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Targeted Environmental Investigation

54-68 Ferndell Street,
South Granville, NSW

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Glossary of General Terms	
BTEX	Benzene, Toluene, Ethyl benzene, Xylene
CEC	Cation Exchange Capacity
CEMP	Construction Environmental Management Plan
COCs	Chemicals of Concern
CSM	Conceptual Site Model
DA	Development Application
DCB	Dichlorobenzene
DO	Dissolved Oxygen
DQO	Data Quality Objective
EC	Electrical Conductivity
EILs	Environmental Investigation Levels
EPA	Environmental Protection Authority
ESLs	Environmental Screening Levels
GILs	Groundwater Investigation Levels
HILs	Health Investigation Levels
HSLs	Health Screening Levels
LOR	Limit of Reporting (laboratory)
mbgl	Meters Below Ground Level
MDQIs	Measurement Data Quality Indicators
NAPL	Non-aqueous Phase Liquid
NATA	National Association of Testing Authorities
NEPM ASC	National Environment Protection Council (1999) National Environment Protection (Assessment of Site Contamination) Measure (NEPM) (Amended 2013)
ORP	Oxidation Reduction Potential
PAHs	Polycyclic Aromatic Hydrocarbons
PCBs	Polychlorinated Biphenyls
PSI	Preliminary Site Investigation
QA/QC	Quality Assurance / Quality Control
SWLs	Standing Water Levels
TCE	Trichloroethene/Trichloroethylene
TEI	Targeted Environmental Investigation
TPH	Total Petroleum Hydrocarbons
TRH	Total Recoverable Hydrocarbons
TRVI	Toxicity Reference Value Inhalation
USTs	Underground Storage Tanks
VC	Vinyl chloride
VOCC	Volatile Organic Chlorinated Compounds
VOCs	Volatile Organic Hydrocarbons

1 Executive Summary

KPMG SGA Property Consultancy Pty Ltd (KPMG SGA) was engaged by Dexus Funds Management Limited (Dexus) to undertake a Targeted Environmental Investigation (TEI) at 54-68 Ferndell Street, South Granville, NSW (the site).

The site was historically used as a chemical manufacturing and research facility by Merck Sharp and Dohme (MSD) since the mid-1950s. Currently the site is owned by Grand Sasanqua Pty Ltd (Grand Sasanqua) with the majority of the site buildings being recently demolished as part of preliminary development works. KPMG SGA previously undertook a Preliminary Site Investigation (PSI) at the site, assessing the historical contamination. Refer to the KPMG SGA (2017) PSI for a more detailed description of the site's history including previous environmental investigations.

The PSI identified a number of potential areas of concern that were considered to have the potential to affect the site's suitability for commercial /industrial development. The PSI recommended that a Targeted Environmental Investigation be undertaken to further investigate the areas of environmental concern.

The central portion of the site has been subject to previous contaminating activities associated with its historical land use. The main COCs include volatile organic compounds (VOCs) specifically chlorobenzenes, benzene, toluene, ethyl benzene, and xylenes (BTEX), petroleum hydrocarbons, and lead. In addition, the site has previously undergone remediation associated with pharmaceutical waste disposal and arsenic impacted soils. Some of this remediated material was emplaced within "Solomon's Hill" and the "Former Landfill".

The proposed Dexus development involves the construction of four warehouses, offices, and associated car parks over the site. Review of preliminary cut and fill plans indicates fill shall be added to the majority of the building central footprints and will involve the excavation of material at "Solomon's Hill" (Appendix A).

The following potential human health risks were identified:

- future site users may be exposed to inhalation of VOCs through vapour intrusion to proposed warehouse 2 building, associated with the BRW2 plume. Refer to the URS Figure in Appendix B
- there may be potential for site workers to encounter impacted soils during localised earth moving works associated with construction and ongoing site use.

The objectives of the TEI were to assess the risks in the following areas:

- the presence and nature of VOCs within soil vapour beneath the central portion of site associated with the known chlorinated benzene groundwater plume, with consideration for the proposed commercial and industrial use
- the presence and nature COCs within soil beneath the central dock area, Dangerous Goods depots 5 and 6, areas of former underground fuel storage tanks (USTs), and within "Solomon's Hill" with consideration for the proposed commercial and industrial use.

The TEI comprised of the following work:

- drilling, soil sampling and analysis of 16 targeted boreholes across the site
- groundwater sampling and analysis of 7 selected existing ground water wells
- installation, sampling and analysis of 7 soil vapour wells
- review of previous reports for "Solomon's Hill" and the "Former Landfill"
- additional drilling of 14 soil investigation boreholes at "Solomon's Hill" and the western portion of the site.

Based on the findings of the TEI undertaken, KPMG SGA consider that the site is suitable for the proposed Dexus commercial/industrial development providing the below recommendations are followed. KPMG SGA form this opinion due to the fact that:

- no COCs were identified above the adopted relevant guidelines in the soil samples collected and analysed
- no COCs were identified above the adopted guidelines in the soil vapour samples collected.

Concentrations of benzene, chlorobenzene, 1,2 dichlorobenzene, and 1,4 dichlorobenzene concentrations were detected above the adopted criteria at groundwater well BRW2. Potential inhalation of VOCs by future site users is considered to be low due to the absence of COCs identified in the soil vapour samples, the proposed importation of between 1 to 2 metres of fill over the majority of the plume area, and the presence of a hardstand concrete slab for the proposed warehouse. The proposed developed includes the installation of a new stormwater pipe in the vicinity of the impacted groundwater identified at BRW2. The stormwater pipe is proposed to be installed beneath external areas of the site (i.e. roadways) and not beneath buildings, reducing the risk of vapour intrusion into an occupied building. However, the design of the stormwater pipe will need to be considered to avoid creating a preferential pathway allowing vertical or lateral migration of impacted groundwater and/or vapour.

KPMG SGA recommends the following:

- a construction design that would not cause a preferential vapour into buildings and confined spaces. If this is not possible a more detailed risk assessment will be required to assess the appropriate vapour controls for the building / warehouse
- ambient air testing prior to occupation of buildings and confined spaces in the vicinity of impacted groundwater to validate that the COC vapour intrusion is not occurring
- annual groundwater monitoring of wells BRW2, BRW3, BRW4 and BRW5 to assess the trends of the chlorinated benzene plume
- development of an Environmental Management Plan (EMP) for the site for ongoing management following construction.

A Construction Environmental Management Plan is also recommended to be produced by an adequately qualified environmental consultant to include:

- an unexpected findings protocol specifying how to manage identification of potential contamination (such as asbestos) during the development works
- soil management including separation, stockpiling, testing, classification, and offsite disposal in accordance with NSW Waste Classification guidelines

- groundwater management in the event that groundwater is encountered during the development (e.g. during the installation of new stormwater pipes in the vicinity of BRW2). The CEMP should specifically address appropriate PPE to be worn by site workers and the correct disposal of impacted groundwater.

2 Introduction

KPMG SGA were engaged to undertake a Targeted Environmental Investigation (TEI) at 54-68 Ferndell Street, South Granville, NSW (the site).

A Preliminary Site investigation (PSI) assessing the historical contamination at the site identified a number of potential areas of concern that were considered to have the potential to affect the site's suitability for commercial / industrial development. The PSI recommended that a Targeted Environmental Investigation be undertaken to further investigate the areas of environmental concern. Refer to KPMG SGA (May 2017) Preliminary Site Investigation, 54 – 68 Ferndell Street South Granville, NSW for further information.

KPMG SGA confirm that this report for KPMG SGA project 338588 and issued on 30 July 2018 has been prepared for the benefit of Dexus in accordance with the agreed scope of work set out in the executed Consultancy Services Agreement, dated 24 July 2018.

A party, other than Dexus, may only rely on the report if it has executed a formal Letter of Reliance with KPMG SGA. If you have not executed a formal Letter of Reliance with KPMG SGA and you choose to rely upon the report or any part thereof you will do so entirely at your own risk.

2.1 Background

The site was historically used as a chemical manufacturing and research facility by Merck Sharp and Dohme (MSD) since the mid-1950s. Currently the site is owned by Grand Sasanqua Pty Ltd with the majority of the site buildings subject to demolition as part of the preliminary development works. Refer to the KPMG SGA (2017) PSI for a more detailed description of the site's history including previous environmental investigations and remediation works. KPMG SGA's PSI assessed the potential for site soils, soil vapour, or groundwater to be impacted by chemicals of concern (COCs) which may affect the suitability of the site for commercial / industrial development. The PSI recommended that a TEI be undertaken to further assess these risks. Dexus are considering purchasing the site and wish to understand the potential contamination risks associated with their proposed commercial warehouse development.

Review of preliminary construction design plans reveals that Dexus are proposing to construct four industrial warehouses at the site. Review of preliminary cut and fill plans indicates fill shall be added to the majority of the central building footprints (Appendix A).

MSD were required to conduct and provide groundwater monitoring reports to the NSW Environmental Protection Authority (EPA). Ongoing annual groundwater monitoring continued until January 2014, with additional groundwater monitoring conducted by KPMG SGA in 2016. A chlorinated benzene plume at BRW2 was NSW EPA's main concern, however correspondence between the EPA and MSD in 2003 detailed that the EPA was satisfied that the plume was not migrating offsite. The subsequent GMEs have since validated this statement.

The PSI identified the following locations, activities and COCs as summarised in Table *1*. Refer to Appendix B for URS Historical Site Layout Figure (URS, November 2013, Environmental Site Investigation, Merck Sharp and Dohme, South Granville NSW [Reference 9]).

Table 1 Summary of Historical Chemicals of Concern

Location / Source	Activity	COC
Deeper semi confined shale groundwater plume within centre of the site in vicinity of BRW2.	Former chemical manufacturing building. Residual bedrock impact following excavation and remediation.	Chlorobenzenes (1,2-Dichlorobenzene, 1,3-Dichlorobenzene and 1,4-Dichlorobenzene)
Solomon's Hill	Stockpiling of remediated landfill waste. (characterised and remediated).	Chlorobenzenes and residual pharmaceutical product
Former Landfill	Remediated former land fill area which contained chlorobenzenes and pharmaceutical product	Chlorobenzenes and residual pharmaceutical product
Former USTs in the vicinity of the former chemical building, central loading dock, admininstration building and former Lan-O-Leen building.	Former fuel, oil and mineral spirit USTs removed as part of remediation program in 1987	Hydrocarbons BTEX VOCs Lead
Central Dock and Dangerous Goods Depot 5 and 6	Former tank and drum storage and USTs. Formerly stored waste oils, alcohols, ethanol and solvents.	Hydrocarbons VOCs
Entire site	General fill material	Surficial asbestos

2.2 Proposed Development

Draft plans for the proposed Dexus industrial warehouse development have been provided to KPMG SGA for review. An updated site plan, shown in Appendix A, was provided to KPMG SGA in July 2018.

From review of this information the following key activities and features of the development consist of:

- Upgrading the existing stormwater channel through the site including the installation of a new 2.25m diameter stormwater pipe, re-routing the existing 1.8m diameter dual stormwater pipes in sections, and decommissioning the existing 1.8m diameter stormwater pipes in sections.
- Demolition of all remaining site structures.
- Cut and fill excavation for site levelling. Draft bulk earthworks plans reveal that the majority of the filling will be located within the central portion of the site (in the vicinity of the groundwater plume of chlorinated benzenes), while cutting activities will generally occur in the perimeter areas of the site, including "Solomon's Hill". It is expected that all material shall be reused on site, with the following volumes estimated:
  - cut – 49,734 m^3
  - fill – 64,548 m^3

- import – 14,814 m^3.

- Construction of four large warehouses with offices and undercroft or external car parking areas. The warehouses will be of typical warehouse design with steel frames, metal cladding roof and walls, and a hardstand concrete floor. Site plans reveal that the hardstand shall be 280mm thick.
  - Warehouse 1:
    Warehouse – 6.900 m^2
    Office – 1,000 m^2
    Undercroft car park – 1,673 m^2.
  - Warehouse 2:
    Warehouses – 19,212 m^2
    Office – 1,600 m^2.
  - Warehouse 3:
    Warehouses – 12,108 m^2
    Office – 1,200 m^2
    Undercroft car park – 1,008 m^2.
  - Warehouse 4:
    Warehouses – 10,580 m^2
    Office – 800 m^2.

Cutting in the "Former Landfill" area will occur to facilitate construction of Warehouse 2 and external car parking areas.

Refer to Appendix A for the Proposed Industrial Development Plan.

2.3 Objective

The objective of TEI was to assess the risk associated with data gaps identified in the PSI and assess the implications of such risks to the proposed development, as listed:

- the presence and nature of VOCs within soil vapour beneath the central portion of site associated with the known chlorinated benzene groundwater plume, with consideration for the proposed commercial and industrial development
- the presence and nature COCs within soil beneath the central dock area, Dangerous Goods depots 5 and 6, areas of former USTs and the previously remediated materials within "Solomon's Hill", with consideration for the for the proposed commercial and industrial development.

2.4 Scope of Works

The TEI scope of works was undertaken in two stages as follows:

- Stage 1 works – June 2017
  - provision of a sampling plan showing proposed sampling locations
  - provision of a Safe Work Method Statement

  - undertake a 'Dial Before You Dig' search and location of underground services using a service locator
  - drilling of a total of sixteen (16) targeted soil investigation boreholes to at least 0.5 metres into natural soil or refusal
  - collection of soil samples at each borehole from fill, disturbed, or visually impacted layers as well as natural soil
  - detailed logging of each borehole by an experienced scientist including description of soil texture, colour, inclusions, moisture, odour and signs of contamination
  - purging and sampling of seven (7) existing groundwater monitoring wells using a peristaltic pump and disposable Teflon tubing
  - measurement of field groundwater parameters (temperature, electrical conductivity, pH, redox state and dissolved oxygen until the parameters stabilised
  - drilling of a total of seven (7) targeted soil vapour wells to approximately 1 metre below ground level (mbgl)
  - purging and sampling of seven (7) soil vapour wells using laboratory certified SUMMA canisters and flow control devices
  - field works and sampling in line with KPMG SGA's standard quality assurance procedures including the collection and analysis of duplicate samples for quality control purposes
  - laboratory analysis of selected samples at a NATA accredited laboratory for COCs including heavy metals, total recoverable hydrocarbons (TRH), benzene, toluene, ethyl benzene and xylene (collectively known as BTEX), polycyclic aromatic hydrocarbons (PAHs), phenols, and volatile organic compounds (VOCs)
  - review of historical reports to assess the reuse and excavation of Solomon's Hill and the Former Landfill area.
- Stage 2 works – July 2018
  - provision of a sampling plan showing proposed sampling locations
  - provision of a Safe Work Method Statement
  - undertake a 'Dial Before You Dig' search and location of underground services using a service locator
  - drilling of a total of fourteen (14) targeted soil investigation boreholes in the location of "Solomon's Hill" and other areas onsite (boreholes BH10 to BH14) as specified by Dexus to at least 0.5 metres into natural soil or refusal
  - collection of soil samples at each borehole from fill, disturbed, or visually impacted layers as well as natural soil
  - detailed logging of each borehole by an experienced scientist including description of soil texture, colour, inclusions, moisture, odour and signs of contamination
  - field works and sampling in line with KPMG SGA's standard quality assurance procedures including the collection and analysis of duplicate samples for quality control purposes

- laboratory analysis of selected samples at a NATA accredited laboratory for COCs including heavy metals, TRH, BTEX, PAHs, phenols, and VOCs
- provision of a TEI report detailing the findings of the field investigation and the evaluation of laboratory results with reference to the current of National Environment Protection Council (NEPC) (1999) National Environment Protection (Assessment of Site Contamination) Measure 1999 (Amended 2013) (NEPM ASC) (Reference 7) and state-based legislation and guidelines.

3 Site Location and Description

The site is located at 54-68 Ferndell Street, South Granville, NSW as depicted in Figure 1.

The details are summarised in the Table 2 below:

Table 2 Summary of Site Location and Description

Item	Details
Address	54-68 Ferndell Street, South Granville, NSW
Land Identifier	Lot 50 on DP816718
Total Site Area	Approximately 100,327 m^2
Local Government Authority	Cumberland Council
Site Location Map	Figure 1
Sample Locations	Figures 2 and 3

3.1 Environmental Setting

The geology underlying the site, as described in the Geological Survey NSW (1983) – Sydney 1:100,000 Geological Sheet, consists of Triassic aged Ashfield Shale which is part of the Wianamatta Group. This geological unit is described as shale, carbonaceous claystone, laminate, fine to medium grained lithic sandstone with rare coal.

The Australian Soil Resource Information System describes the soil on the site as falling within the sodosol soil order, using the Australian Soil Classification System. Sodosols are soils with strong texture contrast between A horizons and sodic B horizons which are not strongly acid. Generally Sodosols are considered to have low permeability.

Previous environmental investigations have described the site geology as consisting of shallow to moderately deep red and brown Podzolic soils on crests, upper slopes and well drained areas, with deep yellow Podzolic soils and Soloths on lower slopes and in areas of poor drainage (Blacktown Grouping). The eastern part of the site may potentially be located within developed terrain (Department of Land and Water Conservation, 1:100,000 Soil Landscape Series Sheet 9130, Sydney, 1989).

Bore logs from previous investigations suggest that the soils are typically described as orange-grey clays with a medium to high plasticity and minor gravel inclusions to a depth of approximately 3 metres below ground level (mbgl) where weathered shale and clay was encountered between 3 mgbl to 7 mbgl with a shale bedrock starting at 7 mbgl. The previous soil descriptions are comparable to the field observations made by KPMG SGA during the TEI.

A review of the ASRIS Coastal Acid Sulphate Soil Risk Map has identified that the site is located over an area with a low probability of occurrence of acid sulfate soils. Review of the Parramatta City Council Local Environmental Plan revealed that is

located within a Class 5 area of land, indicating that acid sulfate soils are not expected to affect the proposed development at the site.

The hydrogeology of the area has been based on the previous groundwater monitoring investigations (Reference 9 and KPMG SGA, 2016, Review of Environmental Risk – 54 Ferndell St, South Granville, NSW [Reference 16]) which have identified an upper and lower aquifer beneath the site. The upper aquifer was located within the fill materials while the lower aquifer was located within the shale bedrock. The standing groundwater level for the deeper aquifer is within depths ranging from 2 to 3 mbgl which is reflective of the confined nature of the aquifer. A groundwater elevation contour map was developed by URS (Reference 9), which showed an inferred flow direction towards the east north east. On the 28 and 29 June 2017, KPMG SGA observed the standing water level to be between 2.7 mbgl and 4.5 mbgl, (refer to Section 6.4.2).

Based on the soil and geological review, the site is in an area located over relatively impermeable clays, overlying potentially fractured shale bedrock. The depth to groundwater is approximately 5 mbgl in a semi confined aquifer. Based upon this information, the potential migration of COCs within this geological system is considered to be moderate.

4 Data Quality Objectives

Development of data quality objectives (DQOs) for each project is a requirement of NEPM ASC. This is based on a DQO process formulated by the United States Environmental Protection Agency (US EPA) for contaminated land assessment and remediation. The method provides sound guidance for a consistent approach in understanding site assessment and remediation.

The DQO process has seven steps. Each of these steps has been given due consideration in the undertaking of this project. In brief, these steps are:

Step 1: State the problem and establish the DQO team.

Step 2: Determine the possible and probable actions that will resolve the problems.

Step 3: Identify the informational inputs to assist in the problem resolution.

Step 4: Define the boundaries of the study (geographical, temporal, etc.).

Step 5: Develop and define decision rules.

