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Total +ve PAH's	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Surrogate p-Terphenyl-d14	%	100	106	102	101	101

PAHs in Soil					
Our Reference:	UNITS	170689-53	170689-54	170689-56	170689-57
Your Reference	----------	TP42	TP61	TP72	DUP A
	-				
Composite Reference	----------	-	-	-	-
Depth		0.00-0.10	0.00-0.10	0.00-0.10	-
Date Sampled		29/06/2017	29/06/2017	29/06/2017	29/06/2017
Type of sample		Soil	Soil	Soil	Soil
Date extracted	-	07/07/2017	07/07/2017	07/07/2017	07/07/2017
Date analysed	-	10/07/2017	10/07/2017	10/07/2017	10/07/2017
Naphthalene	mg/kg	<0.1	<0.1	<0.1	<0.1
Acenaphthylene	mg/kg	<0.1	<0.1	<0.1	<0.1
Acenaphthene	mg/kg	<0.1	<0.1	<0.1	<0.1
Fluorene	mg/kg	<0.1	<0.1	<0.1	<0.1
Phenanthrene	mg/kg	<0.1	<0.1	<0.1	<0.1
Anthracene	mg/kg	<0.1	<0.1	<0.1	<0.1
Fluoranthene	mg/kg	<0.1	<0.1	<0.1	<0.1
Pyrene	mg/kg	<0.1	<0.1	<0.1	<0.1
Benzo(a)anthracene	mg/kg	<0.1	<0.1	<0.1	<0.1
Chrysene	mg/kg	<0.1	<0.1	<0.1	<0.1
Benzo(b,j+k)fluoranthene	mg/kg	<0.2	<0.2	<0.2	<0.2
Benzo(a)pyrene	mg/kg	<0.05	<0.05	<0.05	<0.05
Indeno(1,2,3-c,d)pyrene	mg/kg	<0.1	<0.1	<0.1	<0.1
Dibenzo(a,h)anthracene	mg/kg	<0.1	<0.1	<0.1	<0.1
Benzo(g,h,i)perylene	mg/kg	<0.1	<0.1	<0.1	<0.1
Benzo(a)pyrene TEQ calc (zero)	mg/kg	<0.5	<0.5	<0.5	<0.5
Benzo(a)pyrene TEQ calc(half)	mg/kg	<0.5	<0.5	<0.5	<0.5
Benzo(a)pyrene TEQ calc(PQL)	mg/kg	<0.5	<0.5	<0.5	<0.5
Total +ve PAH's	mg/kg	<0.05	<0.05	<0.05	<0.05
Surrogate p-Terphenyl-d14	%	103	102	104	105

Organochlorine Pesticides in soil						
Our Reference:	UNITS	170689-1	170689-2	170689-3	170689-4	170689-5
Your Reference	----------	C1	C2	C3	C4	C5
	-					
Composite Reference	----------	12 + 13 + 14	15 + 16 + 17	18 + 19 + 20	21 + 22 + 23	24 + 25 + 26
Depth		-	-	-	-	-
Date Sampled		29/06/2017	29/06/2017	29/06/2017	29/06/2017	29/06/2017
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	07/07/2017	07/07/2017	07/07/2017	07/07/2017	07/07/2017
Date analysed	-	07/07/2017	07/07/2017	07/07/2017	07/07/2017	07/07/2017
HCB	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
alpha-BHC	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
gamma-BHC	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
beta-BHC	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Heptachlor	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
delta-BHC	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Aldrin	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Heptachlor Epoxide	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
gamma-Chlordane	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
alpha-chlordane	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Endosulfan I	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
pp-DDE	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Dieldrin	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Endrin	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
pp-DDD	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Endosulfan II	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
pp-DDT	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Endrin Aldehyde	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Endosulfan Sulphate	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Methoxychlor	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Total +ve DDT+DDD+DDE	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Surrogate TCMX	%	87	89	87	89	86

Organochlorine Pesticides in soil						
Our Reference:	UNITS	170689-6	170689-7	170689-8	170689-9	170689-10
Your Reference	----------	C6	C7	C8	C9	C10
	-					
Composite Reference	----------	27 + 28 + 29	30 + 31 + 32	33 + 34 + 35	36 + 37 + 38	39 + 40 + 41
Depth		-	-	-	-	-
Date Sampled		29/06/2017	29/06/2017	29/06/2017	29/06/2017	29/06/2017
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	07/07/2017	07/07/2017	07/07/2017	07/07/2017	07/07/2017
Date analysed	-	07/07/2017	07/07/2017	07/07/2017	07/07/2017	07/07/2017
HCB	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
alpha-BHC	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
gamma-BHC	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
beta-BHC	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Heptachlor	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
delta-BHC	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Aldrin	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Heptachlor Epoxide	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
gamma-Chlordane	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
alpha-chlordane	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Endosulfan I	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
pp-DDE	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Dieldrin	mg/kg	<0.1	0.4	0.2	<0.1	<0.1
Endrin	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
pp-DDD	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Endosulfan II	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
pp-DDT	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Endrin Aldehyde	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Endosulfan Sulphate	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Methoxychlor	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Total +ve DDT+DDD+DDE	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Surrogate TCMX	%	87	87	86	86	86

Organochlorine Pesticides in soil						
Our Reference:	UNITS	170689-11	170689-45	170689-46	170689-47	170689-49
Your Reference	----------	C11	TP28	TP30	TP35	TP39
Composite Reference	- ----------	42 + 43 + 44	-	-	-	-
Depth		-	0.00-0.10	0.00-0.10	0.00-0.10	0.00-0.10
Date Sampled		29/06/2017	29/06/2017	29/06/2017	29/06/2017	29/06/2017
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	07/07/2017	07/07/2017	07/07/2017	07/07/2017	07/07/2017
Date analysed	-	07/07/2017	07/07/2017	07/07/2017	07/07/2017	07/07/2017
HCB	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
alpha-BHC	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
gamma-BHC	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
beta-BHC	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Heptachlor	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
delta-BHC	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Aldrin	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Heptachlor Epoxide	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
gamma-Chlordane	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
alpha-chlordane	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Endosulfan I	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
pp-DDE	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Dieldrin	mg/kg	<0.1	<0.1	<0.1	0.3	<0.1
Endrin	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
pp-DDD	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Endosulfan II	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
pp-DDT	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Endrin Aldehyde	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Endosulfan Sulphate	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Methoxychlor	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Total +ve DDT+DDD+DDE	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Surrogate TCMX	%	86	85	90	86	86

Organochlorine Pesticides in soil						
Our Reference:	UNITS	170689-51	170689-53	170689-54	170689-56	170689-57
Your Reference	----------	TP40	TP42	TP61	TP72	DUP A
Composite Reference	----------	-	-	-	-	-
Depth		0.00-0.10	0.00-0.10	0.00-0.10	0.00-0.10	-
Date Sampled		29/06/2017	29/06/2017	29/06/2017	29/06/2017	29/06/2017
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	07/07/2017	07/07/2017	07/07/2017	07/07/2017	07/07/2017
Date analysed	-	07/07/2017	07/07/2017	07/07/2017	07/07/2017	07/07/2017
HCB	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
alpha-BHC	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
gamma-BHC	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
beta-BHC	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Heptachlor	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
delta-BHC	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Aldrin	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Heptachlor Epoxide	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
gamma-Chlordane	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
alpha-chlordane	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Endosulfan I	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
pp-DDE	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Dieldrin	mg/kg	0.2	<0.1	<0.1	<0.1	<0.1
Endrin	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
pp-DDD	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Endosulfan II	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
pp-DDT	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Endrin Aldehyde	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Endosulfan Sulphate	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Methoxychlor	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Total +ve DDT+DDD+DDE	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Surrogate TCMX	%	86	87	87	89	88

PCBs in Soil						
Our Reference:	UNITS	170689-1	170689-2	170689-3	170689-4	170689-5
Your Reference	---------- -	C1	C2	C3	C4	C5
Composite Reference	----------	12 + 13 + 14	15 + 16 + 17	18 + 19 + 20	21 + 22 + 23	24 + 25 + 26
Depth		-	-	-	-	-
Date Sampled		29/06/2017	29/06/2017	29/06/2017	29/06/2017	29/06/2017
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	07/07/2017	07/07/2017	07/07/2017	07/07/2017	07/07/2017
Date analysed	-	07/07/2017	07/07/2017	07/07/2017	07/07/2017	07/07/2017
Aroclor 1016	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Aroclor 1221	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Aroclor 1232	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Aroclor 1242	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Aroclor 1248	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Aroclor 1254	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Aroclor 1260	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Total +ve PCBs (1016-1260)	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Surrogate TCLMX	%	87	89	87	89	86

PCBs in Soil						
Our Reference:	UNITS	170689-6	170689-7	170689-8	170689-9	170689-10
Your Reference	---------- -	C6	C7	C8	C9	C10
Composite Reference	----------	27 + 28 + 29	30 + 31 + 32	33 + 34 + 35	36 + 37 + 38	39 + 40 + 41
Depth		-	-	-	-	-
Date Sampled		29/06/2017	29/06/2017	29/06/2017	29/06/2017	29/06/2017
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	07/07/2017	07/07/2017	07/07/2017	07/07/2017	07/07/2017
Date analysed	-	07/07/2017	07/07/2017	07/07/2017	07/07/2017	07/07/2017
Aroclor 1016	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Aroclor 1221	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Aroclor 1232	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Aroclor 1242	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Aroclor 1248	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Aroclor 1254	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Aroclor 1260	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Total +ve PCBs (1016-1260)	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Surrogate TCLMX	%	87	87	86	86	86

PCBs in Soil						
Our Reference:	UNITS	170689-11	170689-45	170689-46	170689-47	170689-49
Your Reference	---------- -	C11	TP28	TP30	TP35	TP39
Composite Reference	----------	42 + 43 + 44	-	-	-	-
Depth		-	0.00-0.10	0.00-0.10	0.00-0.10	0.00-0.10
Date Sampled		29/06/2017	29/06/2017	29/06/2017	29/06/2017	29/06/2017
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	07/07/2017	07/07/2017	07/07/2017	07/07/2017	07/07/2017
Date analysed	-	07/07/2017	07/07/2017	07/07/2017	07/07/2017	07/07/2017
Aroclor 1016	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Aroclor 1221	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Aroclor 1232	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Aroclor 1242	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Aroclor 1248	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Aroclor 1254	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Aroclor 1260	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Total +ve PCBs (1016-1260)	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Surrogate TCLMX	%	86	85	90	86	86

PCBs in Soil						
Our Reference:	UNITS	170689-51	170689-53	170689-54	170689-56	170689-57
Your Reference	---------- -	TP40	TP42	TP61	TP72	DUP A
Composite Reference	----------	-	-	-	-	-
Depth		0.00-0.10	0.00-0.10	0.00-0.10	0.00-0.10	-
Date Sampled		29/06/2017	29/06/2017	29/06/2017	29/06/2017	29/06/2017
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	07/07/2017	07/07/2017	07/07/2017	07/07/2017	07/07/2017
Date analysed	-	07/07/2017	07/07/2017	07/07/2017	07/07/2017	07/07/2017
Aroclor 1016	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Aroclor 1221	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Aroclor 1232	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Aroclor 1242	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Aroclor 1248	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Aroclor 1254	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Aroclor 1260	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Total +ve PCBs (1016-1260)	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Surrogate TCLMX	%	86	87	87	89	88

Acid Extractable metals in soil						
Our Reference:	UNITS	170689-1	170689-2	170689-3	170689-4	170689-5
Your Reference	---------- -	C1	C2	C3	C4	C5
Composite Reference	----------	12 + 13 + 14	15 + 16 + 17	18 + 19 + 20	21 + 22 + 23	24 + 25 + 26
Depth		-	-	-	-	-
Date Sampled		29/06/2017	29/06/2017	29/06/2017	29/06/2017	29/06/2017
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	07/07/2017	07/07/2017	07/07/2017	07/07/2017	07/07/2017
Date analysed	-	07/07/2017	07/07/2017	07/07/2017	07/07/2017	07/07/2017
Arsenic	mg/kg	7	6	6	5	5
Cadmium	mg/kg	<0.4	<0.4	<0.4	<0.4	<0.4
Chromium	mg/kg	19	16	14	14	12
Copper	mg/kg	24	25	22	23	19
Lead	mg/kg	28	27	24	25	23
Mercury	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Nickel	mg/kg	15	15	11	12	8
Zinc	mg/kg	44	46	56	39	36

Acid Extractable metals in soil						
Our Reference:	UNITS	170689-6	170689-7	170689-8	170689-9	170689-10
Your Reference	---------- -	C6	C7	C8	C9	C10
Composite Reference	----------	27 + 28 + 29	30 + 31 + 32	33 + 34 + 35	36 + 37 + 38	39 + 40 + 41
Depth		-	-	-	-	-
Date Sampled		29/06/2017	29/06/2017	29/06/2017	29/06/2017	29/06/2017
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	07/07/2017	07/07/2017	07/07/2017	07/07/2017	07/07/2017
Date analysed	-	07/07/2017	07/07/2017	07/07/2017	07/07/2017	07/07/2017
Arsenic	mg/kg	6	4	8	8	7
Cadmium	mg/kg	<0.4	<0.4	<0.4	<0.4	<0.4
Chromium	mg/kg	21	10	15	18	17
Copper	mg/kg	22	15	32	25	33
Lead	mg/kg	23	16	28	24	24
Mercury	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Nickel	mg/kg	12	7	9	10	11
Zinc	mg/kg	41	32	79	43	110

Acid Extractable metals in soil						
Our Reference:	UNITS	170689-11	170689-45	170689-46	170689-47	170689-49
Your Reference	---------- -	C11	TP28	TP30	TP35	TP39
Composite Reference	----------	42 + 43 + 44	-	-	-	-
Depth		-	0.00-0.10	0.00-0.10	0.00-0.10	0.00-0.10
Date Sampled		29/06/2017	29/06/2017	29/06/2017	29/06/2017	29/06/2017
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	07/07/2017	07/07/2017	07/07/2017	07/07/2017	07/07/2017
Date analysed	-	07/07/2017	07/07/2017	07/07/2017	07/07/2017	07/07/2017
Arsenic	mg/kg	6	5	7	6	7
Cadmium	mg/kg	<0.4	<0.4	<0.4	<0.4	<0.4
Chromium	mg/kg	15	13	15	14	13
Copper	mg/kg	21	19	31	22	24
Lead	mg/kg	23	21	39	22	19
Mercury	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Nickel	mg/kg	11	10	14	11	9
Zinc	mg/kg	57	23	47	40	76

Acid Extractable metals in soil						
Our Reference:	UNITS	170689-51	170689-53	170689-54	170689-56	170689-57
Your Reference	---------- -	TP40	TP42	TP61	TP72	DUP A
Composite Reference	----------	-	-	-	-	-
Depth		0.00-0.10	0.00-0.10	0.00-0.10	0.00-0.10	-
Date Sampled		29/06/2017	29/06/2017	29/06/2017	29/06/2017	29/06/2017
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	07/07/2017	07/07/2017	07/07/2017	07/07/2017	07/07/2017
Date analysed	-	07/07/2017	07/07/2017	07/07/2017	07/07/2017	07/07/2017
Arsenic	mg/kg	6	7	<4	6	6
Cadmium	mg/kg	<0.4	<0.4	<0.4	<0.4	<0.4
Chromium	mg/kg	15	23	8	19	14
Copper	mg/kg	31	24	26	23	29
Lead	mg/kg	86	30	18	23	32
Mercury	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Nickel	mg/kg	10	14	16	13	15
Zinc	mg/kg	57	65	90	36	40

Acid Extractable metals in soil		
Our Reference:	UNITS	170689-93
Your Reference	----------	TP61 - [TRIPLICATE]
	-	
Composite Reference	----------	-
Depth		0.00-0.10
Date Sampled		29/06/2017
Type of sample		Soil
Date prepared	-	07/07/2017
Date analysed	-	07/07/2017
Arsenic	mg/kg	8
Cadmium	mg/kg	<0.4
Chromium	mg/kg	16
Copper	mg/kg	37
Lead	mg/kg	24
Mercury	mg/kg	<0.1
Nickel	mg/kg	14
Zinc	mg/kg	470

Moisture						
Our Reference:	UNITS	170689-1	170689-2	170689-3	170689-4	170689-5
Your Reference	---------- -	C1	C2	C3	C4	C5
Composite Reference	----------	12 + 13 + 14	15 + 16 + 17	18 + 19 + 20	21 + 22 + 23	24 + 25 + 26
Depth		-	-	-	-	-
Date Sampled		29/06/2017	29/06/2017	29/06/2017	29/06/2017	29/06/2017
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	07/07/2017	07/07/2017	07/07/2017	07/07/2017	07/07/2017
Date analysed	-	10/07/2017	10/07/2017	10/07/2017	10/07/2017	10/07/2017
Moisture	%	21	23	20	25	14

Moisture						
Our Reference:	UNITS	170689-6	170689-7	170689-8	170689-9	170689-10
Your Reference	---------- -	C6	C7	C8	C9	C10
Composite Reference	----------	27 + 28 + 29	30 + 31 + 32	33 + 34 + 35	36 + 37 + 38	39 + 40 + 41
Depth		-	-	-	-	-
Date Sampled		29/06/2017	29/06/2017	29/06/2017	29/06/2017	29/06/2017
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	07/07/2017	07/07/2017	07/07/2017	07/07/2017	07/07/2017
Date analysed	-	10/07/2017	10/07/2017	10/07/2017	10/07/2017	10/07/2017
Moisture	%	18	14	18	19	17

Moisture						
Our Reference:	UNITS	170689-11	170689-45	170689-46	170689-47	170689-49
Your Reference	---------- -	C11	TP28	TP30	TP35	TP39
Composite Reference	----------	42 + 43 + 44	-	-	-	-
Depth		-	0.00-0.10	0.00-0.10	0.00-0.10	0.00-0.10
Date Sampled		29/06/2017	29/06/2017	29/06/2017	29/06/2017	29/06/2017
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	07/07/2017	07/07/2017	07/07/2017	07/07/2017	07/07/2017
Date analysed	-	10/07/2017	10/07/2017	10/07/2017	10/07/2017	10/07/2017
Moisture	%	17	18	23	17	18

Moisture						
Our Reference:	UNITS	170689-51	170689-53	170689-54	170689-56	170689-57
Your Reference	---------- -	TP40	TP42	TP61	TP72	DUP A
Composite Reference	----------	-	-	-	-	-
Depth		0.00-0.10	0.00-0.10	0.00-0.10	0.00-0.10	-
Date Sampled		29/06/2017	29/06/2017	29/06/2017	29/06/2017	29/06/2017
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	07/07/2017	07/07/2017	07/07/2017	07/07/2017	07/07/2017
Date analysed	-	10/07/2017	10/07/2017	10/07/2017	10/07/2017	10/07/2017
Moisture	%	16	21	19	17	23

Asbestos ID - soils						
Our Reference:	UNITS	170689-45	170689-46	170689-47	170689-49	170689-51
Your Reference	---------- -	TP28	TP30	TP35	TP39	TP40
Composite Reference	----------	-	-	-	-	-
Depth		0.00-0.10	0.00-0.10	0.00-0.10	0.00-0.10	0.00-0.10
Date Sampled		29/06/2017	29/06/2017	29/06/2017	29/06/2017	29/06/2017
Type of sample		Soil	Soil	Soil	Soil	Soil
Date analysed	-	11/07/2017	11/07/2017	11/07/2017	11/07/2017	11/07/2017
Sample mass tested	g	Approx. 30g	Approx. 10g	Approx. 25g	Approx. 35g	Approx. 25g
Sample Description	-	Brown coarse-grained soil & rocks	Brown coarse-grained soil & rocks	Brown coarse-grained soil & rocks	Brown coarse-grained soil & rocks	Brown coarse-grained soil & rocks
Asbestos ID in soil	-	No asbestos detected at reporting limit of 0.1g/kg Organic fibres detected	No asbestos detected at reporting limit of 0.1g/kg Organic fibres detected	No asbestos detected at reporting limit of 0.1g/kg Organic fibres detected	No asbestos detected at reporting limit of 0.1g/kg Organic fibres detected	No asbestos detected at reporting limit of 0.1g/kg Organic fibres detected
Trace Analysis	-	No asbestos detected	No asbestos detected	No asbestos detected	No asbestos detected	No asbestos detected

Asbestos ID - soils				
Our Reference:	UNITS	170689-53	170689-54	170689-56
Your Reference	---------- -	TP42	TP61	TP72
Composite Reference	----------	-	-	-
Depth		0.00-0.10	0.00-0.10	0.00-0.10
Date Sampled		29/06/2017	29/06/2017	29/06/2017
Type of sample		Soil	Soil	Soil
Date analysed	-	11/07/2017	11/07/2017	11/07/2017
Sample mass tested	g	Approx. 35g	Approx. 25g	Approx. 30g
Sample Description	-	Brown coarse-grained soil & rocks	Brown coarse-grained soil & rocks	Brown coarse-grained soil & rocks
Asbestos ID in soil	-	No asbestos detected at reporting limit of 0.1g/kg Organic fibres detected	No asbestos detected at reporting limit of 0.1g/kg Organic fibres detected	No asbestos detected at reporting limit of 0.1g/kg Organic fibres detected
Trace Analysis	-	No asbestos detected	No asbestos detected	No asbestos detected

Asbestos ID - materials					
Our Reference:	UNITS	170689-48	170689-50	170689-52	170689-55
Your Reference	---------- -	TP35	TP39	TP40	TP61
Composite Reference	----------	-	-	-	-
Depth		-	-	-	-
Date Sampled		29/06/2017	29/06/2017	29/06/2017	29/06/2017
Type of sample		Material	Material	Material	Material
Date analysed	-	10/07/2017	10/07/2017	10/07/2017	10/07/2017
Mass / Dimension of Sample	-	26x25x5mm	45x35x5mm	70x65x5mm	80.16g
Sample Description	-	Grey fibre cement material	Beige fibre cement material	Beige fibre cement material	A)Beige B)Grey fibre cement material
Asbestos ID in materials	-	No asbestos detected Organic fibres detected	No asbestos detected Organic fibres detected	No asbestos detected Organic fibres detected	A)No asbestos detected Organic fibres detected B)Chrysotile asbestos detected

Misc Inorg - Soil						
Our Reference:	UNITS	170689-1	170689-3	170689-5	170689-7	170689-9
Your Reference	---------- -	C1	C3	C5	C7	C9
Composite Reference	----------	12 + 13 + 14	18 + 19 + 20	24 + 25 + 26	30 + 31 + 32	36 + 37 + 38
Depth		-	-	-	-	-
Date Sampled		29/06/2017	29/06/2017	29/06/2017	29/06/2017	29/06/2017
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	07/07/2017	07/07/2017	07/07/2017	07/07/2017	07/07/2017
Date analysed	-	07/07/2017	07/07/2017	07/07/2017	07/07/2017	07/07/2017
pH 1:5 soil:water	pH Units	6.5	6.7	7.2	7.0	6.6

Misc Inorg - Soil						
Our Reference:	UNITS	170689-11	170689-14	170689-37	170689-39	170689-46
Your Reference	---------- -	C11	TP3	TP59	TP63	TP30
Composite Reference	----------	42 + 43 + 44	-	-	-	-
Depth		-	0.0-0.1	0.0-0.1	0.0-0.1	0.00-0.10
Date Sampled		29/06/2017	29/06/2017	29/06/2017	29/06/2017	29/06/2017
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	07/07/2017	07/07/2017	07/07/2017	07/07/2017	07/07/2017
Date analysed	-	07/07/2017	07/07/2017	07/07/2017	07/07/2017	07/07/2017
pH 1:5 soil:water	pH Units	7.8	6.6	5.5	6.5	6.4
Electrical Conductivity 1:5 soil:water	µS/cm	[NA]	36	91	84	30

Misc Inorg - Soil						
Our Reference:	UNITS	170689-47	170689-53	170689-58	170689-59	170689-60
Your Reference	---------- -	TP35	TP42	TP3	TP3	TP15
Composite Reference	----------	-	-	-	-	-
Depth		0.00-0.10	0.00-0.10	0.50-0.60	1.10-1.20	0.00-0.10
Date Sampled		29/06/2017	29/06/2017	29/06/2017	29/06/2017	29/06/2017
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	07/07/2017	07/07/2017	07/07/2017	07/07/2017	07/07/2017
Date analysed	-	07/07/2017	07/07/2017	07/07/2017	07/07/2017	07/07/2017
pH 1:5 soil:water	pH Units	7.7	7.4	7.6	6.2	6.3
Electrical Conductivity 1:5 soil:water	µS/cm	62	84	36	81	46
Chloride, Cl 1:5 soil:water	mg/kg	[NA]	[NA]	<10	27	[NA]
Sulphate, SO4 1:5 soil:water	mg/kg	[NA]	[NA]	20	73	[NA]
Resistivity in soil*	ohm m	[NA]	[NA]	280	[NA]	[NA]

Misc Inorg - Soil						
Our Reference:	UNITS	170689-61	170689-62	170689-63	170689-64	170689-65
Your Reference	---------- -	TP15	TP15	TP18	TP18	TP18
Composite Reference	----------	-	-	-	-	-
Depth		0.40-0.50	1.20-1.30	0.00-0.10	0.40-0.50	1.50-1.60
Date Sampled		29/06/2017	29/06/2017	29/06/2017	29/06/2017	29/06/2017
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	07/07/2017	07/07/2017	07/07/2017	07/07/2017	07/07/2017
Date analysed	-	07/07/2017	07/07/2017	07/07/2017	07/07/2017	07/07/2017
pH 1:5 soil:water	pH Units	8.2	5.1	6.5	6.3	5.7
Electrical Conductivity 1:5 soil:water	µS/cm	50	190	22	33	87
Chloride, Cl 1:5 soil:water	mg/kg	<10	180	[NA]	10	65
Sulphate, SO4 1:5 soil:water	mg/kg	<10	45	[NA]	24	10
Resistivity in soil*	ohm m	[NA]	54	[NA]	300	[NA]

Misc Inorg - Soil						
Our Reference:	UNITS	170689-66	170689-67	170689-68	170689-69	170689-70
Your Reference	---------- -	TP24	TP24	TP24	TP30	TP30
Composite Reference	----------	-	-	-	-	-
Depth		0.00-0.10	0.40-0.50	1.10-1.20	0.40-0.50	1.40-1.50
Date Sampled		29/06/2017	29/06/2017	29/06/2017	29/06/2017	29/06/2017
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	07/07/2017	07/07/2017	07/07/2017	07/07/2017	07/07/2017
Date analysed	-	07/07/2017	07/07/2017	07/07/2017	07/07/2017	07/07/2017
pH 1:5 soil:water	pH Units	6.6	5.7	5.3	6.2	5.9
Electrical Conductivity 1:5 soil:water	µS/cm	28	55	170	24	83
Chloride, Cl 1:5 soil:water	mg/kg	[NA]	10	160	<10	64
Sulphate, SO4 1:5 soil:water	mg/kg	[NA]	60	20	10	24
Resistivity in soil*	ohm m	[NA]	[NA]	59	420	[NA]

Misc Inorg - Soil						
Our Reference:	UNITS	170689-71	170689-72	170689-73	170689-74	170689-75
Your Reference	---------- -	TP35	TP35	TP38	TP38	TP38
Composite Reference	----------	-	-	-	-	-
Depth		0.70-0.80	1.70-1.80	0.00-0.10	0.40-0.60	1.40-1.60
Date Sampled		29/06/2017	29/06/2017	29/06/2017	29/06/2017	29/06/2017
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	07/07/2017	07/07/2017	07/07/2017	07/07/2017	07/07/2017
Date analysed	-	07/07/2017	07/07/2017	07/07/2017	07/07/2017	07/07/2017
pH 1:5 soil:water	pH Units	5.3	5.8	6.1	6.9	5.2
Electrical Conductivity 1:5 soil:water	µS/cm	170	89	30	91	380
Chloride, Cl 1:5 soil:water	mg/kg	<10	45	[NA]	35	480
Sulphate, SO4 1:5 soil:water	mg/kg	290	52	[NA]	56	59
Resistivity in soil*	ohm m	[NA]	110	[NA]	110	[NA]

Misc Inorg - Soil						
Our Reference:	UNITS	170689-76	170689-77	170689-78	170689-79	170689-80
Your Reference	---------- -	TP42	TP42	TP46	TP46	TP46
Composite Reference	----------	-	-	-	-	-
Depth		0.40-0.50	1.20-1.30	0.00-0.10	0.60-0.80	1.60-1.70
Date Sampled		29/06/2017	29/06/2017	29/06/2017	29/06/2017	29/06/2017
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	07/07/2017	07/07/2017	07/07/2017	07/07/2017	07/07/2017
Date analysed	-	07/07/2017	07/07/2017	07/07/2017	07/07/2017	07/07/2017
pH 1:5 soil:water	pH Units	5.6	5.4	5.8	5.6	5.0
Electrical Conductivity 1:5 soil:water	µS/cm	200	190	50	85	370
Chloride, Cl 1:5 soil:water	mg/kg	69	190	[NA]	46	380
Sulphate, SO4 1:5 soil:water	mg/kg	220	49	[NA]	68	88
Resistivity in soil*	ohm m	[NA]	51	[NA]	[NA]	27

Misc Inorg - Soil						
Our Reference:	UNITS	170689-81	170689-82	170689-83	170689-84	170689-85
Your Reference	---------- -	TP51	TP51	TP51	TP59	TP59
Composite Reference	----------	-	-	-	-	-
Depth		0.00-0.10	0.50-0.60	1.30-1.40	0.50-0.60	1.50-1.60
Date Sampled		29/06/2017	29/06/2017	29/06/2017	29/06/2017	29/06/2017
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	07/07/2017	07/07/2017	07/07/2017	07/07/2017	07/07/2017
Date analysed	-	07/07/2017	07/07/2017	07/07/2017	07/07/2017	07/07/2017
pH 1:5 soil:water	pH Units	6.8	8.5	8.3	8.3	8.3
Electrical Conductivity 1:5 soil:water	µS/cm	40	500	1,100	1,200	1,000
Chloride, Cl 1:5 soil:water	mg/kg	[NA]	<10	27	25	140
Sulphate, SO4 1:5 soil:water	mg/kg	[NA]	240	67	190	31
Resistivity in soil*	ohm m	[NA]	20	[NA]	[NA]	9.7

Misc Inorg - Soil						
Our Reference:	UNITS	170689-86	170689-87	170689-88	170689-89	170689-90
Your Reference	---------- -	TP63	TP67	TP67	TP67	TP72
Composite Reference	----------	-	-	-	-	-
Depth		0.50-0.60	0.00-0.10	0.70-0.80	1.70-1.80	0.00-0.10
Date Sampled		29/06/2017	29/06/2017	29/06/2017	29/06/2017	29/06/2017
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	07/07/2017	07/07/2017	07/07/2017	07/07/2017	07/07/2017
Date analysed	-	07/07/2017	07/07/2017	07/07/2017	07/07/2017	07/07/2017
pH 1:5 soil:water	pH Units	5.4	5.7	5.4	6.3	6.6
Electrical Conductivity 1:5 soil:water	µS/cm	140	92	190	130	28
Chloride, Cl 1:5 soil:water	mg/kg	110	[NA]	50	130	[NA]
Sulphate, SO4 1:5 soil:water	mg/kg	47	[NA]	150	37	[NA]
Resistivity in soil*	ohm m	71	[NA]	53	[NA]	[NA]

Misc Inorg - Soil			
Our Reference:	UNITS	170689-91	170689-92
Your Reference	---------- -	TP72	TP72
Composite Reference	----------	-	-
Depth		0.50-0.60	1.50-1.60
Date Sampled		29/06/2017	29/06/2017
Type of sample		Soil	Soil
Date prepared	-	07/07/2017	07/07/2017
Date analysed	-	07/07/2017	07/07/2017
pH 1:5 soil:water	pH Units	5.1	5.0
Electrical Conductivity 1:5 soil:water	µS/cm	220	430
Chloride, Cl 1:5 soil:water	mg/kg	110	370
Sulphate, SO4 1:5 soil:water	mg/kg	210	170
Resistivity in soil*	ohm m	[NA]	23

ESP/CEC						
Our Reference:	UNITS	170689-1	170689-3	170689-5	170689-7	170689-9
Your Reference	---------- -	C1	C3	C5	C7	C9
Composite Reference	----------	12 + 13 + 14	18 + 19 + 20	24 + 25 + 26	30 + 31 + 32	36 + 37 + 38
Depth		-	-	-	-	-
Date Sampled		29/06/2017	29/06/2017	29/06/2017	29/06/2017	29/06/2017
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	07/07/2017	07/07/2017	07/07/2017	07/07/2017	07/07/2017
Date analysed	-	07/07/2017	07/07/2017	07/07/2017	07/07/2017	07/07/2017
Exchangeable Ca	meq/100g	5.8	7.1	10	7.0	7.7
Exchangeable K	meq/100g	1.2	0.5	0.6	0.5	0.5
Exchangeable Mg	meq/100g	4.1	3.2	1.7	1.6	2.5
Exchangeable Na	meq/100g	<0.1	0.11	<0.1	<0.1	<0.1
Cation Exchange Capacity	meq/100g	11	11	12	9.1	11

ESP/CEC						
Our Reference:	UNITS	170689-11	170689-58	170689-68	170689-77	170689-88
Your Reference	---------- -	C11	TP3	TP24	TP42	TP67
Composite Reference	----------	42 + 43 + 44	-	-	-	-
Depth		-	0.50-0.60	1.10-1.20	1.20-1.30	0.70-0.80
Date Sampled		29/06/2017	29/06/2017	29/06/2017	29/06/2017	29/06/2017
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	07/07/2017	07/07/2017	07/07/2017	07/07/2017	07/07/2017
Date analysed	-	07/07/2017	07/07/2017	07/07/2017	07/07/2017	07/07/2017
Exchangeable Ca	meq/100g	13	5.4	0.1	0.6	2.4
Exchangeable K	meq/100g	0.6	0.2	0.2	0.1	0.1
Exchangeable Mg	meq/100g	2.8	4.2	3.4	4.8	6.4
Exchangeable Na	meq/100g	<0.1	0.43	1.8	2.6	0.60
Cation Exchange Capacity	meq/100g	16	10	5.5	8.1	9.6
ESP	%	[NA]	4	34	32	6

Method ID	Methodology Summary
Org-016	Soil samples are extracted with methanol and spiked into water prior to analysing by purge and trap GC-MS. Water samples are analysed directly by purge and trap GC-MS. F1 = (C6-C10)-BTEX as per NEPM B1 Guideline on Investigation Levels for Soil and Groundwater.
Org-016	Soil samples are extracted with methanol and spiked into water prior to analysing by purge and trap GC-MS. Water samples are analysed directly by purge and trap GC-MS. F1 = (C6-C10)-BTEX as per NEPM B1 Guideline on Investigation Levels for Soil and Groundwater. Note, the Total +ve Xylene PQL is reflective of the lowest individual PQL and is therefore "Total +ve Xylenes" is simply a sum of the positive individual Xylenes.
Org-014	Soil samples are extracted with methanol and spiked into water prior to analysing by purge and trap GC-MS.
Org-003	Soil samples are extracted with Dichloromethane/Acetone and waters with Dichloromethane and analysed by GC-FID. F2 = (>C10-C16)-Naphthalene as per NEPM B1 Guideline on Investigation Levels for Soil and Groundwater (HSLs Tables 1A (3, 4)). Note Naphthalene is determined from the VOC analysis.
Org-003	Soil samples are extracted with Dichloromethane/Acetone and waters with Dichloromethane and analysed by GC-FID. F2 = (>C10-C16)-Naphthalene as per NEPM B1 Guideline on Investigation Levels for Soil and Groundwater (HSLs Tables 1A (3, 4)). Note Naphthalene is determined from the VOC analysis. Note, the Total +ve TRH PQL is reflective of the lowest individual PQL and is therefore "Total +ve TRH" is simply a sum of the positive individual TRH fractions (>C10-C40).
Org-012	Soil samples are extracted with Dichloromethane/Acetone and waters with Dichloromethane and analysed by GC-MS. Benzo(a)pyrene TEQ as per NEPM B1 Guideline on Investigation Levels for Soil and Groundwater - 2013. For soil results:- 1. 'TEQ PQL' values are assuming all contributing PAHs reported as <PQL are actually at the PQL. This is the most conservative approach and can give false positive TEQs given that PAHs that contribute to the TEQ calculation may not be present. 2. 'TEQ zero' values are assuming all contributing PAHs reported as <PQL are zero. This is the least conservative approach and is more susceptible to false negative TEQs when PAHs that contribute to the TEQ calculation are present but below PQL. 3. 'TEQ half PQL' values are assuming all contributing PAHs reported as <PQL are half the stipulated PQL. Hence a mid-point between the most and least conservative approaches above. Note, the Total +ve PAHs PQL is reflective of the lowest individual PQL and is therefore "Total +ve PAHs" is simply a sum of the positive individual PAHs.
Org-005	Soil samples are extracted with dichloromethane/acetone and waters with dichloromethane and analysed by GC with dual ECD's.
Org-005	Soil samples are extracted with dichloromethane/acetone and waters with dichloromethane and analysed by GC with dual ECD's. Note, the Total +ve reported DDD+DDE+DDT PQL is reflective of the lowest individual PQL and is therefore simply a sum of the positive individually report DDD+DDE+DDT.
Org-006	Soil samples are extracted with dichloromethane/acetone and waters with dichloromethane and analysed by GC-ECD.
Org-006	Soil samples are extracted with dichloromethane/acetone and waters with dichloromethane and analysed by GC-ECD. Note, the Total +ve PCBs PQL is reflective of the lowest individual PQL and is therefore" Total +ve PCBs" is simply a sum of the positive individual PCBs.
Metals-020	Determination of various metals by ICP-AES.

Method ID	Methodology Summary
Metals-021	Determination of Mercury by Cold Vapour AAS.
Inorg-008	Moisture content determined by heating at 105+/-5 °C for a minimum of 12 hours.
ASB-001	Asbestos ID - Qualitative identification of asbestos in bulk samples using Polarised Light Microscopy and Dispersion Staining Techniques including Synthetic Mineral Fibre and Organic Fibre as per Australian Standard 4964-2004.
Inorg-001	pH - Measured using pH meter and electrode in accordance with APHA latest edition, 4500-H+. Please note that the results for water analyses are indicative only, as analysis outside of the APHA storage times.
Inorg-002	Conductivity and Salinity - measured using a conductivity cell at 25°C in accordance with APHA latest edition 2510 and Rayment & Lyons.
Inorg-081	Anions - a range of Anions are determined by Ion Chromatography, in accordance with APHA latest edition, 4110-B. Alternatively determined by colourimetry/turbidity using Discrete Analyer.
Inorg-002	Conductivity and Salinity - measured using a conductivity cell at 25oC in accordance with APHA 22nd ED 2510 and Rayment & Lyons. Resistivity is calculated from Conductivity.
Metals-009	Determination of exchangeable cations and cation exchange capacity in soils using 1M Ammonium Chloride exchange and ICP-AES analytical finish.