Step 6: Specify tolerable limits to reduce probability of incorrect decisions.

Step 7: Ensure the quality of the information obtained.

Step 1 — State the Problem

Dexus are considering purchasing the site and wish to understand the potential contamination risks associated with the construction of a commercial warehouse development.

Previous investigations and the KPMG PSI have identified soil and groundwater contamination at the site. This investigation is designed to address the following data gaps in the conceptual site model:

- assess the presence and nature of VOCs within soil vapour beneath the central portion of site associated with the known chlorinated benzene groundwater plume, with consideration for the site's proposed commercial and industrial use
- assess the presence and nature COCs within soil beneath the central dock area, Dangerous Goods depots 5 and 6, areas of former USTs and material within "Solomon's Hill", with consideration for the site's proposed commercial and industrial use.

Step 2 — Identify the Decision

The principal decisions to be made were:

- What were the nominated COCs potentially present within soil, vapour, and groundwater beneath the site?
- What were the suitable human health and ecological criteria for the prosed industrial commercial land use?
- What were the concentrations of these COCs within the within soil, vapour, and groundwater?

- Were concentrations of the nominated COCs within soil and groundwater above the site criteria when evaluated using the nominated decision rules?
- Is the site suitable for the proposed Dexus commercial warehouse development from the perspective of protection of human health and the environment?
- If not suitable for current or proposed land use, what further works are required to further assess suitability or make the site suitable?

Step 3 — Identify the Inputs to the Decision

The study inputs comprised existing information and information collected during the site inspection. These included:

- review of site characteristics
- observations made during the field investigation
- soil, soil vapour and groundwater laboratory analysis using NATA accredited methods
- consideration of soil, soil vapour and groundwater laboratory results with reference to relevant guidelines.

Step 4 — Define the Study Boundaries

The temporal period of the study was limited to site conditions at the time of the fieldwork (20 to 29 June 2017 and 11-12 July 2018) and the review of historical investigation.

The scope of the study is limited to that described in Section 2.4. The physical boundary of the study area is defined in Section 3 and shown on Figures 2 and 3.

Practical constraints to the collection of data include:

- the availability of information contained within the previous environmental investigations
- the physical constraints posed by such factors as buildings, site structures, and large vegetation that may affect site access during the inspection
- the review of historical investigation reports
- the financial budget approved by the client.

The nominated COCs for soil, soil vapour, and groundwater were based on a range of COCs potentially associated with the historical use of the site for pharmaceutical manufacturing. The following groups of primary COCs had been derived from the PSI CSM as shown in Table 3.

Table 3 Summary of Contaminants of Concern

Location / Source	COC
Deeper semi confined shale groundwater plume within centre of the site in vicinity of BRW2.	**Groundwater** Chlorinated benzenes (1,2-Dichlorobenzene, 1,3-Dichlorobenzene and 1,4-Dichlorobenzene)
	Soil Vapour VOCs
Soil from the former USTs in the vicinity of the former chemical building, central loading dock, admininstration building and former Lan-O-Leen building.	**Soil** Hydrocarbons BTEX VOCs Lead
Central Dock and Dangerous Goods Depot 5 and 6	**Soil** Hydrocarbons VOCs
Solomon's Hill and the Former Landfill	**Soil** Chlorinated benzenes and residual pharmaceutical product

Step 5 — Develop and Define Decision Rules

Under the DQO process, it is important to nominate action levels for decision making.

In order to make a correct decision, the input laboratory data obtained needs to be confirmed to be suitable. Acceptable limits for field data analysis (relative percent differences (RPDs) for primary and duplicate results) were less than 50 percent, however a range of up to 150% can be acceptable (depending on the origin of the sample and volatility of the chemicals present). Acceptable limits for laboratory duplicate analysis were set based on site specific information such as background concentrations. These are summarised in as the measurement data quality indicators (MDQIs) (as shown in Table 4) Measurement Data Quality Objectives, which were used to establish whether the DQOs have been met.

It should be noted that NEPM ASC references Standards Australia AS 4482.1 (Reference 1), specifies MDQIs for precision should be ≤50% RPD. However, they also acknowledge that low concentrations and organic compounds in particular, can be acceptably outside this range. AS 4482.1 suggests that ≤50% RPD be used as a 'trigger' and values above this level of repeatability need to be noted and explained.

Note, due to the small scope of this investigation, no inter laboratory duplicates, rinsate blanks or trip blanks were assessed.

Table 4 Measurement Data Quality Objectives

Parameters	Procedure	Minimum Frequency	>5<10 x LOR4	>10 x LOR
Precision (Repeatability)	Field Duplicates	1 in 20 (for metals and semi volatiles)	<80-100 RPD	<50-80 RPD
	Field Duplicates	1 in 20 (volatiles)	<150 RPD	<130 RPD
	Lab Replicate	1 in 20	<50 RPD	<30 RPD
Accuracy	Reference Material	1 in 10	60% to 140% R	80% to 120% R
	Matrix spikes	1 in 10	60% to 140% R	80% to 120% R
	Surrogate spikes	1 in 10	60% to 140% R	80% to 120% R
Representativeness	Reagent Blanks	1 per batch	No detection	No detection
	Holding Times	Every sample		
Blanks	Trip Blank	1 per batch	No detection	No detection
	Rinsate Blanks	1 per batch	No detection	No detection
Sensitivity	Limit of Reporting	Every sample	2 x LOR	< investigation criteria

Note(s):
1. RPD – relative percentage difference
2. % R – percent recovery
3. LOR – limit of reporting
4. no limit at <5x LOR
5. the MDQI is usually specified in the standard method. If not, use the default values set out in this table

Once the laboratory data for the COC had been deemed suitable for use, based on the MDQIs, the following decision rules were used to make an assessment if concentrations of COCs were acceptable levels from a human health and ecological risk perspective.

The decision rules for soil (where there is considered to be sufficient data):

- the 95% upper confidence level (UCL) of the mean of the COC must be below the nominated investigation level
- the mean concentration of the COCs must be below the nominated investigation level
- no single sample concentration can exceed 250% of the nominated investigation level
- the standard deviation of the COC population must be below 50% of the investigation level.
- The nominated investigation levels are discussed in Section 5.

As such, if statistical analysis of concentrations of individual COCs are in agreement with the decision rule then concentrations of COCs onsite were considered to be below the investigation criteria. If the contrary occurs, then further investigation, remediation or risk assessment may be warranted.

Statistical analysis will only be warranted when elevated concentrations of COCs are detected and analysis is considered likely to provide evidence that the concentrations are not statistically significant.

Step 6 — Specify Tolerable Limits on Decision Errors

There are two types of decision errors. If one assumes that the site is impacted by COCs (the null hypothesis):

a) deciding that the site is not impacted when it actually is (Type I error). The consequence of this error may be unacceptable ecological or health risk for future users of the site

b) deciding that the site is impacted when it is not (Type II error). The consequence of this error is that the client or a future potential owner will pay for further investigation / remediation that is not necessary

If the null hypothesis position that the site is impacted is adopted, the estimation of a 95% UCL will reduce the occurrence of decision error (a) errors to 5%.

Step 7 — Optimise the Design

During the DQO process the sampling design was optimised through several iterations. Optimisation of the design included evaluating Steps 1 - 6 of the DQO process. The following are the key steps taken to optimise the sample design:

- sampling design based on area coverage, available information on infrastructure and soil/fill conditions within the investigation area
- revisions of sampling locations on site prior to fieldworks taking into account access constraints, location of underground services, infrastructure and work health and safety considerations
- adjustment of sample analysis plan based on field observations and soil samples collected.

The final field program and sampling pattern was considered optimal taking into account the purpose of the investigation, access constraints, budget and temporal limitations. A detailed discussion on the sampling program is presented in Section 6.

5 Investigation Criteria

The following sections outline the investigation assessment criteria for soil, groundwater and soil vapour adopted during the TEI.

5.1 Investigation Assessment Criteria

The National Environment Protection (Assessment of Site Contamination) Measure 1999 (NEPM 1999) is made under the National Environment Protection Council Act 1994 and was developed to establish a nationally consistent approach to the assessment of site contamination to ensure sound environmental management practices by the community which includes regulators, site assessors, environmental auditors, landowners, developers and industry. The NEPM 1999 was amended on 16 May 2013, with subsequent national implementation, and is referred to within this report as NEPM ASC.

The NEPM ASC Schedule B1 – Guideline on Investigation Levels for Soil and Groundwater provides a framework for the use of investigation and screening levels for soil, soil gas and groundwater. The framework is based on a matrix of human health, ecological and groundwater investigation and screening levels in conjunction with guidance for specific COCs. The investigation levels and screening levels presented in the NEPM ASC are the concentrations of a COC above which further appropriate investigation and evaluation would be required.

The guidelines included:

- **Ecological Investigation Levels (EILs)** – for selected metal and organic substances and are applicable for assessing risk to terrestrial ecosystems.
- **Ecological Screening Levels (ESLs)** – for BTEX, total petroleum hydrocarbon (TPH) and benzo(a)pyrene compounds and are applicable for assessing risk to terrestrial ecosystems.
- **Groundwater Investigation Levels (GILs)** – for a broad range of metal and organic substances. The GILs are the concentrations of a COC in groundwater above which further investigation (point of extraction) or a response (point of use) is required. GILs are based on Australian Water Quality guidelines and drinking water guidelines and are applicable for assessing human health risk and ecological risk from direct contact (including consumption) with groundwater
- **Health Investigation Levels (HILs)** – for a broad range of metal and organic substances. The HILs are applicable for assessing human health risk via all relevant pathways of exposure.
- **Health Screening Levels (HSLs)** – for BTEX, TRH and naphthalene compounds and are applicable to assessing human health risk via the inhalation and direct contact pathways.
- **Petroleum Hydrocarbon Management Limits (Management Limits)** – are applicable to TPH compounds only. They are applicable as screening levels following evaluation of human health and ecological risks and risks to groundwater resources. They are relevant for operating sites where significant sub-surface

leakage of TPH compounds has occurred and when decommissioning industrial and commercial sites. The Management Limits are only applied where applicable.

- **Interim Soil Vapour Health Investigation Levels (Interim HILs)** - for selected volatile organic chlorinated compounds (VOCCs) and are applicable to assessing human health risk by the inhalational pathway

5.2 Derivation of Assessment Criteria

Application of these investigation and screening levels form the basis of a Tier 1 risk assessment. If concentrations are found to exceed the applicable investigation levels, further investigations and a site specific risk assessment may be necessary. In the absence of local (Australian) criteria availability for certain chemicals, international criteria is to be used.

5.2.1 Soil Criteria

The current and intended future use of the Site is commercial/industrial. In addition, commercial/industrial land uses are present in the majority of the surrounding areas, particularly in the inferred down-gradient direction from the Site.

Health Investigation Levels (HILs)

A single set of health investigation level (HIL) values is presented in the NEPM 1999 (2013 amendment). KPMG has adopted HIL-D values for a commercial and industrial land use.

Health Screening Levels (HSLs)

As the main soil type for this site is clay, HSL-D with clay soil for a commercial and industrial land therefore been adopted to assess for vapour intrusion from soils.

Ecological Screening Levels (ESLs)

The ESLs for a commercial/industrial land use are considered most appropriate and have been selected.

Ecological Investigation Levels (EILs)

In applying the EILs for specific heavy metals, the Ambient Background Concentration (ABC) were calculated and appropriate Added Contaminant Limits (ACL) chosen based on physiochemical soil characteristics including soil pH and cation exchange capacity (CEC). For the purposes of this investigation, soil pH and CEC were based on sample results collected from the material on site. The EILs were calculated using the NEPC EIL - Interactive Calculation Spreadsheet.

United Stated Environmental Protection Agency (USEPA) Regional Screening Levels (RSLs)

USEPA RSLs are to be used as the applicable guideline for a range of VOCs in soil. KPMG SGA have adopted Industrial Soil criteria and a Target Hazard Quotient (THQ) of 0.1 as a conservative approach.

5.2.2 Groundwater Criteria

The groundwater investigation levels adopted include the ANZECC 2000 Investigation levels for freshwater aquatic ecosystems (Duck Creek nearest sensitive receptor) and

the Australian Drinking Water guidelines. It should be noted that due to the highly disturbed nature and commercial/industrial use of the site (and surrounding sites) the potential for groundwater on the site to be utilised for drinking water purposes is considered to be minimal. The investigation will therefore prioritise assessment against the freshwater aquatic ecosystem investigation levels. For chlorobenzene the ANZECC 2000 GILs only provide guidelines which are described as low reliability criteria. These guidelines have been formulated from limited studies into the potential adverse effects of the particular COC and therefore they are considered low reliability. The low reliability guideline for chlorobenzene is 55 µg/L, this guideline was adopted by URS in the annual monitoring, however the drinking water guideline for chlorobenzene is 300 µg/L, therefore KPMG SGA have in this instance referred to both the low reliability guideline level of 55 µg/L and the drinking water guideline level of 300 µg/L.

The HSLs have been developed for groundwater at 2 to <4 mbgl. While unlikely following the proposed development works it possible that the groundwater may be shallower than this. It is also noted that groundwater HSLs are not available for VOCs.

5.2.3 Soil Vapour Criteria

The investigation is intended to provide guidance on potential risks to future site occupants by via vapour intrusion of VOCs. Interim HILs for selected volatile organic chlorinated compounds (VOCCs) and HSLs for petroleum hydrocarbon vapours were adopted. There are no interim HILs for chlorinated benzenes. The tier one vapour criteria for chlorinated benzenes was calculated using the NEPM HIL calculator.

The following Toxicity Reference Value Inhalation (TRVI) (mg/m^3) were inputted into the NEMP HIL calculator (Reference 7)):

- Chlorobenzene - 0.05 mg/kg/per day (US EPA Provisional Peer Review Toxicity Values [Reference 11])
- 1,2 Dichlorobenzene – 0.2 mg/kg/per day (US EPA Superfund Health Effects Assessment Summary Tables [Reference 12])
- 1,4 Dichlorobenzene – 0.8 mg/kg/per day (US EPA Integrated Risk Information Systems [Reference 13])

Using the above values, the derived Tier one screening HIL criteria for chlorinated benzenes are:

- Chlorobenzene – 2,100 µg/m^3
- 1,2 Dichlorobenzene – 9,100 µg/m^3
- 1,4 Dichlorobenzene – 33,000 µg/m^3

6 Field Investigation

6.1 Sampling Analysis Plan and Methodology

A dial before you dig (DBYD) plans were obtained and reviewed to identify the entry points of underground services onto the Site. A service contractor (Durkin) was engaged to identify underground services that may be present beneath the selected locations. A service wand and ground penetrating radar was used.

6.1.1 Soil Investigation

Stage 1 – June 2017

The soil intrusive investigation included sixteen (16) targeted borehole (BH) locations across the site, as shown in Figure 2. BH1 to BH16 were drilled using the push tube method to 0.5 metres into natural material or refusal. The borehole depths drilled were between 2.2 - 3.5 mbgl.

Stage 2 – July 2018

The soil intrusive investigation included fourteen (14) targeted borehole (BH) locations across the site, as shown in Figure 3. BH01b to BH14b were drilled using the push tube method to 0.5 metres into natural material or refusal. The borehole depths drilled were between 1.6 - 3.6 mbgl.

The key potential sources of COCs considered the historical industrial site use. Sampling locations were designed to target historical potentially contaminating areas identified in the PSI (reference 6). The soil sampling locations are shown on Figure 3.

The laboratory analysis schedule for samples was determined in consideration of these potential sources. The COCs are listed in Section 4.

A total of 102 primary soil samples were collected directly from push tube liners. Each soil sample was collected with disposable nitrile gloves and placed into laboratory provided glass jars with Teflon lids and minimal headspace. Headspace vapour was assessed by using a photoionisation detector (PID) and recorded on the borehole logs. Each sample container was clearly labelled with the project number, sample location and date of sample collection using a waterproof marker. Upon collection, samples were immediately placed into a chilled cooler for storage and later transport to the laboratory.

6.1.2 Groundwater Investigation

Seven existing groundwater wells were sampled, as shown on Figure 2. BRW1A was not located due to demolition works and was therefore not able to be sampled.

The following groundwater well sampling procedure was undertaken:

- Prior to sampling, standing water levels (SWL) were measured.
- Wells were sampled and purged using a minimal drawdown technique, where the standing water levels were monitored and the pumping rate altered so the well screen was not dewatered. A peristaltic pump was used for the groundwater sampling. This is considered appropriate due to the shallow depth to groundwater,

which was considered unlikely to have resulted in significant lifting pressure and degassing of VOCs. Dedicated tubing for each sampling location was used to minimise the potential for cross contamination. Monitoring of chemical characteristics with a calibrated groundwater multi parameter water meter was undertaken to confirm samples were representative of formation water. Groundwater wells were sampled once the chemical characteristics stabilised as follows:

  - ± 10 % for dissolved oxygen (DO)
  - ± 3% for electrical conductivity (EC)
  - ± 0.05 pH units
  - 10 mV oxidation reduction potential (ORP).
- Samples were collected in laboratory supplied bottles. Inline field filtering (0.45 um) and acid preservation was undertaken for metals analysis samples.
- Upon collection, samples were placed immediately into ice filled coolers for storage and transport to the laboratory.

6.1.3 Soil Vapour Investigation

The soil vapour works were undertaken on 28 July 2016. The following procedures were undertaken onsite:

- Installation of soil vapour ports (constructed of 152mm stainless steel screens connected to the surface via Teflon tubing) in selected locations and depths around the BRW2 plume area.
- Purging of soil vapour ports using a 6L certified Silcosteel Summa Canister.
- Collection of vapour samples from soil vapour ports using 1 litre certified Silcosteel SUMA Canister equipped with calibrated and leak checked flow restrictors.
- Sampling equipment was held within a plastic chamber during sampling and an isopropyl alcohol soaked rag was placed in the vicinity of all soil vapour ports to assess the potential of leakage from the vapour ports or Suma canister connections.

The laboratory analysis schedule for samples was determined in consideration of these potential sources. The COCs are listed in Section 4.

Vapour ports were installed by initially hand auguring to the target depth. Refer to Table 6 for soil vapour port depths. Vapour screens were then inserted to the base depth of the borehole and 2-4 mm graded sand was placed around and above the screened port. Powdered and pellet bentonite was placed in three contiguous layers to the surface and hydrated slowly to ensure water did not infiltrate the sand pack or vapour screen. Prior to sampling, each vapour port was left to equilibrate for approximately 1 hour period and then purged approximately 3.5 x the sample train and sand screen volume using a laboratory provided summa canister.

Prior to sampling a stop test was performed to assess airtight integrity of the sample train. In the event that the sample train did not maintain a negative pressure (indicative of a leak) the connections were re-checked and the stop test was conducted again. Sample collection did not begin until the sample train was deemed to be airtight.

Sampling was undertaken using laboratory provided vapour canisters, regulators and sample tubing. A volatile isopropyl alcohol source was placed within the shroud, in close proximity to the canister/vapour port during sampling to assess the integrity of the bentonite slab seals installed during vapour port construction and connection seals between canisters, regulators and the sampling tubes. Soil vapour port sampling was undertaken over a 1 hour sampling period.

The Summa canisters pressure was noted before and after sampling for comparison with reading collected by envirolab before shipping and analysis.

A duel canister manifold was used at sample VS-7 to collect a duplicate (blind replicate) sample.

Each sample canister was clearly labelled with the project number, sample location and date of sample collection using individually assigned labels. Once collected, all samples were carefully wrapped and stored for transportation to the laboratory.

6.2 Rationale for Sampling Pattern Selection

A sampling pattern was developed based on the PSI and through the DQO process. The rationale of the TEI sampling pattern for soil, soil vapour and groundwater is summarised in the Table 5 below. The positions of the sampling locations are shown on Figures 2 and 3.

Table 5 Rational for Sample Pattern Selection

Sample ID	Location	Justification
BH01 to BH04	Dock 5 finished goods warehouse & distribution centre	Previously not investigated due to concerns with services and concrete slab thickness. Potential contamination from historical site use and proximity to the former loading dock USTs and Dangerous Goods warehouse. The four boreholes and collection of samples has characterised the potential COC under the building.
BH05 and BH06	Former USTs in the loading dock between Dock 2 and Dock 5	USTs removed in 1988. There are no historical reports discussing the condition of the soil. Previously not investigated due to concerns with services and concrete slab thickness. Potential COC associated with historical USTs has been characterised by the two boreholes.
BH07, BH08, BH10	Former depot 5 & 6 Dangerous Goods warehouse	Previously investigated had not adequately characterised the potential COC. The three boreholes and collection of samples has characterised the potential COC under the building.
BH09 and BH11	The Former AST south of the medical building	Previously investigated had not adequately characterised the potential contamination. The two boreholes and collection of samples has characterised the potential COC associated with AST building.
BH12 to BH16	The Lan-O-Leen Building with former solvent USTs	USTs have been removed. There are no historical reports discussing the condition of the soil post removal. Only one previous borehole location has been identified for this area from a Dames & Moore 2014, Preliminary Contamination Assessment. The drilling of the four additional boreholes and collection of samples has characterise the potential COC associated with former USTs.
BRW2, BRW3, BRW4,	BRW2, BRW3, BRW4, BRW5, BRW7,	Central area of the site and north east of the site

BRW5, BRW7, BRW9 and	BRW9 and PH12	
VS1- VS-7	Central area of the site	KPMG in 2016 had conducted a preliminary soil vapour screening with three soil vapour wells. The soil vapour concentrations were below the adopted criteria. The concentrations of chlorinated benenze in the groundwater warranted additional investigation with increase sample location and under a second time frame to observe temporal effects (if any).
BH01b – BH09b	Solomon's Hill	Area where remediated material from the former landfill area was placed. Investigated as part of additional due diligence.
BH10b – BH14b	Western area of the site	Site areas that were previously inaccessible due to site structures being present. Investigated as part of additional due diligence.

6.3 Laboratory Analysis

The following laboratory analysis was undertaken by Envirolab, as shown in Table 6, using NATA accredited methods. The analytes selected are based on the COCs for the site.

Table 6 Soil, Water and Soil Vapour Analytical Schedule

Analytes	Soil Samples	Number of Duplicates	Water Samples	Number of Duplicates	Vapour Samples	Number of Duplicates
Petroleum hydrocarbons/ BTEXN	62	3	7	1	7	1
Polycyclic Aromatic Hydrocarbons (PAHs)	62	3	7	1	-	-
Heavy Metals	62	3	7	1	-	-
Phenols	7	0	-	-	-	-
Poly Chlorinated Biphenyls (PCBs)	14	0				
Volatile Organic Compounds	32	0	7	0	-	-
Chlorinated Compounds	14	-	-	-	7	1
pH and CEC	4	0	-	-	-	-

6.3.1 Quality Assurance

The quality assurance and quality control procedures undertaken as part of this project are outlined in Appendix E of this report and procedures are referenced in NEPM ASC (Reference 7). Field procedures were designed to prevent/minimisation cross-contamination, analyte loss and to ensure samples and results were representative of actual conditions.

Six (6) soil field duplicate samples were collected with two (2) intra laboratory samples analysed. One (1) groundwater and one (1) soil vapour field duplicate sample was collected and analysed. The results of the duplicate samples were compared to those of the primary sample as a measure of method precision.

A soil vapour leak detection test was performed using isopropanol (IPA) as leak detection tracer. The detected IPA concentration was within acceptable limits and a results table is reported in Appendix E.

The soil vapour canister pressure before shipment was within 1 Hg to that observed by the field scientist, prior to sampling. The final field canister pressure measurement compared to pressure prior to analysis was within 1 Hg, indicating that the integrity of the canisters was maintained during transport to and from site.

A detailed discussion on quality procedures and results for this investigation is presented in Appendix E. In general, the quality of the data set was considered to be reliable and acceptable.

6.4 Fieldwork Observations

The intrusive field works were undertaken from 20 and 29 June 2017 (stage 1 works) and 11-12 July 2018 (stage 2 works). The following sections outline the fieldwork observations for soil, groundwater and vapour.

6.4.1 Soil Observations

The boreholes depths were drilled to between 1.6 mbgl and 3.6 mbgl. Refusal was encountered at five attempted locations for the two boreholes around the former USTs at the loading dock and Dock 5 finished goods warehouse & distribution centre. The two boreholes could not be drilled elsewhere due to a stormwater channel and a sub slab void running beneath the building. In addition, sub-surface concrete was encountered below the floor concrete slab, causing refusal.

In general, the soil stratigraphy at the site (BH01 to BH16) can be summarised as:

- Concrete was present from 0.0 - 0.15 mbgl at BH01 to BH06 and BH10. Asphalt was present from 0.0 - 0.1 mbgl at BH12 to BH16.
- Fill material generally consisting of brown sand and gravel was generally observed to 0.5 mbgl.
- Reworked brown, red, orange and grey clay with gravel with sand lenses were observed to depths of 1.0 – 2.5 mbgl.
- Natural material consisting of grey with orange, yellow or red mottling clay, which was firm and a high plasticity.

During the Stage 2 works at "Solomon's Hill", boreholes BH01b to BH09b generally recoded a lithology consisting of a mixture of reworked brown, red, orange and grey clays.

Possible black staining was observed in a number bores within the reworked clay material. No further visual evidence of contamination or odours were observed. The PID concentrations were generally less than 10 ppm. BH02 recorded the highest PID concentration of 42.5 ppm.

Borehole locations are presented on Figures 2 and 3 and borehole logs are presented in Appendix C.

6.4.2 Groundwater Observations

The following groundwater field measurements were taken during the investigation, as presented in Table 7**.**

Table 7 Groundwater Field Chemical Characteristics

ID	SWL* (mbgl)*	Temp (°C)	ORP (mV)	pH (units)	DO (%)	EC (ms/cm)	Comments
BRW2	3.002	23.1	-91	6.69	-4.5	21.8	Clear, no odour
BRW3	2.712	23.0	-132	6.87	-3.4	25.4	Clear with an slight organic odour
BRW4	3.350	22.2	-183	6.91	-2.9	29.2	Clear with an slight organic odour
BRW5	3.344	21.7	19	6.91	-3.3	18.95	Clear, no odour
BRW7	4.486	21.0	-21	7.03	2.3	18.16	Clear, no odour
BRW9	4.542	20.02	-136	7.21	18.57	14.82	Clear, no odour
PH12	4.054	21.4	-248	6.98	-3.0	21.7	Clear, no odour

Note(s):
1. SWL – standing water level measured prior to the collection of the groundwater samples

6.4.3 Soil Vapour Observations

The following is a summary of soil vapour port depth and observations, as presented in Table 8.

Table 8 Summary of Soil Vapour Ports Depths and Observations

ID	Depth (mbgl)	Comments / Contamination Observations
VS-1	0.85	No visual contamination or odour observed.
VS-2	0.85	No visual contamination of odour observed.
VS-3	0.7	Firm clay refusal at 0.7 mbgl. No visual contamination or odour observed.
VS-4	0.95	Asbestos cement debris encountered at 0.45 mbgl. No visual contamination or odour observed.
VS-5	0.95	No visual contamination or odour observed.
VS-6	1.05	No visual contamination or odour observed.
VS-7	0.75	No visual contamination or odour observed.

7 Laboratory Results

7.1 Soil

A summary of the soil laboratory results are presented in Tables 1 to 4 and 7 at the end of the report. A full copy of the laboratory analysis certificates are presented in Appendix D.

Concentrations of all COCs were identified below the laboratory limit of reporting or below the adopted criteria with the exception of:

- the concentration of benzo(a)pyrene in sample BH10b_0.4-0.5 (1.6 mg/kg) was slightly above the Ecological Screening Level of 1.4 mg/kg.

7.2 Groundwater

A summary of the groundwater laboratory results are presented in Table 5 at the end of the report. A full copy of the laboratory analysis transcripts are presented in Appendix D.

The following COCs within samples analysed were identified to be above the relevant criteria:

- the concentration of arsenic within sample BRW9 (24 µg/L) was above the adopted freshwater GIL and drinking water GIL of 13 µg/L and 10 µg/L respectively
- the concentration of benzene within sample BRW2 (4 µg/L) was above the adopted drinking water GIL of 1 µg/L
- the concentration of chlorobenzene within sample BRW2 (39 µg/L) was above the adopted drinking water GIL 10 µg/L
- the concentration of 1,4 dichlorobenzene within sample BRW2 (270 µg/L) was above the adopted freshwater GIL and drinking water GIL of 60 µg/L and 40 µg/L respectively
- the concentration of 1,2 dichlorobenzene within sample BRW2 (6,200 µg/L) was above the adopted freshwater GIL and drinking water GIL of 160 µg/L and 1,500 µg/L respectively.

7.3 Soil Vapour

A summary of the soil vapour laboratory results are presented in Table 6 at the end of the report. A full copy of the laboratory analysis certificates are presented in Appendix D.

Concentrations of all COCs were identified below the laboratory limit of reporting or below the adopted criteria.

8 Discussion and Conceptual Site Model

The following sections discuss the findings of the TEI works, including the soil, groundwater and soil vapour results, and provide a revision to the conceptual site model (CSM).

8.1 Soil

Soil results for the TEI were generally below the adopted criteria for each borehole. Therefore soil contamination was not identified at the following areas of concern:

- the former USTs in the loading dock between Dock 2 and Dock 5 (BH05 and BH06)
- the Dock 5 finished goods warehouse & distribution centre (BH01 to BH04)
- Depot 5 & 6 Dangerous goods warehouse (BH07, BH08 and BH10)
- the Former AST south of the medical building (BH09 and BH11)
- the Lan-O-Leen Building with former solvent USTs (BH12 to BH16)
- "Solomon's Hill" (BH01b to BH09b)
- formerly inaccessible location in western portion of site (BH10b BH14b).

The concentration of benzo(a)pyrene exceeded the criteria for the protection of ecological receptors in a sample collected from borehole BH10b (western portion of site). Due to the isolated occurrence and relatively low concentration of benzo(a)pyrene detected, this slight exceedance is not considered to pose an unacceptable risk and would not prevent the development of the site. Additionally, considering the proposed commercial / industrial development, ecological receptors are not considered to be of concern at the site, therefore the ESLs are not considered to be applicable in this instance.

The soil is suitable to remain on the site for commercial / industrial land use. If soil is to be removed from site, a waste classification will be required from a suitability qualified consultant for disposal at a licensed landfill facility. Asbestos cement debris was identified within vapour borehole VS-4 and to the soil surface in the vicinity of BH10b to BH14b. Any future excavation in these areas should adopt appropriate workplace health and safety (WHS) protocols.

8.2 Groundwater

Groundwater sampling has indicated concentrations of selected COCs were in excess of the adopted criteria at BRW2 and BRW9. The following section discusses the exceeding results.

8.2.1 Groundwater VOCs

Groundwater VOC results for the TEI were generally below the adopted criteria with exception of benzene, chlorobenzene, 1,2 dichlorobenzene, and 1,4 dichlorobenzene

concentrations above the adopted criteria at BRW2. The historical URS groundwater monitoring reports have also previously reported elevated concentrations of these COCs at BRW2. .

The plume of benzene, chlorobenzene, 1,2 dichlorobenzene, and 1,4 dichlorobenzene around BRW2 appears to be stable both from a chemical and hydrogeological perspective and is not migrating down gradient or offsite, with no detections of VOCs at BRW3 (located in a down hydraulic gradient from BRW2). The existing monitoring wells should be protected under the proposed building works. If the wells BRW2, BRW3, BRW4 and BRW5 are to be destroyed, they should be adequately decommissioned and reinstalled at the completion of works. Ongoing monitoring of the plume is recommended following the building works, as the proposed works may change the dynamics of the plume, with the installation of footings, amendment of underground services, and increase in sealed areas. Should groundwater be encountered during the development works (e.g. for the installation of the new stormwater pipes in the vicinity of BRW2), a Construction Environmental Management Plan (CEMP) should be adopted, with specific details on personal protective equipment (PPE) requirements for site workers and the correct disposal of impacted groundwater.

8.2.2 BRW9 Arsenic Result

Arsenic was reported above the adopted criteria in BRW9. These concentrations are slightly above the Freshwater GIL limit. This result is considered to be low risk, with the down gradient monitoring wells BRW5, BRW 7 and PH12 not recording concentrations of arsenic above the adopted criteria. No further action is required to monitor BRW9.

8.3 Soil Vapour

The concentrations of COCs within soil vapour samples collected were below the adopted criteria. The results indicate that the identified elevated concentrations of VOCs in groundwater are not resulting in a vapour intrusion risk in the site's current (undeveloped) state. Furthermore, as the proposed development includes the placement of fill above the identified groundwater impact, and the provision of a hardstand concrete slab, the risk of vapour intrusion into the proposed buildings is considered to be minimal. However, the concentration of VOCs within the groundwater are elevated at concentrations which could potentially result in vapour intrusion risk should a preferential pathway be created such as building footings or piling.

Currently in Australia there are no published groundwater criteria for chlorinated benzenes which address the potential for vapour intrusion from a groundwater source. The lack of a presence of a guideline for a particular COCs "source and pathway" does not negate the need for consideration of that relevant COC.

In order to allow screening level comparisons KPMG SGA has adopted the methodology the USEPA published OSWER Draft Guidance for evaluating the Vapour Intrusion to Indoor Air Pathway from Groundwater and Soils (Subsurface vapour intrusion guidance) (Reference 14).

While this document is not directly applicable to the site it provides a method for undertaking screening assessment for groundwater source for protection of vapour

intrusion, and thus allowing comparison with the NEPM (ASC) interim soil vapour health investigation levels for VOCs.

An approximation of the soil vapour concentration at the groundwater interface may be made by using Henrys Law. For the maximum concentration of 1,2 dichlorobenzene recorded at BRW2 (6,200 µg/L) the potential maximum vapour concentration at the water / air interface can be calculated as follows:

- The Henrys Law Constant (H') for 1,2 dichlorobenzene is 0.54 (dimension less) (US Department of Commerce, National Institute of Standards and Technology, NIST Chemistry WebBook, SRD 69, Seen July 2017, [Reference 15]).
- 6,200 µg/L times 0.54 (rate constant) = 3,348 mg/m^3 (with unit conversions).
- This would be above the adopted vapour criterion of 9,100 µg/m^3 for the site which is considered to be a highly conservative criterion as it does not allow for natural attention of the vapour through the soil profile.

The proposed development site plans, Appendix A, shows that approximately 1 to 2 m of fill shall be placed in the location of the plume, and a large warehouse and hardstand slab will be constructed. This further reduces the risk of vapour intrusion. Part of the development works include the installation of a 2.25 m wide stormwater pipe in the vicinity of the BWR2 plume.

KPMG SGA recommends a construction design that would not cause a preferential vapour pathway to the newly constructed warehouse building. If this not possible, a more detailed risk assessment will be required to assess the appropriate vapour controls. The stormwater pipe is proposed to be installed beneath external areas of the site (i.e. roadways) and not beneath buildings, reducing the risk of vapour intrusion into an occupied building. However, the design of the stormwater pipe will need to be considered to avoid creating a preferential pathway allowing vertical or lateral migration of impacted groundwater and/or vapour.

In addition to ensuring that a vapour preferential pathway is not created, KPMG SGA recommend that ambient air testing be conducted prior to occupation of the building to validate that vapour intrusion has not occurred if a structure is built over the plume area around BRW2. Review of the

8.4 Review of the Former Landfill and Solomon's Hill

Based on review of the provided documents, the site was used as a chemical manufacturing and research facility by Merck Sharp and Dohme since the mid 1950s. In the 1980s it became apparent that the site activities had resulted in contamination of soil and groundwater and Dames & Moore (D&M) were engaged to assess the extent of impact and develop a methodology for remediation of the site. For the evaluation of the proposed development, KPMG SGA has reviewed available documents associated with investigation and remediation of the "Former Landfill" and "Solomon's Hill".

The "Former Landfill" area, as shown in Appendix B, is part of the redevelopment area. The landfill was investigated by D&M in 1992 (Reference 17) including delineation of the "Former Landfill" through ground penetrating radar (GPR) and a series of test pits, trenches and boreholes. An area of 15 square meters was identified to contain fill material. The contaminates identified included a highly

localised area of dichlorobenzene, a localised area containing a small number of plastic bags of material thought to be pharmaceuticals, and a localised area containing some vials of liquid, a small quantity of powder near a corroded drum, and some dichlorobenenzenes.

The landfill material was excavated to bedrock. A total of 31 floor and wall validation samples were collected and analysed. All validation results with the exception of one sample were at concentrations less than the laboratory detection limit. The one sample above the detection limit contained a small quantity of short chained fatty acids. Due to the low concentrations within this one sample, the NSW EPA decided no further excavation was required.

The material was separated between clean, dichlorobenzene and pharmaceutical material and remediated as follows:

- The pharmaceutical material was disposed offsite.
- Soil contaminated with chlorobenzenes and residual pharmaceutical product was remediated onsite (southern paddock area) and met the NSW EPA validation criteria.
- The remediated material was used to raise the ground level at "Solomon's Hill".

URS 2013 (Reference 9) drilled eight soil investigation boreholes into "Solomon's Hill". As part of further environmental due diligence, KPMG SGA drilled a further nine soil investigation boreholes at "Solomon's Hill". Concentrations of COCs within soil samples analysed were less than the laboratory detection limit or below the adopted criteria.

Based on the historical review of available documentation and the additional soil data, the "Former Landfill" and "Solomon's Hill" poses a low risk to site workers or future works.

8.5 Updated Conceptual Site Model

The following Table 9 Conceptual Site Model is an updated version of the conceptual site model contained in the KPMG SGA PSI.

Table 9 Conceptual Site Model

Sources	COC	Media	Receptor	Exposure Route	Comments	Pathway complete	Recommended Action
Groundwater plume in vicinity of BRW2	Chlorinated benzenes	Soil/Rock	Human	Inhalation	Potential inhalation of VOCs by future site users. Potential for vapour intrusion risk to proposed warehouse building.	Unlikely	Not Applicable
				Dermal contact / Ingestion	There may be potential for site workers to encounter impacted soils during localised cutting in the area.	Unlikely	Manage in accordance with a site specific Construction Environmental Management Plan (CEMP)
			Ecological species and soil microbial processes	Direct Contact	Onsite ecological receptors not identified.	Unlikely	Not Applicable
		Groundwater	Human	Inhalation	Potential inhalation of VOCs by future site users. Potential for vapour intrusion risk to proposed warehouse building in association with the BRW2 plume.	Unlikely	Avoid construction of a building over BRW2. If a building is constructed, use a design that would not cause a preferential vapour pathway to the newly building. Ambient air testing prior to occupation any building over BRW2 to validate that the COC vapour intrusion is not entering the building. Manage in accordance with a site specific EMP post development.
				Drinking / Irrigation	No drinking water utilisation in immediate area. No onsite groundwater irrigation.	Unlikely	Not Applicable
				Direct Contact	Groundwater not expected to be encountered during development activities with the exception of the installation of the new stormwater pipe in the vicinity of BRW2.	Potential	Manage in accordance with a Construction Environmental Management Plan. Excess water should be tested prior to disposal and appropriate PPE should be worn by workers contacting impacted groundwater.
			Ecological species (offsite)	Direct contact / Ingestion	Groundwater plume is considered to be stable and not affecting offsite ecological receptors (e.g. within Duck Creek) as confirmed by the EPA in 2003 and subsequent groundwater investigations.	Unlikely	Groundwater monitoring required post construction.