QUALITY CONTROL vTRH(C6-C10)/BTEXN in Soil	UNITS	PQL	METHOD	Blank	Duplicate Sm#	Duplicate results Base || Duplicate || %RPD	Spike Sm#	Spike % Recovery
Date extracted	-			07/07/2017	170689-45	07/07/2017 || 07/07/2017	LCS-1	07/07/2017
Date analysed	-			07/07/2017	170689-45	07/07/2017 || 07/07/2017	LCS-1	07/07/2017
TRHC$_6$ - C$_9$	mg/kg	25	Org-016	<25	170689-45	<25 || <25	LCS-1	88%
TRHC$_6$ - C$_{10}$	mg/kg	25	Org-016	<25	170689-45	<25 || <25	LCS-1	88%
Benzene	mg/kg	0.2	Org-016	<0.2	170689-45	<0.2 || <0.2	LCS-1	103%
Toluene	mg/kg	0.5	Org-016	<0.5	170689-45	<0.5 || <0.5	LCS-1	96%
Ethylbenzene	mg/kg	1	Org-016	<1	170689-45	<1 || <1	LCS-1	79%
m+p-xylene	mg/kg	2	Org-016	<2	170689-45	<2 || <2	LCS-1	81%
o-Xylene	mg/kg	1	Org-016	<1	170689-45	<1 || <1	LCS-1	77%
naphthalene	mg/kg	1	Org-014	<1	170689-45	<1 || <1	[NR]	[NR]
Surrogate aaa-Trifluorotoluene	%		Org-016	106	170689-45	96 || 100 || RPD: 4	LCS-1	98%

QUALITY CONTROL svTRH (C10-C40) in Soil	UNITS	PQL	METHOD	Blank	Duplicate Sm#	Duplicate results Base || Duplicate || %RPD	Spike Sm#	Spike % Recovery
Date extracted	-			07/07/2017	170689-45	07/07/2017 || 07/07/2017	LCS-1	07/07/2017
Date analysed	-			07/07/2017	170689-45	07/07/2017 || 07/07/2017	LCS-1	07/07/2017
TRHC$_{10}$ - C$_{14}$	mg/kg	50	Org-003	<50	170689-45	<50 || <50	LCS-1	81%
TRHC$_{15}$ - C$_{28}$	mg/kg	100	Org-003	<100	170689-45	<100 || <100	LCS-1	78%
TRHC$_{29}$ - C$_{36}$	mg/kg	100	Org-003	<100	170689-45	<100 || <100	LCS-1	91%
TRH>C$_{10}$-C$_{16}$	mg/kg	50	Org-003	<50	170689-45	<50 || <50	LCS-1	81%
TRH>C$_{16}$-C$_{34}$	mg/kg	100	Org-003	<100	170689-45	<100 || <100	LCS-1	78%
TRH>C$_{34}$-C$_{40}$	mg/kg	100	Org-003	<100	170689-45	<100 || <100	LCS-1	91%
Surrogate o-Terphenyl	%		Org-003	109	170689-45	91 || 92 || RPD: 1	LCS-1	123%

QUALITY CONTROL PAHs in Soil	UNITS	PQL	METHOD	Blank	Duplicate Sm#	Duplicate results Base || Duplicate || %RPD	Spike Sm#	Spike % Recovery
Date extracted	-			07/07/2017	170689-45	07/07/2017 || 07/07/2017	LCS-1	07/07/2017
Date analysed	-			10/07/2017	170689-45	10/07/2017 || 10/07/2017	LCS-1	10/07/2017
Naphthalene	mg/kg	0.1	Org-012	<0.1	170689-45	<0.1 || <0.1	LCS-1	105%
Acenaphthylene	mg/kg	0.1	Org-012	<0.1	170689-45	<0.1 || <0.1	[NR]	[NR]
Acenaphthene	mg/kg	0.1	Org-012	<0.1	170689-45	<0.1 || <0.1	[NR]	[NR]
Fluorene	mg/kg	0.1	Org-012	<0.1	170689-45	<0.1 || <0.1	LCS-1	102%
Phenanthrene	mg/kg	0.1	Org-012	<0.1	170689-45	<0.1 || <0.1	LCS-1	106%
Anthracene	mg/kg	0.1	Org-012	<0.1	170689-45	<0.1 || <0.1	[NR]	[NR]
Fluoranthene	mg/kg	0.1	Org-012	<0.1	170689-45	<0.1 || <0.1	LCS-1	109%
Pyrene	mg/kg	0.1	Org-012	<0.1	170689-45	<0.1 || <0.1	LCS-1	109%
Benzo(a)anthracene	mg/kg	0.1	Org-012	<0.1	170689-45	<0.1 || <0.1	[NR]	[NR]
Chrysene	mg/kg	0.1	Org-012	<0.1	170689-45	<0.1 || <0.1	LCS-1	123%
Benzo(b,j+k) fluoranthene	mg/kg	0.2	Org-012	<0.2	170689-45	<0.2 || <0.2	[NR]	[NR]

QUALITY CONTROL PAHs in Soil	UNITS	PQL	METHOD	Blank	Duplicate Sm#	Duplicate results Base ll Duplicate ll %RPD	Spike Sm#	Spike % Recovery
Benzo(a)pyrene	mg/kg	0.05	Org-012	<0.05	170689-45	<0.05 || <0.05	LCS-1	111%
Indeno(1,2,3-c,d)pyrene	mg/kg	0.1	Org-012	<0.1	170689-45	<0.1 || <0.1	[NR]	[NR]
Dibenzo(a,h)anthracene	mg/kg	0.1	Org-012	<0.1	170689-45	<0.1 || <0.1	[NR]	[NR]
Benzo(g,h,i)perylene	mg/kg	0.1	Org-012	<0.1	170689-45	<0.1 || <0.1	[NR]	[NR]
Surrogate p-Terphenyl-d14	%		Org-012	106	170689-45	100 || 103 || RPD: 3	LCS-1	122%
QUALITY CONTROL Organochlorine Pesticides in soil	UNITS	PQL	METHOD	Blank	Duplicate Sm#	Duplicate results Base ll Duplicate ll %RPD	Spike Sm#	Spike % Recovery
Date extracted	-			07/07/2017	170689-45	07/07/2017 || 07/07/2017	LCS-1	07/07/2017
Date analysed	-			07/07/2017	170689-45	07/07/2017 || 07/07/2017	LCS-1	07/07/2017
HCB	mg/kg	0.1	Org-005	<0.1	170689-45	<0.1 || <0.1	[NR]	[NR]
alpha-BHC	mg/kg	0.1	Org-005	<0.1	170689-45	<0.1 || <0.1	LCS-1	80%
gamma-BHC	mg/kg	0.1	Org-005	<0.1	170689-45	<0.1 || <0.1	[NR]	[NR]
beta-BHC	mg/kg	0.1	Org-005	<0.1	170689-45	<0.1 || <0.1	LCS-1	97%
Heptachlor	mg/kg	0.1	Org-005	<0.1	170689-45	<0.1 || <0.1	LCS-1	99%
delta-BHC	mg/kg	0.1	Org-005	<0.1	170689-45	<0.1 || <0.1	[NR]	[NR]
Aldrin	mg/kg	0.1	Org-005	<0.1	170689-45	<0.1 || <0.1	LCS-1	94%
Heptachlor Epoxide	mg/kg	0.1	Org-005	<0.1	170689-45	<0.1 || <0.1	LCS-1	96%
gamma-Chlordane	mg/kg	0.1	Org-005	<0.1	170689-45	<0.1 || <0.1	[NR]	[NR]
alpha-chlordane	mg/kg	0.1	Org-005	<0.1	170689-45	<0.1 || <0.1	[NR]	[NR]
Endosulfan I	mg/kg	0.1	Org-005	<0.1	170689-45	<0.1 || <0.1	[NR]	[NR]
pp-DDE	mg/kg	0.1	Org-005	<0.1	170689-45	<0.1 || <0.1	LCS-1	98%
Dieldrin	mg/kg	0.1	Org-005	<0.1	170689-45	<0.1 || <0.1	LCS-1	105%
Endrin	mg/kg	0.1	Org-005	<0.1	170689-45	<0.1 || <0.1	LCS-1	94%
pp-DDD	mg/kg	0.1	Org-005	<0.1	170689-45	<0.1 || <0.1	LCS-1	104%
Endosulfan II	mg/kg	0.1	Org-005	<0.1	170689-45	<0.1 || <0.1	[NR]	[NR]
pp-DDT	mg/kg	0.1	Org-005	<0.1	170689-45	<0.1 || <0.1	[NR]	[NR]
Endrin Aldehyde	mg/kg	0.1	Org-005	<0.1	170689-45	<0.1 || <0.1	[NR]	[NR]
Endosulfan Sulphate	mg/kg	0.1	Org-005	<0.1	170689-45	<0.1 || <0.1	LCS-1	83%
Methoxychlor	mg/kg	0.1	Org-005	<0.1	170689-45	<0.1 || <0.1	[NR]	[NR]
Surrogate TCMX	%		Org-005	88	170689-45	85 || 87 || RPD: 2	LCS-1	111%

QUALITY CONTROL PCBs in Soil	UNITS	PQL	METHOD	Blank	Duplicate Sm#	Duplicate results Base ll Duplicate ll %RPD	Spike Sm#	Spike % Recovery
Date extracted	-			07/07/2017	170689-45	07/07/2017 || 07/07/2017	LCS-1	07/07/2017
Date analysed	-			07/07/2017	170689-45	07/07/2017 || 07/07/2017	LCS-1	07/07/2017
Aroclor 1016	mg/kg	0.1	Org-006	<0.1	170689-45	<0.1 || <0.1	[NR]	[NR]
Aroclor 1221	mg/kg	0.1	Org-006	<0.1	170689-45	<0.1 || <0.1	[NR]	[NR]
Aroclor 1232	mg/kg	0.1	Org-006	<0.1	170689-45	<0.1 || <0.1	[NR]	[NR]
Aroclor 1242	mg/kg	0.1	Org-006	<0.1	170689-45	<0.1 || <0.1	[NR]	[NR]
Aroclor 1248	mg/kg	0.1	Org-006	<0.1	170689-45	<0.1 || <0.1	[NR]	[NR]
Aroclor 1254	mg/kg	0.1	Org-006	<0.1	170689-45	<0.1 || <0.1	LCS-1	107%
Aroclor 1260	mg/kg	0.1	Org-006	<0.1	170689-45	<0.1 || <0.1	[NR]	[NR]
Surrogate TCLMX	%		Org-006	88	170689-45	85 || 87 || RPD: 2	LCS-1	89%

QUALITY CONTROL Acid Extractable metals in soil	UNITS	PQL	METHOD	Blank	Duplicate Sm#	Duplicate results Base ll Duplicate ll %RPD	Spike Sm#	Spike % Recovery
Date prepared	-			07/07/2017	170689-45	07/07/2017 || 07/07/2017	LCS-1	07/07/2017
Date analysed	-			07/07/2017	170689-45	07/07/2017 || 07/07/2017	LCS-1	07/07/2017
Arsenic	mg/kg	4	Metals-020	<4	170689-45	5 || 6 || RPD: 18	LCS-1	110%
Cadmium	mg/kg	0.4	Metals-020	<0.4	170689-45	<0.4 || <0.4	LCS-1	101%
Chromium	mg/kg	1	Metals-020	<1	170689-45	13 || 15 || RPD: 14	LCS-1	107%
Copper	mg/kg	1	Metals-020	<1	170689-45	19 || 22 || RPD: 15	LCS-1	107%
Lead	mg/kg	1	Metals-020	<1	170689-45	21 || 25 || RPD: 17	LCS-1	105%
Mercury	mg/kg	0.1	Metals-021	<0.1	170689-45	<0.1 || <0.1	LCS-1	114%
Nickel	mg/kg	1	Metals-020	<1	170689-45	10 || 12 || RPD: 18	LCS-1	103%
Zinc	mg/kg	1	Metals-020	<1	170689-45	23 || 26 || RPD: 12	LCS-1	105%

QUALITY CONTROL Misc Inorg - Soil	UNITS	PQL	METHOD	Blank	Duplicate Sm#	Duplicate results Base ll Duplicate ll %RPD	Spike Sm#	Spike % Recovery
Date prepared	-			07/07/2017	[NT]	[NT]	LCS-1	07/07/2017
Date analysed	-			07/07/2017	[NT]	[NT]	LCS-1	07/07/2017
pH 1:5 soil:water	pH Units		Inorg-001	[NT]	[NT]	[NT]	LCS-1	102%
Electrical Conductivity 1:5 soil:water	µS/cm	1	Inorg-002	<1	[NT]	[NT]	LCS-1	100%
Chloride, Cl 1:5 soil:water	mg/kg	10	Inorg-081	<10	[NT]	[NT]	LCS-1	89%
Sulphate, SO4 1:5 soil:water	mg/kg	10	Inorg-081	<10	[NT]	[NT]	LCS-1	104%
Resistivity in soil*	ohm m	1	Inorg-002	<1.0	[NT]	[NT]	[NR]	[NR]

QUALITY CONTROL ESP/CEC	UNITS	PQL	METHOD	Blank	Duplicate Sm#	Duplicate results Base II Duplicate II %RPD	Spike Sm#	Spike % Recovery
Date prepared	-			07/07/2017	[NT]	[NT]	LCS-1	07/07/2017
Date analysed	-			07/07/2017	[NT]	[NT]	LCS-1	07/07/2017
Exchangeable Ca	meq/100g	0.1	Metals-009	<0.1	[NT]	[NT]	LCS-1	108%
Exchangeable K	meq/100g	0.1	Metals-009	<0.1	[NT]	[NT]	LCS-1	110%
Exchangeable Mg	meq/100g	0.1	Metals-009	<0.1	[NT]	[NT]	LCS-1	106%
Exchangeable Na	meq/100g	0.1	Metals-009	<0.1	[NT]	[NT]	LCS-1	110%
ESP	%	1	Metals-009	[NT]	[NT]	[NT]	[NR]	[NR]

QUALITY CONTROL vTRH(C6-C10)/BTEXN in Soil	UNITS	Dup. Sm#	Duplicate Base + Duplicate + %RPD	Spike Sm#	Spike % Recovery
Date extracted	-	170689-57	07/07/2017 || 07/07/2017	170689-46	07/07/2017
Date analysed	-	170689-57	07/07/2017 || 07/07/2017	170689-46	07/07/2017
TRH C_6 - C_9	mg/kg	170689-57	<25 || <25	170689-46	86%
TRH C_6 - C_{10}	mg/kg	170689-57	<25 || <25	170689-46	86%
Benzene	mg/kg	170689-57	<0.2 || <0.2	170689-46	99%
Toluene	mg/kg	170689-57	<0.5 || <0.5	170689-46	96%
Ethylbenzene	mg/kg	170689-57	<1 || <1	170689-46	72%
m+p-xylene	mg/kg	170689-57	<2 || <2	170689-46	81%
o-Xylene	mg/kg	170689-57	<1 || <1	170689-46	72%
naphthalene	mg/kg	170689-57	<1 || <1	[NR]	[NR]
Surrogate aaa-Trifluorotoluene	%	170689-57	103 || 96 || RPD: 7	170689-46	100%

QUALITY CONTROL svTRH (C10-C40) in Soil	UNITS	Dup. Sm#	Duplicate Base + Duplicate + %RPD	Spike Sm#	Spike % Recovery
Date extracted	-	170689-57	07/07/2017 || 07/07/2017	170689-46	07/07/2017
Date analysed	-	170689-57	07/07/2017 || 07/07/2017	170689-46	07/07/2017
TRH C_{10} - C_{14}	mg/kg	170689-57	<50 || <50	170689-46	109%
TRH C_{15} - C_{28}	mg/kg	170689-57	<100 || <100	170689-46	95%
TRH C_{29} - C_{36}	mg/kg	170689-57	<100 || <100	170689-46	73%
TRH >C_{10}-C_{16}	mg/kg	170689-57	<50 || <50	170689-46	109%
TRH >C_{16}-C_{34}	mg/kg	170689-57	<100 || <100	170689-46	95%
TRH >C_{34}-C_{40}	mg/kg	170689-57	<100 || <100	170689-46	73%
Surrogate o-Terphenyl	%	170689-57	110 || 95 || RPD: 15	170689-46	93%

QUALITY CONTROL PAHs in Soil	UNITS	Dup. Sm#	Duplicate Base + Duplicate + %RPD	Spike Sm#	Spike % Recovery
Date extracted	-	170689-57	07/07/2017 || 07/07/2017	170689-46	07/07/2017
Date analysed	-	170689-57	10/07/2017 || 10/07/2017	170689-46	10/07/2017
Naphthalene	mg/kg	170689-57	<0.1 || <0.1	170689-46	102%
Acenaphthylene	mg/kg	170689-57	<0.1 || <0.1	[NR]	[NR]
Acenaphthene	mg/kg	170689-57	<0.1 || <0.1	[NR]	[NR]
Fluorene	mg/kg	170689-57	<0.1 || <0.1	170689-46	97%
Phenanthrene	mg/kg	170689-57	<0.1 || <0.1	170689-46	96%
Anthracene	mg/kg	170689-57	<0.1 || <0.1	[NR]	[NR]
Fluoranthene	mg/kg	170689-57	<0.1 || <0.1	170689-46	99%
Pyrene	mg/kg	170689-57	<0.1 || <0.1	170689-46	104%
Benzo(a)anthracene	mg/kg	170689-57	<0.1 || <0.1	[NR]	[NR]
Chrysene	mg/kg	170689-57	<0.1 || <0.1	170689-46	119%
Benzo(b,j+k)fluoranthene	mg/kg	170689-57	<0.2 || <0.2	[NR]	[NR]
Benzo(a)pyrene	mg/kg	170689-57	<0.05 || <0.05	170689-46	119%
Indeno(1,2,3-c,d)pyrene	mg/kg	170689-57	<0.1 || <0.1	[NR]	[NR]
Dibenzo(a,h)anthracene	mg/kg	170689-57	<0.1 || <0.1	[NR]	[NR]
Benzo(g,h,i)perylene	mg/kg	170689-57	<0.1 || <0.1	[NR]	[NR]
Surrogate p-Terphenyl-d14	%	170689-57	105 || 103 || RPD: 2	170689-46	118%

QUALITY CONTROL Organochlorine Pesticides in soil	UNITS	Dup. Sm#	Duplicate Base + Duplicate + %RPD	Spike Sm#	Spike % Recovery
Date extracted	-	170689-57	07/07/2017 || 07/07/2017	170689-46	07/07/2017
Date analysed	-	170689-57	07/07/2017 || 07/07/2017	170689-46	07/07/2017
HCB	mg/kg	170689-57	<0.1 || <0.1	[NR]	[NR]
alpha-BHC	mg/kg	170689-57	<0.1 || <0.1	170689-46	79%
gamma-BHC	mg/kg	170689-57	<0.1 || <0.1	[NR]	[NR]
beta-BHC	mg/kg	170689-57	<0.1 || <0.1	170689-46	95%
Heptachlor	mg/kg	170689-57	<0.1 || <0.1	170689-46	96%
delta-BHC	mg/kg	170689-57	<0.1 || <0.1	[NR]	[NR]
Aldrin	mg/kg	170689-57	<0.1 || <0.1	170689-46	91%
Heptachlor Epoxide	mg/kg	170689-57	<0.1 || <0.1	170689-46	94%
gamma-Chlordane	mg/kg	170689-57	<0.1 || <0.1	[NR]	[NR]
alpha-chlordane	mg/kg	170689-57	<0.1 || <0.1	[NR]	[NR]
Endosulfan I	mg/kg	170689-57	<0.1 || <0.1	[NR]	[NR]
pp-DDE	mg/kg	170689-57	<0.1 || <0.1	170689-46	95%
Dieldrin	mg/kg	170689-57	<0.1 || <0.1	170689-46	102%
Endrin	mg/kg	170689-57	<0.1 || <0.1	170689-46	91%
pp-DDD	mg/kg	170689-57	<0.1 || <0.1	170689-46	100%
Endosulfan II	mg/kg	170689-57	<0.1 || <0.1	[NR]	[NR]
pp-DDT	mg/kg	170689-57	<0.1 || <0.1	[NR]	[NR]
Endrin Aldehyde	mg/kg	170689-57	<0.1 || <0.1	[NR]	[NR]
Endosulfan Sulphate	mg/kg	170689-57	<0.1 || <0.1	170689-46	81%

QUALITY CONTROL Organochlorine Pesticides in soil	UNITS	Dup. Sm#	Duplicate Base + Duplicate + %RPD	Spike Sm#	Spike % Recovery
Methoxychlor	mg/kg	170689-57	<0.1 || <0.1	[NR]	[NR]
Surrogate TCMX	%	170689-57	88 || 90 || RPD: 2	170689-46	108%
QUALITY CONTROL PCBs in Soil	UNITS	Dup. Sm#	Duplicate Base + Duplicate + %RPD	Spike Sm#	Spike % Recovery
Date extracted	-	170689-57	07/07/2017 || 07/07/2017	170689-46	07/07/2017
Date analysed	-	170689-57	07/07/2017 || 07/07/2017	170689-46	07/07/2017
Aroclor 1016	mg/kg	170689-57	<0.1 || <0.1	[NR]	[NR]
Aroclor 1221	mg/kg	170689-57	<0.1 || <0.1	[NR]	[NR]
Aroclor 1232	mg/kg	170689-57	<0.1 || <0.1	[NR]	[NR]
Aroclor 1242	mg/kg	170689-57	<0.1 || <0.1	[NR]	[NR]
Aroclor 1248	mg/kg	170689-57	<0.1 || <0.1	[NR]	[NR]
Aroclor 1254	mg/kg	170689-57	<0.1 || <0.1	170689-46	108%
Aroclor 1260	mg/kg	170689-57	<0.1 || <0.1	[NR]	[NR]
Surrogate TCLMX	%	170689-57	88 || 90 || RPD: 2	170689-46	88%
QUALITY CONTROL Acid Extractable metals in soil	UNITS	Dup. Sm#	Duplicate Base + Duplicate + %RPD	Spike Sm#	Spike % Recovery
Date prepared	-	170689-57	07/07/2017 || 07/07/2017	170689-46	07/07/2017
Date analysed	-	170689-57	07/07/2017 || 07/07/2017	170689-46	07/07/2017
Arsenic	mg/kg	170689-57	6 || 7 || RPD: 15	170689-46	94%
Cadmium	mg/kg	170689-57	<0.4 || <0.4	170689-46	91%
Chromium	mg/kg	170689-57	14 || 15 || RPD: 7	170689-46	98%
Copper	mg/kg	170689-57	29 || 28 || RPD: 4	170689-46	104%
Lead	mg/kg	170689-57	32 || 35 || RPD: 9	170689-46	80%
Mercury	mg/kg	170689-57	<0.1 || <0.1	170689-46	93%
Nickel	mg/kg	170689-57	15 || 15 || RPD: 0	170689-46	95%
Zinc	mg/kg	170689-57	40 || 43 || RPD: 7	170689-46	87%
QUALITY CONTROL Misc Inorg - Soil	UNITS	Dup. Sm#	Duplicate Base + Duplicate + %RPD	Spike Sm#	Spike % Recovery
Date prepared	-	[NT]	[NT]	LCS-2	07/07/2017
Date analysed	-	[NT]	[NT]	LCS-2	07/07/2017
pH 1:5 soil:water	pH Units	[NT]	[NT]	LCS-2	102%
Electrical Conductivity 1:5 soil:water	µS/cm	[NT]	[NT]	LCS-2	96%
Chloride, Cl 1:5 soil:water	mg/kg	[NT]	[NT]	LCS-2	85%
Sulphate, SO4 1:5 soil:water	mg/kg	[NT]	[NT]	LCS-2	100%
Resistivity in soil*	ohm m	[NT]	[NT]	[NR]	[NR]

QUALITY CONTROL ESP/CEC	UNITS	Dup. Sm#	Duplicate Base + Duplicate + %RPD
Date prepared	-	170689-1	07/07/2017 || 07/07/2017
Date analysed	-	170689-1	07/07/2017 || 07/07/2017
Exchangeable Ca	meq/100 g	170689-1	5.8 || 5.8 || RPD: 0
Exchangeable K	meq/100 g	170689-1	1.2 || 1.2 || RPD: 0
Exchangeable Mg	meq/100 g	170689-1	4.1 || 4.2 || RPD: 2
Exchangeable Na	meq/100 g	170689-1	<0.1 || <0.1
ESP	%	[NT]	[NT]

QUALITY CONTROL Misc Inorg - Soil	UNITS	Dup. Sm#	Duplicate Base + Duplicate + %RPD	Spike Sm#	Spike % Recovery
Date prepared	-	170689-3	07/07/2017 || 07/07/2017	LCS-3	07/07/2017
Date analysed	-	170689-3	07/07/2017 || 07/07/2017	LCS-3	07/07/2017
pH 1:5 soil:water	pH Units	170689-3	6.7 || 6.6 || RPD: 2	LCS-3	104%
Electrical Conductivity 1:5 soil:water	µS/cm	[NT]	[NT]	LCS-3	102%
Chloride, Cl 1:5 soil:water	mg/kg	[NT]	[NT]	LCS-3	89%
Sulphate, SO4 1:5 soil:water	mg/kg	[NT]	[NT]	LCS-3	107%
Resistivity in soil*	ohm m	[NT]	[NT]	[NR]	[NR]

QUALITY CONTROL Misc Inorg - Soil	UNITS	Dup. Sm#	Duplicate Base + Duplicate + %RPD	Spike Sm#	Spike % Recovery
Date prepared	-	170689-47	07/07/2017 || 07/07/2017	170689-82	07/07/2017
Date analysed	-	170689-47	07/07/2017 || 07/07/2017	170689-82	07/07/2017
pH 1:5 soil:water	pH Units	170689-47	7.7 || 7.7 || RPD: 0	[NR]	[NR]
Electrical Conductivity 1:5 soil:water	µS/cm	170689-47	62 || 79 || RPD: 24	[NR]	[NR]
Chloride, Cl 1:5 soil:water	mg/kg	[NT]	[NT]	170689-82	96%
Sulphate, SO4 1:5 soil:water	mg/kg	[NT]	[NT]	170689-82	113%
Resistivity in soil*	ohm m	[NT]	[NT]	[NR]	[NR]

QUALITY CONTROL Misc Inorg - Soil	UNITS	Dup. Sm#	Duplicate Base + Duplicate + %RPD
Date prepared	-	170689-66	07/07/2017 || 07/07/2017
Date analysed	-	170689-66	07/07/2017 || 07/07/2017
pH 1:5 soil:water	pH Units	170689-66	6.6 || 6.7 || RPD: 2
Electrical Conductivity 1:5 soil:water	µS/cm	170689-66	28 || 21 || RPD: 29
Chloride, Cl 1:5 soil:water	mg/kg	[NT]	[NT]
Sulphate, SO4 1:5 soil:water	mg/kg	[NT]	[NT]
Resistivity in soil*	ohm m	[NT]	[NT]

QUALITY CONTROL Misc Inorg - Soil	UNITS	Dup. Sm#	Duplicate Base + Duplicate + %RPD
Date prepared	-	170689-76	07/07/2017 || 07/07/2017
Date analysed	-	170689-76	07/07/2017 || 07/07/2017
pH 1:5 soil:water	pH Units	170689-76	5.6 || 5.6 || RPD: 0
Electrical Conductivity 1:5 soil:water	µS/cm	170689-76	200 || 180 || RPD: 11
Chloride, Cl 1:5 soil:water	mg/kg	170689-76	69 || 54 || RPD: 24
Sulphate, SO4 1:5 soil:water	mg/kg	170689-76	220 || 210 || RPD: 5
Resistivity in soil*	ohm m	[NT]	[NT]
QUALITY CONTROL Misc Inorg - Soil	UNITS	Dup. Sm#	Duplicate Base + Duplicate + %RPD
Date prepared	-	170689-87	07/07/2017 || 07/07/2017
Date analysed	-	170689-87	07/07/2017 || 07/07/2017
pH 1:5 soil:water	pH Units	170689-87	5.7 || 5.1 || RPD: 11
Electrical Conductivity 1:5 soil:water	µS/cm	170689-87	92 || 140 || RPD: 41
Chloride, Cl 1:5 soil:water	mg/kg	[NT]	[NT]
Sulphate, SO4 1:5 soil:water	mg/kg	[NT]	[NT]
Resistivity in soil*	ohm m	[NT]	[NT]
QUALITY CONTROL Acid Extractable metals in soil	UNITS	Dup. Sm#	Duplicate Base + Duplicate + %RPD
Date prepared	-	170689-54	07/07/2017 || 07/07/2017
Date analysed	-	170689-54	07/07/2017 || 07/07/2017
Arsenic	mg/kg	170689-54	<4 || 5
Cadmium	mg/kg	170689-54	<0.4 || <0.4
Chromium	mg/kg	170689-54	8 || 12 || RPD: 40
Copper	mg/kg	170689-54	26 || 23 || RPD: 12
Lead	mg/kg	170689-54	18 || 19 || RPD: 5
Mercury	mg/kg	170689-54	<0.1 || <0.1
Nickel	mg/kg	170689-54	16 || 14 || RPD: 13
Zinc	mg/kg	170689-54	90 || 190 || RPD: 71

QUALITY CONTROL Misc Inorg - Soil	UNITS	Dup. Sm#	Duplicate Base + Duplicate + %RPD
Date prepared	-	170689-62	07/07/2017 || 07/07/2017
Date analysed	-	170689-62	07/07/2017 || 07/07/2017
pH 1:5 soil:water	pH Units	170689-62	5.1 || [N/T]
Electrical Conductivity 1:5 soil:water	µS/cm	170689-62	190 || [N/T]
Chloride, Cl 1:5 soil:water	mg/kg	170689-62	180 || 180 || RPD: 0
Sulphate, SO4 1:5 soil:water	mg/kg	170689-62	45 || 46 || RPD: 2
Resistivity in soil*	ohm m	170689-62	54 || [N/T]
QUALITY CONTROL Misc Inorg - Soil	UNITS	Dup. Sm#	Duplicate Base + Duplicate + %RPD
Date prepared	-	170689-91	07/07/2017 || 07/07/2017
Date analysed	-	170689-91	07/07/2017 || 07/07/2017
pH 1:5 soil:water	pH Units	170689-91	5.1 || [N/T]
Electrical Conductivity 1:5 soil:water	µS/cm	170689-91	220 || [N/T]
Chloride, Cl 1:5 soil:water	mg/kg	170689-91	110 || 110 || RPD: 0
Sulphate, SO4 1:5 soil:water	mg/kg	170689-91	210 || 210 || RPD: 0
Resistivity in soil*	ohm m	[NT]	[NT]

Report Comments:

Acid Extractable Metals in Soil: The laboratory RPD acceptance criteria has been exceeded for 170689-54 for Zn. Therefore a triplicate result has been issued as laboratory sample number 170689-93.

Asbestos: A portion of the supplied sample was sub-sampled for asbestos analysis according to Envirolab procedures. We cannot guarantee that this sub-sample is indicative of the entire sample. Envirolab recommends supplying 40-50g of sample in its own container.
Note: Samples for asbestos testing were sub-sampled from jars provided by the client.

Asbestos ID was analysed by Approved Identifier: Jessica Hie
Asbestos ID was authorised by Approved Signatory: Paul Ching

INS: Insufficient sample for this test
NR: Test not required
<: Less than
PQL: Practical Quantitation Limit
RPD: Relative Percent Difference
>: Greater than
NT: Not tested
NA: Test not required
LCS: Laboratory Control Sample

Quality Control Definitions

Blank: This is the component of the analytical signal which is not derived from the sample but from reagents, glassware etc, can be determined by processing solvents and reagents in exactly the same manner as for samples.

Duplicate: This is the complete duplicate analysis of a sample from the process batch. If possible, the sample selected should be one where the analyte concentration is easily measurable.

Matrix Spike : A portion of the sample is spiked with a known concentration of target analyte. The purpose of the matrix spike is to monitor the performance of the analytical method used and to determine whether matrix interferences exist.

LCS (Laboratory Control Sample) : This comprises either a standard reference material or a control matrix (such as a blank sand or water) fortified with analytes representative of the analyte class. It is simply a check sample.

Surrogate Spike: Surrogates are known additions to each sample, blank, matrix spike and LCS in a batch, of compounds which are similar to the analyte of interest, however are not expected to be found in real samples.

Laboratory Acceptance Criteria

Duplicate sample and matrix spike recoveries may not be reported on smaller jobs, however, were analysed at a frequency to meet or exceed NEPM requirements. All samples are tested in batches of 20. The duplicate sample RPD and matrix spike recoveries for the batch were within the laboratory acceptance criteria.
Filters, swabs, wipes, tubes and badges will not have duplicate data as the whole sample is generally extracted during sample extraction.
Spikes for Physical and Aggregate Tests are not applicable.
For VOCs in water samples, three vials are required for duplicate or spike analysis.

Duplicates: <5xPQL - any RPD is acceptable; >5xPQL - 0-50% RPD is acceptable.
Matrix Spikes, LCS and Surrogate recoveries: Generally 70-130% for inorganics/metals; 60-140% for organics (+/-50% surrogates) and 10-140% for labile SVOCs (including labile surrogates), ultra trace organics and speciated phenols is acceptable.

In circumstances where no duplicate and/or sample spike has been reported at 1 in 10 and/or 1 in 20 samples respectively, the sample volume submitted was insufficient in order to satisfy laboratory QA/QC protocols.

When samples are received where certain analytes are outside of recommended technical holding times (THTs), the analysis has proceeded. Where analytes are on the verge of breaching THTs, every effort will be made to analyse within the THT or as soon as practicable.

Where sampling dates are not provided, Envirolab are not in a position to comment on the validity of the analysis where recommended technical holding times may have been breached.

Measurement Uncertainty estimates are available for most tests upon request.

Envirolab Services Pty Ltd
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SAMPLE RECEIPT ADVICE

Client Details	
Client	Geoenviro Consultancy Pty Ltd
Attention	Solern Liew

Sample Login Details	
Your Reference	JC17299A, Rosemeadow Stage 3
Envirolab Reference	**170689**
Date Sample Received	04/07/2017
Date Instructions Received	04/07/2017
Date Results Expected to be Reported	**11/07/2017**

Sample Condition	
Samples received in appropriate condition for analysis	YES
No. of Samples Provided	88 soils, 4 materials
Turnaround Time Requested	Standard
Temperature on receipt (°C)	11.0
Cooling Method	Ice Pack
Sampling Date Provided	YES

Comments
Samples will be held for 1 month for water samples and 2 months for soil samples from date of receipt of samples

Please direct any queries to:

Aileen Hie	Jacinta Hurst
Phone: 02 9910 6200	Phone: 02 9910 6200
Fax: 02 9910 6201	Fax: 02 9910 6201
Email: ahie@envirolabservices.com.au	Email: jhurst@envirolabservices.com.au

Sample and Testing Details on following page

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Sample Id	*vTRH(C6-C10)/BTEXN in Soil*	*svTRH (C10-C40) in Soil*	*PAHs in Soil*	*Organochlorine Pesticides in soil*	*PCBs in Soil*	*Acid Extractable metals in soil*	*Asbestos ID - soils*	*Asbestos ID - materials*	*Chloride, Cl 1:5 soil:water*	*Electrical Conductivity 1:5 soil:water*	*pH 1:5 soil:water*	*Resistivity in soil**	*Sulphate, SO4 1:5 soil:water*	*ESP/CEC*	*On Hold*
C1				✓	✓	✓					✓			✓	
C2				✓	✓	✓									
C3				✓	✓	✓					✓			✓	
C4				✓	✓	✓									
C5				✓	✓	✓					✓			✓	
C6				✓	✓	✓									
C7				✓	✓	✓					✓			✓	
C8				✓	✓	✓									
C9				✓	✓	✓					✓			✓	
C10				✓	✓	✓									
C11				✓	✓	✓					✓			✓	
TP1-0.0-0.1															✓
TP2-0.0-0.1															✓
TP3-0.0-0.1										✓	✓				
TP7-0.0-0.1															✓
TP16-0.0-0.1															✓
TP20-0.0-0.1															✓
TP13-0.0-0.1															✓
TP23-0.0-0.1															✓
TP25-0.0-0.1															✓
TP21-0.0-0.1															✓
TP22-0.0-0.1															✓
TP27-0.0-0.1															✓
TP36-0.0-0.1															✓
TP37-0.0-0.1															✓
TP41-0.0-0.1															✓
TP43-0.0-0.1															✓
TP44-0.0-0.1															✓
TP45-0.0-0.1															✓
TP47-0.0-0.1															✓
TP48-0.0-0.1															✓
TP49-0.0-0.1															✓
TP53-0.0-0.1															✓
TP54-0.0-0.1															✓
TP55-0.0-0.1															✓
TP58-0.0-0.1															✓
TP59-0.0-0.1										✓	✓				
TP60-0.0-0.1															✓

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Sample Id	vTRH(C6-C10)/BTEXN in Soil	svTRH (C10-C40) in Soil	PAHs in Soil	Organochlorine Pesticides in soil	PCBs in Soil	Acid Extractable metals in soil	Asbestos ID - soils	Asbestos ID - materials	Chloride, Cl 1:5 soil:water	Electrical Conductivity 1:5 soil:water	pH 1:5 soil:water	Resistivity in soil*	Sulphate, SO4 1:5 soil:water	ESP/CEC	On Hold
TP63-0.0-0.1										✓	✓				
TP64-0.0-0.1															✓
TP65-0.0-0.1															✓
TP68-0.0-0.1															✓
TP69-0.0-0.1															✓
TP71-0.0-0.1															✓
TP28-0.00-0.10	✓	✓	✓	✓	✓	✓	✓								
TP30-0.00-0.10	✓	✓	✓	✓	✓	✓	✓			✓	✓				
TP35-0.00-0.10	✓	✓	✓	✓	✓	✓	✓			✓	✓				
TP35								✓							
TP39-0.00-0.10	✓	✓	✓	✓	✓	✓	✓								
TP39								✓							
TP40-0.00-0.10	✓	✓	✓	✓	✓	✓	✓								
TP40								✓							
TP42-0.00-0.10	✓	✓	✓	✓	✓	✓	✓			✓	✓				
TP61-0.00-0.10	✓	✓	✓	✓	✓	✓	✓								
TP61								✓							
TP72-0.00-0.10	✓	✓	✓	✓	✓	✓	✓								
DUP A	✓	✓	✓	✓	✓	✓									
TP3-0.50-0.60									✓	✓	✓	✓	✓	✓	
TP3-1.10-1.20									✓	✓	✓		✓		
TP15-0.00-0.10										✓	✓				
TP15-0.40-0.50									✓	✓	✓		✓		
TP15-1.20-1.30									✓	✓	✓	✓	✓		
TP18-0.00-0.10										✓	✓				
TP18-0.40-0.50									✓	✓	✓	✓	✓		

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Sample Id	vTRH(C6-C10)/BTEXN in Soil	svTRH (C10-C40) in Soil	PAHs in Soil	Organochlorine Pesticides in soil	PCBs in Soil	Acid Extractable metals in soil	Asbestos ID - soils	Asbestos ID - materials	Chloride, Cl 1:5 soil:water	Electrical Conductivity 1:5 soil:water	pH 1:5 soil:water	Resistivity in soil*	Sulphate, SO4 1:5 soil:water	ESP/CEC	On Hold
TP18-1.50-1.60									✓	✓	✓		✓		
TP24-0.00-0.10										✓	✓				
TP24-0.40-0.50									✓	✓	✓		✓		
TP24-1.10-1.20									✓	✓	✓	✓	✓	✓	
TP30-0.40-0.50									✓	✓	✓	✓	✓		
TP30-1.40-1.50									✓	✓	✓		✓		
TP35-0.70-0.80									✓	✓	✓		✓		
TP35-1.70-1.80									✓	✓	✓	✓	✓		
TP38-0.00-0.10										✓	✓				
TP38-0.40-0.60									✓	✓	✓	✓	✓		
TP38-1.40-1.60									✓	✓	✓		✓		
TP42-0.40-0.50									✓	✓	✓		✓		
TP42-1.20-1.30									✓	✓	✓	✓	✓	✓	
TP46-0.00-0.10										✓	✓				
TP46-0.60-0.80									✓	✓	✓		✓		
TP46-1.60-1.70									✓	✓	✓	✓	✓		
TP51-0.00-0.10										✓	✓				
TP51-0.50-0.60									✓	✓	✓	✓	✓		
TP51-1.30-1.40									✓	✓	✓		✓		
TP59-0.50-0.60									✓	✓	✓		✓		
TP59-1.50-1.60									✓	✓	✓	✓	✓		

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Sample Id	vTRH(C6-C10)/BTEXN in Soil	svTRH (C10-C40) in Soil	PAHs in Soil	Organochlorine Pesticides in soil	PCBs in Soil	Acid Extractable metals in soil	Asbestos ID - soils	Asbestos ID - materials	Chloride, Cl 1:5 soil:water	Electrical Conductivity 1:5 soil:water	pH 1:5 soil:water	Resistivity in soil*	Sulphate, SO4 1:5 soil:water	ESP/CEC	On Hold
TP63-0.50-0.60									✓	✓	✓	✓	✓		
TP67-0.00-0.10										✓	✓				
TP67-0.70-0.80									✓	✓	✓	✓	✓	✓	
TP67-1.70-1.80									✓	✓	✓		✓		
TP72-0.00-0.10										✓	✓				
TP72-0.50-0.60									✓	✓	✓		✓		
TP72-1.50-1.60									✓	✓	✓	✓	✓		

GEOENVIRO CONSULTANCY Pty Ltd

Composite Schedule

Location: Stg 3 Rosemeadow Job No: JC17299A

	Composite ID	Samples		
1	C1	12 TP 1 (0.0-0.1 m)	13 TP 2 (0.0-0.1 m)	14 TP 3 (0.0-0.1 m)
2	C2	15 TP 7 (0.0-0.1 m)	16 TP 16 (0.0-0.1 m)	17 TP 20 (0.0-0.1 m)
3	C3	18 TP 13 (0.0-0.1 m)	19 TP 23 (0.0-0.1 m)	20 TP 25 (0.0-0.1 m)
4	C4	21 TP 21 (0.0-0.1 m)	22 TP 22 (0.0-0.1 m)	23 TP 27 (0.0-0.1 m)
5	C5	24 TP 36 (0.0-0.1 m)	25 TP 37 (0.0-0.1 m)	26 TP 41 (0.0-0.1 m)
6	C6	27 TP 43 (0.0-0.1 m)	28 TP 44 (0.0-0.1 m)	29 TP 45 (0.0-0.1 m)
7	C7	30 TP 47 (0.0-0.1 m)	31 TP 48 (0.0-0.1 m)	32 TP 49 (0.0-0.1 m)
8	C8	33 TP 53 (0.0-0.1 m)	34 TP 54 (0.0-0.1 m)	35 TP 55 (0.0-0.1 m)
9	C9	36 TP 58 (0.0-0.1 m)	37 TP 59 (0.0-0.1 m)	38 TP 60 (0.0-0.1 m)
10	C10	39 TP 63 (0.0-0.1 m)	40 TP 64 (0.0-0.1 m)	41 TP 65 (0.0-0.1 m)
11	C11	42 TP 68 (0.0-0.1 m)	43 TP 69 (0.0-0.1 m)	44 TP 71 (0.0-0.1 m)

ENVIROLAB GROUP

Envirolab Services
12 Ashley St
Chatswood NSW 2067
Ph: (02) 9910 6200

Job No: 170689
Date Received: 4/7
Time Received: 1840
Received by: PH
Temp: Cool/Ambient
Cooling: Ice/Icepack
Security: Intact/Broken/None

GeoEnviro Consultancy Pty Ltd
Unit 5, 39-41 Fourth Avenue, Blacktown NSW 2148, Australia
Tel: (02) 96798733 Fax: (02) 96798744

Laboratory Test Request/Chain of Custody Record

Job Details
Job Number: JC17299A
Client:
Project: Proposed Residential Subdivision Development
Location: Rosemeadow Stage 3

Sample Date: 29-30/07/2017
Sampled By: SG
Project Manager: SL
Store Location:

External Laboratory Details:
Laboratory name: Envirolab Services Pty Ltd
Address: 12 Ashley Street
Chatswood
Contact: Tania Notaris

Sampling Details			Sample Type		Test Required (\) / Test Performed(X)																							
Location	Depth (m)		Soil	Water	Metals (As Cd Cr Cu Pb Zn Ni Hg)	OCP / PCB	Combination 12a	Combination 5a	Combination 5	pH/CEC	ASBESTOS	pH	EC	CEC/ESP	Cl / SO4	Resistivity											Keep Sample
170689	From	To																									
(1) C1	0.00	0.10	DG		/	/				/																	
(2) C2	0.00	0.10	DG		/	/																					
(3) C3	0.00	0.10	DG		/	/				/																	
(4) C4	0.00	0.10	DG		/	/																					
(5) C5	0.00	0.10	DG		/	/				/																	
(6) C6	0.00	0.10	DG		/	/																					
(7) C7	0.00	0.10	DG		/	/				/																	
(8) C8	0.00	0.10	DG		/	/																					
(9) C9	0.00	0.10	DG		/	/				/																	
(10) C10	0.00	0.10	DG		/	/																					
(11) C11	0.00	0.10	DG		/	/				/																	
45 TP 28	0.00	0.10	DG					/																			
46 TP 30	0.00	0.10	DG					/																			
47 TP 35	0.00	0.10	DG					/																			
48 TP 35	Fibro		DG								/																
49 TP 39	0.00	0.10	DG					/																			

Relinquished by				Received By			
Laboratory	Name	Signature	Date	Laboratory	Name	Signature	Date
GeoEnviro Consultancy	Steven Goss	SMGoss	4/07/2017	ELS	PLT		4/7

Legend

DB Disturbed Sample (Bulk, Plastic bag)
DS Disturbed Sample (Small, Plastic bag)
DG Disturbed Sample (Glass Jar)
STP Standard Penetration Test Sample
U50 Undisturbed Sample, 50mm Tube
U75 Undisturbed Sample, 75mm Tube
WG Water Sample, Amber Glass Jar
WP Water Sample, Plastic Bottle

Y Keep Sample
N Discard Sample

GeoEnviro Consultancy Pty Ltd
Unit 5, 39-41 Fourth Avenue, Blacktown NSW 2148, Australia
Tel: (02) 96798733 Fax: (02) 96798744

Laboratory Test Request/Chain of Custody Record

Job Details
Job Number: JC17299A
Client:
Project: Proposed Residential Subdivision Development
Location: Rosemeadow Stage 3

Sample Date: 29-30/07/2017
Sampled By: SG
Project Manager: SL
Store Location:

External Laboratory Details:
Laboratory name: Envirolab Services Pty Ltd
Address: 12 Ashley Street
Chatswood
Contact: Tania Notaris

Sampling Details				Sample Type		Test Required (\) / Test Performed(X)																							
Location		Depth	(m)	Soil	Water	Metals (As Cd Cr Cu Pb Zn Ni Hg)	OCP / PCB	Combination 12a	Combination 5a	Combination 5	pH/CEC	ASBESTOS	pH	EC	CEC/ESP	Cl / SO4	Resistivity											Keep Sample
170689		From	To																										
S0	TP 39	Fibro		DG								/																	
S1	TP 40	0.00	0.10	DG					/			/																	
S2	TP 40	Fibro		DG								/																	
S3	TP 42	0.00	0.10	DG					/																				
S4	TP 61	0.00	0.10	DG					/																				
S5	TP 61	Fibro		DG								/																	
S6	TP 72	0.00	0.10	DG					/																				
S7	DUP A	-	-	DG						/																			
Salinity Below this line - Some jars listed may be duplicate of those listed above																													
* (14)	TP 3	0.00	0.10	DG									/	/															
S8	TP 3	0.50	0.60	DG									/	/	/	/	/												
S9	TP 3	1.10	1.20	DG									/	/		/													
60	TP 15	0.00	0.10	DG									/	/															
61	TP 15	0.40	0.50	DG									/	/		/													
62	TP 15	1.20	1.30	DG									/	/		/	/												
63	TP 18	0.00	0.10	DG									/	/															

Relinquished by				Received By			
Laboratory	Name	Signature	Date	Laboratory	Name	Signature	Date
GeoEnviro Consultancy	Steven Goss	SMGoss	4/07/2017	ELS	PH	[illegible]	4/7

Legend

DB Disturbed Sample (Bulk, Plastic bag)
DS Disturbed Sample (Small, Plastic bag)
DG Disturbed Sample (Glass Jar)
STP Standard Penetration Test Sample
U50 Undisturbed Sample, 50mm Tube
U75 Undisturbed Sample, 75mm Tube
WG Water Sample, Amber Glass Jar
WP Water Sample, Plastic Bottle
Y Keep Sample
N Discard Sample

GeoEnviro Consultancy Pty Ltd
Unit 5, 39-41 Fourth Avenue, Blacktown NSW 2148, Australia
Tel: (02) 96798733 Fax: (02) 96798744

Laboratory Test Request/Chain of Custody Record

Job Details
Job Number: JC17299A
Client:
Project: Proposed Residential Subdivision Development
Location: Rosemeadow Stage 3

Sample Date: 29-30/07/2017
Sampled By: SG
Project Manager: SL
Store Location:

External Laboratory Details:
Laboratory name: Envirolab Services Pty Ltd
Address: 12 Ashley Street
Chatswood
Contact: Tania Notaris

Sampling Details				Sample Type		Test Required (\) / Test Performed(X)																							
Location		Depth (m)		Soil	Water	Metals (As Cd Cr Cu Pb Zn Ni Hg)	OCP / PCB	Combination 12a	Combination 5a	Combination 5	pH/CEC	ASBESTOS	pH	EC	CEC/ESP	Cl / SO4	Resistivity												Keep Sample
170689		From	To																										
64	TP 18	0.40	0.50	DG									/	/		/	/												
65	TP 18	1.50	1.60	DG									/	/		/													
66	TP 24	0.00	0.10	DG									/	/															
67	TP 24	0.40	0.50	DG									/	/		/													
68	TP 24	1.10	1.20	DG									/	/	/	/	/												
(46)	TP 30	0.00	0.10	DG									/	/			/												
69	TP 30	0.40	0.50	DG									/	/		/	/												
70	TP 30	1.40	1.50	DG									/	/		/													
(47)	TP 35	0.00	0.10	DG									/	/															
71	TP 35	0.70	0.80	DG									/	/		/													
72	TP 35	1.70	1.80	DG									/	/		/	/												
73	TP 38	0.00	0.10	DG									/	/															
74	TP 38	0.40	0.60	DG									/	/		/	/												
75	TP 38	1.40	1.60	DG									/	/		/													
(53)	TP 42	0.00	0.10	DG									/	/															
76	TP 42	0.40	0.50	DG									/	/		/													

Relinquished by				Received By			
Laboratory	Name	Signature	Date	Laboratory	Name	Signature	Date
GeoEnviro Consultancy	Steven Goss	SMGoss	4/07/2017	ELS	PH		4/7

Legend

DB Disturbed Sample (Bulk, Plastic bag)
DS Disturbed Sample (Small, Plastic bag)
DG Disturbed Sample (Glass Jar)
STP Standard Penetration Test Sample
U50 Undisturbed Sample, 50mm Tube
U75 Undisturbed Sample, 75mm Tube
WG Water Sample, Amber Glass Jar
WP Water Sample, Plastic Bottle

Y Keep Sample
N Discard Sample

GeoEnviro Consultancy Pty Ltd
Unit 5, 39-41 Fourth Avenue, Blacktown NSW 2148, Australia
Tel: (02) 96798733 Fax: (02) 96798744

Laboratory Test Request/Chain of Custody Record

Job Details
Job Number: JC17299A
Client:
Project: Proposed Residential Subdivision Development
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Sample Date: 29-30/07/2017
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Laboratory name: Envirolab Services Pty Ltd
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Sampling Details				Sample Type		Test Required (\) / Test Performed(X)																							
Location		Depth (m)		Soil	Water	Metals (As Cd Cr Cu Pb Zn Ni Hg)	OCP / PCB	Combination 12a	Combination 5a	Combination 5	pH/CEC	ASBESTOS	pH	EC	CEC/ESP	Cl / SO4	Resistivity												Keep Sample
170689		From	To																										
77	TP 42	1.20	1.30	DG									/	/	/	/	/												
78	TP 46	0.00	0.10	DG									/	/		/													
79	TP 46	0.60	0.80	DG									/	/		/													
80	TP 46	1.60	1.70	DG									/	/		/	/												
81	TP 51	0.00	0.10	DG									/	/															
82	TP 51	0.50	0.60	DG									/	/		/	/												
83	TP 51	1.30	1.40	DG									/	/		/													
(37)	TP 59	0.00	0.10	DG									/	/															
84	TP 59	0.50	0.60	DG									/	/		/													
85	TP 59	1.50	1.60	DG									/	/		/	/												
(39)	TP 63	0.00	0.10	DG									/	/															
86	TP 63	0.50	0.60	DG									/	/		/	/												
87	TP 67	0.00	0.10	DG									/	/															
88	TP 67	0.70	0.80	DG									/	/	/	/	/												
89	TP 67	1.70	1.80	DG									/	/		/													
90	TP 72	0.00	0.10	DG									/	/															
91	TP 72	0.50	0.60	DG									/	/		/													
92	TP 72	1.50	1.60	DG									/	/		/	/												

Relinquished by				Received By			
Laboratory	Name	Signature	Date	Laboratory	Name	Signature	Date
GeoEnviro Consultancy	Steven Goss	SMGoss	4/07/2017	ES	PH		4/7

Legend

DB Disturbed Sample (Bulk, Plastic bag)
DS Disturbed Sample (Small, Plastic bag)
DG Disturbed Sample (Glass Jar)
STP Standard Penetration Test Sample
U50 Undisturbed Sample, 50mm Tube
U75 Undisturbed Sample, 75mm Tube
WG Water Sample, Amber Glass Jar
WP Water Sample, Plastic Bottle
Y Keep Sample
N Discard Sample

Photo 1: Vacant land looking east from the western boundary with some mulch and a burnt car in the background.

Photo 2: Existing residential properties and Westminster Way looking east.

Photo 3: Central portion of the site looking east towards Copperfield Drive. Existing residential dwelling to the right off Fitzwater Way.

Photo 4: North-eastern corner of the site looking west into Westminster Way with existing residential dwellings fronting Westminster Way.

Photo 5: South-eastern corner of the site looking west towards Fitzwater Way with existing residential dwellings to the right.

Photo 6: Test Pit 61 with rubble fill including bricks, concrete, plastic and steel reinforcement pieces.

APPENDIX B

Extracts of Previous Report (Reference 2)

"Additional Phase 2 Contamination Assessment – Stage 2 Lot 33 & Lot 34 in DP 700703 and Lot 90 in DP 1166578 Copperfield Drive, Rosemeadow" – GeoEnviro Consultancy Pty Ltd report referenced JC17299B-r1 dated September 2019

GeoEnviro Consultancy Pty Ltd
Unit 5, 39-41 Fourth Avenue, Blacktown, NSW 2148, Australia
PO Box 1543, Macquarie Centre. North Ryde, NSW 2113

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Report

Additional Phase 2 Contamination Assessment Proposed Residential Subdivision Development Stage 3, Lot 33 & Lot 34 in DP 700703 and Lot 90 in DP 1166578 Copperfield Drive Rosemeadow NSW

Prepared for:
NSW Land and Housing Corporation
L2, 31-39 Macquarie Street
PARRAMATTA NSW 2150

Ref: JC17299B-r1
September 2019

Test Pit Number	Depth (m)	Profile Type	Description
1A	0.00-0.57	Fill	Gravelly Silty Clay: low to medium plasticity, brown with brick, tile and fibro fragments, dry
	0.57-0.80	Natural	(CI-CH) Silty Clay: medium to high plasticity, red brown, dry to moist
2A	0.00-0.25	Topsoil/Fill	Clayey Silt: low liquid limit, brown with one concrete cobble, dry to moist
	0.25-0.50	Natural	(CI-CH) Silty Clay: medium to high plasticity, red brown, dry to moist
3A	0.00-0.50	Fill	Gravelly Silty Clay: low plasticity, brown with roof tile fragments, dry
	0.50-0.80	Natural	(CI-CH) Silty Clay: medium to high plasticity, red brown, dry to moist
4A	0.00-0.27	Topsoil/Fill	Clayey Silt: low liquid limit, brown with one brick fragment and piece of cloth, dry
	0.27-0.60	Natural	(CI-CH) Silty Clay: medium to high plasticity, red brown, dry to moist
5A	0.00-0.50	Topsoil/Fill	Clayey Silt: low liquid limit, brown with brick and metal fragments, and shale gravel, dry
	0.50-0.90	Natural	(CI-CH) Silty Clay: medium to high plasticity, red brown, dry
6A	0.00-0.30	Topsoil/Fill	Clayey Silt: low liquid limit, brown with one tile fragment, dry
	0.30-0.60	Natural	(CI-CH) Silty Clay: medium to high plasticity, brown, dry
7A	0.00-0.70	Fill	Gravelly Clayey Silt/Gravelly Silty Clay: low liquid limit/low plasticity, brown with gravel, redo, brick fragments, metal and plastic pieces, dry
	0.70-1.10	Natural	(CI-CH) Silty Clay: medium to high plasticity, red brown, dry
8A	0.00-0.65	Fill	Clayey Silt: low liquid limit, brown with brick, dry
	0.65-0.90	Natural	(CI-CH) Silty Clay: medium to high plasticity, red brown, dry
9A	0.00-0.32	Topsoil/Fill	Clayey Silt: low liquid limit, brown with two brick fragments, dry
	0.32-0.60	Natural	(CI-CH) Silty Clay: medium to high plasticity, red brown, dry
10A	0.00-0.40	Topsoil/Fill	Clayey Silt: low liquid limit, brown with brick fragments, dry
	0.40-0.80	Natural	(CI-CH) Silty Clay: medium to high plasticity, brown red, dry
11A	0.00-0.30	Topsoil/Fill	Clayey Silt: low liquid limit, brown with some clay and 2 metal sheets, dry
	0.30-0.50	Natural	Clayey Silt: low liquid limit, brown grey, dry
	0.50-0.70	Natural	(CI-CH) Silty Clay: medium to high plasticity, red brown, dry
12A	0.00-0.45	Topsoil/Fill	Clayey Silt: low liquid limit, brown with brick fragments, dry
	0.45-0.70	Natural	(CI-CH) Silty Clay: medium to high plasticity, brown grey, dry

Note:

PP = Pocket Penetrometer

MC = Moisture Content

PL = Plastic Limit

GeoEnviro Consultancy

TABLE 1A (Page 1 of 7)

SUMMARY OF SOIL PROFILE

NSW Land and Housing Corporation

Proposed Residential Subdivision Development

Copperfield Road and Julius Street Rosemeadow

Test Pit Number	Depth (m)	Profile Type	Description
13A	0.00-0.30	Topsoil/Fill	Clayey Silt: low liquid limit, brown with tile and brick fragments, and fibro on the ground surface, dry
	0.30-0.60	Natural	(CI-CH) Silty Clay: medium to high plasticity, red brown, dry
14A	0.00-0.35	Topsoil/Fill	Clayey Silt: low liquid limit, brown with brick fragments, and fibro on the ground surface, dry
	0.35-0.60	Natural	(CI-CH) Silty Clay: medium to high plasticity, red brown, dry to moist
15A	0.00-0.25	Topsoil/Fill	Clayey Silt: low liquid limit, brown with trace of brick fragments, dry
	0.25-0.60	Natural	(CI-CH) Silty Clay: medium to high plasticity, red brown, dry
	0.60-0.90	Natural	(CI) Gravelly Silty Clay: medium plasticity, brown grey with ironstone gravel, dry
	0.90-1.10	Bedrock	Shale: grey brown with ironstaining, low to medium strength, distinctly weathered (refusal)
16A	0.00-0.45	Topsoil/Fill	Clayey Silt: low liquid limit, brown with building rubble, dry
	0.45-0.70	Natural	(CI-CH) Silty Clay: medium to high plasticity, red brown, dry
17A	0.00-0.25	Topsoil/Fill	Clayey Silt: low liquid limit, brown with gravel and trace of concrete gravel, dry
	0.25-0.60	Natural	(CI-CH) Silty Clay: medium to high plasticity, red grey, dry
18A	0.00-0.25	Topsoil/Fill	Clayey Silt: low liquid limit, brown with a timber peg, dry
	0.25-0.60	Natural	(CI-CH) Silty Clay: medium to high plasticity, red brown, dry
19A	0.00-0.40	Topsoil/Fill	Clayey Silt: low liquid limit, brown with tile fragments, plastic piece, sandstone cobble and a fibro piece, dry to moist
	0.40-0.70	Natural	(CI-CH) Silty Clay: medium to high plasticity, red brown, dry to moist
20A	0.00-0.40	Topsoil/Fill	Clayey Silt: low liquid limit, brown with a terracotta fragment, dry
	0.40-0.60	Natural	(CI-CH) Silty Clay: medium to high plasticity, red brown, dry
21A	0.00-0.35	Topsoil/Fill	Clayey Silt: low liquid limit, brown with building rubble, dry
	0.35-0.60	Natural	(CI-CH) Silty Clay: medium to high plasticity, red brown, dry to moist
22A	0.00-0.30	Fill	Silty Clay: medium plasticity, brown with plastic and a brick fragment, dry
	0.30-0.60	Natural	Clayey Silt: low liquid limit, brown, dry
	0.60-1.00	Natural	(CI-CH) Silty Clay: medium to high plasticity, red brown, dry
	1.00-1.50	Natural	(CI) Silty Clay: medium plasticity, grey brown with gravel, dry to moist
	1.50-1.70	Bedrock	Shale: grey brown with ironstaining, low to medium strength, extremely weathered to distinctly weathered

Note:

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MC = Moisture Content

PL = Plastic Limit

GeoEnviro Consultancy

TABLE 1A (Page 2 of 7)

SUMMARY OF SOIL PROFILE

NSW Land and Housing Corporation

Proposed Residential Subdivision Development

Copperfield Road and Julius Street Rosemeadow

Test Pit Number	Depth (m)	Profile Type	Description
23A	0.00-0.40	Topsoil/Fill	Clayey Silt: low liquid limit, brown with some clay and a metal wire, dry
	0.40-0.70	Natural	(CI-CH) Silty Clay: medium to high plasticity, red brown, dry
24A	0.00-1.10	Fill	Gravelly Clayey Silt/Gravelly Silty Clay: low liquid limit/low plasticity, brown with concrete cobble and boulders, dry
	1.10-1.30	Bedrock	Shale: grey brown, low to medium strength, extremely weathered to distinctly weathered
25A	0.00-0.70	Fill	Silty Clay: medium plasticity, brown with gravel and a brick fragment, dry
	0.70-1.00	Natural	(CI-CH) Silty Clay: medium to high plasticity, brown, dry
26A	0.00-0.40	Topsoil/Fill	Clayey Silt: low liquid limit, brown with one brick, dry
	0.40-0.60	Natural	(CI-CH) Silty Clay: medium to high plasticity, red brown, dry
27A	0.00-0.40	Topsoil/Fill	Clayey Silt: low liquid limit, brown with brick, tile and fibro fragments, dry
	0.40-0.70	Natural	(CI-CH) Silty Clay: medium to high plasticity, red brown, dry to moist
28A	0.00-0.50	Fill	Silty Clay: medium plasticity, brown with gravel, some brick fragments and a concrete boulder, dry
	0.50-0.70	Natural	(CI) Silty Clay: medium plasticity, grey with shale gravel, dry
29A	0.00-0.40	Fill	Clayey Silt: low liquid limit, brown with bricks, timber and metal mesh, dry
	0.40-1.10	Natural	(CI-CH) Silty Clay: medium to high plasticity, red brown, dry
	1.10-2.60	Natural	(CI) Silty Clay: medium plasticity, brown grey with gravel, dry
	2.60-3.20	Natural	As above but with ironstone gravel, dry
30A	0.00-0.60	Fill	Clayey Silt: low liquid limit, brown with bricks and concrete, dry
	0.60-1.00	Natural	(CI-CH) Silty Clay: medium to high plasticity, red brown, dry
31A	0.00-0.45	Fill	Silty Clay/Clayey Silt: low plasticity/low liquid limit, brown with terracotta pipe pieces and tile fragments, dry
	0.45-0.70	Natural	(CI-CH) Silty Clay: medium to high plasticity, red brown, dry
32A	0.00-0.35	Topsoil/Fill	Clayey Silt: low liquid limit, brown with brick fragments, dry
	0.35-0.70	Natural	(CI-CH) Silty Clay: medium to high plasticity, red brown, dry
33A	0.00-0.40	Topsoil/Fill	Clayey Silt: low liquid limit, brown some brick fragments and a fibro piece, dry
	0.40-0.70	Natural	(CI-CH) Silty Clay: medium to high plasticity, red brown, dry to moist
34A	0.00-0.30	Topsoil/Fill	Clayey Silt: low liquid limit, brown some brick fragments and one concrete cobble, dry
	0.30-0.60	Natural	(CI-CH) Silty Clay: medium to high plasticity, red brown, dry to moist

Note:

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MC = Moisture Content

PL = Plastic Limit

GeoEnviro Consultancy

TABLE 1A (Page 3 of 7)

SUMMARY OF SOIL PROFILE

NSW Land and Housing Corporation

Proposed Residential Subdivision Development

Copperfield Road and Julius Street Rosemeadow

Test Pit Number	Depth (m)	Profile Type	Description
35A	0.00-0.20	Topsoil/Fill	Clayey Silt: low liquid limit, brown some brick fragments, dry
	0.20-0.40	Topsoil/Fill	Clayey Silt: low liquid limit, brown, dry
	0.40-0.70	Natural	(CI-CH) Silty Clay: medium to high plasticity, red brown, dry
36A	0.00-0.40	Fill	Silty Clay/Clayey Silt: low plasticity/low liquid limit, brown with gravel, and some brick and tile fragments, dry
	0.40-0.70	Natural	(CI-CH) Silty Clay: medium to high plasticity, red brown, dry
37A	0.00-0.20	Topsoil/Fill	Clayey Silt: low liquid limit, brown with fibro fragments on the ground surface,, dry
	0.20-0.40	Natural	(CI-CH) Silty Clay: medium to high plasticity, red brown, dry
38A	0.00-0.30	Topsoil/Fill	Clayey Silt: low liquid limit, brown with brick and fibro fragments, dry
	0.30-0.60	Natural	(CI-CH) Silty Clay: medium to high plasticity, red brown, moist
39A	0.00-0.40	Topsoil/Fill	Clayey Silt: low liquid limit, brown with trace of building rubble, dry
	0.40-0.90	Natural	Clayey Silt: low liquid limit, brown, dry
	0.90-1.40	Natural	(CI-CH) Silty Clay: medium to high plasticity, red brown, dry
40A	0.00-0.70	Topsoil/Fill	Clayey Silt: low liquid limit, brown with brick fragments, fibreglass mesh, plastic and one fibro piece, dry
	0.70-1.00	Natural	(CI-CH) Silty Clay: medium to high plasticity, red brown, dry
41A	0.00-0.35	Topsoil/Fill	Clayey Silt: low liquid limit, brown with trace of building rubble, dry
	0.35-0.70	Natural	Clayey Silt: low liquid limit, brown, dry
	0.70-1.00	Natural	(CI-CH) Silty Clay: medium to high plasticity, red brown, dry
42A	0.00-0.60	Fill	Clayey Silt/Silty Clay: low liquid limit/low plasticity, brown with gravel and terracotta pipe fragments, dry
	0.60-0.80	Natural	(CI-CH) Silty Clay: medium to high plasticity, red brown, dry to moist
43A	0.00-0.45	Topsoil/Fill	Clayey Silt: low liquid limit, brown with brick fragments, dry
	0.45-0.90	Natural	Clayey Silt: low liquid limit, brown, dry
	0.90-1.20	Natural	(CI-CH) Silty Clay: medium to high plasticity, red brown, dry
44A	0.00-0.50	Topsoil/Fill	Clayey Silt/Silty Clay: low liquid limit/low plasticity, brown with gravel, and terracotta pipe and roof tile fragments, dry
	0.50-0.70	Natural	Clayey Silt: low liquid limit, brown, dry
	0.70-0.90	Natural	(CI-CH) Silty Clay: medium to high plasticity, red brown, dry

Note:

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GeoEnviro Consultancy

TABLE 1A (Page 4 of 7)

SUMMARY OF SOIL PROFILE

NSW Land and Housing Corporation

Proposed Residential Subdivision Development

Copperfield Road and Julius Street Rosemeadow

Test Pit Number	Depth (m)	Profile Type	Description
45A	0.00-0.50	Topsoil/Fill	Clayey Silt: low liquid limit, brown with trace of building rubble, dry
	0.50-0.70	Natural	(CI-CH) Silty Clay: medium to high plasticity, red brown, dry
46A	0.00-0.80	Fill	Clayey Silt: low liquid limit, brown with bricks, tile, concrete and fibro fragments, dry (refusal on concrete slab)
47A	0.00-1.20	Topsoil/Fill	Clayey Silt: low liquid limit, brown with concrete and brick fragments, dry
	1.20-1.50	Natural	(CI-CH) Silty Clay: medium to high plasticity, red brown, dry
	1.50-1.90	Natural	(CI) Silty Clay: medium plasticity, grey brown with shale gravel bands, dry
	1.90-2.20	Natural	(CI) Shaley Clay: medium plasticity, grey brown, dry
	2.20-2.40	Bedrock	Shale: grey brown, low to medium strength, extremely weathered to distinctly weathered
48A	0.00-0.30	Topsoil/Fill	Clayey Silt: low liquid limit, brown with plastic pieces, dry
	0.30-0.70	Natural	Clayey Silt: low liquid limit, brown and grey, dry
	0.70-1.00	Natural	(CI-CH) Silty Clay: medium to high plasticity, red brown, dry
49A	0.00-0.70	Fill	Silty Clay/Clayey Silt: low plasticity/low liquid limit, brown with brick, tile and plastic fragments, dry
	0.70-0.90	Natural	(CI-CH) Silty Clay: medium to high plasticity, red brown, dry
50A	0.00-0.85	Fill	Silty Clay: medium plasticity, brown with brick and tile pieces, dry
	0.85-1.10	Natural	(CI) Shaley Clay: medium plasticity, grey brown, dry
51A	0.00-0.60	Fill	Silty Clay: medium plasticity, brown with plastic, brick and tile fragments, dry
	0.60-0.80	Natural	(CI-CH) Silty Clay: medium to high plasticity, grey brown, dry
52A	0.00-0.30	Fill	Silty Clay/Clayey Silt: low plasticity/low liquid limit, brown with gravel and metal fragments, dry
	0.30-0.50	Natural	(CI-CH) Silty Clay: medium to high plasticity, red brown, dry to moist
53A	0.00-0.45	Fill	Silty Clay: low to medium plasticity, brown with brick fragments, dry
	0.45-0.70	Natural	(CI-CH) Silty Clay: medium to high plasticity, red brown, dry
54A	0.00-0.35	Topsoil/Fill	Clayey Silt: low liquid limit, brown with brick fragments, dry
	0.35-0.60	Natural	(CI-CH) Silty Clay: medium to high plasticity, red brown, dry
55A	0.00-0.30	Topsoil/Fill	Clayey Silt: low liquid limit, brown with brick fragments and one fibro piece, dry
	0.30-0.70	Natural	(CI-CH) Silty Clay: medium to high plasticity, red brown, dry to moist
56A	0.00-0.70	Fill	Silty Clay/Clayey Silt: low plasticity/low liquid limit, brown with brick, plastic and concrete pieces, dry
	0.70-1.00	Natural	(CI-CH) Silty Clay: medium to high plasticity, red brown with gravel, dry

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GeoEnviro Consultancy

TABLE 1A (Page 5 of 7)

SUMMARY OF SOIL PROFILE

NSW Land and Housing Corporation

Proposed Residential Subdivision Development

Copperfield Road and Julius Street Rosemeadow

Test Pit Number	Depth (m)	Profile Type	Description
57A	0.00-0.20	Topsoil/Fill	Gravelly Clayey Silt: low liquid limit, brown, dry
	0.20-0.40	Natural	Clayey Silt: low liquid limit, brown, dry
	0.40-0.60	Natural	(CI-CH) Silty Clay: medium to high plasticity, red brown grey, dry
58A	0.00-0.15	Topsoil/Fill	Gravelly Clayey Silt: low liquid limit, brown with building rubble and some fibro pieces on the ground surface, dry
	0.15-0.40	Fill	Gravelly Silty Clay: low to medium plasticity, brown with brick and tile fragments, dry
	0.40-0.70	Natural	(CI-CH) Silty Clay: medium to high plasticity, red brown, dry
59A	0.00-0.35	Topsoil/Fill	Gravelly Clayey Silt: low liquid limit, brown with roof tile fragments, dry
	0.35-0.60	Natural	(CI-CH) Silty Clay: medium to high plasticity, red brown with gravel, dry
60A	0.00-0.40	Topsoil/Fill	Gravelly Clayey Silt: low liquid limit, brown with building rubble, dry
	0.40-0.60	Natural	(CI-CH) Silty Clay: medium to high plasticity, red brown, dry
	0.60-1.20	Natural	(CI) Silty Clay: medium plasticity, brown grey, dry
	1.20-2.00	Natural	(CI) Gravelly Silty Clay: medium plasticity, grey brown with gravel, dry
	2.00-2.10	Bedrock	Shale/Siltstone: grey brown, low to medium strength, distinctly weathered
61A	0.00-0.35	Fill	Gravelly Silty Clay: medium plasticity, brown with building rubble and fibro on the ground surface, fry
	0.35-0.60	Natural	(CI-CH) Silty Clay: medium to high plasticity, red brown, dry to moist
62A	0.00-0.30	Topsoil/Fill	Clayey Silt: low liquid limit, brown, dry
	0.30-0.50	Natural	(CI-CH) Silty Clay: medium to high plasticity, red brown, dry
63A	0.00-0.35	Topsoil/Fill	Clayey Silt: low liquid limit, brown with minor building rubble, dry
	0.35-0.70	Natural	(CI-CH) Silty Clay: medium to high plasticity, red brown, dry to moist
64A	0.00-0.20	Topsoil/Fill	Clayey Silt: low liquid limit, brown with brick fragments, dry
	0.20-0.90	Fill	Silty Clay: low plasticity, brown, dry with a terracotta pipe, dry
	0.90-1.30	Natural	(CI-CH) Silty Clay: medium to high plasticity, red brown, dry to moist
65A	0.00-0.30	Topsoil/Fill	Clayey Silt: low liquid limit, brown with brick fragments and a terracotta pipe, dry
	0.30-0.60	Natural	(CI-CH) Silty Clay: medium to high plasticity, red brown, dry to moist
66A	0.00-0.45	Topsoil/Fill	Clayey Silt: low liquid limit, brown with brick fragments and a terracotta pipe, dry
	0.45-0.70	Natural	(CI-CH) Silty Clay: medium to high plasticity, red brown, dry

Note:

PP = Pocket Penetrometer

MC = Moisture Content

PL = Plastic Limit

GeoEnviro Consultancy

TABLE 1A (Page 6 of 7)

SUMMARY OF SOIL PROFILE

NSW Land and Housing Corporation

Proposed Residential Subdivision Development

Copperfield Road and Julius Street Rosemeadow

Test Pit Number	Depth (m)	Profile Type	Description
67A	0.00-0.25	Topsoil/Fill	Clayey Silt: low liquid limit, brown, dry to moist
	0.25-0.50	Natural	(CI-CH) Silty Clay: medium to high plasticity, red brown, dry to moist
68A	0.00-0.35	Topsoil/Fill	Clayey Silt: low liquid limit, brown, dry
	0.35-0.60	Natural	(CI-CH) Silty Clay: medium to high plasticity, red brown, dry
69A	0.00-0.30	Topsoil/Fill	Clayey Silt: low liquid limit, brown, dry
	0.30-0.60	Natural	(CI-CH) Silty Clay: medium to high plasticity, red brown, dry

Note:

PP = Pocket Penetrometer

MC = Moisture Content

PL = Plastic Limit

GeoEnviro Consultancy

TABLE 1A (Page 7 of 7)

SUMMARY OF SOIL PROFILE

NSW Land and Housing Corporation

Proposed Residential Subdivision Development

Copperfield Road and Julius Street Rosemeadow

Sample	Depths (m)	Sample Date	Sample Type	Analysis														
				pH	Heavy Metals								OCP	PCB	TRH	BTEX	PAH	Asbestos
					As	Cd	Cr	Cu	Pb	Hg	Ni	Zn						
TP 1A	0.20-0.30	3/07/2019	Soil		o	o	o	o	o	o	o	o	o	o	o	o	o	o
TP 2A	0.00-0.10	3/07/2019	Soil		o	o	o	o	o	o	o	o	o	o				
TP 4A	0.00-0.10	3/07/2019	Soil		o	o	o	o	o	o	o	o	o	o	o	o	o	o
TP 5A	0.30-0.40	3/07/2019	Soil		o	o	o	o	o	o	o	o	o	o				
TP 7A	0.20-0.30	3/07/2019	Soil		o	o	o	o	o	o	o	o	o	o	o	o	o	o
TP 8A	0.30-0.40	3/07/2019	Soil		o	o	o	o	o	o	o	o	o	o				
TP 9A	0.00-0.10	3/07/2019	Soil		o	o	o	o	o	o	o	o	o	o	o	o	o	o
TP 11A	0.00-0.10	3/07/2019	Soil		o	o	o	o	o	o	o	o	o	o	o	o	o	o
TP 12A	0.20-0.30	3/07/2019	Soil		o	o	o	o	o	o	o	o	o	o				
TP 13A	0.00-0.10	3/07/2019	Soil		o	o	o	o	o	o	o	o	o	o	o	o	o	o
TP 14A	0.10-0.20	3/07/2019	Soil		o	o	o	o	o	o	o	o	o	o	o	o	o	o
TP 15A	0.00-0.10	3/07/2019	Soil		o	o	o	o	o	o	o	o	o	o	o	o	o	o
TP 15A	0.30-0.40	3/07/2019	Soil	o	o	o	o	o	o	o	o	o	o	o				
TP 19A	0.20-0.30	3/07/2019	Soil		o	o	o	o	o	o	o	o	o	o	o	o	o	o
TP 20A	0.10-0.20	3/07/2019	Soil		o	o	o	o	o	o	o	o	o	o				
TP 22A	0.00-0.10	3/07/2019	Soil	o	o	o	o	o	o	o	o	o	o	o				
TP 24A	0.50-0.60	3/07/2019	Soil		o	o	o	o	o	o	o	o	o	o	o	o	o	o
TP 26A	0.00-0.10	3/07/2019	Soil		o	o	o	o	o	o	o	o	o	o				
TP 27A	0.20-0.30	3/07/2019	Soil		o	o	o	o	o	o	o	o	o	o	o	o	o	o
TP 29A	0.00-0.10	3/07/2019	Soil	o	o	o	o	o	o	o	o	o	o	o				
TP 30A	0.20-0.30	3/07/2019	Soil		o	o	o	o	o	o	o	o	o	o	o	o	o	o
TP 32A	0.00-0.10	3/07/2019	Soil		o	o	o	o	o	o	o	o	o	o				
TP 33A	0.10-0.20	3/07/2019	Soil		o	o	o	o	o	o	o	o	o	o	o	o	o	o
TP 36A	0.10-0.20	3/07/2019	Soil		o	o	o	o	o	o	o	o	o	o				
TP 37A	0.00-0.10	3/07/2019	Soil		o	o	o	o	o	o	o	o	o	o	o	o	o	o
TP 38A	0.10-0.20	3/07/2019	Soil		o	o	o	o	o	o	o	o	o	o	o	o	o	o
TP 39A	0.00-0.10	3/07/2019	Soil		o	o	o	o	o	o	o	o	o	o				
TP 40A	0.30-0.40	3/07/2019	Soil		o	o	o	o	o	o	o	o	o	o	o	o	o	o
TP 41A	0.00-0.10	3/07/2019	Soil		o	o	o	o	o	o	o	o	o	o	o	o	o	o
TP 43A	0.00-0.10	3/07/2019	Soil		o	o	o	o	o	o	o	o	o	o				
TP 45A	0.20-0.30	3/07/2019	Soil		o	o	o	o	o	o	o	o	o	o				
TP 46A	0.50-0.60	3/07/2019	Soil		o	o	o	o	o	o	o	o	o	o	o	o	o	o
TP 47A	0.40-0.50	3/07/2019	Soil	o	o	o	o	o	o	o	o	o	o	o				
TP 49A	0.00-0.10	3/07/2019	Soil		o	o	o	o	o	o	o	o	o	o	o	o	o	o
TP 51A	0.20-0.30	3/07/2019	Soil		o	o	o	o	o	o	o	o	o	o				
TP 53A	0.10-0.20	3/07/2019	Soil		o	o	o	o	o	o	o	o	o	o				
TP 55A	0.10-0.20	3/07/2019	Soil		o	o	o	o	o	o	o	o	o	o	o	o	o	o
TP 56A	0.30-0.40	3/07/2019	Soil		o	o	o	o	o	o	o	o	o	o				
TP 58A	0.20-0.30	3/07/2019	Soil		o	o	o	o	o	o	o	o	o	o	o	o	o	o
TP 60A	0.10-0.20	3/07/2019	Soil	o	o	o	o	o	o	o	o	o	o	o				
TP 61A	0.00-0.10	3/07/2019	Soil		o	o	o	o	o	o	o	o	o	o	o	o	o	o
TP 62A	0.00-0.10	3/07/2019	Soil		o	o	o	o	o	o	o	o	o	o				
TP 64A	0.40-1.50	3/07/2019	Soil		o	o	o	o	o	o	o	o	o	o				
TP 65A	0.00-0.10	3/07/2019	Soil		o	o	o	o	o	o	o	o	o	o	o	o	o	o
TP 66A	0.10-0.20	3/07/2019	Soil		o	o	o	o	o	o	o	o	o	o				
TP 67A	0.00-0.10	3/07/2019	Soil		o	o	o	o	o	o	o	o	o	o	o	o	o	o
TP 68A	0.00-0.10	3/07/2019	Soil		o	o	o	o	o	o	o	o	o	o				
TP 69A	0.00-0.10	3/07/2019	Soil		o	o	o	o	o	o	o	o	o	o				
Duplicate A	-	3/07/2019	Soil		o	o	o	o	o	o	o	o	o	o	o	o	o	
Duplicate B	-	3/07/2019	Soil		o	o	o	o	o	o	o	o	o	o	o	o	o	
Duplicate C	-	3/07/2019	Soil		o	o	o	o	o	o	o	o	o	o				
Duplicate D	-	3/07/2019	Soil		o	o	o	o	o	o	o	o	o	o				
TP 1A - Fibro	-	3/07/2019	Material															o
TP 13A - Fibro	-	3/07/2019	Material															o
TP 14A - Fibro	-	3/07/2019	Material															o
TP 19A - Fibro	-	3/07/2019	Material															o
TP 27A - Fibro	-	3/07/2019	Material															o
TP 33A - Fibro	-	3/07/2019	Material															o
TP 37A - Fibro	-	3/07/2019	Material															o
TP 38A - Fibro	-	3/07/2019	Material															o
TP 40A - Fibro	-	3/07/2019	Material															o
TP 46A - Fibro	-	3/07/2019	Material															o
TP 55A - Fibro	-	3/07/2019	Material															o
TP 58A - Fibro	-	3/07/2019	Material															o
TP 61A - Fibro	-	3/07/2019	Material															o