Sources	COC	Media	Receptor	Exposure Route	Comments	Pathway complete	Recommended Action
Solomons Hill / Landfill Area	Chlorinated benzenes	Soil/Rock	Human	Inhalation	Solomon's Hill soil to be used as fill onsite for the development. The soils used to build Solomon's Hill were noted to have been excavated from the Former Landfill areas. The soil has been previously remediated and validated. URS (2013) did not detect any COCs above the adopted criteria. KPMG SGA (2018) also did not detect any COCs above the adopted criteria. It is considered that any residual contamination would be minor.	Unlikely	Not Applicable
				Dermal contact / Ingestion		Unlikely	
			Ecological species and soil microbial processes	Direct Contact	Onsite ecological receptors not identified.	Unlikely	Not Applicable
Former USTs in the vicinity of the former chemical building, central loading lock, admin building, and former Lan-O-Leen building	Hydrocarbons VOCs BTEX Lead	Soil	Human	Inhalation	Although the USTs were removed in 1987, no validation reports have been provided, resulting in the potential for residual COCs to remain in the surrounding soil. There may be potential for site workers to encounter impacted soils during localised cutting in the area. KPMG SGA's the TEI soil results were below the adopted criteria for each borehole.	Unlikely	Not Applicable
				Dermal contact / Ingestion			
			Ecological species and soil microbial processes	Direct Contact	Onsite ecological receptors not identified.	Unlikely	Not Applicable

Central Dock and Dangerous Goods Depot 5 and 6	Hydrocarbons VOCs	Soil	Human	Inhalation	Spills and leaks from stored chemicals may have resulted in localised soil impacts in the vicinity of the Dangerous Goods depots. These areas have not previously been investigated. Construction workers and future site users may be affected by inhalation of vapours. KPMG SGA's the TEI soil results were below the adopted criteria for each borehole.	Unlikely	Not Applicable
				Dermal contact / Ingestion			
			Ecological species and soil microbial processes	Direct Contact	Onsite ecological receptors not identified.	Unlikely	Not Applicable
Eastern end of former Lan-O-Leen building	Arsenic	Soil	Human	Inhalation	Non-volatile chemicals therefore not inhalation not applicable.	Unlikely	Not Applicable
				Dermal contact / Ingestion	These soils have previously been disposed offsite.	Unlikely	Not Applicable
			Ecological species and soil microbial processes	Direct Contact	Onsite ecological receptors not identified.	Unlikely	Not Applicable
Entire site	Asbestos	Soil	Human	Inhalation	Potential for fill materials to be contain surficial asbestos which may be disturbed during excavation.	Potential	Manage in accordance with a site specific Construction Environmental Management Plan (CEMP). If asbestos identified in soil during development works, it may be necessary to manage under an ongoing EMP.

	Hydrocarbons VOCs BTEX Lead, Pharmaceutical products	Soil/Rock, groundwater	Human	Dermal contact / Ingestion / Inhalation	Potential for exposure through onsite production of food, such as vegetable garden's or livestock. Potential exposure through onsite groundwater irrigation.	Potential	No primary food production or groundwater irrigation on site without undertaking a site specific risk assessment. This is to be documented in an EMP.

9 Conclusion & Recommendations

Based on the findings of the TEI undertaken, KPMG SGA consider that the site is suitable for the proposed Dexus commercial/industrial development providing the below recommendations are followed. KPMG SGA form this opinion due to the fact that:

- no COCs were identified above the adopted relevant guidelines in the soil samples collected and analysed
- no COCs were identified above the adopted guidelines in the soil vapour samples collected.

Concentrations of benzene, chlorobenzene, 1,2 dichlorobenzene, and 1,4 dichlorobenzene concentrations were detected above the adopted criteria at groundwater well BRW2. Potential inhalation of VOCs by future site users is considered to be low due to the absence of COCs identified in the soil vapour samples, the proposed importation of between 1 to 2 metres of fill over the majority of the plume area, and the presence of a hardstand concrete slab for the proposed warehouse.

The proposed developed includes the installation of a new stormwater pipe in the vicinity of the impacted groundwater identified at BRW2. The stormwater pipe is proposed to be installed beneath external areas of the site (i.e. roadways) and not beneath buildings, reducing the risk of vapour intrusion into an occupied building. However, the design of the stormwater pipe will need to be considered to avoid creating a preferential pathway allowing vertical or lateral migration of impacted groundwater and/or vapour.

KPMG SGA recommends the following:

- a construction design that would not cause a preferential vapour pathway to the newly constructed building. If this is not possible a more detailed risk assessment will be required to assess the appropriate vapour controls for the building / warehouse
- ambient air testing prior to occupation of Warehouse 2 to validate that the COC vapour intrusion is not entering the building
- annual groundwater monitoring of wells BRW2, BRW3, BRW4 and BRW5 to assess the trends of the chlorinated benzene plume
- development of an Environmental Management Plan (EMP) for the site for ongoing management following construction.

A Construction Environmental Management Plan is also recommended to be produced by an adequately qualified environmental consultant to include:

- an unexpected findings protocol specifying how to manage identification of potential contamination (such as asbestos) during the development works
- soil management including separation, stockpiling, testing, classification, and offsite disposal in accordance with NSW Waste Classification guidelines

- groundwater management in the event that groundwater is encountered during the development (i.e. during the installation of new stormwater pipes in the vicinity of BRW2). The CEMP should specifically address appropriate PPE to be worn by site workers and the correct disposal of impacted groundwater.

10 Limitations

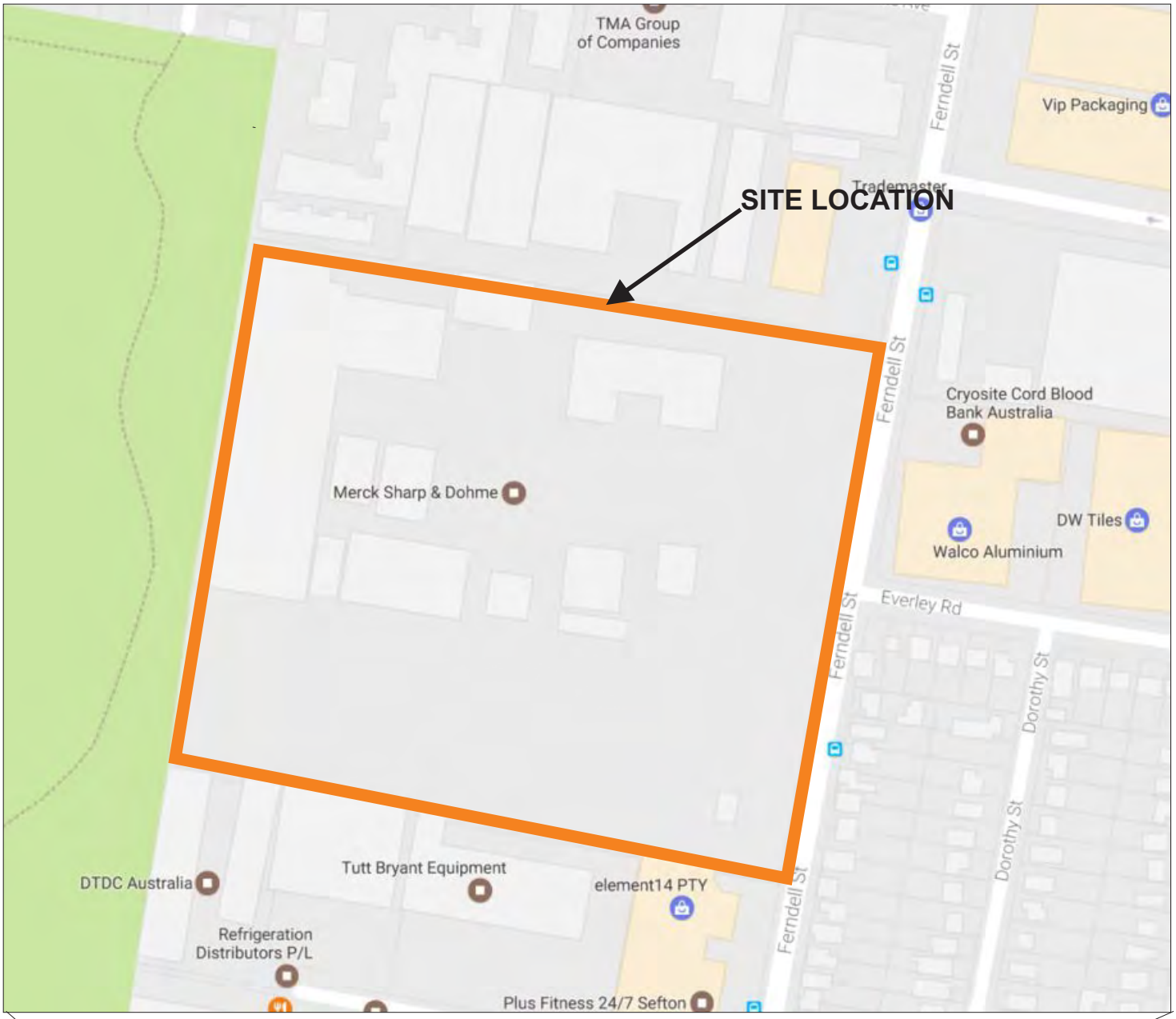
This report has been prepared by KPMG SGA in response to and subject to the following limitations:

1. The specific instructions received from Dexus Funds Management Pty Ltd.
2. The Consultancy Services Agreement between KPMG SGA and Dexus Funds Management Limited including the Scope Limitations and Terms and Conditions of Business contained within.
3. The report has been prepared to a specific scope of works as set out in Section 2.4 of this report.
4. May not be relied upon by any third party not named in this report for any purpose except with the prior written consent of KPMG SGA (which consent may or may not be given at the discretion of KPMG SGA).
5. This report comprises the formal report, documentation sections, tables, figures and appendices as referred to in the index to this report and must not be released to any third party or copied in part without all the material included in this report for any reason.
6. The report only relates to the site located at 54-68 Ferndell Street, South Granville, NSW ("the site").
7. The report relates to the site as at the date of the inspection as conditions may change thereafter due to natural processes and/or site activities.
8. No warranty or guarantee is made in regard to any other use than as specified in the scope of works.

11 References

1. Australian and New Zealand Environment and Conservation Council/ Agriculture and Resource Management Council of Australia and New Zealand, Guidelines for Fresh and Marine Water Quality, ANZECC/ARMCANZ 2000
2. AS4482.1–2005 Guide to the investigation and sampling of sites with potentially contaminated soil, Part 1: non-volatile and semi-volatile compounds. Standards Australia
3. AS4482.2–1999 Guide to the sampling and investigation of potentially contaminated soil, Part 2: volatile substances, Standards Australia
4. Department of Land and Water Conservation, 1:100,000 Soil Landscape Series Sheet 9130, Sydney, 1989
5. Geological Survey NSW (1983) – Sydney 1:100,000 Geological Sheet
6. KPMG SGA, May 2017, Preliminary Site Investigation, 54 – 68 Ferndell Street South Granville, NSW
7. National Environment Protection Council (1999) National Environment Protection (Assessment of Site Contamination) Measure (NEPM) (Amended 2013)
8. Safe Work Australia (2013) Workplace Exposure Standards For Airborne Contaminants
9. URS (November 2013) Environmental Site Investigation, Merck Sharp and Dohme, South Granville NSW
10. URS (January 2014) Round 24 Groundwater Monitoring – 2013, 54 -68 Ferndell Street South Granville NSW
11. US EPA Provisional Peer Review Toxicity Values
12. US EPA Superfund Health Effects Assessment Summary Tables
13. US EPA Integrated Risk Information Systems
14. USEPA published OSWER Draft Guidance for evaluating the Vapour Intrusion to Indoor Air Pathway from Groundwater and Soils (Subsurface vapour intrusion guidance) EPA530-D-02-004 November 2002
15. US Department of Commerce, National Institute of Standards and Technology, NISTChemistry WebBook, SRD 69 (Seen July 2017)
16. KPMG SGA, 2016, Review of Environmental Risk – 54 Ferndell St, South Granville, NSW
17. Dames & Moore, 1993, Assessment and Remediation of Contaminated Soils Excavated From Landfill, Merck Sharpe and Dohme, South Granville New South Wales Australia

SITE FIGURES



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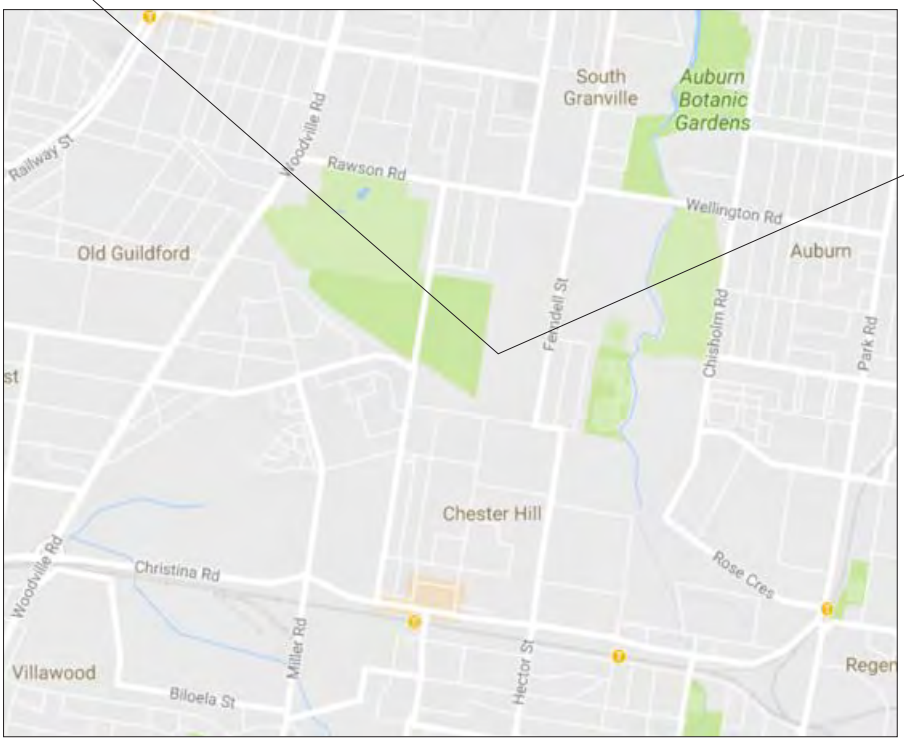

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Source: Google Maps

CLIENT	**Dexus Funds Management Limited**
PROJECT	**Targeted Environmental Investigation 54-68 Ferndell Street, South Granville NSW**
TITLE	**Figure 1 - Site Location**

SCALE	DATE	DRAWING No.	ISSUE
NTS	26/07/2018	Figure 1	A
DRAWN: J.A. / CHECKED: D.J.	JOB No.: 338588		

KPMG SGA Property Consultancy
ABN 53 103 479 992
Tower Three
International Towers Sydney
300 Barangaroo Avenue
Sydney NSW 2000
Phone: +61 2 9535 7000
Fax: +61 2 9535 7001
Email: sydsga@kpmg.com.au
Web: www.sgaproperty.com

Site Boundary

Borehole Location

Soil Vapour Location

Existing Groundwater Well Sample Location

Source: Nearmap

N

CLIENT
Dexus Funds Management Limited

PROJECT
Targeted Environmental Investigation - 54-68 Ferndell Street, South Granville NSW

TITLE
Figure 2 - Stage 1 Sampling Locations

SCALE	DATE	DRAWING No.	ISSUE
NTS	26/07/2018	Figure 2	A

DRAWN	CHECKED	JOB No.
J.A.	D.J.	338588

KPMG SGA Property Consultancy
ABN 53 103 479 992
Tower 3, International Towers Sydney
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NSW 2000
Phone: +61 2 953510
Fax: +61 2 9535 7001
Email: sydsga@kpmg.com.au
Web: www.sgaproperty.com

Site Boundary

Borehole Location

N

0 Approximate Scale (m) 80

Notes:
Source Nearmap

CLIENT
Dexus Funds Management Limited

PROJECT
54-68 Ferndell Street, South Granville NSW
Targeted Environmental Investigation

TITLE
Figure 3 - Stage 2 Sampling Locations

SCALE	DATE	DRAWING No.	ISSUE
NTS	24/07/2018	Figure 3	A

DRAWN	CHECKED	JOB No.
D.J.	J.W.	N/A

KPMG SGA Property Consultancy
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Tower 3 International Towers Sydney
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RESULTS TABLES

Table 1 - Summary of Soil Metal Results - Commercial/Industrial settings

Project No: 338588
Site: 54-68 Ferndell Street, Sth Grandville
Client: Dexus Funds Management Limited

Nominated Criteria			Heavy Metals	Arsenic	Cadmium	Chromium	Copper	Lead	Mercury	Nickel	Zinc
Ecological Investigation Levels (EILs) Calculated (ABC + ACL) - Commercial and Industrial				160	-	680	280	1800	-	220	690
NEPM HIL D for Soil Contaminants in Commercial/Industrial land use				3,000	900	3,600	240,000	1,500	730c	6,000	400,000
Sample Location	**Sample Depth**	**Sample Description**	**Units**	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
			MDL	**4**	**0.4**	**1**	**1**	**1**	**0.1**	**1**	**1**
BH01_1.0	1	Fill		8	<0.4	17	26	20	0.5	11	85
BH01_2.5	2.5	Natural		<4	<0.4	9	13	9	<0.1	3	10
BH02_0.2	0.2	Fill		<4	<0.4	14	41	17	<0.1	12	43
BH02_1.9	1.9	Fill		7	<0.4	10	23	17	<0.1	20	75
BH02_3.0	3	Natural		<4	<0.4	11	14	13	<0.1	5	20
BH03_1.0	1	Fill		<4	<0.4	13	14	11	0.3	4	15
BH03_2.0	2	Natural		7	<0.4	16	20	13	<0.1	4	15
BH04_0.5	0.5	Fill		7	<0.4	16	34	27	0.2	12	99
BH04_2.8	2.8	Natural		<4	<0.4	10	14	12	<0.1	3	8
BH05_0.5	0.5	Natural		<4	<0.4	19	29	7	<0.1	30	33
BH05_1.4	1.4	Fill		<4	<0.4	33	50	5	<0.1	66	43
BH06_0.6	0.6	Fill		8	<0.4	13	26	22	<0.1	9	97
BH06_2.0	2	Natural		<4	<0.4	9	14	8	<0.1	5	17
BH06_3.4	3.4	Natural		4	<0.4	21	31	9	<0.1	16	26
BH07_0.3	0.3	Fill		5	<0.4	31	29	34	0.1	33	130
BH07_1.8	1.8	Natural		5	<0.4	9	19	18	<0.1	3	12
BH08_0.5	0.5	Fill		4	<0.4	12	14	9	<0.1	3	12
BH08_1.0	1	Natural		5	<0.4	15	20	11	<0.1	6	19
BH09_0.7	0.7	Fill		35	<0.4	16	27	19	<0.1	16	85
BH09_2.0	2	Natural		<4	<0.4	7	5	4	<0.1	2	7
BH10_0.3	0.3	Fill		4	<0.4	22	40	32	<0.1	12	50
BH10_0.7	0.7	Natural		<4	<0.4	10	16	9	<0.1	2	16
BH11_0.5	0.5	Fill		<4	<0.4	6	36	9	<0.1	9	26
BH11_2.4	2.4	Natural		6	<0.4	10	40	17	<0.1	15	72
BH12_0.4	0.4	Fill		<4	<0.4	12	54	11	<0.1	27	34
BH12_1.5	1.5	Natural		6	<0.4	17	17	15	<0.1	3	14
BH13_1.0	1	Fill		10	<0.4	24	33	16	<0.1	24	77
BH13_2.5	2.5	Natural		<4	<0.4	11	25	11	<0.1	3	28
BH14_0.9	0.9	Fill		<4	<0.4	8	66	3	<0.1	52	48
BH14_2.0	2	Natural		6	<0.4	17	20	14	<0.1	4	23
BH15_0.5	0.5	Fill		6	<0.4	16	25	13	<0.1	8	70
BH15_1.3	1.3	m		10	<0.4	29	13	21	<0.1	8	23
BH16_0.7	0.7	Fill		11	<0.4	17	30	16	<0.1	22	95
BH16_1.6	1.6	Natural		9	<0.4	27	14	28	<0.1	9	34
DUP01	Duplicate Sample of Primary Sample BH02_1.9			5	<0.4	9	22	13	<0.1	13	44
DUP02	Duplicate Sample of Primary Sample BH07_0.3			15	<0.4	32	27	35	<0.1	31	54