Note: O denotes tested

GeoEnviro Consultancy

TABLE 2A

Analytical Program

NSW Land and Housing Corporation

Proposed Residential Subdivision Development

Copperfield Road and Julius Street Rosemeadow

Sample	Depths (m)	pH	Arsenic	Cadmium	Chromium	Copper	Lead	Mercury	Nickel	Zinc
TP 1A	0.20-0.30		10	<0.4	25	25	24	<0.1	14	51
TP 2A	0.00-0.10		6	<0.4	11	21	23	<0.1	9	66
TP 4A	0.00-0.10		8	<0.4	16	25	24	<0.1	12	39
TP 5A	0.30-0.40		6	<0.4	14	21	22	<0.1	10	45
TP 7A	0.20-0.30		5	<0.4	14	65	19	<0.1	10	40
TP 8A	0.30-0.40		7	<0.4	16	24	32	<0.1	9	34
TP 9A	0.00-0.10		7	<0.4	18	23	24	<0.1	10	36
TP 11A	0.00-0.10		7	<0.4	12	21	20	<0.1	8	33
TP 12A	0.20-0.30		5	<0.4	11	25	22	<0.1	8	39
TP 13A	0.00-0.10		<4	<0.4	12	19	19	<0.1	7	38
TP 14A	0.10-0.20		6	<0.4	16	23	20	<0.1	9	34
TP 15A	0.00-0.10		5	<0.4	13	30	22	<0.1	10	42
TP 15A	0.30-0.40	6.2	5	<0.4	11	32	17	<0.1	7	32
TP 19A	0.20-0.30		6	<0.4	15	27	50	<0.1	9	42
TP 20A	0.10-0.20		6	<0.4	11	28	20	<0.1	8	33
TP 22A	0.00-0.10	6.1	6	<0.4	14	28	26	<0.1	9	46
TP 24A	0.50-0.60		7	<0.4	17	22	18	<0.1	7	34
TP 26A	0.00-0.10		6	<0.4	18	25	24	<0.1	10	32
TP 27A	0.20-0.30		7	<0.4	14	26	26	<0.1	13	41
TP 29A	0.00-0.10	6.2	6	<0.4	16	22	19	<0.1	7	28
TP 30A	0.20-0.30		5	<0.4	15	22	22	<0.1	9	36
TP 32A	0.00-0.10		5	<0.4	16	34	40	<0.1	14	62
TP 33A	0.10-0.20		6	<0.4	16	29	24	<0.1	10	57
TP 36A	0.10-0.20		6	<0.4	16	24	25	<0.1	10	45
TP 37A	0.00-0.10		6	<0.4	15	28	20	<0.1	9	31
TP 38A	0.10-0.20		7	<0.4	16	29	27	<0.1	12	50
TP 39A	0.00-0.10		6	<0.4	14	29	22	<0.1	10	38
TP 40A	0.30-0.40		7	<0.4	16	28	28	<0.1	13	89
TP 41A	0.00-0.10		6	<0.4	15	26	22	<0.1	11	41
TP 43A	0.00-0.10		6	<0.4	14	27	25	<0.1	10	49
TP 45A	0.20-0.30		6	<0.4	20	25	26	<0.1	10	37
TP 46A	0.50-0.60		5	<0.4	16	26	24	<0.1	9	42
TP 47A	0.40-0.50	5.0	5	<0.4	14	24	22	<0.1	8	31
TP 49A	0.00-0.10		5	<0.4	13	26	22	<0.1	9	35
TP 51A	0.20-0.30		6	<0.4	14	28	24	<0.1	9	34
TP 53A	0.10-0.20		6	<0.4	14	27	20	<0.1	9	31
TP 55A	0.10-0.20		5	<0.4	15	21	21	<0.1	10	33
TP 56A	0.30-0.40		5	<0.4	15	24	22	<0.1	9	40
TP 58A	0.20-0.30		5	<0.4	19	33	25	0.1	12	39
TP 60A	0.10-0.20	7.5	5	<0.4	17	22	22	<0.1	12	39
TP 61A	0.00-0.10		7	<0.4	22	26	23	0.1	11	38
TP 62A	0.00-0.10		5	<0.4	13	17	20	<0.1	9	39
TP 64A	0.40-1.50		6	<0.4	12	22	19	<0.1	9	34
TP 65A	0.00-0.10		6	<0.4	13	34	17	<0.1	9	44
TP 66A	0.10-0.20		6	<0.4	18	24	21	<0.1	12	47
TP 67A	0.00-0.10		7	<0.4	14	23	25	<0.1	12	47
TP 68A	0.00-0.10		6	<0.4	16	24	26	<0.1	13	44
TP 69A	0.00-0.10		6	<0.4	13	25	21	<0.1	17	49
Duplicate A	-		7	<0.4	20	26	24	<0.1	16	69
Duplicate B	-		6	<0.4	17	22	23	<0.1	9	33
Duplicate C	-		8	<0.4	15	28	25	<0.1	10	36
Duplicate D	-		6	<0.4	13	34	20	<0.1	9	45
HBILs 'A' Criteria			**100**	**20**	**100 (VI)**	**6000**	**300**	**40**	**400**	**7400**
EIL Criteria*			**106**	**NA**	**265**	**156**	**1123**	**NA**	**160**	**311**

EIL Derivation

ABC[4]	**6**	**NA**	**15**	**26**	**23**	**NA**	**10**	**41**
ACL[5]	**100**	**NA**	**250**	**130**	**1100**	**NA**	**150**	**270**

Notes

1) All results are expressed as mg/kg and pH (units).

2) Figures in bold italics exceed the EIL Criteria

3) Figures in bold italics and underlined exceed the HBIL 'A' Criteria

4) Ambient Background Concentrations

5) Added Contaminant Limits

* EIL = ABC+ACL

GeoEnviro Consultancy

TABLE 3A

Summary of Analytical Results - Heavy Metals

NSW Land and Housing Corporation

Proposed Residential Subdivision Development

Copperfield Road and Julius Street Rosemeadow

Sample	Depths (m)	HCB	alpha-BHC	gamma-BHC	beta-BHC	Heptachlor	delta-BHC	Aldrin	Heptachlor Epoxide	gamma-Chlordane	alpha-chlordane	Endosulfan I	pp-DDE	Dieldrin	Endrin	pp-DDD	Endosulfan II	pp-DDT	Endrin Aldehyde	Endosulfan Sulphate	Methoxychlor	Total OCP
TP 1A	0.20-0.30	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
TP 2A	0.00-0.10	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
TP 4A	0.00-0.10	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
TP 5A	0.30-0.40	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
TP 7A	0.20-0.30	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
TP 8A	0.30-0.40	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
TP 9A	0.00-0.10	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
TP 11A	0.00-0.10	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
TP 12A	0.20-0.30	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
TP 13A	0.00-0.10	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
TP 14A	0.10-0.20	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
TP 15A	0.00-0.10	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
TP 15A	0.30-0.40	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
TP 19A	0.20-0.30	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.2	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.2
TP 20A	0.10-0.20	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
TP 22A	0.00-0.10	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
TP 24A	0.50-0.60	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
TP 26A	0.00-0.10	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
TP 27A	0.20-0.30	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
TP 29A	0.00-0.10	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
TP 30A	0.20-0.30	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.2	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.2
TP 32A	0.00-0.10	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
TP 33A	0.10-0.20	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
TP 36A	0.10-0.20	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
TP 37A	0.00-0.10	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
TP 38A	0.10-0.20	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
TP 39A	0.00-0.10	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
TP 40A	0.30-0.40	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
TP 41A	0.00-0.10	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
TP 43A	0.00-0.10	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
TP 45A	0.20-0.30	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
TP 46A	0.50-0.60	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
TP 47A	0.40-0.50	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
TP 49A	0.00-0.10	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
TP 51A	0.20-0.30	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
TP 53A	0.10-0.20	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
TP 55A	0.10-0.20	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.1
TP 56A	0.30-0.40	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
TP 58A	0.20-0.30	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
TP 60A	0.10-0.20	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	1.4	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	1.4
TP 61A	0.00-0.10	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
TP 62A	0.00-0.10	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
TP 64A	0.40-1.50	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
TP 65A	0.00-0.10	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
TP 66A	0.10-0.20	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
TP 67A	0.00-0.10	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
TP 68A	0.00-0.10	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
TP 69A	0.00-0.10	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Duplicate A	-	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Duplicate B	-	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Duplicate C	-	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Duplicate D	-	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
HBILs 'A' Criteria		**10**			**6**		**6**			**50**		**270**	**240**	**6**	**10**	**240**		**240**			**300**	

Notes

1) All results are expressed as mg/kg and pH (units).

2) Figures in bold italics exceed the HBILs 'A' Criteria

GeoEnviro Consultancy

TABLE 4A

Summary of Analytical Results - OCP

NSW Land and Housing Corporation

Proposed Residential Subdivision Development

Copperfield Road and Julius Street Rosemeadow

Sample	Depths (m)	Arochlor 1016	Arochlor 1221	Arochlor 1232	Arochlor 1242	Arochlor 1248	Arochlor 1254	Arochlor 1260	Total PCB
TP 1A	0.20-0.30	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
TP 2A	0.00-0.10	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
TP 4A	0.00-0.10	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
TP 5A	0.30-0.40	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
TP 7A	0.20-0.30	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
TP 8A	0.30-0.40	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
TP 9A	0.00-0.10	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
TP 11A	0.00-0.10	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
TP 12A	0.20-0.30	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
TP 13A	0.00-0.10	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
TP 14A	0.10-0.20	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
TP 15A	0.00-0.10	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
TP 15A	0.30-0.40	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
TP 19A	0.20-0.30	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
TP 20A	0.10-0.20	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
TP 22A	0.00-0.10	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
TP 24A	0.50-0.60	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
TP 26A	0.00-0.10	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
TP 27A	0.20-0.30	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
TP 29A	0.00-0.10	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
TP 30A	0.20-0.30	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
TP 32A	0.00-0.10	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
TP 33A	0.10-0.20	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
TP 36A	0.10-0.20	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
TP 37A	0.00-0.10	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
TP 38A	0.10-0.20	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
TP 39A	0.00-0.10	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
TP 40A	0.30-0.40	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
TP 41A	0.00-0.10	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
TP 43A	0.00-0.10	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
TP 45A	0.20-0.30	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
TP 46A	0.50-0.60	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
TP 47A	0.40-0.50	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
TP 49A	0.00-0.10	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
TP 51A	0.20-0.30	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
TP 53A	0.10-0.20	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
TP 55A	0.10-0.20	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
TP 56A	0.30-0.40	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
TP 58A	0.20-0.30	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
TP 60A	0.10-0.20	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
TP 61A	0.00-0.10	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
TP 62A	0.00-0.10	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
TP 64A	0.40-1.50	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
TP 65A	0.00-0.10	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
TP 66A	0.10-0.20	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
TP 67A	0.00-0.10	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
TP 68A	0.00-0.10	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
TP 69A	0.00-0.10	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Duplicate A	-	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Duplicate B	-	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Duplicate C	-	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Duplicate D	-	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
HBILs 'A' Criteria									**1**

Notes

1) All results are expressed as mg/kg and pH (units).

2) Figures in bold italics exceed the HBILs 'A' Criteria

GeoEnviro Consultancy

TABLE 5A
Summary of Analytical Results - PCB

NSW Land and Housing Corporation
Proposed Residential Subdivision Development
Copperfield Road and Julius Street Rosemeadow

Sample	Depths (m)	C_6-C_9	C_{10}-C_{14}	C_{15}-C_{28}	C_{29}-C_{36}	C_{10}-C_{36}	F1 [4] C_6-C_{10}	F2 [5] $>C_{10}$-C_{16}	F3 C_{16}-C_{34}	F4 C_{34}-C_{40}	Volatile Organic Compounds (VOC)					
											Benzene	Toluene	Ethylbenzene	m+p-xylene	o-Xylene	Naphthalene
TP 1A	0.20-0.30	<25	<50	<100	<100	<250	<25	<50	<100	<100	<0.2	<0.5	<1	<2	<1	<1
TP 4A	0.00-0.10	<25	<50	<100	<100	<250	<25	<50	<100	<100	<0.2	<0.5	<1	<2	<1	<1
TP 7A	0.20-0.30	<25	<50	<100	<100	<250	<25	<50	<100	<100	<0.2	<0.5	<1	<2	<1	<1
TP 9A	0.00-0.10	<25	<50	<100	<100	<250	<25	<50	<100	<100	<0.2	<0.5	<1	<2	<1	<1
TP 11A	0.00-0.10	<25	<50	<100	<100	<250	<25	<50	<100	<100	<0.2	<0.5	<1	<2	<1	<1
TP 13A	0.00-0.10	<25	<50	<100	<100	<250	<25	<50	<100	<100	<0.2	<0.5	<1	<2	<1	<1
TP 14A	0.10-0.20	<25	<50	<100	<100	<250	<25	<50	<100	<100	<0.2	<0.5	<1	<2	<1	<1
TP 15A	0.00-0.10	<25	<50	<100	<100	<250	<25	<50	<100	<100	<0.2	<0.5	<1	<2	<1	<1
TP 19A	0.20-0.30	<25	<50	<100	<100	<250	<25	<50	<100	<100	<0.2	<0.5	<1	<2	<1	<1
TP 24A	0.50-0.60	<25	<50	<100	<100	<250	<25	<50	<100	<100	<0.2	<0.5	<1	<2	<1	<1
TP 27A	0.20-0.30	<25	<50	<100	<100	<250	<25	<50	<100	<100	<0.2	<0.5	<1	<2	<1	<1
TP 30A	0.20-0.30	<25	<50	<100	<100	<250	<25	<50	<100	<100	<0.2	<0.5	<1	<2	<1	<1
TP 33A	0.10-0.20	<25	<50	<100	<100	<250	<25	<50	<100	<100	<0.2	<0.5	<1	<2	<1	<1
TP 37A	0.00-0.10	<25	<50	<100	<100	<250	<25	<50	<100	<100	<0.2	<0.5	<1	<2	<1	<1
TP 38A	0.10-0.20	<25	<50	<100	<100	<250	<25	<50	<100	<100	<0.2	<0.5	<1	<2	<1	<1
TP 40A	0.30-0.40	<25	<50	<100	<100	<250	<25	<50	<100	<100	<0.2	<0.5	<1	<2	<1	<1
TP 41A	0.00-0.10	<25	<50	<100	<100	<250	<25	<50	<100	<100	<0.2	<0.5	<1	<2	<1	<1
TP 46A	0.50-0.60	<25	<50	<100	<100	<250	<25	<50	<100	<100	<0.2	<0.5	<1	<2	<1	<1
TP 49A	0.00-0.10	<25	<50	<100	<100	<250	<25	<50	<100	<100	<0.2	<0.5	<1	<2	<1	<1
TP 55A	0.10-0.20	<25	<50	<100	<100	<250	<25	<50	<100	<100	<0.2	<0.5	<1	<2	<1	<1
TP 58A	0.20-0.30	<25	<50	<100	<100	<250	<25	<50	<100	<100	<0.2	<0.5	<1	<2	<1	<1
TP 61A	0.00-0.10	<25	<50	<100	<100	<250	<25	<50	<100	<100	<0.2	<0.5	<1	<2	<1	<1
TP 65A	0.00-0.10	<25	<50	<100	<100	<250	<25	<50	<100	<100	<0.2	<0.5	<1	<2	<1	<1
TP 67A	0.00-0.10	<25	<50	<100	<100	<250	<25	<50	<100	<100	<0.2	<0.5	<1	<2	<1	<1
Duplicate A	-	<25	<50	<100	<100	<250	<25	<50	<100	<100	<0.2	<0.5	<1	<2	<1	<1
Duplicate B	-	<25	<50	<100	<100	<250	<25	<50	<100	<100	<0.2	<0.5	<1	<2	<1	<1
Duplicate C	-															
Duplicate D	-															
HSLs 'A and B' Criteria (CLAY)	**0m to <1m**						**50**	**280**			**0.7**	**480**	**480**	**110**		**5**
	1m to <2m						**90**				**1**			**310**		
	2m to < 4m						**150**				**2**					
	4m+						**290**				**3**					
ESL Criteria							**180**	**120**	**1300**	**5600**	**65**	**105**	**125**	**45**		

Notes

1) All results are expressed as mg/kg unless otherwise specified

2) Figures in bold exceed the NSW DEC criteria

3) ND Not detected

4) F1 is C_6-C_{10} minus the sum of the BTEX concentrations

5) F2 is $>C_{10}$-C_{16} Minus Napthalene

6) Figures in bold italics exceed the ESL Criteria

7) Figures in bold italics that have been underlined exceed the HSLs 'A and B' Criteria

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TABLE 6A

Summary of Analytical Results - TRH and VOC

NSW Land and Housing Corporation

Proposed Residential Subdivision Development

Copperfield Road and Julius Street Rosemeadow

Sample	Depths (m)	Naphthalene	Acenaphthylene	Acenaphthene	Fluorene	Phenanthrene	Anthracene	Fluoranthene	Pyrene	Benzo(a)anthracene	Chrysene	Benzo(b+k)fluoranthene	Benzo(a)pyrene	Indeno(1,2,3-c,d)pyrene	Dibenzo(a,h)anthracene	Benzo(g,h,i)perylene	Benzo(a)pyrene TEQ	Total PAHs
TP 1A	0.20-0.30	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.2	<0.05	<0.1	<0.1	<0.1	<0.5	<0.05
TP 4A	0.00-0.10	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.2	<0.05	<0.1	<0.1	<0.1	<0.5	<0.05
TP 7A	0.20-0.30	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.2	<0.05	<0.1	<0.1	<0.1	<0.5	<0.05
TP 9A	0.00-0.10	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.2	<0.05	<0.1	<0.1	<0.1	<0.5	<0.05
TP 11A	0.00-0.10	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.2	<0.05	<0.1	<0.1	<0.1	<0.5	<0.05
TP 13A	0.00-0.10	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.2	<0.05	<0.1	<0.1	<0.1	<0.5	<0.05
TP 14A	0.10-0.20	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.2	<0.05	<0.1	<0.1	<0.1	<0.5	<0.05
TP 15A	0.00-0.10	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.2	<0.05	<0.1	<0.1	<0.1	<0.5	<0.05
TP 19A	0.20-0.30	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.2	<0.05	<0.1	<0.1	<0.1	<0.5	<0.05
TP 24A	0.50-0.60	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.2	<0.05	<0.1	<0.1	<0.1	<0.5	<0.05
TP 27A	0.20-0.30	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.2	<0.05	<0.1	<0.1	<0.1	<0.5	<0.05
TP 30A	0.20-0.30	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.2	<0.05	<0.1	<0.1	<0.1	<0.5	<0.05
TP 33A	0.10-0.20	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.2	<0.05	<0.1	<0.1	<0.1	<0.5	<0.05
TP 37A	0.00-0.10	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.2	<0.05	<0.1	<0.1	<0.1	<0.5	<0.05
TP 38A	0.10-0.20	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.2	<0.05	<0.1	<0.1	<0.1	<0.5	<0.05
TP 40A	0.30-0.40	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.2	<0.05	<0.1	<0.1	<0.1	<0.5	<0.05
TP 41A	0.00-0.10	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.2	<0.05	<0.1	<0.1	<0.1	<0.5	<0.05
TP 46A	0.50-0.60	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.2	<0.05	<0.1	<0.1	<0.1	<0.5	<0.05
TP 49A	0.00-0.10	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.2	<0.05	<0.1	<0.1	<0.1	<0.5	<0.05
TP 55A	0.10-0.20	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.2	<0.05	<0.1	<0.1	<0.1	<0.5	<0.05
TP 58A	0.20-0.30	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.2	<0.05	<0.1	<0.1	<0.1	<0.5	<0.05
TP 61A	0.00-0.10	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.2	<0.05	<0.1	<0.1	<0.1	<0.5	<0.05
TP 65A	0.00-0.10	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.2	0.2	0.2	0.1	<0.2	0.1	<0.1	<0.1	<0.1	<0.5	0.92
TP 67A	0.00-0.10	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.2	<0.05	<0.1	<0.1	<0.1	<0.5	<0.05
Duplicate A	-	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.2	<0.05	<0.1	<0.1	<0.1	<0.5	<0.05
Duplicate B	-	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.2	<0.05	<0.1	<0.1	<0.1	<0.5	<0.05
HBILs 'A' Criteria		**3**															**3***	**300**
ESL Criteria													**0.7**					

Notes

1) All results are expressed as mg/kg

2) Figures in bold italics exceed the ESL Criteria

3) Figures in bold italics that have been underlined exceed the HBIL 'A' Criteria

* B(a)P TEQ is calculated by multiplying the concentration of each carcinogenic PAH in the sample by its B(a)P TEF, given below, and summing these products

PAH Species	TEF
Benzo(a)anthracene	0.1
Benzo(a)pyrene	1
Benzo(b+j)fluoranthene	0.1
Benzo(k)fluoranthene	0.1
Benzo(g,h,i)perylene	0.01
Chrysene	0.01
Dibenzo(a,h)anthracene	1
Indeno(1,2,3-c,d)pyrene	0.1

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TABLE 7A
Summary of Analytical Results - PAH

NSW Land and Housing Corporation
Proposed Residential Subdivision Development
Copperfield Road and Julius Street Rosemeadow

Sample	Depths (m)	Asbestos
TP 1A	0.20-0.30	ND
TP 4A	0.00-0.10	ND
TP 7A	0.20-0.30	ND
TP 9A	0.00-0.10	ND
TP 11A	0.00-0.10	ND
TP 13A	0.00-0.10	ND
TP 14A	0.10-0.20	ND
TP 15A	0.00-0.10	ND
TP 19A	0.20-0.30	ND
TP 24A	0.50-0.60	ND
TP 27A	0.20-0.30	ND
TP 30A	0.20-0.30	ND
TP 33A	0.10-0.20	ND
TP 37A	0.00-0.10	ND
TP 38A	0.10-0.20	ND
TP 40A	0.30-0.40	ND
TP 41A	0.00-0.10	ND
TP 46A	0.50-0.60	ND
TP 49A	0.00-0.10	ND
TP 55A	0.10-0.20	ND
TP 58A	0.20-0.30	ND
TP 61A	0.00-0.10	ND
TP 65A	0.00-0.10	ND
TP 67A	0.00-0.10	ND
TP 1A - Fibro	-	ND
TP 13A - Fibro	-	Chrysotile, Amosite and Crocidolite Asbestos
TP 14A - Fibro	-	ND
TP 19A - Fibro	-	ND
TP 27A - Fibro	-	ND
TP 33A - Fibro	-	ND
TP 37A - Fibro	-	Chrysotile Asbestos
TP 38A - Fibro	-	ND
TP 40A - Fibro	-	ND
TP 46A - Fibro	-	ND
TP 55A - Fibro	-	ND
TP 58A - Fibro	-	ND
TP 61A - Fibro	-	Chrysotile, Amosite and Crocidolite Asbestos
HBILs 'A' Criteria		**0.01% / 0.001%** [1]

Note: ND = Not detected

Measured in %w/w

1) Bonded Asbestos Contaminaint Material / Fiberous Asbestos and Asbestos Fines

2) Figures in bold italics exceed the HBILs 'A' Criteria

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TABLE 8A

Summary of Analytical Results - Asbestos

NSW Land and Housing Corporation

Proposed Residential Subdivision Development

Copperfield Road and Julius Street Rosemeadow

Sample	Depths (m)	Metals							
		Arsenic	Cadmium	Chromium	Copper	Lead	Mercury	Nickel	Zinc
TP 1A	0.20-0.30	10	<0.4	25	25	24	<0.1	14	51
Duplicate A	-	7	<0.4	20	26	24	<0.1	16	69
Relative Percentage Difference (RPD)		35.3	NA	22.2	3.9	0.0	NA	13.3	30.0

Sample	Depths (m)	OCP	PCB	TRH	BTEX	PAH
TP 1A	0.20-0.30	ND	ND	ND	ND	ND
Duplicate A	-	ND	ND	ND	ND	ND
Relative Percentage Difference (RPD)		NA	NA	NA	NA	NA

Sample	Depths (m)	Metals							
		Arsenic	Cadmium	Chromium	Copper	Lead	Mercury	Nickel	Zinc
TP 11A	0.00-0.10	7	<0.4	12	21	20	<0.1	8	33
Duplicate B	-	6	<0.4	17	22	23	<0.1	9	33
Relative Percentage Difference (RPD)		15.4	NA	34.5	4.7	14.0	NA	11.8	0.0

Sample	Depths (m)	OCP	PCB	TRH	BTEX	PAH
TP 11A	0.00-0.10	ND	ND	ND	ND	ND
Duplicate B	-	ND	ND	ND	ND	ND
Relative Percentage Difference (RPD)		NA	NA	NA	NA	NA

Sample	Depths (m)	Metals							
		Arsenic	Cadmium	Chromium	Copper	Lead	Mercury	Nickel	Zinc
TP 26A	0.00-0.10	6	<0.4	18	25	24	<0.1	10	32
Duplicate C	-	8	<0.4	15	28	25	<0.1	10	36
Relative Percentage Difference (RPD)		28.6	NA	18.2	11.3	4.1	NA	0.0	11.8

Sample	Depths (m)	OCP	PCB	TRH	BTEX	PAH
TP 26A	0.00-0.10	ND	ND	ND	ND	ND
Duplicate C	-	ND	ND	ND	ND	ND
Relative Percentage Difference (RPD)		NA	NA	NA	NA	NA

Sample	Depths (m)	Metals							
		Arsenic	Cadmium	Chromium	Copper	Lead	Mercury	Nickel	Zinc
TP 43A	0.00-0.10	6	<0.4	14	27	25	<0.1	10	49
Duplicate D	-	6	<0.4	13	34	20	<0.1	9	45
Relative Percentage Difference (RPD)		0.0	NA	7.4	23.0	22.2	NA	10.5	8.5

Sample	Depths (m)	OCP	PCB	TRH	BTEX	PAH
TP 43A	0.00-0.10	ND	ND	ND	ND	ND
Duplicate D	-	ND	ND	ND	ND	ND
Relative Percentage Difference (RPD)		NA	NA	NA	NA	NA

Notes

1) All results are expressed as mg/kg .

2) ND - Not Detected

3) NA - Not Applicable

GeoEnviro Consultancy

TABLE 9A

Summary of Analytical Results - Quality Assurance

NSW Land and Housing Corporation

Proposed Residential Subdivision Development

Copperfield Road and Julius Street Rosemeadow

Photograph 1: Southern portion of the site looking towards the roundabout to the south-east of the site. Vacant with grass cover where previous dwellings once occupied.

Photograph 2: Southern portion of the site adjacent the Fitzwater Way with minor building debris on the ground surface including fibro pieces.

Photograph 3: Looking north from Fitzwater Way towards the middle of the site. Location of recently demolished buildings in the foreground with patchy grass cover and some trees sparsely scattered.

Photograph 4: Middle of the site looking north towards newly constructed dwellings on the adjacent northern properties in the background. Overgrown vegetation in the foreground.

Photograph 5: Middle of the site looking south with recently demolished building location in the foreground with some building debris on the bare ground surface.

Photograph 6: Northern portion of the site on Westminster Way looking north to the newly constructed dwellings on the adjacent northern properties in the background. Location of recently demolished buildings in the foreground overgrown and some building debris on the ground surface.

Photograph 7: Fibro fragment on the ground surface towards the northern portion of the site at the location of previous dwellings.

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CERTIFICATE OF ANALYSIS 221489

Client Details

Client	Geoenviro Consultancy Pty Ltd
Attention	Solern Liew
Address	PO Box 1543, Macquarie Centre, North Ryde, NSW, 2113

Sample Details

Your Reference	**JC17299B, Rosemeadow**
Number of Samples	62 Soil, 13 Material
Date samples received	11/07/2019
Date completed instructions received	11/07/2019

Analysis Details

Please refer to the following pages for results, methodology summary and quality control data.

Samples were analysed as received from the client. Results relate specifically to the samples as received.

Results are reported on a dry weight basis for solids and on an as received basis for other matrices.

Please refer to the last page of this report for any comments relating to the results.

Report Details

Date results requested by	18/07/2019
Date of Issue	18/07/2019

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Asbestos Approved By
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Authorised by Asbestos Approved Signatory: Lucy Zhu

Results Approved By
Jaimie Loa-Kum-Cheung, Metals Supervisor
Lucy Zhu, Senior Asbestos Analyst
Priya Samarawickrama, Senior Chemist
Steven Luong, Organics Supervisor

Authorised By

Nancy Zhang, Laboratory Manager

vTRH(C6-C10)/BTEXN in Soil						
Our Reference		221489-1	221489-3	221489-5	221489-7	221489-8
Your Reference	UNITS	TP 1A	TP 4A	TP 7A	TP 9A	TP 11A
Depth		0.20-0.30	0.00-0.10	0.20-0.30	0.00-0.10	0.00-0.10
Date Sampled		10/07/2019	10/07/2019	10/07/2019	10/07/2019	10/07/2019
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	15/07/2019	15/07/2019	15/07/2019	15/07/2019	15/07/2019
Date analysed	-	16/07/2019	16/07/2019	16/07/2019	16/07/2019	16/07/2019
TRH C_6 - C_9	mg/kg	<25	<25	<25	<25	<25
TRH C_6 - C_{10}	mg/kg	<25	<25	<25	<25	<25
vTPH C_6 - C_{10} less BTEX (F1)	mg/kg	<25	<25	<25	<25	<25
Benzene	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Toluene	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Ethylbenzene	mg/kg	<1	<1	<1	<1	<1
m+p-xylene	mg/kg	<2	<2	<2	<2	<2
o-Xylene	mg/kg	<1	<1	<1	<1	<1
naphthalene	mg/kg	<1	<1	<1	<1	<1
Total +ve Xylenes	mg/kg	<3	<3	<3	<3	<3
Surrogate aaa-Trifluorotoluene	%	90	95	94	94	97

vTRH(C6-C10)/BTEXN in Soil						
Our Reference		221489-10	221489-11	221489-12	221489-16	221489-21
Your Reference	UNITS	TP 13A	TP 14A	TP 15A	TP 19A	TP 24A
Depth		0.00-0.10	0.10-0.20	0.00-0.10	0.20-0.30	0.50-0.60
Date Sampled		10/07/2019	10/07/2019	10/07/2019	10/07/2019	10/07/2019
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	15/07/2019	15/07/2019	15/07/2019	15/07/2019	15/07/2019
Date analysed	-	16/07/2019	16/07/2019	16/07/2019	16/07/2019	16/07/2019
TRH C_6 - C_9	mg/kg	<25	<25	<25	<25	<25
TRH C_6 - C_{10}	mg/kg	<25	<25	<25	<25	<25
vTPH C_6 - C_{10} less BTEX (F1)	mg/kg	<25	<25	<25	<25	<25
Benzene	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Toluene	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Ethylbenzene	mg/kg	<1	<1	<1	<1	<1
m+p-xylene	mg/kg	<2	<2	<2	<2	<2
o-Xylene	mg/kg	<1	<1	<1	<1	<1
naphthalene	mg/kg	<1	<1	<1	<1	<1
Total +ve Xylenes	mg/kg	<3	<3	<3	<3	<3
Surrogate aaa-Trifluorotoluene	%	89	94	89	94	99

vTRH(C6-C10)/BTEXN in Soil						
Our Reference		221489-23	221489-27	221489-29	221489-31	221489-32
Your Reference	UNITS	TP 27A	TP 30A	TP 33A	TP 37A	TP 38A
Depth		0.20-0.30	0.20-0.30	0.10-0.20	0.00-0.10	0.10-0.20
Date Sampled		10/07/2019	10/07/2019	10/07/2019	10/07/2019	10/07/2019
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	15/07/2019	15/07/2019	15/07/2019	15/07/2019	15/07/2019
Date analysed	-	16/07/2019	16/07/2019	16/07/2019	16/07/2019	16/07/2019
TRH C_6 - C_9	mg/kg	<25	<25	<25	<25	<25
TRH C_6 - C_{10}	mg/kg	<25	<25	<25	<25	<25
vTPH C_6 - C_{10} less BTEX (F1)	mg/kg	<25	<25	<25	<25	<25
Benzene	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Toluene	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Ethylbenzene	mg/kg	<1	<1	<1	<1	<1
m+p-xylene	mg/kg	<2	<2	<2	<2	<2
o-Xylene	mg/kg	<1	<1	<1	<1	<1
naphthalene	mg/kg	<1	<1	<1	<1	<1
Total +ve Xylenes	mg/kg	<3	<3	<3	<3	<3
Surrogate aaa-Trifluorotoluene	%	84	90	90	98	88

vTRH(C6-C10)/BTEXN in Soil						
Our Reference		221489-34	221489-35	221489-38	221489-42	221489-45
Your Reference	UNITS	TP 40A	TP 41A	TP 46A	TP 49A	TP 55A
Depth		0.30-0.40	0.00-0.10	0.50-0.60	0.00-0.10	0.10-0.20
Date Sampled		10/07/2019	10/07/2019	10/07/2019	10/07/2019	10/07/2019
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	15/07/2019	15/07/2019	15/07/2019	15/07/2019	15/07/2019
Date analysed	-	16/07/2019	16/07/2019	16/07/2019	16/07/2019	16/07/2019
TRH C_6 - C_9	mg/kg	<25	<25	<25	<25	<25
TRH C_6 - C_{10}	mg/kg	<25	<25	<25	<25	<25
vTPH C_6 - C_{10} less BTEX (F1)	mg/kg	<25	<25	<25	<25	<25
Benzene	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Toluene	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Ethylbenzene	mg/kg	<1	<1	<1	<1	<1
m+p-xylene	mg/kg	<2	<2	<2	<2	<2
o-Xylene	mg/kg	<1	<1	<1	<1	<1
naphthalene	mg/kg	<1	<1	<1	<1	<1
Total +ve Xylenes	mg/kg	<3	<3	<3	<3	<3
Surrogate aaa-Trifluorotoluene	%	107	93	108	96	97

vTRH(C6-C10)/BTEXN in Soil						
Our Reference		221489-47	221489-51	221489-54	221489-56	221489-59
Your Reference	UNITS	TP 58A	TP 61A	TP 65A	TP 67A	Duplicate A
Depth		0.20-0.30	0.00-0.10	0.00-0.10	0.00-0.10	-
Date Sampled		10/07/2019	10/07/2019	10/07/2019	10/07/2019	10/07/2019
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	15/07/2019	15/07/2019	15/07/2019	15/07/2019	15/07/2019
Date analysed	-	17/07/2019	17/07/2019	17/07/2019	17/07/2019	17/07/2019
TRH C_6 - C_9	mg/kg	<25	<25	<25	<25	<25
TRH C_6 - C_{10}	mg/kg	<25	<25	<25	<25	<25
vTPH C_6 - C_{10} less BTEX (F1)	mg/kg	<25	<25	<25	<25	<25
Benzene	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Toluene	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Ethylbenzene	mg/kg	<1	<1	<1	<1	<1
m+p-xylene	mg/kg	<2	<2	<2	<2	<2
o-Xylene	mg/kg	<1	<1	<1	<1	<1
naphthalene	mg/kg	<1	<1	<1	<1	<1
Total +ve Xylenes	mg/kg	<3	<3	<3	<3	<3
Surrogate aaa-Trifluorotoluene	%	94	91	84	94	89

vTRH(C6-C10)/BTEXN in Soil		
Our Reference		221489-60
Your Reference	UNITS	Duplicate B
Depth		-
Date Sampled		10/07/2019
Type of sample		Soil
Date extracted	-	15/07/2019
Date analysed	-	17/07/2019
TRH C_6 - C_9	mg/kg	<25
TRH C_6 - C_{10}	mg/kg	<25
vTPH C_6 - C_{10} less BTEX (F1)	mg/kg	<25
Benzene	mg/kg	<0.2
Toluene	mg/kg	<0.5
Ethylbenzene	mg/kg	<1
m+p-xylene	mg/kg	<2
o-Xylene	mg/kg	<1
naphthalene	mg/kg	<1
Total +ve Xylenes	mg/kg	<3
Surrogate aaa-Trifluorotoluene	%	95