(a) ACL values based on site natural material with pH 7 and CEC 8.8
(b) ABC values assume old suburb / high traffic
(c) Crieria for Inorganic Mercury

HIL A	Residential with garden/ accessible soil (home grown produce <10% fruit and vegetable intake (no poultry), also includes childcare centres, preschools and primary schools
HIL B	Residential with minimal opportunities for soil access; includes dwellings with fully and permanently paved yard space such as high- rise buildings and apartments
HIL C	Public open space such as parks, playgrounds, playing fields, secondary schools and footpaths. This does not include undeveloped public open space where the potnential for exposure is lower and where a site- specific assessment may be more appropriate
HIL D	Commercial/ industrial, includes premises such as shops, offices, factories and industrial sites

Table 2 - Summary of Soil BTEX & TRH Results - Commercial/Industrial settings

Project No: 338588
54-68 Ferndell Street, Sth
Site: Grandville
Client: Dexus Funds management Limited

			BTEX							Total Recoverable Hydrocarbons			
			Benzene	Toluene	Ethylbenzene	m+p-xylene	o-Xylene	Total Xylene		TRH C6 - C10 less BTEX (F1)	TRH >C10 - C16 (F2)	TRH >C16-C34 (F3)	TRH >C34-C40 (F4)
Nominated Criteria										F1	F2	F3	F4
NEPM HSL-D for Vapour Intrusion 0 to <1m sand, silt, clay			3, 4, 4	NL, NL, NL	NL, NL, NL	NL, NL, NL	NL, NL, NL	230, NL, NL		260, 250, 310	NL, NL, NL	NL, NL, NL	NL, NL, NL
NEPM HSL-D for Vapour Intrusion 1 to <2m sand, silt, clay			3, 4, 6	NL, NL, NL	NL, NL, NL	NL, NL, NL	NL, NL, NL	NL, NL, NL		370, 360, 480	NL, NL, NL	NL, NL, NL	NL, NL, NL
NEPM HSL-D for Vapour Intrusion 2 to <4m sand, silt, clay			3, 6, 9	NL, NL, NL	NL, NL, NL	NL, NL, NL	NL, NL, NL	NL, NL, NL		630, 590, NL	NL, NL, NL	NL, NL, NL	NL, NL, NL
NEPM ESL for Commercial/Industrial land use Coarse/ Fine			75, 95	135, 135	165, 185	-	-	180, 95		215	170	1700, 2500	3300, 6600
NEPM Management Limits for Commercial/Industrial Coarse/ Fine			-	-	-	-	-	-		700/800	1000/1000	3500/5000	10000/10000
Sample Location	**Sample Depth**	**Description**	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg		mg/kg	mg/kg	mg/kg	mg/kg
			0.2	0.5	1	2	1	1		25	50	100	100
BH01_1.0	1	Fill	<0.2	<0.5	<1	<2	<1	<1		<25	<50	<100	<100
BH01_2.5	2.5	Natural	<0.2	<0.5	<1	<2	<1	<1		<25	<50	<100	<100
BH02_0.2	0.2	Fill	<0.2	<0.5	<1	<2	<1	<1		<25	<50	<100	<100
BH02_1.9	1.9	Fill	<0.2	<0.5	<1	<2	<1	<1		<25	<50	<100	<100
BH02_3.0	3	Natural	<0.2	<0.5	<1	<2	<1	<1		<25	<50	<100	<100
BH03_1.0	1	Fill	<0.2	<0.5	<1	<2	<1	<1		<25	<50	<100	<100
BH03_2.0	2	Natural	<0.2	<0.5	<1	<2	<1	<1		<25	<50	<100	<100
BH04_0.5	0.5	Fill	<0.2	<0.5	<1	<2	<1	<1		<25	<50	<100	<100
BH04_2.8	2.8	Natural	<0.2	<0.5	<1	<2	<1	<1		<25	<50	<100	<100
BH05_0.5	0.5	Natural	<0.2	<0.5	<1	<2	<1	<1		<25	<50	<100	<100
BH05_1.4	1.4	Fill	<0.2	<0.5	<1	<2	<1	<1		<25	<50	<100	<100
BH06_0.6	0.6	Fill	<0.2	<0.5	<1	<2	<1	<1		<25	<50	<100	<100
BH06_2.0	2	Natural	<0.2	<0.5	<1	<2	<1	<1		<25	<50	<100	<100
BH06_3.4	3.4	Natural	<0.2	<0.5	<1	<2	<1	<1		<25	<50	<100	<100
BH07_0.3	0.3	Fill	<0.2	<0.5	<1	<2	<1	<1		<25	<50	<100	<100
BH07_1.8	1.8	Natural	<0.2	<0.5	<1	<2	<1	<1		<25	<50	<100	<100
BH08_0.5	0.5	Fill	<0.2	<0.5	<1	<2	<1	<1		<25	<50	<100	<100
BH08_1.0	1	Natural	<0.2	<0.5	<1	<2	<1	<1		<25	<50	<100	<100
BH09_0.7	0.7	Fill	<0.2	<0.5	<1	<2	<1	<1		<25	<50	<100	<100
BH09_2.0	2	Natural	<0.2	<0.5	<1	<2	<1	<1		<25	<50	<100	<100
BH10_0.3	0.3	Fill	<0.2	<0.5	<1	<2	<1	<1		<25	<50	<100	<100
BH10_0.7	0.7	Natural	<0.2	<0.5	<1	<2	<1	<1		<25	<50	<100	<100
BH11_0.5	0.5	Fill	<0.2	<0.5	<1	<2	<1	<1		<25	<50	450	340
BH11_2.4	2.4	Natural	<0.2	<0.5	<1	<2	<1	<1		<25	<50	<100	<100
BH12_0.4	0.4	Fill	<0.2	<0.5	<1	<2	<1	<1		<25	<50	<100	<100
BH12_1.5	1.5	Natural	<0.2	<0.5	<1	<2	<1	<1		<25	<50	<100	<100
BH13_1.0	1	Fill	<0.2	<0.5	<1	<2	<1	<1		<25	<50	<100	<100
BH13_2.5	2.5	Natural	<0.2	<0.5	<1	<2	<1	<1		<25	<50	<100	<100
BH14_0.9	0.9	Fill	<0.2	<0.5	<1	<2	<1	<1		<25	<50	<100	<100
BH14_2.0	2	Natural	<0.2	<0.5	<1	<2	<1	<1		<25	<50	<100	<100
BH15_0.5	0.5	Fill	<0.2	<0.5	<1	<2	<1	<1		<25	<50	<100	<100
BH15_1.3	1.3	Natural	<0.2	<0.5	<1	<2	<1	<1		<25	<50	<100	<100
BH16_0.7	0.7	Fill	<0.2	<0.5	<1	<2	<1	<1		<25	<50	<100	<100
BH16_1.6	1.6	Natural	<0.2	<0.5	<1	<2	<1	<1		<25	<50	<100	<100
DUP01	Duplicate Sample of Primary Sample BH02_1.9		<0.2	<0.5	<1	<2	<1	<1		<25	<50	<100	<100
DUP02	Duplicate Sample of Primary Sample BH07_0.3		<0.2	<0.5	<1	<2	<1	<1		<25	<50	<100	<100

Notes:

For detailed guidance refer to NEPC (1999 Amended 2013) NEPM ASC - Schedule B1

NL' indicates 'Not Limiting' where the maximum soil vapour concentration cannot result in an unacceptable vapour risk for soil type and depth

Bold value indicates exceeedance of nominated criteria

HSL A&B	Low - high density residential settings
HSL C	Recreational / open space settings
HSL D	Commercial / industrial settings

Table 3 - Summary of Soil PAHs, Phenols - Commercial/Industrial settings

Project No: 338588
Site: 54-68 Ferndell Street, Sth Grandville
Client: Dexus Funds Management Limited

			Polycyclic Aromatic Hydrocarbons																	Phenols	
			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 +ve		Total Phenols
Nominated Criteria																					
NEPM HIL D for Soil Contaminants in Commercial/Industrial land use			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	40	4000		-
Ecological Screening Level (ESL) for Commercial and Industrial land use Coarse / Fine			-	-	-	-	-	-	-	-	-	-	-	0.7, 0.7	-	-	-	-	-		-
Sample Location	**Sample Depth**	**Sample Description**	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg		mg/kg
			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**	**0.2**	**0.1**		**0.5**
BH01_1.0	1	Fill	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.2	0.1	<0.1	<0.1	<0.2	0.05	<0.1	<0.1	<0.1	<0.5	0.3		
BH01_2.5	2.5	Natural	<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		
BH02_0.2	0.2	Fill	<0.1	<0.1	<0.1	<0.1	1	0.6	1.6	1.5	0.8	0.7	1	0.59	0.3	<0.1	0.3	0.5	7.7		
BH02_1.9	1.9	Fill	<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		
BH02_3.0	3	Natural	<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		
BH03_1.0	1	Fill	<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		
BH03_2.0	2	Natural	<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		
BH04_0.5	0.5	Fill	<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		
BH04_2.8	2.8	Natural	<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		
BH05_0.5	0.5	Natural	<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		
BH05_1.4	1.4	Fill	<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		
BH06_0.6	0.6	Fill	<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		
BH06_2.0	2	Natural	<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		
BH06_3.4	3.4	Natural	<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		
BH07_0.3	0.3	Fill	0.1	<0.1	<0.1	<0.1	0.4	<0.1	0.4	0.4	<0.1	0.2	0.3	0.1	<0.1	<0.1	<0.1	<0.5	2.2		
BH07_1.8	1.8	Natural	<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		
BH08_0.5	0.5	Fill	<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		<5
BH08_1.0	1	Natural	<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		
BH09_0.7	0.7	Fill	<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		
BH09_2.0	2	Natural	<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		
BH10_0.3	0.3	Fill	<0.1	<0.1	<0.1	<0.1	0.2	<0.1	0.2	0.2	<0.1	0.1	<0.2	0.06	<0.1	<0.1	<0.1	<0.5	0.75		
BH10_0.7	0.7	Natural	<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		<5
BH11_0.5	0.5	Fill	<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		
BH11_2.4	2.4	Natural	<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		
BH12_0.4	0.4	Fill	<0.1	<0.1	<0.1	<0.1	0.1	<0.1	0.2	0.2	<0.1	<0.1	<0.2	<0.05	<0.1	<0.1	<0.1	<0.5	0.58		<5
BH12_1.5	1.5	Natural	<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		
BH13_1.0	1	Fill	<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		<5
BH13_2.5	2.5	Natural	<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		
BH14_0.9	0.9	Fill	<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		<5
BH14_2.0	2	Natural	<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		
BH15_0.5	0.5	Fill	<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		<5
BH15_1.3	1.3	Natural	<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		
BH16_0.7	0.7	Fill	<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		
BH16_1.6	1.6	Natural	<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		<5
DUP01	Duplicate Sample of Primary Sample BH02_1.9		<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		
DUP02	Duplicate Sample of Primary Sample BH07_0.3		<0.1	<0.1	<0.1	<0.1	0.2	<0.1	0.4	0.4	0.1	0.2	0.3	0.1	<0.1	<0.1	0.1	<0.5	0.98		

HIL A	Residential with garden/ accessible soil (home grown produce <10% fruit and vegetable intake (no poultry), also includes childcare centres, preschools and primary schools
HIL B	Residential with minimal opportunities for soil access; includes dwellings with fully and permanently paved yard space such as high- rise buildings and apartments
HIL C	Public open space such as parks, playgrounds, playing fields, secondary schools and footpaths. This does not include undeveloped public open space where the potnential for exposure is lower and where a site- specific assessment may be more appropriate
HIL D	Commercial/ industrial, includes premises such as shops, offices, factories and industrial sites

Table 4 - Summary of Soil VOCs - Commercial/Industrial settings

Project No: 338588
Site: 54-68 Ferndell Street, Sth Grandville
Client: Dexus Funds Management Limited

Nominated Criteria												
Ecological Investigation Levels (EILs) - Areas of Ecological Significance												
NEPM HIL for Soil Contaminants Residential B												
NEPM HIL for Soil Contaminants Residential C												
NEPM HIL for Soil Contaminants Commercial Industrial D												
Sample Location	**Sample Depth**	**Sample Description**	**VOCs**	Dichlorodifluoromethane	Chloromethane	Vinyl Chloride	Bromomethane	Chloroethane	Trichlorofluoromethane	1,1-Dichloroethene	trans-1,2-dichloroethene	1,1-dichloroethane	cis-1,2-dichloroethene	bromochloromethane
				-	-	-	-	-	-	-	-	-	-	-
				-	-	-	-	-	-	-	-	-	-	-
				-	-	-	-	-	-	-	-	-	-	-
				-	-	-	-	-	-	-	-	-	-	-
				mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
				1	1	1	1	1	1	1	1	1	1	1
BH01_1.0	1	Fill Material		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
BH02_0.2	0.2	Fill Material		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
BH02_3.0	3	Natual Material		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
BH03_1.0	1	Fill Material		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
BH04_0.5	0.5	Fill Material		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
BH05_1.4	1.4	Fill Material		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
BH06_0.6	0.6	Fill Material		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
BH07_0.3	0.3	Fill Material		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
BH08_0.5	0.5	Fill Material		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
BH09_0.7	0.7	Fill Material		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
BH10_0.7	0.7	Fill Material		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
BH11_0.5	0.5	Fill Material		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
BH11_2.4	2.4	Natural Material		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
BH12_0.4	0.4	Fill Material		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
BH13_1.0	1	Fill Material		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
BH14_0.9	0.9	Fill Material		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
BH15_0.5	0.5	Fill Material		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
BH16_1.6	1.6	Fill Material		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1

HIL A	Residential with garden/ accessible soil (home grown produce <10% fruit and vegetable intake (no poultry), also includes childcare centres, preschools and
HIL B	Residential with minimal opportunities for soil access; includes dwellings with fully and permanently paved yard space such as high- rise buildings and
HIL C	Public open space such as parks, playgrounds, playing fields, secondary schools and footpaths. This does not include undeveloped public open space where the potnential for exposure is lower and where a site- specific assessment may be
HIL D	Commercial/ industrial, includes premises such as shops, offices, factories and industrial sites

Table 4 - Summary of Soil VOCs - Commercial/Industrial settings

Project No: 314465.01
Site: 54-68 Ferndell Street, Sth Grandville
Client: Grand Sasanqua Pty Ltd

Nominated Criteria	chloroform	2,2-dichloropropane	1,2-dichloroethane	1,1,1-trichloroethane	1,1-dichloropropene	Cyclohexane	carbon tetrachloride	Benzene	dibromomethane	1,2-dichloropropane	trichloroethene	bromodichloromethane
Ecological Investigation Levels (EILs) - Areas of Ecological Significance	-	-	-	-	-	-	-	95	-	-	-	-
NEPM HIL for Soil Contaminants Residential B	-	-	-	-	-	-	-	-	-	-	-	-
NEPM HIL for Soil Contaminants Residential C	-	-	-	-	-	-	-	-	-	-	-	-
NEPM HIL for Soil Contaminants Commercial Industrial D	-	-	-	-	-	-	-	-	-	-	-	-
Sample Location / **Sample Depth** / **Sample Description**	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
	1	**1**	**1**	**1**	**1**	**1**	**1**	**0.2**	**1**	**1**	**1**	**1**
BH01_1.0 / 1 / Fill Material	<1	<1	<1	<1	<1	<1	<1	<0.2	<1	<1	<1	<1
BH02_0.2 / 0.2 / Fill Material	<1	<1	<1	<1	<1	<1	<1	<0.2	<1	<1	<1	<1
BH02_3.0 / 3 / Natual Material	<1	<1	<1	<1	<1	<1	<1	<0.2	<1	<1	<1	<1
BH03_1.0 / 1 / Fill Material	<1	<1	<1	<1	<1	<1	<1	<0.2	<1	<1	<1	<1
BH04_0.5 / 0.5 / Fill Material	<1	<1	<1	<1	<1	<1	<1	<0.2	<1	<1	<1	<1
BH05_1.4 / 1.4 / Fill Material	<1	<1	<1	<1	<1	<1	<1	<0.2	<1	<1	<1	<1
BH06_0.6 / 0.6 / Fill Material	<1	<1	<1	<1	<1	<1	<1	<0.2	<1	<1	<1	<1
BH07_0.3 / 0.3 / Fill Material	<1	<1	<1	<1	<1	<1	<1	<0.2	<1	<1	<1	<1
BH08_0.5 / 0.5 / Fill Material	<1	<1	<1	<1	<1	<1	<1	<0.2	<1	<1	<1	<1
BH09_0.7 / 0.7 / Fill Material	<1	<1	<1	<1	<1	<1	<1	<0.2	<1	<1	<1	<1
BH10_0.7 / 0.7 / Fill Material	<1	<1	<1	<1	<1	<1	<1	<0.2	<1	<1	<1	<1
BH11_0.5 / 0.5 / Fill Material	<1	<1	<1	<1	<1	<1	<1	<0.2	<1	<1	<1	<1
BH11_2.4 / 2.4 / Natural Material	<1	<1	<1	<1	<1	<1	<1	<0.2	<1	<1	<1	<1
BH12_0.4 / 0.4 / Fill Material	<1	<1	<1	<1	<1	<1	<1	<0.2	<1	<1	<1	<1
BH13_1.0 / 1 / Fill Material	<1	<1	<1	<1	<1	<1	<1	<0.2	<1	<1	<1	<1
BH14_0.9 / 0.9 / Fill Material	<1	<1	<1	<1	<1	<1	<1	<0.2	<1	<1	<1	<1
BH15_0.5 / 0.5 / Fill Material	<1	<1	<1	<1	<1	<1	<1	<0.2	<1	<1	<1	<1
BH16_1.6 / 1.6 / Fill Material	<1	<1	<1	<1	<1	<1	<1	<0.2	<1	<1	<1	<1

HIL A	Residential with garden/ accessible soil (home grown produce <10% fruit and vegetable intake (no poultry), also includes childcare centres, preschools and
HIL B	Residential with minimal opportunities for soil access; includes dwellings with fully and permanently paved yard space such as high- rise buildings and
HIL C	Public open space such as parks, playgrounds, playing fields, secondary schools and footpaths. This does not include undeveloped public open space where the potnential for exposure is lower and where a site- specific assessment may be
HIL D	Commercial/ industrial, includes premises such as shops, offices, factories and industrial sites

Table 4 - Summary of Soil VOCs - Commercial/Industrial settings

Project No: 314465.01
Site: 54-68 Ferndell Street, Sth Grandville
Client: Grand Sasanqua Pty Ltd

Nominated Criteria	trans-1,3-dichloropropene	cis-1,3-dichloropropene	1,1,2-trichloroethane	Toluene	1,3-dichloropropane	dibromochloromethane	1,2-dibromoethane	tetrachloroethene	1,1,1,2-tetrachloroethane	chlorobenzene	Ethylbenzene	bromoform
Ecological Investigation Levels (EILs) - Areas of Ecological Significance	-	-	-	-	-	-	-	-	-	-	-	-
NEPM HIL for Soil Contaminants Residential B	-	-	-	-	-	-	-	-	-	-	-	-
NEPM HIL for Soil Contaminants Residential C	-	-	-	-	-	-	-	-	-	-	-	-
NEPM HIL for Soil Contaminants Commercial Industrial D	-	-	-	-	-	-	-	-	-	-	-	-
Sample Location / **Sample Depth** / **Sample Description**	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
	1	**1**	**1**	**0.5**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**
BH01_1.0 / 1 / Fill Material	<1	<1	<1	<0.5	<1	<1	<1	<1	<1	<1	<1	<1
BH02_0.2 / 0.2 / Fill Material	<1	<1	<1	<0.5	<1	<1	<1	<1	<1	<1	<1	<1
BH02_3.0 / 3 / Natual Material	<1	<1	<1	<0.5	<1	<1	<1	<1	<1	<1	<1	<1
BH03_1.0 / 1 / Fill Material	<1	<1	<1	<0.5	<1	<1	<1	<1	<1	<1	<1	<1
BH04_0.5 / 0.5 / Fill Material	<1	<1	<1	<0.5	<1	<1	<1	<1	<1	<1	<1	<1
BH05_1.4 / 1.4 / Fill Material	<1	<1	<1	<0.5	<1	<1	<1	<1	<1	<1	<1	<1
BH06_0.6 / 0.6 / Fill Material	<1	<1	<1	<0.5	<1	<1	<1	<1	<1	<1	<1	<1
BH07_0.3 / 0.3 / Fill Material	<1	<1	<1	<0.5	<1	<1	<1	<1	<1	<1	<1	<1
BH08_0.5 / 0.5 / Fill Material	<1	<1	<1	<0.5	<1	<1	<1	<1	<1	<1	<1	<1
BH09_0.7 / 0.7 / Fill Material	<1	<1	<1	<0.5	<1	<1	<1	<1	<1	<1	<1	<1
BH10_0.7 / 0.7 / Fill Material	<1	<1	<1	<0.5	<1	<1	<1	<1	<1	<1	<1	<1
BH11_0.5 / 0.5 / Fill Material	<1	<1	<1	<0.5	<1	<1	<1	<1	<1	<1	<1	<1
BH11_2.4 / 2.4 / Natural Material	<1	<1	<1	<0.5	<1	<1	<1	<1	<1	<1	<1	<1
BH12_0.4 / 0.4 / Fill Material	<1	<1	<1	<0.5	<1	<1	<1	<1	<1	<1	<1	<1
BH13_1.0 / 1 / Fill Material	<1	<1	<1	<0.5	<1	<1	<1	<1	<1	<1	<1	<1
BH14_0.9 / 0.9 / Fill Material	<1	<1	<1	<0.5	<1	<1	<1	<1	<1	<1	<1	<1
BH15_0.5 / 0.5 / Fill Material	<1	<1	<1	<0.5	<1	<1	<1	<1	<1	<1	<1	<1
BH16_1.6 / 1.6 / Fill Material	<1	<1	<1	<0.5	<1	<1	<1	<1	<1	<1	<1	<1

HIL A	Residential with garden/ accessible soil (home grown produce <10% fruit and vegetable intake (no poultry), also includes childcare centres, preschools and
HIL B	Residential with minimal opportunities for soil access; includes dwellings with fully and permanently paved yard space such as high- rise buildings and
HIL C	Public open space such as parks, playgrounds, playing fields, secondary schools and footpaths. This does not include undeveloped public open space where the potnential for exposure is lower and where a site- specific assessment may be
HIL D	Commercial/ industrial, includes premises such as shops, offices, factories and industrial sites

Table 4 - Summary of Soil VOCs - Commercial/Industrial settings

Project No: 314465.01
Site: 54-68 Ferndell Street, Sth Grandville
Client: Grand Sasanqua Pty Ltd

Nominated Criteria	m+p-xylene	styrene	1,1,2,2-tetrachloroethane	o-Xylene	1,2,3-trichloropropane	isopropylbenzene	bromobenzene	n-propyl benzene	2-chlorotoluene	4-chlorotoluene	1,3,5-trimethyl benzene	tert-butyl benzene
Ecological Investigation Levels (EILs) - Areas of Ecological Significance	-	-	-	-	-	-	-	-	-	-	-	-
NEPM HIL for Soil Contaminants Residential B	-	-	-	-	-	-	-	-	-	-	-	-
NEPM HIL for Soil Contaminants Residential C	-	-	-	-	-	-	-	-	-	-	-	-
NEPM HIL for Soil Contaminants Commercial Industrial D	-	-	-	-	-	-	-	-	-	-	-	-
Sample Location / **Sample Depth** / **Sample Description**	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
	2	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**
BH01_1.0 / 1 / Fill Material	<2	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
BH02_0.2 / 0.2 / Fill Material	<2	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
BH02_3.0 / 3 / Natual Material	<2	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
BH03_1.0 / 1 / Fill Material	<2	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
BH04_0.5 / 0.5 / Fill Material	<2	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
BH05_1.4 / 1.4 / Fill Material	<2	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
BH06_0.6 / 0.6 / Fill Material	<2	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
BH07_0.3 / 0.3 / Fill Material	<2	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
BH08_0.5 / 0.5 / Fill Material	<2	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
BH09_0.7 / 0.7 / Fill Material	<2	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
BH10_0.7 / 0.7 / Fill Material	<2	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
BH11_0.5 / 0.5 / Fill Material	<2	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
BH11_2.4 / 2.4 / Natural Material	<2	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
BH12_0.4 / 0.4 / Fill Material	<2	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
BH13_1.0 / 1 / Fill Material	<2	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
BH14_0.9 / 0.9 / Fill Material	<2	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
BH15_0.5 / 0.5 / Fill Material	<2	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
BH16_1.6 / 1.6 / Fill Material	<2	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1

HIL A	Residential with garden/ accessible soil (home grown produce <10% fruit and vegetable intake (no poultry), also includes childcare centres, preschools and
HIL B	Residential with minimal opportunities for soil access; includes dwellings with fully and permanently paved yard space such as high- rise buildings and
HIL C	Public open space such as parks, playgrounds, playing fields, secondary schools and footpaths. This does not include undeveloped public open space where the potnential for exposure is lower and where a site- specific assessment may be
HIL D	Commercial/ industrial, includes premises such as shops, offices, factories and industrial sites

Table 4 - Summary of Soil VOCs - Commercial/Industrial settings

Project No: 314465.01
Site: 54-68 Ferndell Street, Sth Grandville
Client: Grand Sasanqua Pty Ltd

Nominated Criteria	1,2,4-trimethyl benzene	1,3-dichlorobenzene	sec-butyl benzene	1,4-dichlorobenzene	4-isopropyl toluene	1,2-dichlorobenzene	n-butyl benzene	1,2-dibromo-3-chloropropane	1,2,4-trichlorobenzene	hexachlorobutadiene	1,2,3-trichlorobenzene
Ecological Investigation Levels (EILs) - Areas of Ecological Significance	-	-	-	-	-	-	-	-	-	-	-
NEPM HIL for Soil Contaminants Residential B	-	-	-	-	-	-	-	-	-	-	-
NEPM HIL for Soil Contaminants Residential C	-	-	-	-	-	-	-	-	-	-	-
NEPM HIL for Soil Contaminants Commercial Industrial D	-	-	-	-	-	-	-	-	-	-	-
	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
	1	1	1	1	1	1	1	1	1	1	1

Sample Location	Sample Depth	Sample Description										
BH01_1.0	1	Fill Material	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
BH02_0.2	0.2	Fill Material	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
BH02_3.0	3	Natual Material	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
BH03_1.0	1	Fill Material	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
BH04_0.5	0.5	Fill Material	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
BH05_1.4	1.4	Fill Material	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
BH06_0.6	0.6	Fill Material	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
BH07_0.3	0.3	Fill Material	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
BH08_0.5	0.5	Fill Material	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
BH09_0.7	0.7	Fill Material	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
BH10_0.7	0.7	Fill Material	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
BH11_0.5	0.5	Fill Material	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
BH11_2.4	2.4	Natural Material	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
BH12_0.4	0.4	Fill Material	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
BH13_1.0	1	Fill Material	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
BH14_0.9	0.9	Fill Material	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
BH15_0.5	0.5	Fill Material	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
BH16_1.6	1.6	Fill Material	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1

HIL A	Residential with garden/ accessible soil (home grown produce <10% fruit and vegetable intake (no poultry), also includes childcare centres, preschools and
HIL B	Residential with minimal opportunities for soil access; includes dwellings with fully and permanently paved yard space such as high- rise buildings and
HIL C	Public open space such as parks, playgrounds, playing fields, secondary schools and footpaths. This does not include undeveloped public open space where the potnential for exposure is lower and where a site- specific assessment may be
HIL D	Commercial/ industrial, includes premises such as shops, offices, factories and industrial sites

Table 5 - Summary of Groundwater Results

Project No: 338588
Site: 54 - 68 Ferndell Street, South Granville NSW
Client: Dexus Funds Management Limited

			Heavy Metals									Total Petroleum Hydrocarbons					Monocyclic Aromatic Hydrocarbons (MAHs)			
			Arsenic-Dissolved	Cadmium-Dissolved	Chromium-Dissolved	Copper-Dissolved	Lead-Dissolved	Mercury-Dissolved	Nickel-Dissolved	Zinc-Dissolved		TRH C6 - C10 less BTEX -(F1)	TRH >C10 - C16 less Naphthalene - (F2)	TRH >C16 - C34 (F3)	TRH >C34 - C40 (F4)		Benzene	Toluene	Ethylbenzene
NEPM ASC GILs -Freshwater			13 [c+d]	0.2	1	1.4	3.4	0.6	11	8							950	180 [b]	80 [b]
NEPM ASC GILs - Drinking Water			10	2		2000	1	1	20								1	800	300
HSLs D Clay for vapour intrusion commercial/industrial 2m to <4m												6000	NL	NL	NL		3000	NL	NL
Method detection limit (MDL)			**1**	**0.1**	**1**	**1**	**0.05**	**1**	**1**	**1**		**10**	**50**	**100**	**100**		**1**	**1**	**1**
Units			**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**		**ug/L**	**ug/L**	**ug/L**	**ug/L**		**ug/L**	**ug/L**	**ug/L**
Well ID	**Sample Date**	**Depth to Stading Water Level pre purge (mbgl)**																	
BRW2	29-Jun-17	3.00	<1	0.1	<1	<1	<1	<0.05	5	2		<10	<50	<100	<100		4	<1	<1
BRW3	29-Jun-17	2.71	<1	<0.1	<1	<1	<1	<0.05	<1	<1		<10	<50	<100	<100		<1	<1	<1
BRW4	29-Jun-17	3.35	1	<0.1	<1	<1	<1	<0.05	2	<1		<10	<50	<100	<100		<1	<1	<1
BRW5	29-Jun-17	3.34	<1	<0.1	<1	<1	<1	<0.05	2	1		<10	<50	<100	<100		<1	<1	<1
BRW7	29-Jun-17	4.48	<1	0.2	<1	<1	<1	<0.05	1	2		<10	<50	<100	<100		<1	<1	<1
BRW9	29-Jun-17	4.54	24	<0.1	<1	<1	<1	<0.05	11	<1		<10	<50	<100	<100		<1	<1	<1
PH12	29-Jun-17	4.05	<1	<0.1	<1	<1	<1	<0.05	2	3		<10	<50	<100	<100		<1	<1	<1
FD01	Duplicate of Primary Sample BRW9		25	<0.1	<1	<1	<1	<0.05	11	<1		<10	<50	<100	<100		<1	<1	<1

- not analysed

(a) criteria for aesthetic purposes
(b) ANZECC 2000 low reliability criteria
(c) fresh water criteria used where no marine water water criteria available
(d) criteria for arsenic V
(e) criteria for chromium VI
(f) 99% protection guideline used due to bioaccumulation

Table 5 - Summary of Groundwater Results

Project No: 338588
Site: 54 - 68 Ferndell Street, South Granville NSW
Client: Dexus Funds Management Limited

			m & p-Xylenes	o-Xylene	Polycyclic Aromatic Hydrocarbons	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 +ve
NEPM ASC GILs -Freshwater				350		16	NL	NL	NL	NL	NL	NL	NL	NL	NL	NL	NL	NL	NL	NL	NL	NL
NEPM ASC GILs - Drinking Water																						
HSLs D Clay for vapour intrusion commercial/industrial 2m to <4m				NL		NL	NL	NL	NL	NL	NL	NL	NL	0.01	NL	NL	NL	NL	NL	NL	NL	NL
Method detection limit (MDL)			**2**	**1**		**<1**	**<1**	**<1**	**<1**	**<1**	**<1**	**<1**	**<1**	**<1**	**<1**	**<2**	**<1**	**<1**	**<1**	**<1**	**<5**	**<1**
Units			**ug/L**	**ug/L**		**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**
Well ID	**Sample Date**	**Depth to Stading Water Level pre purge (mbgl)**																				
BRW2	29-Jun-17	3.00	<2	<1		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<2	<1	<1	<1	<1	<5	<1
BRW3	29-Jun-17	2.71	<2	<1		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<2	<1	<1	<1	<1	<5	<1
BRW4	29-Jun-17	3.35	<2	<1		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<2	<1	<1	<1	<1	<5	<1
BRW5	29-Jun-17	3.34	<2	<1		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<2	<1	<1	<1	<1	<5	<1
BRW7	29-Jun-17	4.48	<2	<1		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<2	<1	<1	<1	<1	<5	<1
BRW9	29-Jun-17	4.54	<2	<1		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<2	<1	<1	<1	<1	<5	<1
PH12	29-Jun-17	4.05	<2	<1		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<2	<1	<1	<1	<1	<5	<1
FD01	Duplicate of Primary Sample BRW9		<2	<1		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

- not analysed

(a) criteria for aesthetic purposes
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(c) fresh water criteria used where no marine water water criteria available
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Table 5 - Summary of Groundwater Results

Project No: 338588
Site: 54 - 68 Ferndell Street, South Granville NSW
Client: Dexus Funds Management Limited

			Volatile Organic Compounds	Dichlorodifluoromethane	Chloromethane	Vinyl Chloride	Bromomethane	Chloroethane	Trichlorofluoromethane	1,1-Dichloroethene	Trans-1,2-dichloroethene	1,1-dichloroethane	Cis-1,2-dichloroethene	Bromochloromethane	Chloroform	2,2-dichloropropane	1,2-dichloroethane	1,1,1-trichloroethane	1,1-dichloropropene	Cyclohexane	Carbon tetrachloride	Dibromomethane
NEPM ASC GILs -Freshwater						100				30												
NEPM ASC GILs - Drinking Water						0.3																
HSLs D Clay for vapour intrusion commercial/industrial 2m to <4m																						
Method detection limit (MDL)				<10	<10	<10	<10	<10	<10	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Units				**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**
Well ID	**Sample Date**	**Depth to Stading Water Level pre purge (mbgl)**																				
BRW2	29-Jun-17	3.00		<10	<10	<10	<10	<10	<10	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
BRW3	29-Jun-17	2.71		<10	<10	<10	<10	<10	<10	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
BRW4	29-Jun-17	3.35		<10	<10	<10	<10	<10	<10	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
BRW5	29-Jun-17	3.34		<10	<10	<10	<10	<10	<10	8	<1	<1	4	<1	<1	<1	<1	<1	<1	<1	<1	<1
BRW7	29-Jun-17	4.48		<10	<10	<10	<10	<10	<10	<1	<1	<1	2	<1	<1	<1	<1	<1	<1	<1	<1	<1
BRW9	29-Jun-17	4.54		<10	<10	<10	<10	<10	<10	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
PH12	29-Jun-17	4.05		<10	<10	<10	<10	<10	<10	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
FD01	Duplicate of Primary Sample BRW9			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

- not analysed

(a) criteria for aesthetic purposes
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(c) fresh water criteria used where no marine water water criteria available
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Table 5 - Summary of Groundwater Results

Project No: 338588
Site: 54 - 68 Ferndell Street, South Granville NSW
Client: Dexus Funds Management Limited

			1,2-dichloropropane	Trichloroethene	Bromodichloromethane	trans-1,3-dichloropropene	cis-1,3-dichloropropene	1,1,2-trichloroethane	1,3-dichloropropane	Dibromochloromethane	1,2-dibromoethane	Tetrachloroethene	1,1,1,2-tetrachloroethane	Chlorobenzene	Ethylbenzene	Bromoform	Styrene	1,1,2,2-tetrachloroethane	1,2,3-trichloropropane	Isopropylbenzene	Bromobenzene	n-propyl benzene
NEPM ASC GILs -Freshwater				330								70		55									
NEPM ASC GILs - Drinking Water											3	50		10									
HSLs D Clay for vapour intrusion commercial/industrial 2m to <4m																							
Method detection limit (MDL)			<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Units			ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Well ID	**Sample Date**	**Depth to Stading Water Level pre purge (mbgl)**																					
BRW2	29-Jun-17	3.00	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	39	<1	<1	<1	<1	<1	<1	<1	<1	<1
BRW3	29-Jun-17	2.71	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
BRW4	29-Jun-17	3.35	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
BRW5	29-Jun-17	3.34	<1	5	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
BRW7	29-Jun-17	4.48	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
BRW9	29-Jun-17	4.54	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
PH12	29-Jun-17	4.05	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
FD01	Duplicate of Primary Sample BRW9		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

- not analysed

(a) criteria for aesthetic purposes
(b) ANZECC 2000 low reliability criteria
(c) fresh water criteria used where no marine water water criteria available
(d) criteria for arsenic V
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Table 5 - Summary of Groundwater Results

Project No: 338588
Site: 54 - 68 Ferndell Street, South Granville NSW
Client: Dexus Funds Management Limited

			2-chlorotoluene	4-chlorotoluene	1,3,5-trimethyl benzene	Tert-butyl benzene	1,2,4-trimethyl benzene	1,3-dichlorobenzene	Sec-butyl benzene	1,4-dichlorobenzene	4-isopropyl toluene	1,2-dichlorobenzene	n-butyl benzene	1,2-dibromo-3-chloropropane	1,2,4-trichlorobenzene	Hexachlorobutadiene	1,2,3-trichlorobenzene
NEPM ASC GILs -Freshwater								260		60		160			85		3
NEPM ASC GILs - Drinking Water										40		1500			30		30
HSLs D Clay for vapour intrusion commercial/industrial 2m to <4m																	
Method detection limit (MDL)			<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Units			ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Well ID	**Sample Date**	**Depth to Stading Water Level pre purge (mbgl)**															
BRW2	29-Jun-17	3.00	<1	<1	<1	<1	<1	10	<1	270	<1	6200	<1	<1	<1	<1	<1
BRW3	29-Jun-17	2.71	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
BRW4	29-Jun-17	3.35	<1	<1	<1	<1	<1	3	<1	<1	<1	52	<1	<1	<1	<1	<1
BRW5	29-Jun-17	3.34	<1	<1	<1	<1	<1	<1	<1	<1	<1	2	<1	<1	<1	<1	<1
BRW7	29-Jun-17	4.48	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
BRW9	29-Jun-17	4.54	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
PH12	29-Jun-17	4.05	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
FD01	Duplicate of Primary Sample BRW9		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