svTRH (C10-C40) in Soil						
Our Reference		221489-1	221489-3	221489-5	221489-7	221489-8
Your Reference	UNITS	TP 1A	TP 4A	TP 7A	TP 9A	TP 11A
Depth		0.20-0.30	0.00-0.10	0.20-0.30	0.00-0.10	0.00-0.10
Date Sampled		10/07/2019	10/07/2019	10/07/2019	10/07/2019	10/07/2019
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	15/07/2019	15/07/2019	15/07/2019	15/07/2019	15/07/2019
Date analysed	-	16/07/2019	16/07/2019	16/07/2019	16/07/2019	16/07/2019
TRH C_{10} - C_{14}	mg/kg	<50	<50	<50	<50	<50
TRH C_{15} - C_{28}	mg/kg	<100	<100	<100	<100	<100
TRH C_{29} - C_{36}	mg/kg	<100	<100	<100	<100	<100
TRH >C_{10} -C_{16}	mg/kg	<50	<50	<50	<50	<50
TRH >C_{10} - C_{16} less Naphthalene (F2)	mg/kg	<50	<50	<50	<50	<50
TRH >C_{16} -C_{34}	mg/kg	<100	<100	<100	<100	<100
TRH >C_{34} -C_{40}	mg/kg	<100	<100	<100	<100	<100
Total +ve TRH (>C10-C40)	mg/kg	<50	<50	<50	<50	<50
Surrogate o-Terphenyl	%	90	87	90	91	89

svTRH (C10-C40) in Soil						
Our Reference		221489-10	221489-11	221489-12	221489-16	221489-21
Your Reference	UNITS	TP 13A	TP 14A	TP 15A	TP 19A	TP 24A
Depth		0.00-0.10	0.10-0.20	0.00-0.10	0.20-0.30	0.50-0.60
Date Sampled		10/07/2019	10/07/2019	10/07/2019	10/07/2019	10/07/2019
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	15/07/2019	15/07/2019	15/07/2019	15/07/2019	15/07/2019
Date analysed	-	16/07/2019	16/07/2019	16/07/2019	16/07/2019	16/07/2019
TRH C_{10} - C_{14}	mg/kg	<50	<50	<50	<50	<50
TRH C_{15} - C_{28}	mg/kg	<100	<100	<100	<100	<100
TRH C_{29} - C_{36}	mg/kg	<100	<100	<100	<100	<100
TRH >C_{10} -C_{16}	mg/kg	<50	<50	<50	<50	<50
TRH >C_{10} - C_{16} less Naphthalene (F2)	mg/kg	<50	<50	<50	<50	<50
TRH >C_{16} -C_{34}	mg/kg	<100	<100	<100	<100	<100
TRH >C_{34} -C_{40}	mg/kg	<100	<100	<100	<100	<100
Total +ve TRH (>C10-C40)	mg/kg	<50	<50	<50	<50	<50
Surrogate o-Terphenyl	%	86	83	85	83	84

svTRH (C10-C40) in Soil						
Our Reference		221489-23	221489-27	221489-29	221489-31	221489-32
Your Reference	UNITS	TP 27A	TP 30A	TP 33A	TP 37A	TP 38A
Depth		0.20-0.30	0.20-0.30	0.10-0.20	0.00-0.10	0.10-0.20
Date Sampled		10/07/2019	10/07/2019	10/07/2019	10/07/2019	10/07/2019
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	15/07/2019	15/07/2019	15/07/2019	15/07/2019	15/07/2019
Date analysed	-	16/07/2019	16/07/2019	16/07/2019	16/07/2019	16/07/2019
TRH C_{10} - C_{14}	mg/kg	<50	<50	<50	<50	<50
TRH C_{15} - C_{28}	mg/kg	<100	<100	<100	<100	<100
TRH C_{29} - C_{36}	mg/kg	<100	<100	<100	<100	<100
TRH >C_{10} -C_{16}	mg/kg	<50	<50	<50	<50	<50
TRH >C_{10} - C_{16} less Naphthalene (F2)	mg/kg	<50	<50	<50	<50	<50
TRH >C_{16} -C_{34}	mg/kg	<100	<100	<100	<100	<100
TRH >C_{34} -C_{40}	mg/kg	<100	<100	<100	<100	<100
Total +ve TRH (>C10-C40)	mg/kg	<50	<50	<50	<50	<50
Surrogate o-Terphenyl	%	86	86	87	84	86

svTRH (C10-C40) in Soil						
Our Reference		221489-34	221489-35	221489-38	221489-42	221489-45
Your Reference	UNITS	TP 40A	TP 41A	TP 46A	TP 49A	TP 55A
Depth		0.30-0.40	0.00-0.10	0.50-0.60	0.00-0.10	0.10-0.20
Date Sampled		10/07/2019	10/07/2019	10/07/2019	10/07/2019	10/07/2019
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	15/07/2019	15/07/2019	15/07/2019	15/07/2019	15/07/2019
Date analysed	-	16/07/2019	16/07/2019	16/07/2019	16/07/2019	16/07/2019
TRH C_{10} - C_{14}	mg/kg	<50	<50	<50	<50	<50
TRH C_{15} - C_{28}	mg/kg	<100	<100	<100	<100	<100
TRH C_{29} - C_{36}	mg/kg	<100	<100	<100	<100	<100
TRH >C_{10} -C_{16}	mg/kg	<50	<50	<50	<50	<50
TRH >C_{10} - C_{16} less Naphthalene (F2)	mg/kg	<50	<50	<50	<50	<50
TRH >C_{16} -C_{34}	mg/kg	<100	<100	<100	<100	<100
TRH >C_{34} -C_{40}	mg/kg	<100	<100	<100	<100	<100
Total +ve TRH (>C10-C40)	mg/kg	<50	<50	<50	<50	<50
Surrogate o-Terphenyl	%	84	85	84	83	82

svTRH (C10-C40) in Soil						
Our Reference		221489-47	221489-51	221489-54	221489-56	221489-59
Your Reference	UNITS	TP 58A	TP 61A	TP 65A	TP 67A	Duplicate A
Depth		0.20-0.30	0.00-0.10	0.00-0.10	0.00-0.10	-
Date Sampled		10/07/2019	10/07/2019	10/07/2019	10/07/2019	10/07/2019
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	15/07/2019	15/07/2019	15/07/2019	15/07/2019	15/07/2019
Date analysed	-	16/07/2019	16/07/2019	16/07/2019	16/07/2019	16/07/2019
TRH C_{10} - C_{14}	mg/kg	<50	<50	<50	<50	<50
TRH C_{15} - C_{28}	mg/kg	<100	<100	<100	<100	<100
TRH C_{29} - C_{36}	mg/kg	<100	<100	<100	<100	<100
TRH >C_{10} -C_{16}	mg/kg	<50	<50	<50	<50	<50
TRH >C_{10} - C_{16} less Naphthalene (F2)	mg/kg	<50	<50	<50	<50	<50
TRH >C_{16} -C_{34}	mg/kg	<100	<100	<100	<100	<100
TRH >C_{34} -C_{40}	mg/kg	<100	<100	<100	<100	<100
Total +ve TRH (>C10-C40)	mg/kg	<50	<50	<50	<50	<50
Surrogate o-Terphenyl	%	82	82	81	82	82

svTRH (C10-C40) in Soil		
Our Reference		221489-60
Your Reference	UNITS	Duplicate B
Depth		-
Date Sampled		10/07/2019
Type of sample		Soil
Date extracted	-	15/07/2019
Date analysed	-	16/07/2019
TRH C_{10} - C_{14}	mg/kg	<50
TRH C_{15} - C_{28}	mg/kg	<100
TRH C_{29} - C_{36}	mg/kg	<100
TRH >C_{10} -C_{16}	mg/kg	<50
TRH >C_{10} - C_{16} less Naphthalene (F2)	mg/kg	<50
TRH >C_{16} -C_{34}	mg/kg	<100
TRH >C_{34} -C_{40}	mg/kg	<100
Total +ve TRH (>C10-C40)	mg/kg	<50
Surrogate o-Terphenyl	%	81

PAHs in Soil						
Our Reference		221489-1	221489-3	221489-5	221489-7	221489-8
Your Reference	UNITS	TP 1A	TP 4A	TP 7A	TP 9A	TP 11A
Depth		0.20-0.30	0.00-0.10	0.20-0.30	0.00-0.10	0.00-0.10
Date Sampled		10/07/2019	10/07/2019	10/07/2019	10/07/2019	10/07/2019
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	15/07/2019	15/07/2019	15/07/2019	15/07/2019	15/07/2019
Date analysed	-	15/07/2019	15/07/2019	15/07/2019	15/07/2019	15/07/2019
Naphthalene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Acenaphthylene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Acenaphthene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Fluorene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Phenanthrene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Anthracene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Fluoranthene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Pyrene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(a)anthracene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Chrysene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(b,j+k)fluoranthene	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Benzo(a)pyrene	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Indeno(1,2,3-c,d)pyrene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Dibenzo(a,h)anthracene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(g,h,i)perylene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Total +ve PAH's	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Benzo(a)pyrene TEQ calc (zero)	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(a)pyrene TEQ calc(half)	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(a)pyrene TEQ calc(PQL)	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Surrogate p-Terphenyl-d14	%	110	93	114	89	102

PAHs in Soil						
Our Reference		221489-10	221489-11	221489-12	221489-16	221489-21
Your Reference	UNITS	TP 13A	TP 14A	TP 15A	TP 19A	TP 24A
Depth		0.00-0.10	0.10-0.20	0.00-0.10	0.20-0.30	0.50-0.60
Date Sampled		10/07/2019	10/07/2019	10/07/2019	10/07/2019	10/07/2019
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	15/07/2019	15/07/2019	15/07/2019	15/07/2019	15/07/2019
Date analysed	-	15/07/2019	15/07/2019	15/07/2019	15/07/2019	15/07/2019
Naphthalene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Acenaphthylene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Acenaphthene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Fluorene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Phenanthrene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Anthracene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Fluoranthene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Pyrene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(a)anthracene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Chrysene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(b,j+k)fluoranthene	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Benzo(a)pyrene	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Indeno(1,2,3-c,d)pyrene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Dibenzo(a,h)anthracene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(g,h,i)perylene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Total +ve PAH's	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Benzo(a)pyrene TEQ calc (zero)	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(a)pyrene TEQ calc(half)	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(a)pyrene TEQ calc(PQL)	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Surrogate p-Terphenyl-d14	%	95	107	96	128	109

PAHs in Soil						
Our Reference		221489-23	221489-27	221489-29	221489-31	221489-32
Your Reference	UNITS	TP 27A	TP 30A	TP 33A	TP 37A	TP 38A
Depth		0.20-0.30	0.20-0.30	0.10-0.20	0.00-0.10	0.10-0.20
Date Sampled		10/07/2019	10/07/2019	10/07/2019	10/07/2019	10/07/2019
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	15/07/2019	15/07/2019	15/07/2019	15/07/2019	15/07/2019
Date analysed	-	15/07/2019	15/07/2019	15/07/2019	15/07/2019	15/07/2019
Naphthalene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Acenaphthylene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Acenaphthene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Fluorene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Phenanthrene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Anthracene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Fluoranthene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Pyrene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(a)anthracene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Chrysene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(b,j+k)fluoranthene	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Benzo(a)pyrene	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Indeno(1,2,3-c,d)pyrene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Dibenzo(a,h)anthracene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(g,h,i)perylene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Total +ve PAH's	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Benzo(a)pyrene TEQ calc (zero)	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(a)pyrene TEQ calc(half)	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(a)pyrene TEQ calc(PQL)	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Surrogate p-Terphenyl-d14	%	107	95	91	92	92

PAHs in Soil						
Our Reference		221489-34	221489-35	221489-38	221489-42	221489-45
Your Reference	UNITS	TP 40A	TP 41A	TP 46A	TP 49A	TP 55A
Depth		0.30-0.40	0.00-0.10	0.50-0.60	0.00-0.10	0.10-0.20
Date Sampled		10/07/2019	10/07/2019	10/07/2019	10/07/2019	10/07/2019
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	15/07/2019	15/07/2019	15/07/2019	15/07/2019	15/07/2019
Date analysed	-	15/07/2019	15/07/2019	15/07/2019	15/07/2019	15/07/2019
Naphthalene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Acenaphthylene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Acenaphthene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Fluorene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Phenanthrene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Anthracene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Fluoranthene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Pyrene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(a)anthracene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Chrysene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(b,j+k)fluoranthene	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Benzo(a)pyrene	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Indeno(1,2,3-c,d)pyrene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Dibenzo(a,h)anthracene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(g,h,i)perylene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Total +ve PAH's	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Benzo(a)pyrene TEQ calc (zero)	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(a)pyrene TEQ calc(half)	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(a)pyrene TEQ calc(PQL)	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Surrogate p-Terphenyl-d14	%	90	109	97	101	97

PAHs in Soil						
Our Reference		221489-47	221489-51	221489-54	221489-56	221489-59
Your Reference	UNITS	TP 58A	TP 61A	TP 65A	TP 67A	Duplicate A
Depth		0.20-0.30	0.00-0.10	0.00-0.10	0.00-0.10	-
Date Sampled		10/07/2019	10/07/2019	10/07/2019	10/07/2019	10/07/2019
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	15/07/2019	15/07/2019	15/07/2019	15/07/2019	15/07/2019
Date analysed	-	15/07/2019	15/07/2019	15/07/2019	15/07/2019	15/07/2019
Naphthalene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Acenaphthylene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Acenaphthene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Fluorene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Phenanthrene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Anthracene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Fluoranthene	mg/kg	<0.1	<0.1	0.2	<0.1	<0.1
Pyrene	mg/kg	<0.1	<0.1	0.2	<0.1	<0.1
Benzo(a)anthracene	mg/kg	<0.1	<0.1	0.2	<0.1	<0.1
Chrysene	mg/kg	<0.1	<0.1	0.1	<0.1	<0.1
Benzo(b,j+k)fluoranthene	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Benzo(a)pyrene	mg/kg	<0.05	<0.05	0.1	<0.05	<0.05
Indeno(1,2,3-c,d)pyrene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Dibenzo(a,h)anthracene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(g,h,i)perylene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Total +ve PAH's	mg/kg	<0.05	<0.05	0.92	<0.05	<0.05
Benzo(a)pyrene TEQ calc (zero)	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(a)pyrene TEQ calc(half)	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(a)pyrene TEQ calc(PQL)	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Surrogate p-Terphenyl-d14	%	95	98	93	89	92

PAHs in Soil		
Our Reference		221489-60
Your Reference	UNITS	Duplicate B
Depth		-
Date Sampled		10/07/2019
Type of sample		Soil
Date extracted	-	15/07/2019
Date analysed	-	15/07/2019
Naphthalene	mg/kg	<0.1
Acenaphthylene	mg/kg	<0.1
Acenaphthene	mg/kg	<0.1
Fluorene	mg/kg	<0.1
Phenanthrene	mg/kg	<0.1
Anthracene	mg/kg	<0.1
Fluoranthene	mg/kg	<0.1
Pyrene	mg/kg	<0.1
Benzo(a)anthracene	mg/kg	<0.1
Chrysene	mg/kg	<0.1
Benzo(b,j+k)fluoranthene	mg/kg	<0.2
Benzo(a)pyrene	mg/kg	<0.05
Indeno(1,2,3-c,d)pyrene	mg/kg	<0.1
Dibenzo(a,h)anthracene	mg/kg	<0.1
Benzo(g,h,i)perylene	mg/kg	<0.1
Total +ve PAH's	mg/kg	<0.05
Benzo(a)pyrene TEQ calc (zero)	mg/kg	<0.5
Benzo(a)pyrene TEQ calc(half)	mg/kg	<0.5
Benzo(a)pyrene TEQ calc(PQL)	mg/kg	<0.5
Surrogate p-Terphenyl-d14	%	89

Organochlorine Pesticides in soil						
Our Reference		221489-1	221489-2	221489-3	221489-4	221489-5
Your Reference	UNITS	TP 1A	TP 2A	TP 4A	TP 5A	TP 7A
Depth		0.20-0.30	0.00-0.10	0.00-0.10	0.30-0.40	0.20-0.30
Date Sampled		10/07/2019	10/07/2019	10/07/2019	10/07/2019	10/07/2019
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	15/07/2019	15/07/2019	15/07/2019	15/07/2019	15/07/2019
Date analysed	-	15/07/2019	15/07/2019	15/07/2019	15/07/2019	15/07/2019
HCB	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
alpha-BHC	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
gamma-BHC	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
beta-BHC	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Heptachlor	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
delta-BHC	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Aldrin	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Heptachlor Epoxide	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
gamma-Chlordane	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
alpha-chlordane	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Endosulfan I	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
pp-DDE	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Dieldrin	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Endrin	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
pp-DDD	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Endosulfan II	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
pp-DDT	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Endrin Aldehyde	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Endosulfan Sulphate	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Methoxychlor	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Total +ve DDT+DDD+DDE	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Surrogate TCMX	%	95	82	86	89	91

Organochlorine Pesticides in soil						
Our Reference		221489-6	221489-7	221489-8	221489-9	221489-10
Your Reference	UNITS	TP 8A	TP 9A	TP 11A	TP 12A	TP 13A
Depth		0.30-0.40	0.00-0.10	0.00-0.10	0.20-0.30	0.00-0.10
Date Sampled		10/07/2019	10/07/2019	10/07/2019	10/07/2019	10/07/2019
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	15/07/2019	15/07/2019	15/07/2019	15/07/2019	15/07/2019
Date analysed	-	15/07/2019	15/07/2019	15/07/2019	15/07/2019	15/07/2019
HCB	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
alpha-BHC	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
gamma-BHC	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
beta-BHC	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Heptachlor	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
delta-BHC	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Aldrin	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Heptachlor Epoxide	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
gamma-Chlordane	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
alpha-chlordane	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Endosulfan I	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
pp-DDE	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Dieldrin	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Endrin	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
pp-DDD	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Endosulfan II	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
pp-DDT	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Endrin Aldehyde	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Endosulfan Sulphate	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Methoxychlor	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Total +ve DDT+DDD+DDE	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Surrogate TCMX	%	87	86	88	90	90

Organochlorine Pesticides in soil						
Our Reference		221489-11	221489-12	221489-13	221489-16	221489-17
Your Reference	UNITS	TP 14A	TP 15A	TP 15A	TP 19A	TP 20A
Depth		0.10-0.20	0.00-0.10	0.30-0.40	0.20-0.30	0.10-0.20
Date Sampled		10/07/2019	10/07/2019	10/07/2019	10/07/2019	10/07/2019
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	15/07/2019	15/07/2019	15/07/2019	15/07/2019	15/07/2019
Date analysed	-	15/07/2019	15/07/2019	15/07/2019	15/07/2019	15/07/2019
HCB	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
alpha-BHC	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
gamma-BHC	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
beta-BHC	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Heptachlor	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
delta-BHC	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Aldrin	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Heptachlor Epoxide	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
gamma-Chlordane	mg/kg	<0.1	<0.1	<0.1	0.2	<0.1
alpha-chlordane	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Endosulfan I	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
pp-DDE	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Dieldrin	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Endrin	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
pp-DDD	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Endosulfan II	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
pp-DDT	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Endrin Aldehyde	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Endosulfan Sulphate	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Methoxychlor	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Total +ve DDT+DDD+DDE	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Surrogate TCMX	%	92	98	91	90	90

Organochlorine Pesticides in soil						
Our Reference		221489-18	221489-21	221489-22	221489-23	221489-24
Your Reference	UNITS	TP 22A	TP 24A	TP 26A	TP 27A	TP 29A
Depth		0.00-0.10	0.50-0.60	0.00-0.10	0.20-0.30	0.00-0.10
Date Sampled		10/07/2019	10/07/2019	10/07/2019	10/07/2019	10/07/2019
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	15/07/2019	15/07/2019	15/07/2019	15/07/2019	15/07/2019
Date analysed	-	15/07/2019	15/07/2019	15/07/2019	15/07/2019	15/07/2019
HCB	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
alpha-BHC	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
gamma-BHC	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
beta-BHC	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Heptachlor	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
delta-BHC	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Aldrin	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Heptachlor Epoxide	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
gamma-Chlordane	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
alpha-chlordane	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Endosulfan I	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
pp-DDE	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Dieldrin	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Endrin	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
pp-DDD	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Endosulfan II	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
pp-DDT	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Endrin Aldehyde	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Endosulfan Sulphate	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Methoxychlor	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Total +ve DDT+DDD+DDE	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Surrogate TCMX	%	91	95	91	91	94

Organochlorine Pesticides in soil						
Our Reference		221489-27	221489-28	221489-29	221489-30	221489-31
Your Reference	UNITS	TP 30A	TP 32A	TP 33A	TP 36A	TP 37A
Depth		0.20-0.30	0.00-0.10	0.10-0.20	0.10-0.20	0.00-0.10
Date Sampled		10/07/2019	10/07/2019	10/07/2019	10/07/2019	10/07/2019
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	15/07/2019	15/07/2019	15/07/2019	15/07/2019	15/07/2019
Date analysed	-	15/07/2019	15/07/2019	15/07/2019	15/07/2019	15/07/2019
HCB	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
alpha-BHC	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
gamma-BHC	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
beta-BHC	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Heptachlor	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
delta-BHC	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Aldrin	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Heptachlor Epoxide	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
gamma-Chlordane	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
alpha-chlordane	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Endosulfan I	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
pp-DDE	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Dieldrin	mg/kg	0.2	<0.1	<0.1	<0.1	<0.1
Endrin	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
pp-DDD	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Endosulfan II	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
pp-DDT	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Endrin Aldehyde	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Endosulfan Sulphate	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Methoxychlor	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Total +ve DDT+DDD+DDE	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Surrogate TCMX	%	93	90	92	92	85

Organochlorine Pesticides in soil						
Our Reference		221489-32	221489-33	221489-34	221489-35	221489-36
Your Reference	UNITS	TP 38A	TP 39A	TP 40A	TP 41A	TP 43A
Depth		0.10-0.20	0.00-0.10	0.30-0.40	0.00-0.10	0.00-0.10
Date Sampled		10/07/2019	10/07/2019	10/07/2019	10/07/2019	10/07/2019
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	15/07/2019	15/07/2019	15/07/2019	15/07/2019	15/07/2019
Date analysed	-	15/07/2019	15/07/2019	15/07/2019	15/07/2019	15/07/2019
HCB	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
alpha-BHC	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
gamma-BHC	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
beta-BHC	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Heptachlor	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
delta-BHC	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Aldrin	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Heptachlor Epoxide	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
gamma-Chlordane	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
alpha-chlordane	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Endosulfan I	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
pp-DDE	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Dieldrin	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Endrin	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
pp-DDD	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Endosulfan II	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
pp-DDT	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Endrin Aldehyde	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Endosulfan Sulphate	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Methoxychlor	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Total +ve DDT+DDD+DDE	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Surrogate TCMX	%	86	92	94	92	95

Organochlorine Pesticides in soil						
Our Reference		221489-37	221489-38	221489-39	221489-42	221489-43
Your Reference	UNITS	TP 45A	TP 46A	TP 47A	TP 49A	TP 51A
Depth		0.20-0.30	0.50-0.60	0.40-0.50	0.00-0.10	0.20-0.30
Date Sampled		10/07/2019	10/07/2019	10/07/2019	10/07/2019	10/07/2019
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	15/07/2019	15/07/2019	15/07/2019	15/07/2019	15/07/2019
Date analysed	-	15/07/2019	15/07/2019	15/07/2019	15/07/2019	15/07/2019
HCB	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
alpha-BHC	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
gamma-BHC	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
beta-BHC	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Heptachlor	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
delta-BHC	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Aldrin	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Heptachlor Epoxide	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
gamma-Chlordane	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
alpha-chlordane	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Endosulfan I	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
pp-DDE	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Dieldrin	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Endrin	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
pp-DDD	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Endosulfan II	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
pp-DDT	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Endrin Aldehyde	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Endosulfan Sulphate	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Methoxychlor	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Total +ve DDT+DDD+DDE	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Surrogate TCMX	%	90	91	92	94	89

Organochlorine Pesticides in soil						
Our Reference		221489-44	221489-45	221489-46	221489-47	221489-48
Your Reference	UNITS	TP 53A	TP 55A	TP 56A	TP 58A	TP 60A
Depth		0.10-0.20	0.10-0.20	0.30-0.40	0.20-0.30	0.10-0.20
Date Sampled		10/07/2019	10/07/2019	10/07/2019	10/07/2019	10/07/2019
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	15/07/2019	15/07/2019	15/07/2019	15/07/2019	15/07/2019
Date analysed	-	15/07/2019	15/07/2019	15/07/2019	15/07/2019	15/07/2019
HCB	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
alpha-BHC	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
gamma-BHC	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
beta-BHC	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Heptachlor	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
delta-BHC	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Aldrin	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Heptachlor Epoxide	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
gamma-Chlordane	mg/kg	<0.1	0.1	<0.1	<0.1	<0.1
alpha-chlordane	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Endosulfan I	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
pp-DDE	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Dieldrin	mg/kg	<0.1	<0.1	<0.1	<0.1	1.4
Endrin	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
pp-DDD	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Endosulfan II	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
pp-DDT	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Endrin Aldehyde	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Endosulfan Sulphate	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Methoxychlor	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Total +ve DDT+DDD+DDE	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Surrogate TCMX	%	89	89	90	90	93

Organochlorine Pesticides in soil						
Our Reference		221489-51	221489-52	221489-53	221489-54	221489-55
Your Reference	UNITS	TP 61A	TP 62A	TP 64A	TP 65A	TP 66A
Depth		0.00-0.10	0.00-0.10	0.40-1.50	0.00-0.10	0.10-0.20
Date Sampled		10/07/2019	10/07/2019	10/07/2019	10/07/2019	10/07/2019
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	15/07/2019	15/07/2019	15/07/2019	15/07/2019	15/07/2019
Date analysed	-	15/07/2019	15/07/2019	15/07/2019	15/07/2019	15/07/2019
HCB	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
alpha-BHC	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
gamma-BHC	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
beta-BHC	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Heptachlor	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
delta-BHC	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Aldrin	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Heptachlor Epoxide	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
gamma-Chlordane	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
alpha-chlordane	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Endosulfan I	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
pp-DDE	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Dieldrin	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Endrin	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
pp-DDD	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Endosulfan II	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
pp-DDT	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Endrin Aldehyde	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Endosulfan Sulphate	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Methoxychlor	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Total +ve DDT+DDD+DDE	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Surrogate TCMX	%	81	92	89	82	93

Organochlorine Pesticides in soil						
Our Reference		221489-56	221489-57	221489-58	221489-59	221489-60
Your Reference	UNITS	TP 67A	TP 68A	TP 69A	Duplicate A	Duplicate B
Depth		0.00-0.10	0.00-0.10	0.00-0.10	-	-
Date Sampled		10/07/2019	10/07/2019	10/07/2019	10/07/2019	10/07/2019
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	15/07/2019	15/07/2019	15/07/2019	15/07/2019	15/07/2019
Date analysed	-	15/07/2019	15/07/2019	15/07/2019	15/07/2019	15/07/2019
HCB	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
alpha-BHC	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
gamma-BHC	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
beta-BHC	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Heptachlor	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
delta-BHC	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Aldrin	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Heptachlor Epoxide	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
gamma-Chlordane	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
alpha-chlordane	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Endosulfan I	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
pp-DDE	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Dieldrin	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Endrin	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
pp-DDD	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Endosulfan II	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
pp-DDT	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Endrin Aldehyde	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Endosulfan Sulphate	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Methoxychlor	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Total +ve DDT+DDD+DDE	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Surrogate TCMX	%	90	94	90	91	92

Organochlorine Pesticides in soil			
Our Reference		221489-61	221489-62
Your Reference	UNITS	Duplicate C	Duplicate D
Depth		-	-
Date Sampled		10/07/2019	10/07/2019
Type of sample		Soil	Soil
Date extracted	-	15/07/2019	15/07/2019
Date analysed	-	15/07/2019	15/07/2019
HCB	mg/kg	<0.1	<0.1
alpha-BHC	mg/kg	<0.1	<0.1
gamma-BHC	mg/kg	<0.1	<0.1
beta-BHC	mg/kg	<0.1	<0.1
Heptachlor	mg/kg	<0.1	<0.1
delta-BHC	mg/kg	<0.1	<0.1
Aldrin	mg/kg	<0.1	<0.1
Heptachlor Epoxide	mg/kg	<0.1	<0.1
gamma-Chlordane	mg/kg	<0.1	<0.1
alpha-chlordane	mg/kg	<0.1	<0.1
Endosulfan I	mg/kg	<0.1	<0.1
pp-DDE	mg/kg	<0.1	<0.1
Dieldrin	mg/kg	<0.1	<0.1
Endrin	mg/kg	<0.1	<0.1
pp-DDD	mg/kg	<0.1	<0.1
Endosulfan II	mg/kg	<0.1	<0.1
pp-DDT	mg/kg	<0.1	<0.1
Endrin Aldehyde	mg/kg	<0.1	<0.1
Endosulfan Sulphate	mg/kg	<0.1	<0.1
Methoxychlor	mg/kg	<0.1	<0.1
Total +ve DDT+DDD+DDE	mg/kg	<0.1	<0.1
Surrogate TCMX	%	99	97

PCBs in Soil						
Our Reference		221489-1	221489-2	221489-3	221489-4	221489-5
Your Reference	UNITS	TP 1A	TP 2A	TP 4A	TP 5A	TP 7A
Depth		0.20-0.30	0.00-0.10	0.00-0.10	0.30-0.40	0.20-0.30
Date Sampled		10/07/2019	10/07/2019	10/07/2019	10/07/2019	10/07/2019
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	15/07/2019	15/07/2019	15/07/2019	15/07/2019	15/07/2019
Date analysed	-	15/07/2019	15/07/2019	15/07/2019	15/07/2019	15/07/2019
Aroclor 1016	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Aroclor 1221	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Aroclor 1232	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Aroclor 1242	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Aroclor 1248	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Aroclor 1254	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Aroclor 1260	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Total +ve PCBs (1016-1260)	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Surrogate TCLMX	%	95	82	86	89	91

PCBs in Soil						
Our Reference		221489-6	221489-7	221489-8	221489-9	221489-10
Your Reference	UNITS	TP 8A	TP 9A	TP 11A	TP 12A	TP 13A
Depth		0.30-0.40	0.00-0.10	0.00-0.10	0.20-0.30	0.00-0.10
Date Sampled		10/07/2019	10/07/2019	10/07/2019	10/07/2019	10/07/2019
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	15/07/2019	15/07/2019	15/07/2019	15/07/2019	15/07/2019
Date analysed	-	15/07/2019	15/07/2019	15/07/2019	15/07/2019	15/07/2019
Aroclor 1016	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Aroclor 1221	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Aroclor 1232	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Aroclor 1242	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Aroclor 1248	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Aroclor 1254	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Aroclor 1260	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Total +ve PCBs (1016-1260)	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Surrogate TCLMX	%	87	86	88	90	90

PCBs in Soil						
Our Reference		221489-11	221489-12	221489-13	221489-16	221489-17
Your Reference	UNITS	TP 14A	TP 15A	TP 15A	TP 19A	TP 20A
Depth		0.10-0.20	0.00-0.10	0.30-0.40	0.20-0.30	0.10-0.20
Date Sampled		10/07/2019	10/07/2019	10/07/2019	10/07/2019	10/07/2019
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	15/07/2019	15/07/2019	15/07/2019	15/07/2019	15/07/2019
Date analysed	-	15/07/2019	15/07/2019	15/07/2019	15/07/2019	15/07/2019
Aroclor 1016	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Aroclor 1221	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Aroclor 1232	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Aroclor 1242	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Aroclor 1248	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Aroclor 1254	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Aroclor 1260	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Total +ve PCBs (1016-1260)	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Surrogate TCLMX	%	92	98	91	90	90

PCBs in Soil						
Our Reference		221489-18	221489-21	221489-22	221489-23	221489-24
Your Reference	UNITS	TP 22A	TP 24A	TP 26A	TP 27A	TP 29A
Depth		0.00-0.10	0.50-0.60	0.00-0.10	0.20-0.30	0.00-0.10
Date Sampled		10/07/2019	10/07/2019	10/07/2019	10/07/2019	10/07/2019
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	15/07/2019	15/07/2019	15/07/2019	15/07/2019	15/07/2019
Date analysed	-	15/07/2019	15/07/2019	15/07/2019	15/07/2019	15/07/2019
Aroclor 1016	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Aroclor 1221	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Aroclor 1232	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Aroclor 1242	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Aroclor 1248	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Aroclor 1254	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Aroclor 1260	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Total +ve PCBs (1016-1260)	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Surrogate TCLMX	%	91	95	91	91	94

PCBs in Soil						
Our Reference		221489-27	221489-28	221489-29	221489-30	221489-31
Your Reference	UNITS	TP 30A	TP 32A	TP 33A	TP 36A	TP 37A
Depth		0.20-0.30	0.00-0.10	0.10-0.20	0.10-0.20	0.00-0.10
Date Sampled		10/07/2019	10/07/2019	10/07/2019	10/07/2019	10/07/2019
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	15/07/2019	15/07/2019	15/07/2019	15/07/2019	15/07/2019
Date analysed	-	15/07/2019	15/07/2019	15/07/2019	15/07/2019	15/07/2019
Aroclor 1016	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Aroclor 1221	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Aroclor 1232	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Aroclor 1242	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Aroclor 1248	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Aroclor 1254	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Aroclor 1260	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Total +ve PCBs (1016-1260)	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Surrogate TCLMX	%	93	90	92	92	85

PCBs in Soil						
Our Reference		221489-32	221489-33	221489-34	221489-35	221489-36
Your Reference	UNITS	TP 38A	TP 39A	TP 40A	TP 41A	TP 43A
Depth		0.10-0.20	0.00-0.10	0.30-0.40	0.00-0.10	0.00-0.10
Date Sampled		10/07/2019	10/07/2019	10/07/2019	10/07/2019	10/07/2019
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	15/07/2019	15/07/2019	15/07/2019	15/07/2019	15/07/2019
Date analysed	-	15/07/2019	15/07/2019	15/07/2019	15/07/2019	15/07/2019
Aroclor 1016	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Aroclor 1221	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Aroclor 1232	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Aroclor 1242	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Aroclor 1248	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Aroclor 1254	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Aroclor 1260	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Total +ve PCBs (1016-1260)	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Surrogate TCLMX	%	86	92	94	92	95

PCBs in Soil						
Our Reference		221489-37	221489-38	221489-39	221489-42	221489-43
Your Reference	UNITS	TP 45A	TP 46A	TP 47A	TP 49A	TP 51A
Depth		0.20-0.30	0.50-0.60	0.40-0.50	0.00-0.10	0.20-0.30
Date Sampled		10/07/2019	10/07/2019	10/07/2019	10/07/2019	10/07/2019
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	15/07/2019	15/07/2019	15/07/2019	15/07/2019	15/07/2019
Date analysed	-	15/07/2019	15/07/2019	15/07/2019	15/07/2019	15/07/2019
Aroclor 1016	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Aroclor 1221	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Aroclor 1232	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Aroclor 1242	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Aroclor 1248	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Aroclor 1254	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Aroclor 1260	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Total +ve PCBs (1016-1260)	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Surrogate TCLMX	%	90	91	92	94	89

PCBs in Soil						
Our Reference		221489-44	221489-45	221489-46	221489-47	221489-48
Your Reference	UNITS	TP 53A	TP 55A	TP 56A	TP 58A	TP 60A
Depth		0.10-0.20	0.10-0.20	0.30-0.40	0.20-0.30	0.10-0.20
Date Sampled		10/07/2019	10/07/2019	10/07/2019	10/07/2019	10/07/2019
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	15/07/2019	15/07/2019	15/07/2019	15/07/2019	15/07/2019
Date analysed	-	15/07/2019	15/07/2019	15/07/2019	15/07/2019	15/07/2019
Aroclor 1016	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Aroclor 1221	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Aroclor 1232	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Aroclor 1242	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Aroclor 1248	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Aroclor 1254	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Aroclor 1260	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Total +ve PCBs (1016-1260)	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Surrogate TCLMX	%	89	89	90	90	93

PCBs in Soil						
Our Reference		221489-51	221489-52	221489-53	221489-54	221489-55
Your Reference	UNITS	TP 61A	TP 62A	TP 64A	TP 65A	TP 66A
Depth		0.00-0.10	0.00-0.10	0.40-1.50	0.00-0.10	0.10-0.20
Date Sampled		10/07/2019	10/07/2019	10/07/2019	10/07/2019	10/07/2019
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	15/07/2019	15/07/2019	15/07/2019	15/07/2019	15/07/2019
Date analysed	-	15/07/2019	15/07/2019	15/07/2019	15/07/2019	15/07/2019
Aroclor 1016	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Aroclor 1221	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Aroclor 1232	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Aroclor 1242	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Aroclor 1248	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Aroclor 1254	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Aroclor 1260	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Total +ve PCBs (1016-1260)	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Surrogate TCLMX	%	81	92	89	82	93

PCBs in Soil						
Our Reference		221489-56	221489-57	221489-58	221489-59	221489-60
Your Reference	UNITS	TP 67A	TP 68A	TP 69A	Duplicate A	Duplicate B
Depth		0.00-0.10	0.00-0.10	0.00-0.10	-	-
Date Sampled		10/07/2019	10/07/2019	10/07/2019	10/07/2019	10/07/2019
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	15/07/2019	15/07/2019	15/07/2019	15/07/2019	15/07/2019
Date analysed	-	15/07/2019	15/07/2019	15/07/2019	15/07/2019	15/07/2019
Aroclor 1016	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Aroclor 1221	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Aroclor 1232	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Aroclor 1242	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Aroclor 1248	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Aroclor 1254	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Aroclor 1260	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Total +ve PCBs (1016-1260)	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Surrogate TCLMX	%	90	94	90	91	92

PCBs in Soil			
Our Reference		221489-61	221489-62
Your Reference	UNITS	Duplicate C	Duplicate D
Depth		-	-
Date Sampled		10/07/2019	10/07/2019
Type of sample		Soil	Soil
Date extracted	-	15/07/2019	15/07/2019
Date analysed	-	15/07/2019	15/07/2019
Aroclor 1016	mg/kg	<0.1	<0.1
Aroclor 1221	mg/kg	<0.1	<0.1
Aroclor 1232	mg/kg	<0.1	<0.1
Aroclor 1242	mg/kg	<0.1	<0.1
Aroclor 1248	mg/kg	<0.1	<0.1
Aroclor 1254	mg/kg	<0.1	<0.1
Aroclor 1260	mg/kg	<0.1	<0.1
Total +ve PCBs (1016-1260)	mg/kg	<0.1	<0.1
Surrogate TCLMX	%	99	97

Acid Extractable metals in soil						
Our Reference		221489-1	221489-2	221489-3	221489-4	221489-5
Your Reference	UNITS	TP 1A	TP 2A	TP 4A	TP 5A	TP 7A
Depth		0.20-0.30	0.00-0.10	0.00-0.10	0.30-0.40	0.20-0.30
Date Sampled		10/07/2019	10/07/2019	10/07/2019	10/07/2019	10/07/2019
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	15/07/2019	15/07/2019	15/07/2019	15/07/2019	15/07/2019
Date analysed	-	16/07/2019	16/07/2019	16/07/2019	16/07/2019	16/07/2019
Arsenic	mg/kg	10	6	8	6	5
Cadmium	mg/kg	<0.4	<0.4	<0.4	<0.4	<0.4
Chromium	mg/kg	25	11	16	14	14
Copper	mg/kg	25	21	25	21	65
Lead	mg/kg	24	23	24	22	19
Mercury	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Nickel	mg/kg	14	9	12	10	10
Zinc	mg/kg	51	66	39	45	40