- not analysed

(a) criteria for aesthetic purposes
(b) ANZECC 2000 low reliability criteria
(c) fresh water criteria used where no marine water water criteria available
(d) criteria for arsenic V
(e) criteria for chromium VI
(f) 99% protection guideline used due to bioaccumulation

Table 6 - Summary of Soil Vapour Results

Project No: 338588
Site: 54-68 Ferndell Street, South Granville NSW
Client: Dexus Funds Management Limited

				Isopropyl Alcohol	Isopropyl Alcohol	Total Petroleum Hydrocarbons	TPH C_5 - C_8 Aliphatic	TPH C_9 - C_{12} Aliphatic	TPH C_9 - C_{10} Aromatic	TPH C_6 - C_{10} - BTEX (F1)	TPH $>C_{10}$ - C_{12} - Naphthalene (F2)	Monocyclic Aromatic Hydrocarbons (MAHs)	Benzene	Toluene	Ethylbenzene	m & p-Xylenes	o-Xylene	Total Xylene
NEPM Interim Soil Vapour HIL																		
Calculated Vapour HIL																		
Soil vapour HSLs for vapour intrusion HSL D - SAND Commercial / Industrial 0 m to <1m										680,000	500,000		4000	4,800,000	1,300,000			840,000
Method detection limit (MDL)					<10		**200**	**50**	**100**	**200**	**40**		**1**	**1**	**1**	**2**	**1**	**1**
Units					**µg/m3**		**µg/m3**	**µg/m3**	**µg/m3**	**µg/m3**	**µg/m3**		**µg/m3**	**µg/m3**	**µg/m3**	**µg/m3**	**µg/m3**	**µg/m3**
Well ID	**Sample Date**	**Canister Vaccum Pressure (Hg) Intial**	**Canister Vaccum Pressure (Hg) Final**															
VS-1	27/06/2017	-30.0	-8		150		600	990	<100	1100	450		4	19	3	10	4	14
VS-2	27/06/2017	-29.5	-7		130		600	190	<100	370	150		7	10	3	9	4	13
VS-3	27/06/2017	-28.5	-7		340		600	230	<100	620	80		3	21	3	10	3	13
VS-4	27/06/2017	-30.0	-7		42		700	110	<100	490	60		3	10	3	10	3	13
VS-5	28/06/2017	-29.5	-6		10		2000	100	<100	1700	70		31	19	3	9	2	11
VS-6	28/06/2017	-29.5	-5		10		1000	790	<100	1700	160		6	36	5	10	4	14
VS-7	28/06/2017	-30.0	-9		10		300	76	<100	270	50		2	7	23	30	<2.2	32.2
BR1	Duplicate of VS-7	-30.0	-9		91		300	110	<100	290	80		2	8	20	20	2	22

Calculated Vapour HIL Derivation using the following Toxicity Reference Value Inhalation (TRVI)
1) US EPA Provisional Peer Review Toxicity Values
2). US EPA Superfund Health Effects Assessment Summary Tables
3) US EPA Integrated Risk Information Systems

Table 6 - Summary of Soil Vapour Results

Project No: 338588
Site: 54-68 Ferndell Street, South Granville NSW
Client: Dexus Funds Management Limited

				Volatile Organic Compounds	Vinyl chloride	1,1-Dichloroethene	trans-1,2-dichloroethene	1,1- Dichloroethane	cis-1,2-Dichloroethene	1,2-Dichloroethane	Trichloroethene	Tetrachloroethene	Chlorobenzene (1)	1,3-Dichlorobenzene	1,4-Dichlorobenzene (3)	1,2-Dichlorobenzene (2)	1,2,4-Trichlorobenzene	Naphthalene
NEPM Interim Soil Vapour HIL					100				300		80	80000						
Calculated Vapour HIL													2100		33000	9100		
Soil vapour HSLs for vapour intrusion HSL D - SAND Commercial / Industrial 0 m to <1m																		3000
Method detection limit (MDL)					<10	<10	<10	<10	<10	<1	<1	<1	<1	<1	<1	<1	<1	<1
Units					µg/m3	µg/m3	µg/m3	µg/m3	µg/m3	µg/m3	µg/m3	µg/m3	µg/m3	µg/m3	µg/m3	µg/m3	µg/m3	µg/m3
Well ID	**Sample Date**	**Canister Vaccum Pressure (Hg) Intial**	**Canister Vaccum Pressure (Hg) Final**															
VS-1	27/06/2017	-30.0	-8		<1.3	<2.0	<2.0	<2.0	<2.0	<2.0	<2.7	<3.4	<2.3	<3.0	<3.0	<3.0	<3.7	<2.6
VS-2	27/06/2017	-29.5	-7		<1.3	<2.0	<2.0	<2.0	<2.0	<2.0	<2.7	<3.4	<2.3	<3.0	<3.0	<3.0	<3.7	<2.6
VS-3	27/06/2017	-28.5	-7		<1.3	<2.0	<2.0	<2.0	<2.0	<2.0	<2.7	<3.4	<2.3	<3.0	<3.0	<3.0	<3.7	<2.6
VS-4	27/06/2017	-30.0	-7		<1.3	<2.0	<2.0	<2.0	<2.0	<2.0	<2.7	<3.4	<2.3	<3.0	<3.0	<3.0	<3.7	<2.6
VS-5	28/06/2017	-29.5	-6		<1.3	<2.0	<2.0	10	<2.0	<2.0	<2.7	78	9	<3.0	<3.0	<3.0	<3.7	<2.6
VS-6	28/06/2017	-29.5	-5		<1.3	<2.0	<2.0	<2.0	<2.0	<2.0	<2.7	4	<2.3	<3.0	<3.0	<3.0	<3.7	<2.6
VS-7	28/06/2017	-30.0	-9		<1.3	<2.0	<2.0	<2.0	<2.0	<2.0	<2.7	<3.4	<2.3	<3.0	<3.0	<3.0	<3.7	<2.6
BR1	Duplicate of VS-7	-30.0	-9		<1.3	<2.0	<2.0	<2.0	<2.0	<2.0	<2.7	<3.4	<2.3	<3.0	<3.0	<3.0	<3.7	<2.6

Calculated Vapour HIL Derivation using the following Toxicity Reference Value Inhalation (TRVI
1) US EPA Provisional Peer Review Toxicity Values
2). US EPA Superfund Health Effects Assessment Summary Tables
3) US EPA Integrated Risk Information Systems

Project number: 338588
Site: 54-68 Ferndell Street, South Granville, NSW
Client: Dexus Funds Management Limited

Table 7 - Stage 2 Soil Investigation

			Phenols	BTEX						TRH								
			Phenolics Total	Benzene	Toluene	Ethylbenzene	Xylene (m & p)	Xylene (o)	Xylene Total	C6-C10	C6-C10 (F1 minus BTEX)	C10-C16	C10-C16 (F2 minus Naphthalene)	C16-C34	C34-C40	C10-C40 (Sum of total)	1,1,1,2-tetrachloroethane	1,1,1-trichloroethane
			mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
EQL			5	0.2	0.5	1	2	1	1	25	25	50	50	100	100	50	1	1
CRC Care HSL-D Commercial / Industrial				430	99,000	27,000			81,000	26,000		20,000		27,000	38,000			
NEPM 2013 Table 1B(7) Management Limits Comm / Ind, Coarse Soil										700		1,000		3,500	10,000			
USEPA RSLs Industrial Soil THQ=0.1																	8.8	3,600
NEPM 2013 Table 1A(3) Comm/Ind D Soil HSL for Vapour Intrusion, Sand																		
0-1m				3	NL	NL			230		260		NL					
1-2m				3	NL	NL			NL		370		NL					
2-4m				3	NL	NL			NL		630		NL					
NEPM 2013 Table 1B(5) Generic EIL - Comm/Ind (KPMG SGA)																		
NEPM 2013 Table 1B(6) ESLs for Comm/Ind, Fine Soil																		
0-2m				95	135	185			95		215		170	2,500	6,600			
NEPM 2013 Table 1A(1) HILs Comm/Ind D Soil																		
Field ID	**Date**	**Depth**																
BH01b	**11/07/2018**	**0.5 - 0.6**		<0.2	<0.5	<1	<2	<1	<1	<25	<25	<50	<50	<100	<100	<50		
BH01b	**11/07/2018**	**1.8 - 1.9**	<5	<0.2	<0.5	<1	<2	<1	<1	<25	<25	<50	<50	<100	<100	<50	<1	<1
BH02b	**11/07/2018**	**0.3 - 0.4**	<5	<0.2	<0.5	<1	<2	<1	<1	<25	<25	<50	<50	<100	<100	<50	<1	<1
BH02b	**11/07/2018**	**1.3 - 1.4**		<0.2	<0.5	<1	<2	<1	<1	<25	<25	<50	<50	<100	<100	<50		
BH03b	**11/07/2018**	**1.5 - 1.6**	<5	<0.2	<0.5	<1	<2	<1	<1	<25	<25	<50	<50	<100	<100	<50	<1	<1
BH03b	**11/07/2018**	**3.1 - 3.2**		<0.2	<0.5	<1	<2	<1	<1	<25	<25	<50	<50	<100	<100	<50		
BH04b	**11/07/2018**	**0.4 - 0.5**	<5	<0.2	<0.5	<1	<2	<1	<1	<25	<25	<50	<50	<100	<100	<50	<1	<1
BH04b	**11/07/2018**	**1.5 - 1.6**		<0.2	<0.5	<1	<2	<1	<1	<25	<25	<50	<50	<100	<100	<50		
BH05b	**11/07/2018**	**0.6 - 0.7**		<0.2	<0.5	<1	<2	<1	<1	<25	<25	<50	<50	<100	<100	<50		
BH05b	**11/07/2018**	**2.8 - 2.9**	<5	<0.2	<0.5	<1	<2	<1	<1	<25	<25	<50	<50	<100	<100	<50	<1	<1
BH06b	**11/07/2018**	**0.4 - 0.5**	<5	<0.2	<0.5	<1	<2	<1	<1	<25	<25	<50	<50	<100	<100	<50	<1	<1
BH06b	**11/07/2018**	**1.8 - 1.9**		<0.2	<0.5	<1	<2	<1	<1	<25	<25	<50	<50	<100	<100	<50		
BH07b	**12/07/2018**	**0.6 - 0.7**	<5	<0.2	<0.5	<1	<2	<1	<1	<25	<25	<50	<50	<100	<100	<50	<1	<1
BH07b	**12/07/2018**	**1.7 - 1.8**		<0.2	<0.5	<1	<2	<1	<1	<25	<25	<50	<50	<100	<100	<50		
BH08b	**12/07/2018**	**0.5 - 0.6**	<5	<0.2	<0.5	<1	<2	<1	<1	<25	<25	<50	<50	<100	<100	<50	<1	<1
BH08b	**12/07/2018**	**1.18 - 1.9**		<0.2	<0.5	<1	<2	<1	<1	<25	<25	<50	<50	<100	<100	<50		
BH09b	**12/07/2018**	**0.8 - 0.9**	<5	<0.2	<0.5	<1	<2	<1	<1	<25	<25	<50	<50	<100	<100	<50	<1	<1
BH09b	**12/07/2018**	**2.8 - 2.9**		<0.2	<0.5	<1	<2	<1	<1	<25	<25	<50	<50	<100	<100	<50		
BH10b	**12/07/2018**	**0.4 - 0.5**	<5	<0.2	<0.5	<1	<2	<1	<1	<25	<25	110	110	1,100	260	1,500	<1	<1
BH10b	**12/07/2018**	**1.6 - 1.7**		<0.2	<0.5	<1	<2	<1	<1	<25	<25	<50	<50	<100	<100	<50		
BH11b	**12/07/2018**	**0.4 - 0.5**		<0.2	<0.5	<1	<2	<1	<1	<25	<25	<50	<50	<100	<100	<50		
BH11b	**12/07/2018**	**0.9 - 1**	<5	<0.2	<0.5	<1	<2	<1	<1	<25	<25	<50	<50	<100	<100	<50	<1	<1
BH12b	**12/07/2018**	**1.1 - 1.2**	<5	<0.2	<0.5	<1	<2	<1	<1	<25	<25	<50	<50	<100	<100	<50	<1	<1
BH12b	**12/07/2018**	**1.7 - 1.8**		<0.2	<0.5	<1	<2	<1	<1	<25	<25	<50	<50	<100	<100	<50		
BH13b	**12/07/2018**	**0.2 - 0.3**	<5	<0.2	<0.5	<1	<2	<1	<1	<25	<25	<50	<50	<100	<100	<50	<1	<1
BH13b	**12/07/2018**	**0.8 - 0.9**		<0.2	<0.5	<1	<2	<1	<1	<25	<25	<50	<50	<100	<100	<50		
BH14b	**12/07/2018**	**0.6 - 0.7**	<5	<0.2	<0.5	<1	<2	<1	<1	<25	<25	<50	<50	<100	<100	<50	<1	<1
BH14b	**12/07/2018**	**1.7 - 1.8**		<0.2	<0.5	<1	<2	<1	<1	<25	<25	<50	<50	<100	<100	<50		
BH-QA	**12/07/2018**	**1.7 - 1.8**		<0.2	<0.5	<1	<2	<1	<1	<25	<25	<50	<50	<100	<100	<50		

Environmental Standards
CRC Care, 2011, CRC Care HSL-D Commercial / Industrial
NEPM, NEPM 2013 Table 1B(7) Management Limits Comm / Ind, Coarse Soil
USEPA, May 2016, USEPA RSLs Industrial Soil THQ=0.1
NEPM, 2013, NEPM 2013 Table 1B(5) Generic EIL - Comm/Ind (KPMG SGA)

Project number: 338588
Site: 54-68 Ferndell Street, South Granville, NSW
Client: Dexus Funds Management Limited

Table 7 - Stage 2 Soil Investigation

			Chlorinated Hydrocarbons															
			1,1,2,2-tetrachloroethane	1,1,2-trichloroethane	1,1-dichloroethane	1,1-dichloroethene	1,1-dichloropropene	1,2,3-trichloropropane	1,2-dibromo-3-chloropropane	1,2-dichloroethane	1,2-dichloropropane	1,3-dichloropropane	2,2-dichloropropane	Bromochloromethane	Bromodichloromethane	Bromoform	Carbon tetrachloride	Chlorodibromomethane
			mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
EQL			1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
CRC Care HSL-D Commercial / Industrial																		
NEPM 2013 Table 1B(7) Management Limits Comm / Ind, Coarse Soil																		
USEPA RSLs Industrial Soil THQ=0.1			2.7	0.63	16	100		0.11	0.064	2	1.2	2,300		63	1.3	86	2.9	39
NEPM 2013 Table 1A(3) Comm/Ind D Soil HSL for Vapour Intrusion, Sand																		
0-1m																		
1-2m																		
2-4m																		
NEPM 2013 Table 1B(5) Generic EIL - Comm/Ind (KPMG SGA)																		
NEPM 2013 Table 1B(6) ESLs for Comm/Ind, Fine Soil																		
0-2m																		
NEPM 2013 Table 1A(1) HILs Comm/Ind D Soil																		
Field ID	**Date**	**Depth**																
BH01b	**11/07/2018**	**0.5 - 0.6**																
BH01b	**11/07/2018**	**1.8 - 1.9**	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
BH02b	**11/07/2018**	**0.3 - 0.4**	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
BH02b	**11/07/2018**	**1.3 - 1.4**																
BH03b	**11/07/2018**	**1.5 - 1.6**	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
BH03b	**11/07/2018**	**3.1 - 3.2**																
BH04b	**11/07/2018**	**0.4 - 0.5**	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
BH04b	**11/07/2018**	**1.5 - 1.6**																
BH05b	**11/07/2018**	**0.6 - 0.7**																
BH05b	**11/07/2018**	**2.8 - 2.9**	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	1
BH06b	**11/07/2018**	**0.4 - 0.5**	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
BH06b	**11/07/2018**	**1.8 - 1.9**																
BH07b	**12/07/2018**	**0.6 - 0.7**	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
BH07b	**12/07/2018**	**1.7 - 1.8**																
BH08b	**12/07/2018**	**0.5 - 0.6**	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
BH08b	**12/07/2018**	**1.18 - 1.9**																
BH09b	**12/07/2018**	**0.8 - 0.9**	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
BH09b	**12/07/2018**	**2.8 - 2.9**																
BH10b	**12/07/2018**	**0.4 - 0.5**	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
BH10b	**12/07/2018**	**1.6 - 1.7**																
BH11b	**12/07/2018**	**0.4 - 0.5**																
BH11b	**12/07/2018**	**0.9 - 1**	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	1
BH12b	**12/07/2018**	**1.1 - 1.2**	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
BH12b	**12/07/2018**	**1.7 - 1.8**																
BH13b	**12/07/2018**	**0.2 - 0.3**	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
BH13b	**12/07/2018**	**0.8 - 0.9**																
BH14b	**12/07/2018**	**0.6 - 0.7**	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
BH14b	**12/07/2018**	**1.7 - 1.8**																
BH-QA	**12/07/2018**	**1.7 - 1.8**																

Environmental Standards
CRC Care, 2011, CRC Care HSL-D Commercial / Industrial
NEPM, NEPM 2013 Table 1B(7) Management Limits Comm / Ind, Coarse Soil
USEPA, May 2016, USEPA RSLs Industrial Soil THQ=0.1
NEPM, 2013, NEPM 2013 Table 1B(5) Generic EIL - Comm/Ind (KPMG SGA)

Project number: 338588
Site: 54-68 Ferndell Street, South Granville, NSW
Client: Dexus Funds Management Limited