Acid Extractable metals in soil						
Our Reference		221489-6	221489-7	221489-8	221489-9	221489-10
Your Reference	UNITS	TP 8A	TP 9A	TP 11A	TP 12A	TP 13A
Depth		0.30-0.40	0.00-0.10	0.00-0.10	0.20-0.30	0.00-0.10
Date Sampled		10/07/2019	10/07/2019	10/07/2019	10/07/2019	10/07/2019
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	15/07/2019	15/07/2019	15/07/2019	15/07/2019	15/07/2019
Date analysed	-	16/07/2019	16/07/2019	16/07/2019	16/07/2019	16/07/2019
Arsenic	mg/kg	7	7	7	5	<4
Cadmium	mg/kg	<0.4	<0.4	<0.4	<0.4	<0.4
Chromium	mg/kg	16	18	12	11	12
Copper	mg/kg	24	23	21	25	19
Lead	mg/kg	32	24	20	22	19
Mercury	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Nickel	mg/kg	9	10	8	8	7
Zinc	mg/kg	34	36	33	39	38

Acid Extractable metals in soil						
Our Reference		221489-11	221489-12	221489-13	221489-16	221489-17
Your Reference	UNITS	TP 14A	TP 15A	TP 15A	TP 19A	TP 20A
Depth		0.10-0.20	0.00-0.10	0.30-0.40	0.20-0.30	0.10-0.20
Date Sampled		10/07/2019	10/07/2019	10/07/2019	10/07/2019	10/07/2019
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	15/07/2019	15/07/2019	15/07/2019	15/07/2019	15/07/2019
Date analysed	-	16/07/2019	16/07/2019	16/07/2019	16/07/2019	16/07/2019
Arsenic	mg/kg	6	5	5	6	6
Cadmium	mg/kg	<0.4	<0.4	<0.4	<0.4	<0.4
Chromium	mg/kg	16	13	11	15	11
Copper	mg/kg	23	30	32	27	28
Lead	mg/kg	20	22	17	50	20
Mercury	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Nickel	mg/kg	9	10	7	9	8
Zinc	mg/kg	34	42	32	42	33

Acid Extractable metals in soil						
Our Reference		221489-18	221489-21	221489-22	221489-23	221489-24
Your Reference	UNITS	TP 22A	TP 24A	TP 26A	TP 27A	TP 29A
Depth		0.00-0.10	0.50-0.60	0.00-0.10	0.20-0.30	0.00-0.10
Date Sampled		10/07/2019	10/07/2019	10/07/2019	10/07/2019	10/07/2019
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	15/07/2019	15/07/2019	15/07/2019	15/07/2019	15/07/2019
Date analysed	-	16/07/2019	16/07/2019	16/07/2019	16/07/2019	16/07/2019
Arsenic	mg/kg	6	7	6	7	6
Cadmium	mg/kg	<0.4	<0.4	<0.4	<0.4	<0.4
Chromium	mg/kg	14	17	18	14	16
Copper	mg/kg	28	22	25	26	22
Lead	mg/kg	26	18	24	26	19
Mercury	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Nickel	mg/kg	9	7	10	13	7
Zinc	mg/kg	46	34	32	41	28

Acid Extractable metals in soil						
Our Reference		221489-27	221489-28	221489-29	221489-30	221489-31
Your Reference	UNITS	TP 30A	TP 32A	TP 33A	TP 36A	TP 37A
Depth		0.20-0.30	0.00-0.10	0.10-0.20	0.10-0.20	0.00-0.10
Date Sampled		10/07/2019	10/07/2019	10/07/2019	10/07/2019	10/07/2019
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	15/07/2019	15/07/2019	15/07/2019	15/07/2019	15/07/2019
Date analysed	-	16/07/2019	16/07/2019	16/07/2019	16/07/2019	16/07/2019
Arsenic	mg/kg	5	5	6	6	6
Cadmium	mg/kg	<0.4	<0.4	<0.4	<0.4	<0.4
Chromium	mg/kg	15	16	16	16	15
Copper	mg/kg	22	34	29	24	28
Lead	mg/kg	22	40	24	25	20
Mercury	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Nickel	mg/kg	9	14	10	10	9
Zinc	mg/kg	36	62	57	45	31

Acid Extractable metals in soil						
Our Reference		221489-32	221489-33	221489-34	221489-35	221489-36
Your Reference	UNITS	TP 38A	TP 39A	TP 40A	TP 41A	TP 43A
Depth		0.10-0.20	0.00-0.10	0.30-0.40	0.00-0.10	0.00-0.10
Date Sampled		10/07/2019	10/07/2019	10/07/2019	10/07/2019	10/07/2019
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	15/07/2019	15/07/2019	15/07/2019	15/07/2019	15/07/2019
Date analysed	-	16/07/2019	16/07/2019	16/07/2019	16/07/2019	16/07/2019
Arsenic	mg/kg	7	6	7	6	6
Cadmium	mg/kg	<0.4	<0.4	<0.4	<0.4	<0.4
Chromium	mg/kg	16	14	16	15	14
Copper	mg/kg	29	29	28	26	27
Lead	mg/kg	27	22	28	22	25
Mercury	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Nickel	mg/kg	12	10	13	11	10
Zinc	mg/kg	50	38	89	41	49

Acid Extractable metals in soil						
Our Reference		221489-37	221489-38	221489-39	221489-42	221489-43
Your Reference	UNITS	TP 45A	TP 46A	TP 47A	TP 49A	TP 51A
Depth		0.20-0.30	0.50-0.60	0.40-0.50	0.00-0.10	0.20-0.30
Date Sampled		10/07/2019	10/07/2019	10/07/2019	10/07/2019	10/07/2019
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	15/07/2019	15/07/2019	15/07/2019	15/07/2019	15/07/2019
Date analysed	-	16/07/2019	16/07/2019	16/07/2019	16/07/2019	16/07/2019
Arsenic	mg/kg	6	5	5	5	6
Cadmium	mg/kg	<0.4	<0.4	<0.4	<0.4	<0.4
Chromium	mg/kg	20	16	14	13	14
Copper	mg/kg	25	26	24	26	28
Lead	mg/kg	26	24	22	22	24
Mercury	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Nickel	mg/kg	10	9	8	9	9
Zinc	mg/kg	37	42	31	35	34

Acid Extractable metals in soil						
Our Reference		221489-44	221489-45	221489-46	221489-47	221489-48
Your Reference	UNITS	TP 53A	TP 55A	TP 56A	TP 58A	TP 60A
Depth		0.10-0.20	0.10-0.20	0.30-0.40	0.20-0.30	0.10-0.20
Date Sampled		10/07/2019	10/07/2019	10/07/2019	10/07/2019	10/07/2019
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	15/07/2019	15/07/2019	15/07/2019	15/07/2019	15/07/2019
Date analysed	-	16/07/2019	16/07/2019	16/07/2019	16/07/2019	16/07/2019
Arsenic	mg/kg	6	5	5	5	5
Cadmium	mg/kg	<0.4	<0.4	<0.4	<0.4	<0.4
Chromium	mg/kg	14	15	15	19	17
Copper	mg/kg	27	21	24	33	22
Lead	mg/kg	20	21	22	25	22
Mercury	mg/kg	<0.1	<0.1	<0.1	0.1	<0.1
Nickel	mg/kg	9	10	9	12	12
Zinc	mg/kg	31	33	40	39	39

Acid Extractable metals in soil						
Our Reference		221489-51	221489-52	221489-53	221489-54	221489-55
Your Reference	UNITS	TP 61A	TP 62A	TP 64A	TP 65A	TP 66A
Depth		0.00-0.10	0.00-0.10	0.40-1.50	0.00-0.10	0.10-0.20
Date Sampled		10/07/2019	10/07/2019	10/07/2019	10/07/2019	10/07/2019
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	15/07/2019	15/07/2019	15/07/2019	15/07/2019	15/07/2019
Date analysed	-	16/07/2019	16/07/2019	16/07/2019	16/07/2019	16/07/2019
Arsenic	mg/kg	7	5	6	6	6
Cadmium	mg/kg	<0.4	<0.4	<0.4	<0.4	<0.4
Chromium	mg/kg	22	13	12	13	18
Copper	mg/kg	26	17	22	34	24
Lead	mg/kg	23	20	19	17	21
Mercury	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Nickel	mg/kg	11	9	9	9	12
Zinc	mg/kg	38	39	34	44	47

Acid Extractable metals in soil						
Our Reference		221489-56	221489-57	221489-58	221489-59	221489-60
Your Reference	UNITS	TP 67A	TP 68A	TP 69A	Duplicate A	Duplicate B
Depth		0.00-0.10	0.00-0.10	0.00-0.10	-	-
Date Sampled		10/07/2019	10/07/2019	10/07/2019	10/07/2019	10/07/2019
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	15/07/2019	15/07/2019	15/07/2019	15/07/2019	15/07/2019
Date analysed	-	16/07/2019	16/07/2019	16/07/2019	16/07/2019	16/07/2019
Arsenic	mg/kg	7	6	6	7	6
Cadmium	mg/kg	<0.4	<0.4	<0.4	<0.4	<0.4
Chromium	mg/kg	14	16	13	20	17
Copper	mg/kg	23	24	25	26	22
Lead	mg/kg	25	26	21	24	23
Mercury	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Nickel	mg/kg	12	13	17	16	9
Zinc	mg/kg	47	44	49	69	33

Acid Extractable metals in soil			
Our Reference		221489-61	221489-62
Your Reference	UNITS	Duplicate C	Duplicate D
Depth		-	-
Date Sampled		10/07/2019	10/07/2019
Type of sample		Soil	Soil
Date prepared	-	15/07/2019	15/07/2019
Date analysed	-	16/07/2019	16/07/2019
Arsenic	mg/kg	8	6
Cadmium	mg/kg	<0.4	<0.4
Chromium	mg/kg	15	13
Copper	mg/kg	28	34
Lead	mg/kg	25	20
Mercury	mg/kg	<0.1	<0.1
Nickel	mg/kg	10	9
Zinc	mg/kg	36	45

Moisture						
Our Reference		221489-1	221489-2	221489-3	221489-4	221489-5
Your Reference	UNITS	TP 1A	TP 2A	TP 4A	TP 5A	TP 7A
Depth		0.20-0.30	0.00-0.10	0.00-0.10	0.30-0.40	0.20-0.30
Date Sampled		10/07/2019	10/07/2019	10/07/2019	10/07/2019	10/07/2019
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	15/07/2019	15/07/2019	15/07/2019	15/07/2019	15/07/2019
Date analysed	-	16/07/2019	16/07/2019	16/07/2019	16/07/2019	16/07/2019
Moisture	%	9.3	17	17	11	12

Moisture						
Our Reference		221489-6	221489-7	221489-8	221489-9	221489-10
Your Reference	UNITS	TP 8A	TP 9A	TP 11A	TP 12A	TP 13A
Depth		0.30-0.40	0.00-0.10	0.00-0.10	0.20-0.30	0.00-0.10
Date Sampled		10/07/2019	10/07/2019	10/07/2019	10/07/2019	10/07/2019
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	15/07/2019	15/07/2019	15/07/2019	15/07/2019	15/07/2019
Date analysed	-	16/07/2019	16/07/2019	16/07/2019	16/07/2019	16/07/2019
Moisture	%	16	13	14	13	9.2

Moisture						
Our Reference		221489-11	221489-12	221489-13	221489-16	221489-17
Your Reference	UNITS	TP 14A	TP 15A	TP 15A	TP 19A	TP 20A
Depth		0.10-0.20	0.00-0.10	0.30-0.40	0.20-0.30	0.10-0.20
Date Sampled		10/07/2019	10/07/2019	10/07/2019	10/07/2019	10/07/2019
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	15/07/2019	15/07/2019	15/07/2019	15/07/2019	15/07/2019
Date analysed	-	16/07/2019	16/07/2019	16/07/2019	16/07/2019	16/07/2019
Moisture	%	12	12	15	15	14

Moisture						
Our Reference		221489-18	221489-21	221489-22	221489-23	221489-24
Your Reference	UNITS	TP 22A	TP 24A	TP 26A	TP 27A	TP 29A
Depth		0.00-0.10	0.50-0.60	0.00-0.10	0.20-0.30	0.00-0.10
Date Sampled		10/07/2019	10/07/2019	10/07/2019	10/07/2019	10/07/2019
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	15/07/2019	15/07/2019	15/07/2019	15/07/2019	15/07/2019
Date analysed	-	16/07/2019	16/07/2019	16/07/2019	16/07/2019	16/07/2019
Moisture	%	15	11	18	21	15

Moisture						
Our Reference		221489-27	221489-28	221489-29	221489-30	221489-31
Your Reference	UNITS	TP 30A	TP 32A	TP 33A	TP 36A	TP 37A
Depth		0.20-0.30	0.00-0.10	0.10-0.20	0.10-0.20	0.00-0.10
Date Sampled		10/07/2019	10/07/2019	10/07/2019	10/07/2019	10/07/2019
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	15/07/2019	15/07/2019	15/07/2019	15/07/2019	15/07/2019
Date analysed	-	16/07/2019	16/07/2019	16/07/2019	16/07/2019	16/07/2019
Moisture	%	15	13	19	15	12

Moisture						
Our Reference		221489-32	221489-33	221489-34	221489-35	221489-36
Your Reference	UNITS	TP 38A	TP 39A	TP 40A	TP 41A	TP 43A
Depth		0.10-0.20	0.00-0.10	0.30-0.40	0.00-0.10	0.00-0.10
Date Sampled		10/07/2019	10/07/2019	10/07/2019	10/07/2019	10/07/2019
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	15/07/2019	15/07/2019	15/07/2019	15/07/2019	15/07/2019
Date analysed	-	16/07/2019	16/07/2019	16/07/2019	16/07/2019	16/07/2019
Moisture	%	17	16	14	15	18

Moisture						
Our Reference		221489-37	221489-38	221489-39	221489-42	221489-43
Your Reference	UNITS	TP 45A	TP 46A	TP 47A	TP 49A	TP 51A
Depth		0.20-0.30	0.50-0.60	0.40-0.50	0.00-0.10	0.20-0.30
Date Sampled		10/07/2019	10/07/2019	10/07/2019	10/07/2019	10/07/2019
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	15/07/2019	15/07/2019	15/07/2019	15/07/2019	15/07/2019
Date analysed	-	16/07/2019	16/07/2019	16/07/2019	16/07/2019	16/07/2019
Moisture	%	14	12	17	10	14

Moisture						
Our Reference		221489-44	221489-45	221489-46	221489-47	221489-48
Your Reference	UNITS	TP 53A	TP 55A	TP 56A	TP 58A	TP 60A
Depth		0.10-0.20	0.10-0.20	0.30-0.40	0.20-0.30	0.10-0.20
Date Sampled		10/07/2019	10/07/2019	10/07/2019	10/07/2019	10/07/2019
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	15/07/2019	15/07/2019	15/07/2019	15/07/2019	15/07/2019
Date analysed	-	16/07/2019	16/07/2019	16/07/2019	16/07/2019	16/07/2019
Moisture	%	13	15	13	17	19

Moisture						
Our Reference		221489-51	221489-52	221489-53	221489-54	221489-55
Your Reference	UNITS	TP 61A	TP 62A	TP 64A	TP 65A	TP 66A
Depth		0.00-0.10	0.00-0.10	0.40-1.50	0.00-0.10	0.10-0.20
Date Sampled		10/07/2019	10/07/2019	10/07/2019	10/07/2019	10/07/2019
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	15/07/2019	15/07/2019	15/07/2019	15/07/2019	15/07/2019
Date analysed	-	16/07/2019	16/07/2019	16/07/2019	16/07/2019	16/07/2019
Moisture	%	15	15	16	13	16

Moisture						
Our Reference		221489-56	221489-57	221489-58	221489-59	221489-60
Your Reference	UNITS	TP 67A	TP 68A	TP 69A	Duplicate A	Duplicate B
Depth		0.00-0.10	0.00-0.10	0.00-0.10	-	-
Date Sampled		10/07/2019	10/07/2019	10/07/2019	10/07/2019	10/07/2019
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	15/07/2019	15/07/2019	15/07/2019	15/07/2019	15/07/2019
Date analysed	-	16/07/2019	16/07/2019	16/07/2019	16/07/2019	16/07/2019
Moisture	%	20	16	19	13	14

Moisture			
Our Reference		221489-61	221489-62
Your Reference	UNITS	Duplicate C	Duplicate D
Depth		-	-
Date Sampled		10/07/2019	10/07/2019
Type of sample		Soil	Soil
Date prepared	-	15/07/2019	15/07/2019
Date analysed	-	16/07/2019	16/07/2019
Moisture	%	19	17

Asbestos ID - soils						
Our Reference		221489-1	221489-3	221489-5	221489-7	221489-8
Your Reference	UNITS	TP 1A	TP 4A	TP 7A	TP 9A	TP 11A
Depth		0.20-0.30	0.00-0.10	0.20-0.30	0.00-0.10	0.00-0.10
Date Sampled		10/07/2019	10/07/2019	10/07/2019	10/07/2019	10/07/2019
Type of sample		Soil	Soil	Soil	Soil	Soil
Date analysed	-	16/07/2019	16/07/2019	16/07/2019	16/07/2019	16/07/2019
Sample mass tested	g	Approx. 35g	Approx. 35g	Approx. 35g	Approx. 35g	Approx. 35g
Sample Description	-	Brown coarse-grained soil & rocks	Brown coarse-grained soil & rocks	Brown coarse-grained soil & rocks	Brown coarse-grained soil & rocks	Brown coarse-grained soil & rocks
Asbestos ID in soil	-	No asbestos detected at reporting limit of 0.1g/kg Organic fibres detected	No asbestos detected at reporting limit of 0.1g/kg Organic fibres detected	No asbestos detected at reporting limit of 0.1g/kg Organic fibres detected	No asbestos detected at reporting limit of 0.1g/kg Organic fibres detected	No asbestos detected at reporting limit of 0.1g/kg Organic fibres detected
Trace Analysis	-	No asbestos detected	No asbestos detected	No asbestos detected	No asbestos detected	No asbestos detected

Asbestos ID - soils						
Our Reference		221489-10	221489-11	221489-12	221489-16	221489-21
Your Reference	UNITS	TP 13A	TP 14A	TP 15A	TP 19A	TP 24A
Depth		0.00-0.10	0.10-0.20	0.00-0.10	0.20-0.30	0.50-0.60
Date Sampled		10/07/2019	10/07/2019	10/07/2019	10/07/2019	10/07/2019
Type of sample		Soil	Soil	Soil	Soil	Soil
Date analysed	-	16/07/2019	16/07/2019	16/07/2019	16/07/2019	16/07/2019
Sample mass tested	g	Approx. 35g	Approx. 35g	Approx. 35g	Approx. 40g	Approx. 45g
Sample Description	-	Brown coarse-grained soil & rocks	Brown coarse-grained soil & rocks	Brown coarse-grained soil & rocks	Brown coarse-grained soil & rocks	Brown coarse-grained soil & rocks
Asbestos ID in soil	-	No asbestos detected at reporting limit of 0.1g/kg Organic fibres detected	No asbestos detected at reporting limit of 0.1g/kg Organic fibres detected	No asbestos detected at reporting limit of 0.1g/kg Organic fibres detected	No asbestos detected at reporting limit of 0.1g/kg Organic fibres detected	No asbestos detected at reporting limit of 0.1g/kg Organic fibres detected
Trace Analysis	-	No asbestos detected	No asbestos detected	No asbestos detected	No asbestos detected	No asbestos detected

Asbestos ID - soils						
Our Reference		221489-23	221489-27	221489-29	221489-31	221489-32
Your Reference	UNITS	TP 27A	TP 30A	TP 33A	TP 37A	TP 38A
Depth		0.20-0.30	0.20-0.30	0.10-0.20	0.00-0.10	0.10-0.20
Date Sampled		10/07/2019	10/07/2019	10/07/2019	10/07/2019	10/07/2019
Type of sample		Soil	Soil	Soil	Soil	Soil
Date analysed	-	16/07/2019	16/07/2019	16/07/2019	16/07/2019	16/07/2019
Sample mass tested	g	Approx. 30g	Approx. 35g	Approx. 30g	Approx. 35g	Approx. 40g
Sample Description	-	Brown coarse-grained soil & rocks	Brown coarse-grained soil & rocks	Brown coarse-grained soil & rocks	Brown coarse-grained soil & rocks	Brown coarse-grained soil & rocks
Asbestos ID in soil	-	No asbestos detected at reporting limit of 0.1g/kg Organic fibres detected	No asbestos detected at reporting limit of 0.1g/kg Organic fibres detected	No asbestos detected at reporting limit of 0.1g/kg Organic fibres detected	No asbestos detected at reporting limit of 0.1g/kg Organic fibres detected	No asbestos detected at reporting limit of 0.1g/kg Organic fibres detected
Trace Analysis	-	No asbestos detected	No asbestos detected	No asbestos detected	No asbestos detected	No asbestos detected

Asbestos ID - soils						
Our Reference		221489-34	221489-35	221489-38	221489-42	221489-45
Your Reference	UNITS	TP 40A	TP 41A	TP 46A	TP 49A	TP 55A
Depth		0.30-0.40	0.00-0.10	0.50-0.60	0.00-0.10	0.10-0.20
Date Sampled		10/07/2019	10/07/2019	10/07/2019	10/07/2019	10/07/2019
Type of sample		Soil	Soil	Soil	Soil	Soil
Date analysed	-	16/07/2019	16/07/2019	16/07/2019	16/07/2019	16/07/2019
Sample mass tested	g	Approx. 35g	Approx. 35g	Approx. 35g	Approx. 35g	Approx. 35g
Sample Description	-	Brown coarse-grained soil & rocks	Brown coarse-grained soil & rocks	Brown coarse-grained soil & rocks	Brown coarse-grained soil & rocks	Brown coarse-grained soil & rocks
Asbestos ID in soil	-	No asbestos detected at reporting limit of 0.1g/kg Organic fibres detected	No asbestos detected at reporting limit of 0.1g/kg Organic fibres detected	No asbestos detected at reporting limit of 0.1g/kg Organic fibres detected	No asbestos detected at reporting limit of 0.1g/kg Organic fibres detected	No asbestos detected at reporting limit of 0.1g/kg Organic fibres detected
Trace Analysis	-	No asbestos detected	No asbestos detected	No asbestos detected	No asbestos detected	No asbestos detected

Asbestos ID - soils					
Our Reference		221489-47	221489-51	221489-54	221489-56
Your Reference	UNITS	TP 58A	TP 61A	TP 65A	TP 67A
Depth		0.20-0.30	0.00-0.10	0.00-0.10	0.00-0.10
Date Sampled		10/07/2019	10/07/2019	10/07/2019	10/07/2019
Type of sample		Soil	Soil	Soil	Soil
Date analysed	-	16/07/2019	16/07/2019	16/07/2019	16/07/2019
Sample mass tested	g	Approx. 35g	Approx. 35g	Approx. 35g	Approx. 30g
Sample Description	-	Brown coarse-grained soil & rocks	Brown coarse-grained soil & rocks	Brown coarse-grained soil & rocks	Brown coarse-grained soil & rocks
Asbestos ID in soil	-	No asbestos detected at reporting limit of 0.1g/kg Organic fibres detected	No asbestos detected at reporting limit of 0.1g/kg Organic fibres detected	No asbestos detected at reporting limit of 0.1g/kg Organic fibres detected	No asbestos detected at reporting limit of 0.1g/kg Organic fibres detected
Trace Analysis	-	No asbestos detected	No asbestos detected	No asbestos detected	No asbestos detected

Misc Inorg - Soil						
Our Reference		221489-13	221489-14	221489-15	221489-18	221489-19
Your Reference	UNITS	TP 15A	TP 15A	TP 17A	TP 22A	TP 22A
Depth		0.30-0.40	0.70-0.80	0.10-0.20	0.00-0.10	0.60-0.70
Date Sampled		10/07/2019	10/07/2019	10/07/2019	10/07/2019	10/07/2019
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	16/07/2019	16/07/2019	16/07/2019	16/07/2019	16/07/2019
Date analysed	-	16/07/2019	16/07/2019	16/07/2019	16/07/2019	16/07/2019
pH 1:5 soil:water	pH Units	6.2	6.0	5.2	6.1	5.4
Electrical Conductivity 1:5 soil:water	µS/cm	43	46	46	110	81
Chloride, Cl 1:5 soil:water	mg/kg	[NA]	23	<10	[NA]	20
Sulphate, SO4 1:5 soil:water	mg/kg	[NA]	34	50	[NA]	10
Resistivity in soil*	ohm m	[NA]	220	220	[NA]	120

Misc Inorg - Soil						
Our Reference		221489-20	221489-24	221489-25	221489-26	221489-39
Your Reference	UNITS	TP 22A	TP 29A	TP 29A	TP 29A	TP 47A
Depth		1.50-1.60	0.00-0.10	0.50-0.60	2.60-2.70	0.40-0.50
Date Sampled		10/07/2019	10/07/2019	10/07/2019	10/07/2019	10/07/2019
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	16/07/2019	16/07/2019	16/07/2019	16/07/2019	16/07/2019
Date analysed	-	16/07/2019	16/07/2019	16/07/2019	16/07/2019	16/07/2019
pH 1:5 soil:water	pH Units	5.6	6.2	5.5	5.5	5.0
Electrical Conductivity 1:5 soil:water	µS/cm	84	99	70	100	280
Chloride, Cl 1:5 soil:water	mg/kg	46	[NA]	29	83	[NA]
Sulphate, SO4 1:5 soil:water	mg/kg	20	[NA]	86	120	[NA]
Resistivity in soil*	ohm m	120	[NA]	140	99	[NA]

Misc Inorg - Soil						
Our Reference		221489-40	221489-41	221489-48	221489-49	221489-50
Your Reference	UNITS	TP 47A	TP 47A	TP 60A	TP 60A	TP 60A
Depth		1.30-1.40	1.90-2.00	0.10-0.20	0.60-0.70	1.60-1.70
Date Sampled		10/07/2019	10/07/2019	10/07/2019	10/07/2019	10/07/2019
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	16/07/2019	16/07/2019	16/07/2019	16/07/2019	16/07/2019
Date analysed	-	16/07/2019	16/07/2019	16/07/2019	16/07/2019	16/07/2019
pH 1:5 soil:water	pH Units	4.6	4.7	7.5	5.7	5.7
Electrical Conductivity 1:5 soil:water	µS/cm	240	140	410	87	81
Chloride, Cl 1:5 soil:water	mg/kg	22	10	[NA]	23	27
Sulphate, SO4 1:5 soil:water	mg/kg	<10	20	[NA]	85	70
Resistivity in soil*	ohm m	42	73	[NA]	120	120

ESP/CEC						
Our Reference		221489-14	221489-20	221489-25	221489-41	221489-49
Your Reference	UNITS	TP 15A	TP 22A	TP 29A	TP 47A	TP 60A
Depth		0.70-0.80	1.50-1.60	0.50-0.60	1.90-2.00	0.60-0.70
Date Sampled		10/07/2019	10/07/2019	10/07/2019	10/07/2019	10/07/2019
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	18/07/2019	18/07/2019	18/07/2019	18/07/2019	18/07/2019
Date analysed	-	18/07/2019	18/07/2019	18/07/2019	18/07/2019	18/07/2019
Exchangeable Ca	meq/100g	3.1	0.2	4.2	1.9	4.6
Exchangeable K	meq/100g	0.2	0.1	0.4	0.2	0.3
Exchangeable Mg	meq/100g	3.8	3.7	5.6	3.3	4.3
Exchangeable Na	meq/100g	1.0	1.5	0.40	0.26	0.78
Cation Exchange Capacity	meq/100g	8.1	5.5	11	5.6	10
ESP	%	13	27	4	5	8

Asbestos ID - materials						
Our Reference		221489-63	221489-64	221489-65	221489-66	221489-67
Your Reference	UNITS	TP 1A - Fibro	TP 13A - Fibro	TP 14A - Fibro	TP 19A - Fibro	TP 27A - Fibro
Depth		-	-	-	-	-
Date Sampled		10/07/2019	10/07/2019	10/07/2019	10/07/2019	10/07/2019
Type of sample		Material	Material	Material	Material	Material
Date analysed	-	15/07/2019	15/07/2019	15/07/2019	15/07/2019	15/07/2019
Mass / Dimension of Sample	-	60x41x3mm	110x50x3mm	30x19x5mm	20x11x4mm	45x25x4mm
Sample Description	-	Beige layered fibre cement material	Grey compressed fibre cement material	Beige layered fibre cement material	Beige compressed fibre cement material	Beige compressed fibre cement material
Asbestos ID in materials	-	No asbestos detected Organic fibres detected	Chrysotile asbestos detected Amosite asbestos detected Crocidolite asbestos detected	No asbestos detected Organic fibres detected	No asbestos detected Organic fibres detected	No asbestos detected Organic fibres detected

Asbestos ID - materials						
Our Reference		221489-68	221489-69	221489-70	221489-71	221489-72
Your Reference	UNITS	TP 33A - Fibro	TP 37A - Fibro	TP 38A - Fibro	TP 40A - Fibro	TP 46A - Fibro
Depth		-	-	-	-	-
Date Sampled		10/07/2019	10/07/2019	10/07/2019	10/07/2019	10/07/2019
Type of sample		Material	Material	Material	Material	Material
Date analysed	-	15/07/2019	15/07/2019	15/07/2019	15/07/2019	15/07/2019
Mass / Dimension of Sample	-	44x38x4mm	58x51x7mm	55x15x4mm	38x22x4mm	45x33x4mm
Sample Description	-	Beige compressed fibre cement material	Brown compressed fibre cement material	Beige compressed fibre cement material	Beige layered fibre cement material	Beige compressed fibre cement material
Asbestos ID in materials	-	No asbestos detected Organic fibres detected	Chrysotile asbestos detected Organic fibres detected	No asbestos detected Organic fibres detected	No asbestos detected Organic fibres detected	No asbestos detected Organic fibres detected

Asbestos ID - materials				
Our Reference		221489-73	221489-74	221489-75
Your Reference	UNITS	TP 55A - Fibro	TP 58A - Fibro	TP 61A - Fibro
Depth		-	-	-
Date Sampled		10/07/2019	10/07/2019	10/07/2019
Type of sample		Material	Material	Material
Date analysed	-	15/07/2019	15/07/2019	15/07/2019
Mass / Dimension of Sample	-	55x50x4mm	60x35x4mm	38x20x4mm
Sample Description	-	Peach compressed fibre cement material	Beige layered fibre cement material	Grey compressed fibre cement material
Asbestos ID in materials	-	No asbestos detected Organic fibres detected	No asbestos detected Organic fibres detected	Chrysotile asbestos detected Amosite asbestos detected Crocidolite asbestos detected

Method ID	Methodology Summary
ASB-001	Asbestos ID - Qualitative identification of asbestos in bulk samples using Polarised Light Microscopy and Dispersion Staining Techniques including Synthetic Mineral Fibre and Organic Fibre as per Australian Standard 4964-2004.
Inorg-001	pH - Measured using pH meter and electrode in accordance with APHA latest edition, 4500-H+. Please note that the results for water analyses are indicative only, as analysis outside of the APHA storage times.
Inorg-002	Conductivity and Salinity - measured using a conductivity cell at 25°C in accordance with APHA latest edition 2510 and Rayment & Lyons.
Inorg-002	Conductivity and Salinity - measured using a conductivity cell at 25oC in accordance with APHA 22nd ED 2510 and Rayment & Lyons. Resistivity is calculated from Conductivity.
Inorg-008	Moisture content determined by heating at 105+/-5 °C for a minimum of 12 hours.
Inorg-081	Anions - a range of Anions are determined by Ion Chromatography, in accordance with APHA latest edition, 4110-B. Waters samples are filtered on receipt prior to analysis. Alternatively determined by colourimetry/turbidity using Discrete Analyser.
Metals-009	Determination of exchangeable cations and cation exchange capacity in soils using 1M Ammonium Chloride exchange and ICP-AES analytical finish.
Metals-020	Determination of various metals by ICP-AES.
Metals-021	Determination of Mercury by Cold Vapour AAS.
Org-003	Soil samples are extracted with Dichloromethane/Acetone and waters with Dichloromethane and analysed by GC-FID. F2 = (>C10-C16)-Naphthalene as per NEPM B1 Guideline on Investigation Levels for Soil and Groundwater (HSLs Tables 1A (3, 4)). Note Naphthalene is determined from the VOC analysis.
Org-003	Soil samples are extracted with Dichloromethane/Acetone and waters with Dichloromethane and analysed by GC-FID. F2 = (>C10-C16)-Naphthalene as per NEPM B1 Guideline on Investigation Levels for Soil and Groundwater (HSLs Tables 1A (3, 4)). Note Naphthalene is determined from the VOC analysis. Note, the Total +ve TRH PQL is reflective of the lowest individual PQL and is therefore "Total +ve TRH" is simply a sum of the positive individual TRH fractions (>C10-C40).
Org-005	Soil samples are extracted with dichloromethane/acetone and waters with dichloromethane and analysed by GC with dual ECD's.
Org-005	Soil samples are extracted with dichloromethane/acetone and waters with dichloromethane and analysed by GC with dual ECD's. Note, the Total +ve reported DDD+DDE+DDT PQL is reflective of the lowest individual PQL and is therefore simply a sum of the positive individually report DDD+DDE+DDT.
Org-006	Soil samples are extracted with dichloromethane/acetone and waters with dichloromethane and analysed by GC-ECD.

Method ID	Methodology Summary
Org-006	Soil samples are extracted with dichloromethane/acetone and waters with dichloromethane and analysed by GC-ECD. Note, the Total +ve PCBs PQL is reflective of the lowest individual PQL and is therefore" Total +ve PCBs" is simply a sum of the positive individual PCBs.
Org-012	Soil samples are extracted with Dichloromethane/Acetone and waters with Dichloromethane and analysed by GC-MS. Benzo(a)pyrene TEQ as per NEPM B1 Guideline on Investigation Levels for Soil and Groundwater - 2013. For soil results:- 1. 'EQ PQL'values are assuming all contributing PAHs reported as <PQL are actually at the PQL. This is the most conservative approach and can give false positive TEQs given that PAHs that contribute to the TEQ calculation may not be present. 2. 'EQ zero'values are assuming all contributing PAHs reported as <PQL are zero. This is the least conservative approach and is more susceptible to false negative TEQs when PAHs that contribute to the TEQ calculation are present but below PQL. 3. 'EQ half PQL'values are assuming all contributing PAHs reported as <PQL are half the stipulated PQL. Hence a mid-point between the most and least conservative approaches above. Note, the Total +ve PAHs PQL is reflective of the lowest individual PQL and is therefore "Total +ve PAHs" is simply a sum of the positive individual PAHs.
Org-014	Soil samples are extracted with methanol and spiked into water prior to analysing by purge and trap GC-MS.
Org-016	Soil samples are extracted with methanol and spiked into water prior to analysing by purge and trap GC-MS. Water samples are analysed directly by purge and trap GC-MS. F1 = (C6-C10)-BTEX as per NEPM B1 Guideline on Investigation Levels for Soil and Groundwater.
Org-016	Soil samples are extracted with methanol and spiked into water prior to analysing by purge and trap GC-MS. Water samples are analysed directly by purge and trap GC-MS. F1 = (C6-C10)-BTEX as per NEPM B1 Guideline on Investigation Levels for Soil and Groundwater. Note, the Total +ve Xylene PQL is reflective of the lowest individual PQL and is therefore "Total +ve Xylenes" is simply a sum of the positive individual Xylenes.

QUALITY CONTROL: vTRH(C6-C10)/BTEXN in Soil						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-3	221489-3
Date extracted	-			15/07/2019	1	15/07/2019	15/07/2019		15/07/2019	15/07/2019
Date analysed	-			16/07/2019	1	16/07/2019	16/07/2019		16/07/2019	16/07/2019
TRH C_6 - C_9	mg/kg	25	Org-016	<25	1	<25	<25	0	91	86
TRH C_6 - C_{10}	mg/kg	25	Org-016	<25	1	<25	<25	0	91	86
Benzene	mg/kg	0.2	Org-016	<0.2	1	<0.2	<0.2	0	106	100
Toluene	mg/kg	0.5	Org-016	<0.5	1	<0.5	<0.5	0	92	89
Ethylbenzene	mg/kg	1	Org-016	<1	1	<1	<1	0	85	81
m+p-xylene	mg/kg	2	Org-016	<2	1	<2	<2	0	85	81
o-Xylene	mg/kg	1	Org-016	<1	1	<1	<1	0	82	78
naphthalene	mg/kg	1	Org-014	<1	1	<1	<1	0	[NT]	[NT]
Surrogate aaa-Trifluorotoluene	%		Org-016	97	1	90	89	1	96	92

QUALITY CONTROL: vTRH(C6-C10)/BTEXN in Soil						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-4	221489-54
Date extracted	-			[NT]	27	15/07/2019	15/07/2019		15/07/2019	15/07/2019
Date analysed	-			[NT]	27	16/07/2019	16/07/2019		16/07/2019	17/07/2019
TRH C_6 - C_9	mg/kg	25	Org-016	[NT]	27	<25	<25	0	90	86
TRH C_6 - C_{10}	mg/kg	25	Org-016	[NT]	27	<25	<25	0	90	86
Benzene	mg/kg	0.2	Org-016	[NT]	27	<0.2	<0.2	0	105	101
Toluene	mg/kg	0.5	Org-016	[NT]	27	<0.5	<0.5	0	91	89
Ethylbenzene	mg/kg	1	Org-016	[NT]	27	<1	<1	0	84	81
m+p-xylene	mg/kg	2	Org-016	[NT]	27	<2	<2	0	84	80
o-Xylene	mg/kg	1	Org-016	[NT]	27	<1	<1	0	81	78
naphthalene	mg/kg	1	Org-014	[NT]	27	<1	<1	0	[NT]	[NT]
Surrogate aaa-Trifluorotoluene	%		Org-016	[NT]	27	90	98	9	96	91

QUALITY CONTROL: vTRH(C6-C10)/BTEXN in Soil						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	[NT]	[NT]
Date extracted	-			[NT]	51	15/07/2019	15/07/2019		[NT]	[NT]
Date analysed	-			[NT]	51	17/07/2019	17/07/2019		[NT]	[NT]
TRH C_6 - C_9	mg/kg	25	Org-016	[NT]	51	<25	<25	0	[NT]	[NT]
TRH C_6 - C_{10}	mg/kg	25	Org-016	[NT]	51	<25	<25	0	[NT]	[NT]
Benzene	mg/kg	0.2	Org-016	[NT]	51	<0.2	<0.2	0	[NT]	[NT]
Toluene	mg/kg	0.5	Org-016	[NT]	51	<0.5	<0.5	0	[NT]	[NT]
Ethylbenzene	mg/kg	1	Org-016	[NT]	51	<1	<1	0	[NT]	[NT]
m+p-xylene	mg/kg	2	Org-016	[NT]	51	<2	<2	0	[NT]	[NT]
o-Xylene	mg/kg	1	Org-016	[NT]	51	<1	<1	0	[NT]	[NT]
naphthalene	mg/kg	1	Org-014	[NT]	51	<1	<1	0	[NT]	[NT]
Surrogate aaa-Trifluorotoluene	%		Org-016	[NT]	51	91	82	10	[NT]	[NT]

QUALITY CONTROL: svTRH (C10-C40) in Soil						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-3	221489-3
Date extracted	-			15/07/2019	1	15/07/2019	15/07/2019		15/07/2019	15/07/2019
Date analysed	-			16/07/2019	1	16/07/2019	16/07/2019		16/07/2019	16/07/2019
TRH C_{10} - C_{14}	mg/kg	50	Org-003	<50	1	<50	<50	0	87	101
TRH C_{15} - C_{28}	mg/kg	100	Org-003	<100	1	<100	<100	0	85	101
TRH C_{29} - C_{36}	mg/kg	100	Org-003	<100	1	<100	<100	0	75	76
TRH >C_{10} -C_{16}	mg/kg	50	Org-003	<50	1	<50	<50	0	87	101
TRH >C_{16} -C_{34}	mg/kg	100	Org-003	<100	1	<100	<100	0	85	101
TRH >C_{34} -C_{40}	mg/kg	100	Org-003	<100	1	<100	<100	0	75	76
Surrogate o-Terphenyl	%		Org-003	87	1	90	91	1	104	105

QUALITY CONTROL: svTRH (C10-C40) in Soil						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-4	221489-54
Date extracted	-			[NT]	12	15/07/2019	15/07/2019		15/07/2019	15/07/2019
Date analysed	-			[NT]	12	16/07/2019	16/07/2019		16/07/2019	16/07/2019
TRH C_{10} - C_{14}	mg/kg	50	Org-003	[NT]	12	<50	<50	0	90	86
TRH C_{15} - C_{28}	mg/kg	100	Org-003	[NT]	12	<100	<100	0	84	85
TRH C_{29} - C_{36}	mg/kg	100	Org-003	[NT]	12	<100	<100	0	100	123
TRH >C_{10} -C_{16}	mg/kg	50	Org-003	[NT]	12	<50	<50	0	90	86
TRH >C_{16} -C_{34}	mg/kg	100	Org-003	[NT]	12	<100	<100	0	84	85
TRH >C_{34} -C_{40}	mg/kg	100	Org-003	[NT]	12	<100	<100	0	100	123
Surrogate o-Terphenyl	%		Org-003	[NT]	12	85	84	1	98	93

QUALITY CONTROL: svTRH (C10-C40) in Soil						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	[NT]	[NT]
Date extracted	-			[NT]	27	15/07/2019	15/07/2019		[NT]	[NT]
Date analysed	-			[NT]	27	16/07/2019	16/07/2019		[NT]	[NT]
TRH C_{10} - C_{14}	mg/kg	50	Org-003	[NT]	27	<50	<50	0	[NT]	[NT]
TRH C_{15} - C_{28}	mg/kg	100	Org-003	[NT]	27	<100	<100	0	[NT]	[NT]
TRH C_{29} - C_{36}	mg/kg	100	Org-003	[NT]	27	<100	<100	0	[NT]	[NT]
TRH >C_{10} -C_{16}	mg/kg	50	Org-003	[NT]	27	<50	<50	0	[NT]	[NT]
TRH >C_{16} -C_{34}	mg/kg	100	Org-003	[NT]	27	<100	<100	0	[NT]	[NT]
TRH >C_{34} -C_{40}	mg/kg	100	Org-003	[NT]	27	<100	<100	0	[NT]	[NT]
Surrogate o-Terphenyl	%		Org-003	[NT]	27	86	85	1	[NT]	[NT]

QUALITY CONTROL: svTRH (C10-C40) in Soil						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	[NT]	[NT]
Date extracted	-			[NT]	38	15/07/2019	15/07/2019		[NT]	[NT]
Date analysed	-			[NT]	38	16/07/2019	16/07/2019		[NT]	[NT]
TRH C_{10} - C_{14}	mg/kg	50	Org-003	[NT]	38	<50	<50	0	[NT]	[NT]
TRH C_{15} - C_{28}	mg/kg	100	Org-003	[NT]	38	<100	<100	0	[NT]	[NT]
TRH C_{29} - C_{36}	mg/kg	100	Org-003	[NT]	38	<100	<100	0	[NT]	[NT]
TRH >C_{10} -C_{16}	mg/kg	50	Org-003	[NT]	38	<50	<50	0	[NT]	[NT]
TRH >C_{16} -C_{34}	mg/kg	100	Org-003	[NT]	38	<100	<100	0	[NT]	[NT]
TRH >C_{34} -C_{40}	mg/kg	100	Org-003	[NT]	38	<100	<100	0	[NT]	[NT]
Surrogate o-Terphenyl	%		Org-003	[NT]	38	84	83	1	[NT]	[NT]

QUALITY CONTROL: svTRH (C10-C40) in Soil						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	[NT]	[NT]
Date extracted	-			[NT]	51	15/07/2019	15/07/2019		[NT]	[NT]
Date analysed	-			[NT]	51	16/07/2019	16/07/2019		[NT]	[NT]
TRH C_{10} - C_{14}	mg/kg	50	Org-003	[NT]	51	<50	<50	0	[NT]	[NT]
TRH C_{15} - C_{28}	mg/kg	100	Org-003	[NT]	51	<100	<100	0	[NT]	[NT]
TRH C_{29} - C_{36}	mg/kg	100	Org-003	[NT]	51	<100	<100	0	[NT]	[NT]
TRH >C_{10} -C_{16}	mg/kg	50	Org-003	[NT]	51	<50	<50	0	[NT]	[NT]
TRH >C_{16} -C_{34}	mg/kg	100	Org-003	[NT]	51	<100	<100	0	[NT]	[NT]
TRH >C_{34} -C_{40}	mg/kg	100	Org-003	[NT]	51	<100	<100	0	[NT]	[NT]
Surrogate o-Terphenyl	%		Org-003	[NT]	51	82	83	1	[NT]	[NT]

QUALITY CONTROL: PAHs in Soil						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-3	221489-3
Date extracted	-			15/07/2019	1	15/07/2019	15/07/2019		15/07/2019	15/07/2019
Date analysed	-			15/07/2019	1	15/07/2019	15/07/2019		15/07/2019	15/07/2019
Naphthalene	mg/kg	0.1	Org-012	<0.1	1	<0.1	<0.1	0	114	112
Acenaphthylene	mg/kg	0.1	Org-012	<0.1	1	<0.1	<0.1	0	[NT]	[NT]
Acenaphthene	mg/kg	0.1	Org-012	<0.1	1	<0.1	<0.1	0	[NT]	[NT]
Fluorene	mg/kg	0.1	Org-012	<0.1	1	<0.1	<0.1	0	118	120
Phenanthrene	mg/kg	0.1	Org-012	<0.1	1	<0.1	<0.1	0	124	126
Anthracene	mg/kg	0.1	Org-012	<0.1	1	<0.1	<0.1	0	[NT]	[NT]
Fluoranthene	mg/kg	0.1	Org-012	<0.1	1	<0.1	<0.1	0	128	120
Pyrene	mg/kg	0.1	Org-012	<0.1	1	<0.1	<0.1	0	126	126
Benzo(a)anthracene	mg/kg	0.1	Org-012	<0.1	1	<0.1	<0.1	0	[NT]	[NT]
Chrysene	mg/kg	0.1	Org-012	<0.1	1	<0.1	<0.1	0	100	92
Benzo(b,j+k)fluoranthene	mg/kg	0.2	Org-012	<0.2	1	<0.2	<0.2	0	[NT]	[NT]
Benzo(a)pyrene	mg/kg	0.05	Org-012	<0.05	1	<0.05	<0.05	0	100	95
Indeno(1,2,3-c,d)pyrene	mg/kg	0.1	Org-012	<0.1	1	<0.1	<0.1	0	[NT]	[NT]
Dibenzo(a,h)anthracene	mg/kg	0.1	Org-012	<0.1	1	<0.1	<0.1	0	[NT]	[NT]
Benzo(g,h,i)perylene	mg/kg	0.1	Org-012	<0.1	1	<0.1	<0.1	0	[NT]	[NT]
Surrogate p-Terphenyl-d14	%		Org-012	136	1	110	127	14	116	113

QUALITY CONTROL: PAHs in Soil						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-4	221489-54
Date extracted	-			[NT]	12	15/07/2019	15/07/2019		15/07/2019	15/07/2019
Date analysed	-			[NT]	12	15/07/2019	15/07/2019		15/07/2019	15/07/2019
Naphthalene	mg/kg	0.1	Org-012	[NT]	12	<0.1	<0.1	0	110	108
Acenaphthylene	mg/kg	0.1	Org-012	[NT]	12	<0.1	<0.1	0	[NT]	[NT]
Acenaphthene	mg/kg	0.1	Org-012	[NT]	12	<0.1	<0.1	0	[NT]	[NT]
Fluorene	mg/kg	0.1	Org-012	[NT]	12	<0.1	<0.1	0	116	120
Phenanthrene	mg/kg	0.1	Org-012	[NT]	12	<0.1	<0.1	0	130	117
Anthracene	mg/kg	0.1	Org-012	[NT]	12	<0.1	<0.1	0	[NT]	[NT]
Fluoranthene	mg/kg	0.1	Org-012	[NT]	12	<0.1	<0.1	0	114	80
Pyrene	mg/kg	0.1	Org-012	[NT]	12	<0.1	<0.1	0	120	80
Benzo(a)anthracene	mg/kg	0.1	Org-012	[NT]	12	<0.1	<0.1	0	[NT]	[NT]
Chrysene	mg/kg	0.1	Org-012	[NT]	12	<0.1	<0.1	0	100	84
Benzo(b,j+k)fluoranthene	mg/kg	0.2	Org-012	[NT]	12	<0.2	<0.2	0	[NT]	[NT]
Benzo(a)pyrene	mg/kg	0.05	Org-012	[NT]	12	<0.05	<0.05	0	100	88
Indeno(1,2,3-c,d)pyrene	mg/kg	0.1	Org-012	[NT]	12	<0.1	<0.1	0	[NT]	[NT]
Dibenzo(a,h)anthracene	mg/kg	0.1	Org-012	[NT]	12	<0.1	<0.1	0	[NT]	[NT]
Benzo(g,h,i)perylene	mg/kg	0.1	Org-012	[NT]	12	<0.1	<0.1	0	[NT]	[NT]
Surrogate p-Terphenyl-d14	%		Org-012	[NT]	12	96	94	2	111	92

QUALITY CONTROL: PAHs in Soil						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	[NT]	[NT]
Date extracted	-			[NT]	27	15/07/2019	15/07/2019		[NT]	[NT]
Date analysed	-			[NT]	27	15/07/2019	15/07/2019		[NT]	[NT]
Naphthalene	mg/kg	0.1	Org-012	[NT]	27	<0.1	<0.1	0	[NT]	[NT]
Acenaphthylene	mg/kg	0.1	Org-012	[NT]	27	<0.1	<0.1	0	[NT]	[NT]
Acenaphthene	mg/kg	0.1	Org-012	[NT]	27	<0.1	<0.1	0	[NT]	[NT]
Fluorene	mg/kg	0.1	Org-012	[NT]	27	<0.1	<0.1	0	[NT]	[NT]
Phenanthrene	mg/kg	0.1	Org-012	[NT]	27	<0.1	<0.1	0	[NT]	[NT]
Anthracene	mg/kg	0.1	Org-012	[NT]	27	<0.1	<0.1	0	[NT]	[NT]
Fluoranthene	mg/kg	0.1	Org-012	[NT]	27	<0.1	<0.1	0	[NT]	[NT]
Pyrene	mg/kg	0.1	Org-012	[NT]	27	<0.1	<0.1	0	[NT]	[NT]
Benzo(a)anthracene	mg/kg	0.1	Org-012	[NT]	27	<0.1	<0.1	0	[NT]	[NT]
Chrysene	mg/kg	0.1	Org-012	[NT]	27	<0.1	<0.1	0	[NT]	[NT]
Benzo(b,j+k)fluoranthene	mg/kg	0.2	Org-012	[NT]	27	<0.2	<0.2	0	[NT]	[NT]
Benzo(a)pyrene	mg/kg	0.05	Org-012	[NT]	27	<0.05	<0.05	0	[NT]	[NT]
Indeno(1,2,3-c,d)pyrene	mg/kg	0.1	Org-012	[NT]	27	<0.1	<0.1	0	[NT]	[NT]
Dibenzo(a,h)anthracene	mg/kg	0.1	Org-012	[NT]	27	<0.1	<0.1	0	[NT]	[NT]
Benzo(g,h,i)perylene	mg/kg	0.1	Org-012	[NT]	27	<0.1	<0.1	0	[NT]	[NT]
Surrogate p-Terphenyl-d14	%		Org-012	[NT]	27	95	117	21	[NT]	[NT]

QUALITY CONTROL: PAHs in Soil						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	[NT]	[NT]
Date extracted	-			[NT]	38	15/07/2019	15/07/2019		[NT]	[NT]
Date analysed	-			[NT]	38	15/07/2019	15/07/2019		[NT]	[NT]
Naphthalene	mg/kg	0.1	Org-012	[NT]	38	<0.1	<0.1	0	[NT]	[NT]
Acenaphthylene	mg/kg	0.1	Org-012	[NT]	38	<0.1	<0.1	0	[NT]	[NT]
Acenaphthene	mg/kg	0.1	Org-012	[NT]	38	<0.1	<0.1	0	[NT]	[NT]
Fluorene	mg/kg	0.1	Org-012	[NT]	38	<0.1	<0.1	0	[NT]	[NT]
Phenanthrene	mg/kg	0.1	Org-012	[NT]	38	<0.1	<0.1	0	[NT]	[NT]
Anthracene	mg/kg	0.1	Org-012	[NT]	38	<0.1	<0.1	0	[NT]	[NT]
Fluoranthene	mg/kg	0.1	Org-012	[NT]	38	<0.1	<0.1	0	[NT]	[NT]
Pyrene	mg/kg	0.1	Org-012	[NT]	38	<0.1	<0.1	0	[NT]	[NT]
Benzo(a)anthracene	mg/kg	0.1	Org-012	[NT]	38	<0.1	<0.1	0	[NT]	[NT]
Chrysene	mg/kg	0.1	Org-012	[NT]	38	<0.1	<0.1	0	[NT]	[NT]
Benzo(b,j+k)fluoranthene	mg/kg	0.2	Org-012	[NT]	38	<0.2	<0.2	0	[NT]	[NT]
Benzo(a)pyrene	mg/kg	0.05	Org-012	[NT]	38	<0.05	<0.05	0	[NT]	[NT]
Indeno(1,2,3-c,d)pyrene	mg/kg	0.1	Org-012	[NT]	38	<0.1	<0.1	0	[NT]	[NT]
Dibenzo(a,h)anthracene	mg/kg	0.1	Org-012	[NT]	38	<0.1	<0.1	0	[NT]	[NT]
Benzo(g,h,i)perylene	mg/kg	0.1	Org-012	[NT]	38	<0.1	<0.1	0	[NT]	[NT]
Surrogate p-Terphenyl-d14	%		Org-012	[NT]	38	97	94	3	[NT]	[NT]

QUALITY CONTROL: PAHs in Soil					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	[NT]	[NT]
Date extracted	-			[NT]	51	15/07/2019	15/07/2019		[NT]	[NT]
Date analysed	-			[NT]	51	15/07/2019	15/07/2019		[NT]	[NT]
Naphthalene	mg/kg	0.1	Org-012	[NT]	51	<0.1	<0.1	0	[NT]	[NT]
Acenaphthylene	mg/kg	0.1	Org-012	[NT]	51	<0.1	<0.1	0	[NT]	[NT]
Acenaphthene	mg/kg	0.1	Org-012	[NT]	51	<0.1	<0.1	0	[NT]	[NT]
Fluorene	mg/kg	0.1	Org-012	[NT]	51	<0.1	<0.1	0	[NT]	[NT]
Phenanthrene	mg/kg	0.1	Org-012	[NT]	51	<0.1	<0.1	0	[NT]	[NT]
Anthracene	mg/kg	0.1	Org-012	[NT]	51	<0.1	<0.1	0	[NT]	[NT]
Fluoranthene	mg/kg	0.1	Org-012	[NT]	51	<0.1	<0.1	0	[NT]	[NT]
Pyrene	mg/kg	0.1	Org-012	[NT]	51	<0.1	<0.1	0	[NT]	[NT]
Benzo(a)anthracene	mg/kg	0.1	Org-012	[NT]	51	<0.1	<0.1	0	[NT]	[NT]
Chrysene	mg/kg	0.1	Org-012	[NT]	51	<0.1	<0.1	0	[NT]	[NT]
Benzo(b,j+k)fluoranthene	mg/kg	0.2	Org-012	[NT]	51	<0.2	<0.2	0	[NT]	[NT]
Benzo(a)pyrene	mg/kg	0.05	Org-012	[NT]	51	<0.05	<0.05	0	[NT]	[NT]
Indeno(1,2,3-c,d)pyrene	mg/kg	0.1	Org-012	[NT]	51	<0.1	<0.1	0	[NT]	[NT]
Dibenzo(a,h)anthracene	mg/kg	0.1	Org-012	[NT]	51	<0.1	<0.1	0	[NT]	[NT]
Benzo(g,h,i)perylene	mg/kg	0.1	Org-012	[NT]	51	<0.1	<0.1	0	[NT]	[NT]
Surrogate p-Terphenyl-d14	%		Org-012	[NT]	51	98	121	21	[NT]	[NT]

QUALITY CONTROL: Organochlorine Pesticides in soil						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-3	221489-3
Date extracted	-			15/07/2019	1	15/07/2019	15/07/2019		15/07/2019	15/07/2019
Date analysed	-			15/07/2019	1	15/07/2019	15/07/2019		15/07/2019	15/07/2019
HCB	mg/kg	0.1	Org-005	<0.1	1	<0.1	<0.1	0	[NT]	[NT]
alpha-BHC	mg/kg	0.1	Org-005	<0.1	1	<0.1	<0.1	0	84	77
gamma-BHC	mg/kg	0.1	Org-005	<0.1	1	<0.1	<0.1	0	[NT]	[NT]
beta-BHC	mg/kg	0.1	Org-005	<0.1	1	<0.1	<0.1	0	88	83
Heptachlor	mg/kg	0.1	Org-005	<0.1	1	<0.1	<0.1	0	96	86
delta-BHC	mg/kg	0.1	Org-005	<0.1	1	<0.1	<0.1	0	[NT]	[NT]
Aldrin	mg/kg	0.1	Org-005	<0.1	1	<0.1	<0.1	0	102	100
Heptachlor Epoxide	mg/kg	0.1	Org-005	<0.1	1	<0.1	<0.1	0	94	89
gamma-Chlordane	mg/kg	0.1	Org-005	<0.1	1	<0.1	<0.1	0	[NT]	[NT]
alpha-chlordane	mg/kg	0.1	Org-005	<0.1	1	<0.1	<0.1	0	[NT]	[NT]
Endosulfan I	mg/kg	0.1	Org-005	<0.1	1	<0.1	<0.1	0	[NT]	[NT]
pp-DDE	mg/kg	0.1	Org-005	<0.1	1	<0.1	<0.1	0	118	103
Dieldrin	mg/kg	0.1	Org-005	<0.1	1	<0.1	<0.1	0	126	115
Endrin	mg/kg	0.1	Org-005	<0.1	1	<0.1	<0.1	0	110	134
pp-DDD	mg/kg	0.1	Org-005	<0.1	1	<0.1	<0.1	0	92	82
Endosulfan II	mg/kg	0.1	Org-005	<0.1	1	<0.1	<0.1	0	[NT]	[NT]
pp-DDT	mg/kg	0.1	Org-005	<0.1	1	<0.1	<0.1	0	[NT]	[NT]
Endrin Aldehyde	mg/kg	0.1	Org-005	<0.1	1	<0.1	<0.1	0	[NT]	[NT]
Endosulfan Sulphate	mg/kg	0.1	Org-005	<0.1	1	<0.1	<0.1	0	112	94
Methoxychlor	mg/kg	0.1	Org-005	<0.1	1	<0.1	<0.1	0	[NT]	[NT]
Surrogate TCMX	%		Org-005	87	1	95	92	3	89	86

QUALITY CONTROL: Organochlorine Pesticides in soil						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-4	221489-54
Date extracted	-			[NT]	12	15/07/2019	15/07/2019		15/07/2019	15/07/2019
Date analysed	-			[NT]	12	15/07/2019	15/07/2019		15/07/2019	15/07/2019
HCB	mg/kg	0.1	Org-005	[NT]	12	<0.1	<0.1	0	[NT]	[NT]
alpha-BHC	mg/kg	0.1	Org-005	[NT]	12	<0.1	<0.1	0	82	82
gamma-BHC	mg/kg	0.1	Org-005	[NT]	12	<0.1	<0.1	0	[NT]	[NT]
beta-BHC	mg/kg	0.1	Org-005	[NT]	12	<0.1	<0.1	0	90	88
Heptachlor	mg/kg	0.1	Org-005	[NT]	12	<0.1	<0.1	0	76	91
delta-BHC	mg/kg	0.1	Org-005	[NT]	12	<0.1	<0.1	0	[NT]	[NT]
Aldrin	mg/kg	0.1	Org-005	[NT]	12	<0.1	<0.1	0	90	97
Heptachlor Epoxide	mg/kg	0.1	Org-005	[NT]	12	<0.1	<0.1	0	84	89
gamma-Chlordane	mg/kg	0.1	Org-005	[NT]	12	<0.1	<0.1	0	[NT]	[NT]
alpha-chlordane	mg/kg	0.1	Org-005	[NT]	12	<0.1	<0.1	0	[NT]	[NT]
Endosulfan I	mg/kg	0.1	Org-005	[NT]	12	<0.1	<0.1	0	[NT]	[NT]
pp-DDE	mg/kg	0.1	Org-005	[NT]	12	<0.1	<0.1	0	108	93
Dieldrin	mg/kg	0.1	Org-005	[NT]	12	<0.1	<0.1	0	120	102
Endrin	mg/kg	0.1	Org-005	[NT]	12	<0.1	<0.1	0	102	90
pp-DDD	mg/kg	0.1	Org-005	[NT]	12	<0.1	<0.1	0	82	88
Endosulfan II	mg/kg	0.1	Org-005	[NT]	12	<0.1	<0.1	0	[NT]	[NT]
pp-DDT	mg/kg	0.1	Org-005	[NT]	12	<0.1	<0.1	0	[NT]	[NT]
Endrin Aldehyde	mg/kg	0.1	Org-005	[NT]	12	<0.1	<0.1	0	[NT]	[NT]
Endosulfan Sulphate	mg/kg	0.1	Org-005	[NT]	12	<0.1	<0.1	0	66	92
Methoxychlor	mg/kg	0.1	Org-005	[NT]	12	<0.1	<0.1	0	[NT]	[NT]
Surrogate TCMX	%		Org-005	[NT]	12	98	88	11	91	95

QUALITY CONTROL: Organochlorine Pesticides in soil					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-5	[NT]
Date extracted	-			[NT]	27	15/07/2019	15/07/2019		15/07/2019	[NT]
Date analysed	-			[NT]	27	15/07/2019	15/07/2019		15/07/2019	[NT]
HCB	mg/kg	0.1	Org-005	[NT]	27	<0.1	<0.1	0	[NT]	[NT]
alpha-BHC	mg/kg	0.1	Org-005	[NT]	27	<0.1	<0.1	0	95	[NT]
gamma-BHC	mg/kg	0.1	Org-005	[NT]	27	<0.1	<0.1	0	[NT]	[NT]
beta-BHC	mg/kg	0.1	Org-005	[NT]	27	<0.1	<0.1	0	86	[NT]
Heptachlor	mg/kg	0.1	Org-005	[NT]	27	<0.1	<0.1	0	90	[NT]
delta-BHC	mg/kg	0.1	Org-005	[NT]	27	<0.1	<0.1	0	[NT]	[NT]
Aldrin	mg/kg	0.1	Org-005	[NT]	27	<0.1	<0.1	0	97	[NT]
Heptachlor Epoxide	mg/kg	0.1	Org-005	[NT]	27	<0.1	<0.1	0	88	[NT]
gamma-Chlordane	mg/kg	0.1	Org-005	[NT]	27	<0.1	<0.1	0	[NT]	[NT]
alpha-chlordane	mg/kg	0.1	Org-005	[NT]	27	<0.1	<0.1	0	[NT]	[NT]
Endosulfan I	mg/kg	0.1	Org-005	[NT]	27	<0.1	<0.1	0	[NT]	[NT]
pp-DDE	mg/kg	0.1	Org-005	[NT]	27	<0.1	<0.1	0	95	[NT]
Dieldrin	mg/kg	0.1	Org-005	[NT]	27	0.2	0.6	100	105	[NT]
Endrin	mg/kg	0.1	Org-005	[NT]	27	<0.1	<0.1	0	96	[NT]
pp-DDD	mg/kg	0.1	Org-005	[NT]	27	<0.1	<0.1	0	86	[NT]
Endosulfan II	mg/kg	0.1	Org-005	[NT]	27	<0.1	<0.1	0	[NT]	[NT]
pp-DDT	mg/kg	0.1	Org-005	[NT]	27	<0.1	<0.1	0	[NT]	[NT]
Endrin Aldehyde	mg/kg	0.1	Org-005	[NT]	27	<0.1	<0.1	0	[NT]	[NT]
Endosulfan Sulphate	mg/kg	0.1	Org-005	[NT]	27	<0.1	<0.1	0	93	[NT]
Methoxychlor	mg/kg	0.1	Org-005	[NT]	27	<0.1	<0.1	0	[NT]	[NT]
Surrogate TCMX	%		Org-005	[NT]	27	93	93	0	98	[NT]

QUALITY CONTROL: Organochlorine Pesticides in soil					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	[NT]	[NT]
Date extracted	-			[NT]	38	15/07/2019	15/07/2019		[NT]	[NT]
Date analysed	-			[NT]	38	15/07/2019	15/07/2019		[NT]	[NT]
HCB	mg/kg	0.1	Org-005	[NT]	38	<0.1	<0.1	0	[NT]	[NT]
alpha-BHC	mg/kg	0.1	Org-005	[NT]	38	<0.1	<0.1	0	[NT]	[NT]
gamma-BHC	mg/kg	0.1	Org-005	[NT]	38	<0.1	<0.1	0	[NT]	[NT]
beta-BHC	mg/kg	0.1	Org-005	[NT]	38	<0.1	<0.1	0	[NT]	[NT]
Heptachlor	mg/kg	0.1	Org-005	[NT]	38	<0.1	<0.1	0	[NT]	[NT]
delta-BHC	mg/kg	0.1	Org-005	[NT]	38	<0.1	<0.1	0	[NT]	[NT]
Aldrin	mg/kg	0.1	Org-005	[NT]	38	<0.1	<0.1	0	[NT]	[NT]
Heptachlor Epoxide	mg/kg	0.1	Org-005	[NT]	38	<0.1	<0.1	0	[NT]	[NT]
gamma-Chlordane	mg/kg	0.1	Org-005	[NT]	38	<0.1	<0.1	0	[NT]	[NT]
alpha-chlordane	mg/kg	0.1	Org-005	[NT]	38	<0.1	<0.1	0	[NT]	[NT]
Endosulfan I	mg/kg	0.1	Org-005	[NT]	38	<0.1	<0.1	0	[NT]	[NT]
pp-DDE	mg/kg	0.1	Org-005	[NT]	38	<0.1	<0.1	0	[NT]	[NT]
Dieldrin	mg/kg	0.1	Org-005	[NT]	38	<0.1	<0.1	0	[NT]	[NT]
Endrin	mg/kg	0.1	Org-005	[NT]	38	<0.1	<0.1	0	[NT]	[NT]
pp-DDD	mg/kg	0.1	Org-005	[NT]	38	<0.1	<0.1	0	[NT]	[NT]
Endosulfan II	mg/kg	0.1	Org-005	[NT]	38	<0.1	<0.1	0	[NT]	[NT]
pp-DDT	mg/kg	0.1	Org-005	[NT]	38	<0.1	<0.1	0	[NT]	[NT]
Endrin Aldehyde	mg/kg	0.1	Org-005	[NT]	38	<0.1	<0.1	0	[NT]	[NT]
Endosulfan Sulphate	mg/kg	0.1	Org-005	[NT]	38	<0.1	<0.1	0	[NT]	[NT]
Methoxychlor	mg/kg	0.1	Org-005	[NT]	38	<0.1	<0.1	0	[NT]	[NT]
Surrogate TCMX	%		Org-005	[NT]	38	91	92	1	[NT]	[NT]

QUALITY CONTROL: Organochlorine Pesticides in soil					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	[NT]	[NT]
Date extracted	-			[NT]	51	15/07/2019	15/07/2019		[NT]	[NT]
Date analysed	-			[NT]	51	15/07/2019	15/07/2019		[NT]	[NT]
HCB	mg/kg	0.1	Org-005	[NT]	51	<0.1	<0.1	0	[NT]	[NT]
alpha-BHC	mg/kg	0.1	Org-005	[NT]	51	<0.1	<0.1	0	[NT]	[NT]
gamma-BHC	mg/kg	0.1	Org-005	[NT]	51	<0.1	<0.1	0	[NT]	[NT]
beta-BHC	mg/kg	0.1	Org-005	[NT]	51	<0.1	<0.1	0	[NT]	[NT]
Heptachlor	mg/kg	0.1	Org-005	[NT]	51	<0.1	<0.1	0	[NT]	[NT]
delta-BHC	mg/kg	0.1	Org-005	[NT]	51	<0.1	<0.1	0	[NT]	[NT]
Aldrin	mg/kg	0.1	Org-005	[NT]	51	<0.1	<0.1	0	[NT]	[NT]
Heptachlor Epoxide	mg/kg	0.1	Org-005	[NT]	51	<0.1	<0.1	0	[NT]	[NT]
gamma-Chlordane	mg/kg	0.1	Org-005	[NT]	51	<0.1	<0.1	0	[NT]	[NT]
alpha-chlordane	mg/kg	0.1	Org-005	[NT]	51	<0.1	<0.1	0	[NT]	[NT]
Endosulfan I	mg/kg	0.1	Org-005	[NT]	51	<0.1	<0.1	0	[NT]	[NT]
pp-DDE	mg/kg	0.1	Org-005	[NT]	51	<0.1	<0.1	0	[NT]	[NT]
Dieldrin	mg/kg	0.1	Org-005	[NT]	51	<0.1	<0.1	0	[NT]	[NT]
Endrin	mg/kg	0.1	Org-005	[NT]	51	<0.1	<0.1	0	[NT]	[NT]
pp-DDD	mg/kg	0.1	Org-005	[NT]	51	<0.1	<0.1	0	[NT]	[NT]
Endosulfan II	mg/kg	0.1	Org-005	[NT]	51	<0.1	<0.1	0	[NT]	[NT]
pp-DDT	mg/kg	0.1	Org-005	[NT]	51	<0.1	<0.1	0	[NT]	[NT]
Endrin Aldehyde	mg/kg	0.1	Org-005	[NT]	51	<0.1	<0.1	0	[NT]	[NT]
Endosulfan Sulphate	mg/kg	0.1	Org-005	[NT]	51	<0.1	<0.1	0	[NT]	[NT]
Methoxychlor	mg/kg	0.1	Org-005	[NT]	51	<0.1	<0.1	0	[NT]	[NT]
Surrogate TCMX	%		Org-005	[NT]	51	81	92	13	[NT]	[NT]

QUALITY CONTROL: PCBs in Soil						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-3	221489-3
Date extracted	-			15/07/2019	1	15/07/2019	15/07/2019		15/07/2019	15/07/2019
Date analysed	-			15/07/2019	1	15/07/2019	15/07/2019		15/07/2019	15/07/2019
Aroclor 1016	mg/kg	0.1	Org-006	<0.1	1	<0.1	<0.1	0	[NT]	[NT]
Aroclor 1221	mg/kg	0.1	Org-006	<0.1	1	<0.1	<0.1	0	[NT]	[NT]
Aroclor 1232	mg/kg	0.1	Org-006	<0.1	1	<0.1	<0.1	0	[NT]	[NT]
Aroclor 1242	mg/kg	0.1	Org-006	<0.1	1	<0.1	<0.1	0	[NT]	[NT]
Aroclor 1248	mg/kg	0.1	Org-006	<0.1	1	<0.1	<0.1	0	[NT]	[NT]
Aroclor 1254	mg/kg	0.1	Org-006	<0.1	1	<0.1	<0.1	0	122	95
Aroclor 1260	mg/kg	0.1	Org-006	<0.1	1	<0.1	<0.1	0	[NT]	[NT]
Surrogate TCLMX	%		Org-006	87	1	95	92	3	89	86

QUALITY CONTROL: PCBs in Soil						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-4	221489-54
Date extracted	-			[NT]	12	15/07/2019	15/07/2019		15/07/2019	15/07/2019
Date analysed	-			[NT]	12	15/07/2019	15/07/2019		15/07/2019	15/07/2019
Aroclor 1016	mg/kg	0.1	Org-006	[NT]	12	<0.1	<0.1	0	[NT]	[NT]
Aroclor 1221	mg/kg	0.1	Org-006	[NT]	12	<0.1	<0.1	0	[NT]	[NT]
Aroclor 1232	mg/kg	0.1	Org-006	[NT]	12	<0.1	<0.1	0	[NT]	[NT]
Aroclor 1242	mg/kg	0.1	Org-006	[NT]	12	<0.1	<0.1	0	[NT]	[NT]
Aroclor 1248	mg/kg	0.1	Org-006	[NT]	12	<0.1	<0.1	0	[NT]	[NT]
Aroclor 1254	mg/kg	0.1	Org-006	[NT]	12	<0.1	<0.1	0	112	126
Aroclor 1260	mg/kg	0.1	Org-006	[NT]	12	<0.1	<0.1	0	[NT]	[NT]
Surrogate TCLMX	%		Org-006	[NT]	12	98	88	11	91	92

QUALITY CONTROL: PCBs in Soil						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-5	[NT]
Date extracted	-			[NT]	27	15/07/2019	15/07/2019		15/07/2019	[NT]
Date analysed	-			[NT]	27	15/07/2019	15/07/2019		15/07/2019	[NT]
Aroclor 1016	mg/kg	0.1	Org-006	[NT]	27	<0.1	<0.1	0	[NT]	[NT]
Aroclor 1221	mg/kg	0.1	Org-006	[NT]	27	<0.1	<0.1	0	[NT]	[NT]
Aroclor 1232	mg/kg	0.1	Org-006	[NT]	27	<0.1	<0.1	0	[NT]	[NT]
Aroclor 1242	mg/kg	0.1	Org-006	[NT]	27	<0.1	<0.1	0	[NT]	[NT]
Aroclor 1248	mg/kg	0.1	Org-006	[NT]	27	<0.1	<0.1	0	[NT]	[NT]
Aroclor 1254	mg/kg	0.1	Org-006	[NT]	27	<0.1	<0.1	0	104	[NT]
Aroclor 1260	mg/kg	0.1	Org-006	[NT]	27	<0.1	<0.1	0	[NT]	[NT]
Surrogate TCLMX	%		Org-006	[NT]	27	93	93	0	90	[NT]

QUALITY CONTROL: PCBs in Soil						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	[NT]	[NT]
Date extracted	-			[NT]	38	15/07/2019	15/07/2019		[NT]	[NT]
Date analysed	-			[NT]	38	15/07/2019	15/07/2019		[NT]	[NT]
Aroclor 1016	mg/kg	0.1	Org-006	[NT]	38	<0.1	<0.1	0	[NT]	[NT]
Aroclor 1221	mg/kg	0.1	Org-006	[NT]	38	<0.1	<0.1	0	[NT]	[NT]
Aroclor 1232	mg/kg	0.1	Org-006	[NT]	38	<0.1	<0.1	0	[NT]	[NT]
Aroclor 1242	mg/kg	0.1	Org-006	[NT]	38	<0.1	<0.1	0	[NT]	[NT]
Aroclor 1248	mg/kg	0.1	Org-006	[NT]	38	<0.1	<0.1	0	[NT]	[NT]
Aroclor 1254	mg/kg	0.1	Org-006	[NT]	38	<0.1	<0.1	0	[NT]	[NT]
Aroclor 1260	mg/kg	0.1	Org-006	[NT]	38	<0.1	<0.1	0	[NT]	[NT]
Surrogate TCLMX	%		Org-006	[NT]	38	91	92	1	[NT]	[NT]

QUALITY CONTROL: PCBs in Soil						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	[NT]	[NT]
Date extracted	-			[NT]	51	15/07/2019	15/07/2019		[NT]	[NT]
Date analysed	-			[NT]	51	15/07/2019	15/07/2019		[NT]	[NT]
Aroclor 1016	mg/kg	0.1	Org-006	[NT]	51	<0.1	<0.1	0	[NT]	[NT]
Aroclor 1221	mg/kg	0.1	Org-006	[NT]	51	<0.1	<0.1	0	[NT]	[NT]
Aroclor 1232	mg/kg	0.1	Org-006	[NT]	51	<0.1	<0.1	0	[NT]	[NT]
Aroclor 1242	mg/kg	0.1	Org-006	[NT]	51	<0.1	<0.1	0	[NT]	[NT]
Aroclor 1248	mg/kg	0.1	Org-006	[NT]	51	<0.1	<0.1	0	[NT]	[NT]
Aroclor 1254	mg/kg	0.1	Org-006	[NT]	51	<0.1	<0.1	0	[NT]	[NT]
Aroclor 1260	mg/kg	0.1	Org-006	[NT]	51	<0.1	<0.1	0	[NT]	[NT]
Surrogate TCLMX	%		Org-006	[NT]	51	81	92	13	[NT]	[NT]

QUALITY CONTROL: Acid Extractable metals in soil						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-3	221489-3
Date prepared	-			15/07/2019	1	15/07/2019	15/07/2019		15/07/2019	15/07/2019
Date analysed	-			16/07/2019	1	16/07/2019	16/07/2019		16/07/2019	16/07/2019
Arsenic	mg/kg	4	Metals-020	<4	1	10	6	50	111	94
Cadmium	mg/kg	0.4	Metals-020	<0.4	1	<0.4	<0.4	0	103	75
Chromium	mg/kg	1	Metals-020	<1	1	25	21	17	110	90
Copper	mg/kg	1	Metals-020	<1	1	25	23	8	109	110
Lead	mg/kg	1	Metals-020	<1	1	24	21	13	112	83
Mercury	mg/kg	0.1	Metals-021	<0.1	1	<0.1	<0.1	0	106	107
Nickel	mg/kg	1	Metals-020	<1	1	14	14	0	108	81
Zinc	mg/kg	1	Metals-020	<1	1	51	45	12	119	94

QUALITY CONTROL: Acid Extractable metals in soil						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-4	221489-54
Date prepared	-			[NT]	12	15/07/2019	15/07/2019		15/07/2019	15/07/2019
Date analysed	-			[NT]	12	16/07/2019	16/07/2019		16/07/2019	16/07/2019
Arsenic	mg/kg	4	Metals-020	[NT]	12	5	5	0	114	88
Cadmium	mg/kg	0.4	Metals-020	[NT]	12	<0.4	<0.4	0	106	73
Chromium	mg/kg	1	Metals-020	[NT]	12	13	13	0	112	80
Copper	mg/kg	1	Metals-020	[NT]	12	30	30	0	115	120
Lead	mg/kg	1	Metals-020	[NT]	12	22	23	4	113	77
Mercury	mg/kg	0.1	Metals-021	[NT]	12	<0.1	0.1	0	103	93
Nickel	mg/kg	1	Metals-020	[NT]	12	10	11	10	111	78
Zinc	mg/kg	1	Metals-020	[NT]	12	42	52	21	121	74

QUALITY CONTROL: Acid Extractable metals in soil						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-5	[NT]
Date prepared	-			[NT]	27	15/07/2019	15/07/2019		15/07/2019	[NT]
Date analysed	-			[NT]	27	16/07/2019	16/07/2019		16/07/2019	[NT]
Arsenic	mg/kg	4	Metals-020	[NT]	27	5	5	0	111	[NT]
Cadmium	mg/kg	0.4	Metals-020	[NT]	27	<0.4	<0.4	0	100	[NT]
Chromium	mg/kg	1	Metals-020	[NT]	27	15	15	0	108	[NT]
Copper	mg/kg	1	Metals-020	[NT]	27	22	22	0	111	[NT]
Lead	mg/kg	1	Metals-020	[NT]	27	22	19	15	109	[NT]
Mercury	mg/kg	0.1	Metals-021	[NT]	27	<0.1	<0.1	0	93	[NT]
Nickel	mg/kg	1	Metals-020	[NT]	27	9	8	12	106	[NT]
Zinc	mg/kg	1	Metals-020	[NT]	27	36	32	12	116	[NT]

QUALITY CONTROL: Acid Extractable metals in soil					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	[NT]	[NT]
Date prepared	-			[NT]	38	15/07/2019	15/07/2019		[NT]	[NT]
Date analysed	-			[NT]	38	16/07/2019	16/07/2019		[NT]	[NT]
Arsenic	mg/kg	4	Metals-020	[NT]	38	5	5	0	[NT]	[NT]
Cadmium	mg/kg	0.4	Metals-020	[NT]	38	<0.4	<0.4	0	[NT]	[NT]
Chromium	mg/kg	1	Metals-020	[NT]	38	16	16	0	[NT]	[NT]
Copper	mg/kg	1	Metals-020	[NT]	38	26	24	8	[NT]	[NT]
Lead	mg/kg	1	Metals-020	[NT]	38	24	28	15	[NT]	[NT]
Mercury	mg/kg	0.1	Metals-021	[NT]	38	<0.1	<0.1	0	[NT]	[NT]
Nickel	mg/kg	1	Metals-020	[NT]	38	9	8	12	[NT]	[NT]
Zinc	mg/kg	1	Metals-020	[NT]	38	42	38	10	[NT]	[NT]

QUALITY CONTROL: Acid Extractable metals in soil					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	[NT]	[NT]
Date prepared	-			[NT]	51	15/07/2019	15/07/2019		[NT]	[NT]
Date analysed	-			[NT]	51	16/07/2019	16/07/2019		[NT]	[NT]
Arsenic	mg/kg	4	Metals-020	[NT]	51	7	8	13	[NT]	[NT]
Cadmium	mg/kg	0.4	Metals-020	[NT]	51	<0.4	<0.4	0	[NT]	[NT]
Chromium	mg/kg	1	Metals-020	[NT]	51	22	20	10	[NT]	[NT]
Copper	mg/kg	1	Metals-020	[NT]	51	26	25	4	[NT]	[NT]
Lead	mg/kg	1	Metals-020	[NT]	51	23	25	8	[NT]	[NT]
Mercury	mg/kg	0.1	Metals-021	[NT]	51	0.1	<0.1	0	[NT]	[NT]
Nickel	mg/kg	1	Metals-020	[NT]	51	11	11	0	[NT]	[NT]
Zinc	mg/kg	1	Metals-020	[NT]	51	38	36	5	[NT]	[NT]

QUALITY CONTROL: Misc Inorg - Soil						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-3	[NT]
Date prepared	-			16/07/2019	18	16/07/2019	16/07/2019		16/07/2019	[NT]
Date analysed	-			16/07/2019	18	16/07/2019	16/07/2019		16/07/2019	[NT]
pH 1:5 soil:water	pH Units		Inorg-001	[NT]	18	6.1	6.2	2	102	[NT]
Electrical Conductivity 1:5 soil:water	µS/cm	1	Inorg-002	<1	18	110	110	0	102	[NT]
Chloride, Cl 1:5 soil:water	mg/kg	10	Inorg-081	<10	[NT]	[NT]	[NT]	[NT]	94	[NT]
Sulphate, SO4 1:5 soil:water	mg/kg	10	Inorg-081	<10	[NT]	[NT]	[NT]	[NT]	93	[NT]
Resistivity in soil*	ohm m	1	Inorg-002	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]

QUALITY CONTROL: ESP/CEC					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-1	[NT]
Date prepared	-			18/07/2019	[NT]	[NT]	[NT]	[NT]	18/07/2019	[NT]
Date analysed	-			18/07/2019	[NT]	[NT]	[NT]	[NT]	18/07/2019	[NT]
Exchangeable Ca	meq/100g	0.1	Metals-009	<0.1	[NT]	[NT]	[NT]	[NT]	99	[NT]
Exchangeable K	meq/100g	0.1	Metals-009	<0.1	[NT]	[NT]	[NT]	[NT]	109	[NT]
Exchangeable Mg	meq/100g	0.1	Metals-009	<0.1	[NT]	[NT]	[NT]	[NT]	99	[NT]
Exchangeable Na	meq/100g	0.1	Metals-009	<0.1	[NT]	[NT]	[NT]	[NT]	106	[NT]

Result Definitions

NT	Not tested
NA	Test not required
INS	Insufficient sample for this test
PQL	Practical Quantitation Limit
<	Less than
>	Greater than
RPD	Relative Percent Difference
LCS	Laboratory Control Sample
NS	Not specified
NEPM	National Environmental Protection Measure
NR	Not Reported

Quality Control Definitions

Blank	This is the component of the analytical signal which is not derived from the sample but from reagents, glassware etc, can be determined by processing solvents and reagents in exactly the same manner as for samples.
Duplicate	This is the complete duplicate analysis of a sample from the process batch. If possible, the sample selected should be one where the analyte concentration is easily measurable.
Matrix Spike	A portion of the sample is spiked with a known concentration of target analyte. The purpose of the matrix spike is to monitor the performance of the analytical method used and to determine whether matrix interferences exist.
LCS (Laboratory Control Sample)	This comprises either a standard reference material or a control matrix (such as a blank sand or water) fortified with analytes representative of the analyte class. It is simply a check sample.
Surrogate Spike	Surrogates are known additions to each sample, blank, matrix spike and LCS in a batch, of compounds which are similar to the analyte of interest, however are not expected to be found in real samples.

Australian Drinking Water Guidelines recommend that Thermotolerant Coliform, Faecal Enterococci, & E.Coli levels are less than 1cfu/100mL. The recommended maximums are taken from "Australian Drinking Water Guidelines", published by NHMRC & ARMC 2011.

Laboratory Acceptance Criteria

Duplicate sample and matrix spike recoveries may not be reported on smaller jobs, however, were analysed at a frequency to meet or exceed NEPM requirements. All samples are tested in batches of 20. The duplicate sample RPD and matrix spike recoveries for the batch were within the laboratory acceptance criteria.

Filters, swabs, wipes, tubes and badges will not have duplicate data as the whole sample is generally extracted during sample extraction.

Spikes for Physical and Aggregate Tests are not applicable.

For VOCs in water samples, three vials are required for duplicate or spike analysis.

Duplicates: >10xPQL - RPD acceptance criteria will vary depending on the analytes and the analytical techniques but is typically in the range 20%-50% – see ELN-P05 QA/QC tables for details; <10xPQL - RPD are higher as the results approach PQL and the estimated measurement uncertainty will statistically increase.

Matrix Spikes, LCS and Surrogate recoveries: Generally 70-130% for inorganics/metals; 60-140% for organics (+/-50% surrogates) and 10-140% for labile SVOCs (including labile surrogates), ultra trace organics and speciated phenols is acceptable.

In circumstances where no duplicate and/or sample spike has been reported at 1 in 10 and/or 1 in 20 samples respectively, the sample volume submitted was insufficient in order to satisfy laboratory QA/QC protocols.

When samples are received where certain analytes are outside of recommended technical holding times (THTs), the analysis has proceeded. Where analytes are on the verge of breaching THTs, every effort will be made to analyse within the THT or as soon as practicable.

Where sampling dates are not provided, Envirolab are not in a position to comment on the validity of the analysis where recommended technical holding times may have been breached.

Measurement Uncertainty estimates are available for most tests upon request.

Analysis of aqueous samples typically involves the extraction/digestion and/or analysis of the liquid phase only (i.e. NOT any settled sediment phase but inclusive of suspended particles if present), unless stipulated on the Envirolab COC and/or by correspondence. Notable exceptions include certain Physical Tests (pH/EC/BOD/COD/Apparent Colour etc.), Solids testing, total recoverable metals and PFAS where solids are included by default.

Report Comments

Asbestos: A portion of the supplied samples were sub-sampled for asbestos analysis according to Envirolab procedures.
We cannot guarantee that these sub-samples are indicative of the entire sample.
Envirolab recommends supplying 40-50g of sample in its own container.
Note: Samples requested for asbestos testing were sub-sampled from jars provided by the client.

Envirolab Services Pty Ltd
ABN 37 112 535 645
12 Ashley St Chatswood NSW 2067
ph 02 9910 6200 fax 02 9910 6201
customerservice@envirolab.com.au
www.envirolab.com.au

SAMPLE RECEIPT ADVICE

Client Details

Client	Geoenviro Consultancy Pty Ltd
Attention	Solern Liew

Sample Login Details

Your reference	JC17299B, Rosemeadow
Envirolab Reference	221489
Date Sample Received	11/07/2019
Date Instructions Received	11/07/2019
Date Results Expected to be Reported	18/07/2019

Sample Condition

Samples received in appropriate condition for analysis	Yes
No. of Samples Provided	62 Soil, 13 Material
Turnaround Time Requested	Standard
Temperature on Receipt (°C)	17.9
Cooling Method	Ice Pack
Sampling Date Provided	YES

Comments

Nil

Please direct any queries to:

Aileen Hie	Jacinta Hurst
Phone: 02 9910 6200	**Phone: 02 9910 6200**
Fax: 02 9910 6201	**Fax: 02 9910 6201**
Email: ahie@envirolab.com.au	**Email: jhurst@envirolab.com.au**

Analysis Underway, details on the following page:

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Sample ID	vTRH(C6-C10)/BTEXN in Soil	svTRH (C10-C40) in Soil	PAHs in Soil	Organochlorine Pesticidesin soil	PCBsin Soil	Acid Extractable metalsin soil	Asbestos ID - soils	Misc Inorg - Soil	ESP/CEC	Asbestos ID - materials
TP 1A-0.20-0.30	✓	✓	✓	✓	✓	✓	✓			
TP 2A-0.00-0.10				✓	✓	✓				
TP 4A-0.00-0.10	✓	✓	✓	✓	✓	✓	✓			
TP 5A-0.30-0.40				✓	✓	✓				
TP 7A-0.20-0.30	✓	✓	✓	✓	✓	✓	✓			
TP 8A-0.30-0.40				✓	✓	✓				
TP 9A-0.00-0.10	✓	✓	✓	✓	✓	✓	✓			
TP 11A-0.00-0.10	✓	✓	✓	✓	✓	✓	✓			
TP 12A-0.20-0.30				✓	✓	✓				
TP 13A-0.00-0.10	✓	✓	✓	✓	✓	✓	✓			
TP 14A-0.10-0.20	✓	✓	✓	✓	✓	✓	✓			
TP 15A-0.00-0.10	✓	✓	✓	✓	✓	✓	✓			
TP 15A-0.30-0.40				✓	✓	✓		✓		
TP 15A-0.70-0.80								✓	✓	
TP 17A-0.10-0.20								✓		
TP 19A-0.20-0.30	✓	✓	✓	✓	✓	✓	✓			
TP 20A-0.10-0.20				✓	✓	✓				
TP 22A-0.00-0.10				✓	✓	✓		✓		
TP 22A-0.60-0.70								✓		
TP 22A-1.50-1.60								✓	✓	
TP 24A-0.50-0.60	✓	✓	✓	✓	✓	✓	✓			
TP 26A-0.00-0.10				✓	✓	✓				
TP 27A-0.20-0.30	✓	✓	✓	✓	✓	✓	✓			
TP 29A-0.00-0.10				✓	✓	✓		✓		
TP 29A-0.50-0.60								✓	✓	
TP 29A-2.60-2.70								✓		
TP 30A-0.20-0.30	✓	✓	✓	✓	✓	✓	✓			
TP 32A-0.00-0.10				✓	✓	✓				
TP 33A-0.10-0.20	✓	✓	✓	✓	✓	✓	✓			
TP 36A-0.10-0.20				✓	✓	✓				
TP 37A-0.00-0.10	✓	✓	✓	✓	✓	✓	✓			
TP 38A-0.10-0.20	✓	✓	✓	✓	✓	✓	✓			

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Sample ID	vTRH(C6-C10)/BTEXN in Soil	svTRH (C10-C40) in Soil	PAHs in Soil	Organochlorine Pesticidesin soil	PCBsin Soil	Acid Extractable metalsin soil	Asbestos ID - soils	Misc Inorg - Soil	ESP/CEC	Asbestos ID - materials
TP 39A-0.00-0.10				✓	✓	✓				
TP 40A-0.30-0.40	✓	✓	✓	✓	✓	✓	✓			
TP 41A-0.00-0.10	✓	✓	✓	✓	✓	✓	✓			
TP 43A-0.00-0.10				✓	✓	✓				
TP 45A-0.20-0.30				✓	✓	✓				
TP 46A-0.50-0.60	✓	✓	✓	✓	✓	✓	✓			
TP 47A-0.40-0.50				✓	✓	✓		✓		
TP 47A-1.30-1.40								✓		
TP 47A-1.90-2.00								✓	✓	
TP 49A-0.00-0.10	✓	✓	✓	✓	✓	✓	✓			
TP 51A-0.20-0.30				✓	✓	✓	✓			
TP 53A-0.10-0.20				✓	✓	✓	✓			
TP 55A-0.10-0.20	✓	✓	✓	✓	✓	✓	✓			
TP 56A-0.30-0.40				✓	✓	✓				
TP 58A-0.20-0.30	✓	✓	✓	✓	✓	✓	✓			
TP 60A-0.10-0.20				✓	✓	✓		✓		
TP 60A-0.60-0.70								✓	✓	
TP 60A-1.60-1.70								✓		
TP 61A-0.00-0.10	✓	✓	✓	✓	✓	✓	✓			
TP 62A-0.00-0.10				✓	✓	✓				
TP 64A-0.40-1.50				✓	✓	✓				
TP 65A-0.00-0.10	✓	✓	✓	✓	✓	✓	✓			
TP 66A-0.10-0.20				✓	✓	✓				
TP 67A-0.00-0.10	✓	✓	✓	✓	✓	✓	✓			
TP 68A-0.00-0.10				✓	✓	✓				
TP 69A-0.00-0.10				✓	✓	✓				
Duplicate A	✓	✓	✓	✓	✓	✓				
Duplicate B	✓	✓	✓	✓	✓	✓				
Duplicate C				✓	✓	✓				
Duplicate D				✓	✓	✓				
TP 1A - Fibro										✓
TP 13A - Fibro										✓

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Sample ID	vTRH(C6-C10)/BTEXN in Soil	svTRH (C10-C40) in Soil	PAHs in Soil	Organochlorine Pesticidesin soil	PCBsin Soil	Acid Extractable metalsin soil	Asbestos ID - soils	Misc Inorg - Soil	ESP/CEC	Asbestos ID - materials
TP 14A - Fibro										✓
TP 19A - Fibro										✓
TP 27A - Fibro										✓
TP 33A - Fibro										✓
TP 37A - Fibro										✓
TP 38A - Fibro										✓
TP 40A - Fibro										✓
TP 46A - Fibro										✓
TP 55A - Fibro										✓
TP 58A - Fibro										✓
TP 61A - Fibro										✓

The '✓' indicates the testing you have requested. **THIS IS NOT A REPORT OF THE RESULTS.**

Additional Info

Sample storage - Waters are routinely disposed of approximately 1 month and soils approximately 2 months from receipt.
Requests for longer term sample storage must be received in writing.
Please contact the laboratory immediately if observed settled sediment present in water samples is to be included in the extraction and/or analysis (exceptions include certain Physical Tests (pH/EC/BOD/COD/Apparent Colour etc.), Solids testing, Total Recoverable metals and PFAS analysis where solids are included by default.
TAT for Micro is dependent on incubation. This varies from 3 to 6 days.

GeoEnviro Consultancy Pty Ltd
Unit 5, 39-41 Fourth Avenue, Blacktown NSW 2148, Australia
Tel: (02) 96798733 Fax: (02) 96798744

Laboratory Test Request/Chain of Custody Record

Job Details
Job Number: JC17299B
Client:
Project: Proposed Residential Subdivision Development
Location: Copperfield Drive, Stage 3, Rosemeadow

Sample Date: 10/07/2019
Sampled By: SG
Project Manager: SL
Store Location:

External Laboratory Details:
Laboratory name: Envirolab Services Pty Ltd
Address: 12 Ashley Street
Chatswood
Contact: Tania Notaris

Sampling Details				Sample Type		Test Required (\)														Test Performed(X)	
Location		Depth (m)		Soil	Water	Metals (As Cd Cr Cu Pb Zn Ni Hg)	OCP / PCB	Combination 12a	Combination 5a	Combination 5	Asbestos ID		pH	EC	CEC/ESP	Cl / SO4	Resistivity				Keep Sample
		From	To																		
1	TP 1A	0.20	0.30	DG					/												
2	TP 2A	0.00	0.10	DG		/	/		/												
3	TP 4A	0.00	0.10	DG					/												
4	TP 5A	0.30	0.40	DG		/	/														
5	TP 7A	0.20	0.30	DG					/												
6	TP 8A	0.30	0.40	DG		/	/														
7	TP 9A	0.00	0.10	DG					/												
8	TP 11A	0.00	0.10	DG					/												
9	TP 12A	0.20	0.30	DG		/	/														
10	TP 13A	0.00	0.10	DG					/												
11	TP 14A	0.10	0.20	DG					/												
12	TP 15A	0.00	0.10	DG					/												
13	TP 15A	0.30	0.40	DG		/	/						/	/							
14	TP 15A	0.70	0.80	DG									/	/	/	/	/				
15	TP 17 A	0.10	0.20	DG									/	/		/	/				
16	TP 19A	0.20	0.30	DG					/												

ENVIROLAB
Envirolab Services
12 Ashley St
Chatswood NSW 2067
Ph: (02) 9910 6200

Job No: 221489
Date Received: 11/07
Time Received: 18:05
Received by: JAC
Temp: (Cool)/Ambient
Cooling: Ice/Icepack
Security: Intact/Broken/~~None~~

Relinquished by				Received By			
Laboratory	Name	Signature	Date	Laboratory	Name	Signature	Date
GeoEnviro Consultancy	Steven Goss	SMGoss	11/07/2019	ELS	James		11/07

Legend

DB Disturbed Sample (Bulk, Plastic bag)
DS Disturbed Sample (Small, Plastic bag)
DG Disturbed Sample (Glass Jar)
STP Standard Penetration Test Sample
U50 Undisturbed Sample, 50mm Tube
U75 Undisturbed Sample, 75mm Tube
WG Water Sample, Amber Glass Jar
WP Water Sample, Plastic Bottle
Y Keep Sample
N Discard Sample

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Laboratory Test Request/Chain of Custody Record

221489

Job Details
Job Number: JC17299B
Client:
Project: Proposed Residential Subdivision Development
Location: Copperfield Drive, Stage 3, Rosemeadow

Sample Date: 10/07/2019
Sampled By: SG
Project Manager: SL
Store Location:

External Laboratory Details:
Laboratory name: Envirolab Services Pty Ltd
Address: 12 Ashley Street
Chatswood
Contact: Tania Notaris

Sampling Details				Sample Type		Test Required (\) / Test Performed(X)																					
Location		Depth (m)		Soil	Water	Metals (As Cd Cr Cu Pb Zn Ni Hg)	OCP / PCB	Combination 12a	Combination 5a	Combination 5	Asbestos ID		pH	EC	CEC/ESP	Cl / SO4	Resistivity										Keep Sample
		From	To																								
17	TP 20A	0.10	0.20	DG		/	/																				
18	TP 22A	0.00	0.10	DG		/	/						/	/													
19	TP 22A	0.60	0.70	DG									/	/		/	/										
20	TP 22A	1.50	1.60	DG									/	/	/	/	/										
21	TP 24A	0.50	0.60	DG					/																		
22	TP 26A	0.00	0.10	DG		/	/																				
23	TP 27A	0.20	0.30	DG					/																		
24	TP 29A	0.00	0.10	DG		/	/						/	/													
25	TP 29A	0.50	0.60	DG									/	/	/	/	/										
26	TP 29A	2.60	2.70	DG									/	/		/	/										
27	TP 30A	0.20	0.30	DG					/																		
28	TP 32A	0.00	0.10	DG		/	/																				
29	TP 33A	0.10	0.20	DG					/																		
30	TP 36A	0.10	0.20	DG		/	/																				
31	TP 37A	0.00	0.10	DG					/																		
32	TP 38A	0.10	0.20	DG					/																		

Relinquished by				Received By			
Laboratory	Name	Signature	Date	Laboratory	Name	Signature	Date
GeoEnviro Consultancy	Steven Goss	SMGoss	11/07/2019	ELS	James		11/09

Legend

DB Disturbed Sample (Bulk, Plastic bag)
DS Disturbed Sample (Small, Plastic bag)
DG Disturbed Sample (Glass Jar)
STP Standard Penetration Test Sample
U50 Undisturbed Sample, 50mm Tube
U75 Undisturbed Sample, 75mm Tube
WG Water Sample, Amber Glass Jar
WP Water Sample, Plastic Bottle
Y Keep Sample
N Discard Sample

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Job Number: JC17299B
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Project: Proposed Residential Subdivision Development
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Store Location:

External Laboratory Details:
Laboratory name: Envirolab Services Pty Ltd
Address: 12 Ashley Street
Chatswood
Contact: Tania Notaris

221489

Sampling Details				Sample Type		Test Required (\)												Test Performed(X)											
Location		Depth (m)		Soil	Water	Metals (As Cd Cr Cu Pb Zn Ni Hg)	OCP / PCB	Combination 12a	Combination 5a	Combination 5	Asbestos ID		pH	EC	CEC/ESP	Cl / SO4	Resistivity											Keep Sample
		From	To																										
33	TP 39A	0.00	0.10	DG		/	/																						
34	TP 40A	0.30	0.40	DG					/																				
35	TP 41A	0.00	0.10	DG					/																				
36	TP 43A	0.00	0.10	DG		/	/																						
37	TP 45A	0.20	0.30	DG		/	/																						
38	TP 46A	0.50	0.60	DG					/																				
39	TP 47A	0.40	0.50	DG		/	/						/	/															
40	TP 47A	1.30	1.40	DG									/	/		/	/												
41	TP 47A	1.90	2.00	DG									/	/	/	/	/												
42	TP 49A	0.00	0.10	DG					/																				
43	TP 51A	0.20	0.30	DG		/	/																						
44	TP 53A	0.10	0.20	DG		/	/																						
45	TP 55A	0.10	0.20	DG					/																				
46	TP 56A	0.30	0.40	DG		/	/																						
47	TP 58A	0.20	0.30	DG					/																				
48	TP 60A	0.10	0.20	DG		/	/						/	/															

Relinquished by				Received By			
Laboratory	Name	Signature	Date	Laboratory	Name	Signature	Date
GeoEnviro Consultancy	Steven Goss	SMGoss	11/07/2019	ELS	James		11/07

Legend

DB Disturbed Sample (Bulk, Plastic bag)
DS Disturbed Sample (Small, Plastic bag)
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STP Standard Penetration Test Sample
U50 Undisturbed Sample, 50mm Tube
U75 Undisturbed Sample, 75mm Tube
WG Water Sample, Amber Glass Jar
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Y Keep Sample
N Discard Sample

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Laboratory Test Request/Chain of Custody Record

221489

Job Details
Job Number: JC17299B
Client:
Project: Proposed Residential Subdivision Development
Location: Copperfield Drive, Stage 3, Rosemeadow

Sample Date: 10/07/2019
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Chatswood
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Sampling Details				Sample Type		Test Required (\) / Test Performed(X)																					
Location		Depth (m)		Soil	Water	Metals (As Cd Cr Cu Pb Zn Ni Hg)	OCP / PCB	Combination 12a	Combination 5a	Combination 5	Asbestos ID		pH	EC	CEC/ESP	Cl / SO4	Resistivity										Keep Sample
		From	To																								
49	TP 60A	0.60	0.70	DG									/	/	/	/	/										
50	TP 60A	1.60	1.70	DG									/	/		/	/										
51	TP 61A	0.00	0.10	DG					/																		
52	TP 62A	0.00	0.10	DG		/	/																				
53	TP 64A	0.40	0.50	DG		/	/																				
54	TP 65A	0.00	0.10	DG					/																		
55	TP 66A	0.10	0.20	DG		/	/																				
56	TP 67A	0.00	0.10	DG					/																		
57	TP 68A	0.00	0.10	DG		/	/																				
58	TP 69A	0.00	0.10	DG		/	/																				
59	Duplicate A	-	-	DG						/																	
60	Duplicate B	-	-	DG						/																	
61	Duplicate C	-	-	DG		/	/																				
62	Duplicate D	-	-	DG		/	/																				
63	TP 1A - Fibro	-	-	DG							/																
64	TP 13A - Fibro	-	-	DG							/																

Relinquished by				Received By			
Laboratory	Name	Signature	Date	Laboratory	Name	Signature	Date
GeoEnviro Consultancy	Steven Goss	SMGoss	11/07/2019	ELS	James		11/07

Legend

DB Disturbed Sample (Bulk, Plastic bag)	U50 Undisturbed Sample, 50mm Tube	Y Keep Sample
DS Disturbed Sample (Small, Plastic bag)	U75 Undisturbed Sample, 75mm Tube	N Discard Sample
DG Disturbed Sample (Glass Jar)	WG Water Sample, Amber Glass Jar	
STP Standard Penetration Test Sample	WP Water Sample, Plastic Bottle	

GeoEnviro Consultancy Pty Ltd
Unit 5, 39-41 Fourth Avenue, Blacktown NSW 2148, Australia
Tel: (02) 96798733 Fax: (02) 96798744

Laboratory Test Request/Chain of Custody Record

221489

Job Details
Job Number: JC17299B
Client:
Project: Proposed Residential Subdivision Development
Location: Copperfield Drive, Stage 3, Rosemeadow

Sample Date: 10/07/2019
Sampled By: SG
Project Manager: SL
Store Location:

External Laboratory Details:
Laboratory name: Envirolab Services Pty Ltd
Address: 12 Ashley Street
Chatswood
Contact: Tania Notaris

Sampling Details			Sample Type		Test Required (\) / Test Performed(X)																							
Location	Depth (m)		Soil	Water	Metals (As Cd Cr Cu Pb Zn Ni Hg)	OCP / PCB	Combination 12a	Combination 5a	Combination 5	Asbestos ID		pH	EC	CEC/ESP	Cl / SO4	Resistivity											Keep Sample
	From	To																									
65 TP 14A - Fibro										/																	
66 TP 19A - Fibro										/																	
67 TP 27A - Fibro										/																	
68 TP 33A - Fibro										/																	
69 TP 37A - Fibro										/																	
70 TP 38A - Fibro										/																	
71 TP 40A - Fibro										/																	
72 TP 46A - Fibro										/																	
73 TP 55A - Fibro										/																	
74 TP 58A - Fibro										/																	
75 TP 61A - Fibro										/																	

Relinquished by				Received By			
Laboratory	Name	Signature	Date	Laboratory	Name	Signature	Date
GeoEnviro Consultancy	Steven Goss	SMGoss	11/07/2019	ELS	James		11/07

Legend

DB Disturbed Sample (Bulk, Plastic bag)
DS Disturbed Sample (Small, Plastic bag)
DG Disturbed Sample (Glass Jar)
STP Standard Penetration Test Sample
U50 Undisturbed Sample, 50mm Tube
U75 Undisturbed Sample, 75mm Tube
WG Water Sample, Amber Glass Jar
WP Water Sample, Plastic Bottle
Y Keep Sample
N Discard Sample

APPENDIX C

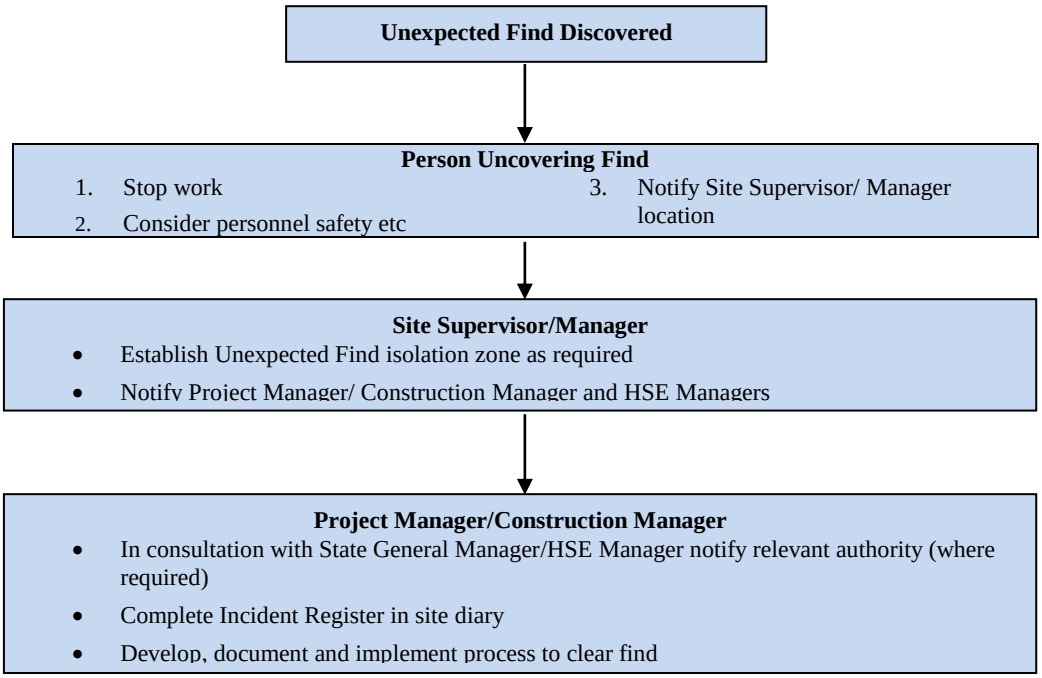
Unexpected Finds Protocol

GeoEnviro Consultancy Pty Ltd
Unit 5, 39-41 Fourth Avenue, Blacktown, NSW 2148, Australia
PO Box 1543, Macquarie Centre. North Ryde, NSW 2113

ABN 62 084 294 762
Tel : (02) 9679 8733
Fax : (02) 9679 8744

UNEXPECTED FINDS PROTOCOL

<table>
<tr><th>ITEM</th><th colspan="2">REQUIREMENTS</th></tr>
<tr><td>DEFINITION</td><td colspan="2">An unexpected find may be identified as a result of site activity, for example through earthworks and movement of plant on site including preparatory site works.</td></tr>
<tr><td>SITE SUPERVISOR</td><td colspan="2">On being notified of an Unexpected Find, the Principal Contractor must:
Stop work & notify the site manager/HSE coordinator as soon as practically possible.
Ensure the find is not further disturbed.
Ensure all personnel are removed from the area with the exception of personnel required to isolate or make safe the area.
Establish an “unexpected find” isolation zone as required to prevent or minimise exposure risks for site personnel, members of the public, fauna or flora. Note: Persons are not to expose themselves to further risk whilst establishing isolation zone.
Assess the requirement to evacuate areas or the entire site.
Co-ordinate site or area evacuation as assessed. Note: It is preferable to evacuate the whole site if there is any doubt as to the safety of personnel or the environment.
As soon as the safety of personnel, environment & the site is secured the Site Manager/Supervisor should notify their relevant HSE Manager, Project Manager & Construction Manager.
As soon as practically possible record the events associated with the unexpected find.</td></tr>
<tr><td rowspan="2">PROJECT MANAGER</td><td colspan="2">The Project Manager and/or HSE Manager in consultation with the relevant General Manager notify regulatory authorities as required.
Establish a risk based process for managing clearance of the unexpected find & establishing incident investigation.</td></tr>
<tr><td colspan="2">The Project Manager or HSE Manager must also ensure that the find is reported to the Principal.
This may be by verbal communication.</td></tr>
<tr><td>UNEXPLODED ORDNANCE</td><td colspan="2">Do not touch or disturb.
Contact Police immediately.</td></tr>
<tr><td>UNEXPECTED SERVICES
(LIVE OR DISUSED)</td><td colspan="2">This may include power, gas or fuel.
Do not touch or further disturb.
The area must be immediately designated a non-smoking and “no naked flames” area.
All nearby machinery should be turned off.
Contact relevant governing authority.
Contact appropriate trade supervisor.</td></tr>
<tr><td rowspan="2">ASBESTOS OR OTHER CONTAMINANTS</td><td colspan="2">Products made from asbestos cement not only include fibro sheeting (flat and corrugated), but items such as water, drainage and flue pipes, roofing shingles and gutters.
Do not touch or further disturb.
Isolate area (10 metre isolation zone required for asbestos).
Contact hygienist.
Implement hygienist’s recommendations.
If persons have been exposed arrange medical advice/consultation i.e. possible asbestos fibre exposure will require lung function test & chest x-ray. Note: This applies more specifically to friable type asbestos rather than non friable asbestos containing material however if any doubt exists treat as friable.
Obtain clearance from hygienist prior to re-entering area.</td></tr>
<tr><td>Non-Friable Asbestos
Over 97% of the products in Australia were non-friable material in which the Asbestos fibres were bonded by cement, vinyl, resin or other similar material.</td><td>Friable Asbestos
The hazardous friable asbestos is material which can be crumbled, pulverised, or reduced to powder by hand pressure. This may also include previously non-friable material which becomes broken or damaged by mechanical force.</td></tr>
</table>

ITEM	REQUIREMENTS
HUMAN REMAINS	• Do not touch or disturb. • Contact Police immediately. Please note that aboriginal burial objects (such as bark coffins) are defined by legislation as human remains.
HERITAGE ITEMS	• Do not touch or disturb. • Contact Heritage Office or relevant State or Local Government Authority.
OBJECTS OF POSSIBLE CULTURAL SIGNIFICANCE	• Do not touch or disturb. Contact Department of Indigenous Affairs or relevant State or Local Government Authority.
UNEXPECTED FIND PROCESS	

APPENDIX D

Important Information about your Environmental Site Assessment

GeoEnviro Consultancy Pty Ltd
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PO Box 1543, Macquarie Centre. North Ryde, NSW 2113
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Fax: (02) 9679 8744
Email: geoenviro@exemail.com.au

IMPORTANT INFORMATION REGARDING YOUR ENVIRONMENTAL SITE ASSESSMENT

This Environmental Assessment Report was performed in general conformance with our understanding of the guidelines by the Australian and New Zealand Conservation Council (ANZECC), the Office of Environment and Heritage (OEH) and the National Environmental Protection (Assessment of Site Contamination) Measure 1999 (amended 2013).

These accompanying notes have been prepared by GeoEnviro Consultancy Pty Ltd, using guidelines prepared by ASFE; The Association of Engineering Firms Practising in the Geosciences. The notes are offered as an aid in the interpretation of your environmental site assessment report.

REASONS FOR AN ENVIRONMENTAL SITE ASSESSMENT

Environmental site assessments are typically, though not exclusively, performed in the following circumstances:

- As a pre- acquisition assessment on behalf of either a purchaser or a vendor, when a property is to be sold
- As a pre-development assessment, when a property or area of land is to be redeveloped, or the land use has change, eg from a factory to a residential subdivision
- As a pre-development assessment of greenfield sites, to establish baseline conditions and assess environmental, geological and hydrological constraints to the development of, eg, a landfill
- As an audit of the environmental effects of previous and present site usage

Each circumstance requires a specific approach to the assessment of soil and groundwater contamination. In all cases the objective is to identify and if possible, quantify the risks which unrecognised contamination poses to the ongoing or proposed activity. Such risk may be both financial (clean-up costs or limitations in site use) and physical (health risks to site users or the public).

ENVIRONMENTAL SITE ASSESSMENT LIMITATIONS

Although information provided by an environmental site assessment can reduce exposure to the risk of the presence of contamination, no environmental site assessment can eliminate the risk. Even a rigorous professional assessment may not detect all contamination within a site. Contaminants may be present in areas that were not surveyed or sampled, or may migrate to areas which did not show signs of contamination when sampled. Contaminant analysis cannot possibly cover every type of contaminant which may occur, only the most likely contaminants are screened.

AN ENVIRONMANTAL SITE ASSESSMENT REPORT IS BASED ON A UNIQUE SET OF PROJECT SPECIFIC FACTORS

Your environmental assessment report should not be used;

- When the nature of the proposed development is changed, eg, if a residential development is proposed, rather than a commercial development
- When the size or configuration of the proposed development is altered, eg, if a basement is added
- When the location or orientation of the proposed structure is modified
- When there is a change of land ownership, or
- For application to an adjacent site

In order to avoid costly problems, you should ask your consultant to assess any changes in the project since the assessment and the implications, if any, to recommendations made in the assessment.

ENVIRONMENTAL SITE ASSESSMENT FINDINGS ARE PROFESSIONAL ESTIMATES

Site assessment identifies actual sub-surface conditions only at those points where samples are taken, when they are taken. Data obtained from the sampling and subsequent laboratory analyses are interpreted by geologists, engineers or scientist and opinions are drawn about the overall subsurface conditions, the nature and extent of contamination, the likely impact on any proposed development and appropriate remediation measures. Actual conditions may differ from those inferred, because no professional, no matter how qualified and no sub-surface exploration program, no matter how comprehensive, can reveal what is hidden by earth, rock and time. The actual interface between materials may be far more gradual or abrupt than an assessment indicates. Actual conditions in areas not sampled may differ from predictions. Nothing can be done to prevent the unanticipated, however, steps can be taken to help minimise the impact. For this reason, site owner should retain the services of their consultants throughout the development stage of the project in order to identify variances, conduct additional tests which may be necessary and to recommend solutions to problems encountered on site.

Soil and groundwater contamination is a field in which legislation and interpretation of legislation by government departments is changing rapidly. Whilst every attempt is made by GeoEnviro Consultancy Pty Ltd to be familiar with current policy, our interpretation of the investigation findings should not be taken to be that of the relevant authority. When approval from a statutory authority is required for a project, that approval should be directly sought.

STABILITY OF SUB-SURFACE CONDITIONS

Sub-surface conditions can change by natural processes and site activities. As an environmental site assessment is based on conditions existing at the time of the investigation, project decisions should not be based on environmental site assessment data which may have been affected by time. The consultant should be requested to advise if additional tests are required.

ENVIRONMENTAL SITE ASSESSMENTS ARE PERFORMED FOR SPECIFIC PURPOSES AND CLIENTS

Environmental site assessments are prepared in response to a specific scope of work required to meet the specific needs or specific individuals. An assessment prepared for a consulting civil engineer may not be adequate to a construction contractor or another civil engineer.

An assessment should not be used by other persons for any purpose, or by the client for a different purposes. No individual, other than the client, should apply an assessment, even for its intended purposes, without first conferring with the consultant. No person should apply an assessment for any purposes other than that originally contemplated, without first conferring with the consultant.

MISINTERPRETATION OF ENVIRONMENTAL SITE ASSESSMENTS

Costly problems can occur when design professionals develop plans based on misinterpretation of an environmental site assessment. In order to minimise problems, the environmental consultant should be retained to work with appropriate design professionals, to explain relevant findings and to review the adequacy of plans and specifications relative to contamination issues.

LOGS SHOULD NOT BE SEPARATED FORM THE REPORT

Borehole and test pit logs are prepared by environmental scientists, engineers or geologist, based upon interpretation of field conditions and laboratory evaluation of field samples. Field logs normally provided in our reports and these should not be redrawn for inclusion in site remediation or other design drawings, as subtle but significant drafting errors or omissions may occur in the transfer process. Photographic reproduction can eliminate this problem, however, contractors can still misinterpret the logs during bid preparation if separated from the test of the assessment. Should this occur, delays and disputes , or unanticipated costs may result.

To reduce the likelihood of boreholes and test pit logs misinterpretation, the complete assessment should be available to persons or organisations involved in the project, such as contractors, for their use. Denial of such access and disclaiming responsibility for the accuracy of sub-surface information does not insulate an owner from the attendant liability. It is critical that the site owner provides all available site information to persons and organisations, such as contractors.

READ RESPONSIBILITY CLAUSES CLOSELY

An environmental site assessment is based extensively on judgement and opinion, therefore, it is necessarily less exact than other disciplines. This situation has resulted in wholly unwarranted claim being lodged against consultants. In order to aid in prevention of this problem, model clauses have been developed for use in written transmittals. These are definitive clauses, designed to indicate consultant responsibility. Their use helps all parties involved recognise individual responsibilities and formulate appropriate action. Some of these definitive clauses are likely to appear in the environmental site assessment and you are encouraged to read them closely. Your consultant will be happy to give full and frank answers to any questions you may have.