Table 7 - Stage 2 Soil Investigation

			Chloroethane	Chloroform	Chloromethane	cis-1,2-dichloroethene	cis-1,3-dichloropropene	Dibromomethane	Hexachlorobutadiene	Trichloroethene	Tetrachloroethene	trans-1,2-dichloroethene	trans-1,3-dichloropropene	Vinyl chloride	1,2,3-trichlorobenzene	1,2,4-trichlorobenzene	1,2-dichlorobenzene	1,3-dichlorobenzene
			mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
EQL			1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
CRC Care HSL-D Commercial / Industrial																		
NEPM 2013 Table 1B(7) Management Limits Comm / Ind, Coarse Soil																		
USEPA RSLs Industrial Soil THQ=0.1			5,700	1.4	46	230		9.9	5.3	1.9	39	2,300		1.7	93	26	930	
NEPM 2013 Table 1A(3) Comm/Ind D Soil HSL for Vapour Intrusion, Sand																		
0-1m																		
1-2m																		
2-4m																		
NEPM 2013 Table 1B(5) Generic EIL - Comm/Ind (KPMG SGA)																		
NEPM 2013 Table 1B(6) ESLs for Comm/Ind, Fine Soil																		
0-2m																		
NEPM 2013 Table 1A(1) HILs Comm/Ind D Soil																		
Field ID	**Date**	**Depth**																
BH01b	**11/07/2018**	**0.5 - 0.6**																
BH01b	**11/07/2018**	**1.8 - 1.9**	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
BH02b	**11/07/2018**	**0.3 - 0.4**	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
BH02b	**11/07/2018**	**1.3 - 1.4**																
BH03b	**11/07/2018**	**1.5 - 1.6**	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	4	<1
BH03b	**11/07/2018**	**3.1 - 3.2**																
BH04b	**11/07/2018**	**0.4 - 0.5**	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
BH04b	**11/07/2018**	**1.5 - 1.6**																
BH05b	**11/07/2018**	**0.6 - 0.7**																
BH05b	**11/07/2018**	**2.8 - 2.9**	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
BH06b	**11/07/2018**	**0.4 - 0.5**	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
BH06b	**11/07/2018**	**1.8 - 1.9**																
BH07b	**12/07/2018**	**0.6 - 0.7**	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
BH07b	**12/07/2018**	**1.7 - 1.8**																
BH08b	**12/07/2018**	**0.5 - 0.6**	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
BH08b	**12/07/2018**	**1.18 - 1.9**																
BH09b	**12/07/2018**	**0.8 - 0.9**	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
BH09b	**12/07/2018**	**2.8 - 2.9**																
BH10b	**12/07/2018**	**0.4 - 0.5**	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
BH10b	**12/07/2018**	**1.6 - 1.7**																
BH11b	**12/07/2018**	**0.4 - 0.5**																
BH11b	**12/07/2018**	**0.9 - 1**	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
BH12b	**12/07/2018**	**1.1 - 1.2**	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
BH12b	**12/07/2018**	**1.7 - 1.8**																
BH13b	**12/07/2018**	**0.2 - 0.3**	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
BH13b	**12/07/2018**	**0.8 - 0.9**																
BH14b	**12/07/2018**	**0.6 - 0.7**	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
BH14b	**12/07/2018**	**1.7 - 1.8**																
BH-QA	**12/07/2018**	**1.7 - 1.8**																

Environmental Standards
CRC Care, 2011, CRC Care HSL-D Commercial / Industrial
NEPM, NEPM 2013 Table 1B(7) Management Limits Comm / Ind, Coarse Soil
USEPA, May 2016, USEPA RSLs Industrial Soil THQ=0.1
NEPM, 2013, NEPM 2013 Table 1B(5) Generic EIL - Comm/Ind (KPMG SGA)

Project number: 338588
Site: 54-68 Ferndell Street, South Granville, NSW
Client: Dexus Funds Management Limited

Table 7 - Stage 2 Soil Investigation

			Halogenated Benzenes						Halogenated Hydrocarbons				Inorganics					
			1,4-dichlorobenzene	2-chlorotoluene	4-chlorotoluene	Bromobenzene	Chlorobenzene	Hexachlorobenzene	1,2-dibromoethane	Bromomethane	Dichlorodifluoromethane	Trichlorofluoromethane	pH 1:5 soil:water1:5 soil:water	Exchangeable Calcium	Exchangeable Magnesium	Exchangeable Potassium	Exchangeable Sodium	CEC
			mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	-	meq/100g	meq/100g	meq/100g	meq/100g	meq/100g
EQL			1	1	1	1	1	0.1	1	1	1	1		0.1	0.1	0.1	0.1	1
CRC Care HSL-D Commercial / Industrial																		
NEPM 2013 Table 1B(7) Management Limits Comm / Ind, Coarse Soil																		
USEPA RSLs Industrial Soil THQ=0.1			11	2,300	2,300	180	130	0.96	0.16	3	37	35,000						
NEPM 2013 Table 1A(3) Comm/Ind D Soil HSL for Vapour Intrusion, Sand																		
0-1m																		
1-2m																		
2-4m																		
NEPM 2013 Table 1B(5) Generic EIL - Comm/Ind (KPMG SGA)																		
NEPM 2013 Table 1B(6) ESLs for Comm/Ind, Fine Soil																		
0-2m																		
NEPM 2013 Table 1A(1) HILs Comm/Ind D Soil								80										
Field ID	**Date**	**Depth**																
BH01b	**11/07/2018**	**0.5 - 0.6**																
BH01b	**11/07/2018**	**1.8 - 1.9**	<1	<1	<1	<1	<1	<0.1	<1	<1	<1	<1						
BH02b	**11/07/2018**	**0.3 - 0.4**	<1	<1	<1	<1	<1	<0.1	<1	<1	<1	<1						
BH02b	**11/07/2018**	**1.3 - 1.4**																
BH03b	**11/07/2018**	**1.5 - 1.6**	<1	<1	<1	<1	<1	<0.1	<1	<1	<1	<1						
BH03b	**11/07/2018**	**3.1 - 3.2**																
BH04b	**11/07/2018**	**0.4 - 0.5**	<1	<1	<1	<1	<1	<0.1	<1	<1	<1	<1						
BH04b	**11/07/2018**	**1.5 - 1.6**																
BH05b	**11/07/2018**	**0.6 - 0.7**																
BH05b	**11/07/2018**	**2.8 - 2.9**	<1	<1	<1	<1	<1	<0.1	<1	<1	<1	<1						
BH06b	**11/07/2018**	**0.4 - 0.5**	<1	<1	<1	<1	<1	<0.1	<1	<1	<1	<1						
BH06b	**11/07/2018**	**1.8 - 1.9**																
BH07b	**12/07/2018**	**0.6 - 0.7**	<1	<1	<1	<1	<1	<0.1	<1	<1	<1	<1						
BH07b	**12/07/2018**	**1.7 - 1.8**											5.9	0.3	6.4	0.2	2.2	9.1
BH08b	**12/07/2018**	**0.5 - 0.6**	<1	<1	<1	<1	<1	<0.1	<1	<1	<1	<1						
BH08b	**12/07/2018**	**1.18 - 1.9**																
BH09b	**12/07/2018**	**0.8 - 0.9**	<1	<1	<1	<1	<1	<0.1	<1	<1	<1	<1						
BH09b	**12/07/2018**	**2.8 - 2.9**																
BH10b	**12/07/2018**	**0.4 - 0.5**	<1	<1	<1	<1	<1	<0.1	<1	<1	<1	<1						
BH10b	**12/07/2018**	**1.6 - 1.7**																
BH11b	**12/07/2018**	**0.4 - 0.5**																
BH11b	**12/07/2018**	**0.9 - 1**	<1	<1	<1	<1	<1	<0.1	<1	<1	<1	<1						
BH12b	**12/07/2018**	**1.1 - 1.2**	<1	<1	<1	<1	<1	<0.1	<1	<1	<1	<1						
BH12b	**12/07/2018**	**1.7 - 1.8**																
BH13b	**12/07/2018**	**0.2 - 0.3**	<1	<1	<1	<1	<1	<0.1	<1	<1	<1	<1						
BH13b	**12/07/2018**	**0.8 - 0.9**																
BH14b	**12/07/2018**	**0.6 - 0.7**	<1	<1	<1	<1	<1	<0.1	<1	<1	<1	<1						
BH14b	**12/07/2018**	**1.7 - 1.8**																
BH-QA	**12/07/2018**	**1.7 - 1.8**																

Environmental Standards
CRC Care, 2011, CRC Care HSL-D Commercial / Industrial
NEPM, NEPM 2013 Table 1B(7) Management Limits Comm / Ind, Coarse Soil
USEPA, May 2016, USEPA RSLs Industrial Soil THQ=0.1
NEPM, 2013, NEPM 2013 Table 1B(5) Generic EIL - Comm/Ind (KPMG SGA)

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Site: 54-68 Ferndell Street, South Granville, NSW
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Table 7 - Stage 2 Soil Investigation

				MAH									Metals					
			Moisture	1,2,4-trimethylbenzene	1,3,5-trimethylbenzene	Isopropylbenzene	n-butylbenzene	n-propylbenzene	p-isopropyltoluene	sec-butylbenzene	Styrene	tert-butylbenzene	Arsenic	Cadmium	Chromium (III+VI)	Copper	Lead	Mercury
			%	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
EQL			0.1	1	1	1	1	1	1	1	1	1	4	0.4	1	1	1	0.1
CRC Care HSL-D Commercial / Industrial																		
NEPM 2013 Table 1B(7) Management Limits Comm / Ind, Coarse Soil																		
USEPA RSLs Industrial Soil THQ=0.1				180	150	990	5,800	2,400		12,000	3,500	12,000						
NEPM 2013 Table 1A(3) Comm/Ind D Soil HSL for Vapour Intrusion, Sand																		
0-1m																		
1-2m																		
2-4m																		
NEPM 2013 Table 1B(5) Generic EIL - Comm/Ind (KPMG SGA)													160		310	140	1,800	
NEPM 2013 Table 1B(6) ESLs for Comm/Ind, Fine Soil																		
0-2m																		
NEPM 2013 Table 1A(1) HILs Comm/Ind D Soil													3,000	900		240,000	1,500	730
Field ID	**Date**	**Depth**																
BH01b	**11/07/2018**	**0.5 - 0.6**	15										<4	<0.4	13	34	13	<0.1
BH01b	**11/07/2018**	**1.8 - 1.9**	8.3	<1	<1	<1	<1	<1	<1	<1	<1	<1	4	<0.4	12	7	16	<0.1
BH02b	**11/07/2018**	**0.3 - 0.4**	10	<1	<1	<1	<1	<1	<1	<1	<1	<1	6	<0.4	20	47	15	<0.1
BH02b	**11/07/2018**	**1.3 - 1.4**	15										9	<0.4	14	30	14	<0.1
BH03b	**11/07/2018**	**1.5 - 1.6**	12	<1	<1	<1	<1	<1	<1	<1	<1	<1	5	<0.4	11	20	17	<0.1
BH03b	**11/07/2018**	**3.1 - 3.2**	21										8	<0.4	19	28	20	<0.1
BH04b	**11/07/2018**	**0.4 - 0.5**	13	<1	<1	<1	<1	<1	<1	<1	<1	<1	7	<0.4	13	21	26	<0.1
BH04b	**11/07/2018**	**1.5 - 1.6**	7.9										7	<0.4	16	17	13	<0.1
BH05b	**11/07/2018**	**0.6 - 0.7**	8.4										7	<0.4	16	27	15	<0.1
BH05b	**11/07/2018**	**2.8 - 2.9**	15	<1	<1	<1	<1	<1	<1	<1	<1	<1	7	<0.4	13	37	17	<0.1
BH06b	**11/07/2018**	**0.4 - 0.5**	17	<1	<1	<1	<1	<1	<1	<1	<1	<1	9	<0.4	14	52	20	<0.1
BH06b	**11/07/2018**	**1.8 - 1.9**	14										6	<0.4	13	26	26	<0.1
BH07b	**12/07/2018**	**0.6 - 0.7**	8.7	<1	<1	<1	<1	<1	<1	<1	<1	<1	5	<0.4	12	22	15	<0.1
BH07b	**12/07/2018**	**1.7 - 1.8**	15										4	<0.4	13	16	9	<0.1
BH08b	**12/07/2018**	**0.5 - 0.6**	8.3	<1	<1	<1	<1	<1	<1	<1	<1	<1	9	<0.4	13	39	12	<0.1
BH08b	**12/07/2018**	**1.18 - 1.9**	16										<4	<0.4	12	9	9	<0.1
BH09b	**12/07/2018**	**0.8 - 0.9**	9.5	<1	<1	<1	<1	<1	<1	<1	<1	<1	8	<0.4	22	40	30	<0.1
BH09b	**12/07/2018**	**2.8 - 2.9**	18										9	<0.4	15	35	29	<0.1
BH10b	**12/07/2018**	**0.4 - 0.5**	8.5	<1	<1	<1	<1	<1	<1	<1	<1	<1	<4	0.6	12	13	13	<0.1
BH10b	**12/07/2018**	**1.6 - 1.7**	21										6	<0.4	17	18	13	<0.1
BH11b	**12/07/2018**	**0.4 - 0.5**	13										<4	0.9	19	41	14	<0.1
BH11b	**12/07/2018**	**0.9 - 1**	24	<1	<1	<1	<1	<1	<1	<1	<1	<1	7	<0.4	15	30	13	<0.1
BH12b	**12/07/2018**	**1.1 - 1.2**	14	<1	<1	<1	<1	<1	<1	<1	<1	<1	<4	<0.4	10	15	10	<0.1
BH12b	**12/07/2018**	**1.7 - 1.8**	13										<4	<0.4	9	12	8	<0.1
BH13b	**12/07/2018**	**0.2 - 0.3**	18	<1	<1	<1	<1	<1	<1	<1	<1	<1	5	<0.4	17	14	13	<0.1
BH13b	**12/07/2018**	**0.8 - 0.9**	14										<4	<0.4	12	5	14	<0.1
BH14b	**12/07/2018**	**0.6 - 0.7**	3.6	<1	<1	<1	<1	<1	<1	<1	<1	<1	<4	<0.4	2	<1	<1	<0.1
BH14b	**12/07/2018**	**1.7 - 1.8**	19										<4	<0.4	11	14	11	<0.1
BH-QA	**12/07/2018**	**1.7 - 1.8**	15										<4	<0.4	12	13	9	<0.1

Environmental Standards
CRC Care, 2011, CRC Care HSL-D Commercial / Industrial
NEPM, NEPM 2013 Table 1B(7) Management Limits Comm / Ind, Coarse Soil
USEPA, May 2016, USEPA RSLs Industrial Soil THQ=0.1
NEPM, 2013, NEPM 2013 Table 1B(5) Generic EIL - Comm/Ind (KPMG SGA)

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					Organochlorine Pesticides														
			Nickel	Zinc	4,4-DDE	a-BHC	Aldrin	b-BHC	Chlordane (cis)	Chlordane (trans)	d-BHC	DDD	DDT	DDT+DDE+DDD	Dieldrin	Endosulfan I	Endosulfan II	Endosulfan sulphate
			mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
EQL			1	1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
CRC Care HSL-D Commercial / Industrial																		
NEPM 2013 Table 1B(7) Management Limits Comm / Ind, Coarse Soil																		
USEPA RSLs Industrial Soil THQ=0.1					9.3	0.36	0.18	1.3				9.6			0.14			
NEPM 2013 Table 1A(3) Comm/Ind D Soil HSL for Vapour Intrusion, Sand																		
0-1m																		
1-2m																		
2-4m																		
NEPM 2013 Table 1B(5) Generic EIL - Comm/Ind (KPMG SGA)			55	360									640					
NEPM 2013 Table 1B(6) ESLs for Comm/Ind, Fine Soil																		
0-2m																		
NEPM 2013 Table 1A(1) HILs Comm/Ind D Soil			6,000	400,000										3,600				
Field ID	**Date**	**Depth**																
BH01b	**11/07/2018**	**0.5 - 0.6**	8	48														
BH01b	**11/07/2018**	**1.8 - 1.9**	7	15	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
BH02b	**11/07/2018**	**0.3 - 0.4**	49	51	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
BH02b	**11/07/2018**	**1.3 - 1.4**	12	59														
BH03b	**11/07/2018**	**1.5 - 1.6**	9	37	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
BH03b	**11/07/2018**	**3.1 - 3.2**	14	61														
BH04b	**11/07/2018**	**0.4 - 0.5**	8	86	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
BH04b	**11/07/2018**	**1.5 - 1.6**	16	46														
BH05b	**11/07/2018**	**0.6 - 0.7**	23	44														
BH05b	**11/07/2018**	**2.8 - 2.9**	19	91	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
BH06b	**11/07/2018**	**0.4 - 0.5**	17	84	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
BH06b	**11/07/2018**	**1.8 - 1.9**	15	110														
BH07b	**12/07/2018**	**0.6 - 0.7**	13	46	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
BH07b	**12/07/2018**	**1.7 - 1.8**	4	13														
BH08b	**12/07/2018**	**0.5 - 0.6**	36	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
BH08b	**12/07/2018**	**1.18 - 1.9**	4	15														
BH09b	**12/07/2018**	**0.8 - 0.9**	14	78	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
BH09b	**12/07/2018**	**2.8 - 2.9**	19	110														
BH10b	**12/07/2018**	**0.4 - 0.5**	9	120	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
BH10b	**12/07/2018**	**1.6 - 1.7**	6	38														
BH11b	**12/07/2018**	**0.4 - 0.5**	30	67														
BH11b	**12/07/2018**	**0.9 - 1**	20	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
BH12b	**12/07/2018**	**1.1 - 1.2**	9	27	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
BH12b	**12/07/2018**	**1.7 - 1.8**	7	50														
BH13b	**12/07/2018**	**0.2 - 0.3**	3	14	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
BH13b	**12/07/2018**	**0.8 - 0.9**	3	7														
BH14b	**12/07/2018**	**0.6 - 0.7**	<1	1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
BH14b	**12/07/2018**	**1.7 - 1.8**	3	9														
BH-QA	**12/07/2018**	**1.7 - 1.8**	4	12														

Environmental Standards
CRC Care, 2011, CRC Care HSL-D Commercial / Industrial
NEPM, NEPM 2013 Table 1B(7) Management Limits Comm / Ind, Coarse Soil
USEPA, May 2016, USEPA RSLs Industrial Soil THQ=0.1
NEPM, 2013, NEPM 2013 Table 1B(5) Generic EIL - Comm/Ind (KPMG SGA)

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Table 7 - Stage 2 Soil Investigation

								Organophosphorous Pesticides									
			Endrin	Endrin aldehyde	g-BHC (Lindane)	Heptachlor	Heptachlor epoxide	Methoxychlor	Azinophos methyl	Bromophos-ethyl	Chlorpyrifos	Chlorpyrifos-methyl	Diazinon	Dichlorvos	Dimethoate	Ethion	Fenitrothion	Malathion
			mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
EQL			0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
CRC Care HSL-D Commercial / Industrial																		
NEPM 2013 Table 1B(7) Management Limits Comm / Ind, Coarse Soil																		
USEPA RSLs Industrial Soil THQ=0.1					2.5	0.63	0.33		250			820	57	7.9	180	41		1,600
NEPM 2013 Table 1A(3) Comm/Ind D Soil HSL for Vapour Intrusion, Sand																		
0-1m																		
1-2m																		
2-4m																		
NEPM 2013 Table 1B(5) Generic EIL - Comm/Ind (KPMG SGA)																		
NEPM 2013 Table 1B(6) ESLs for Comm/Ind, Fine Soil																		
0-2m																		
NEPM 2013 Table 1A(1) HILs Comm/Ind D Soil			100			50		2,500			2,000							
Field ID	**Date**	**Depth**																
BH01b	**11/07/2018**	**0.5 - 0.6**																
BH01b	**11/07/2018**	**1.8 - 1.9**	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
BH02b	**11/07/2018**	**0.3 - 0.4**	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
BH02b	**11/07/2018**	**1.3 - 1.4**																
BH03b	**11/07/2018**	**1.5 - 1.6**	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
BH03b	**11/07/2018**	**3.1 - 3.2**																
BH04b	**11/07/2018**	**0.4 - 0.5**	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
BH04b	**11/07/2018**	**1.5 - 1.6**																
BH05b	**11/07/2018**	**0.6 - 0.7**																
BH05b	**11/07/2018**	**2.8 - 2.9**	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
BH06b	**11/07/2018**	**0.4 - 0.5**	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
BH06b	**11/07/2018**	**1.8 - 1.9**																
BH07b	**12/07/2018**	**0.6 - 0.7**	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
BH07b	**12/07/2018**	**1.7 - 1.8**																
BH08b	**12/07/2018**	**0.5 - 0.6**	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
BH08b	**12/07/2018**	**1.18 - 1.9**																
BH09b	**12/07/2018**	**0.8 - 0.9**	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
BH09b	**12/07/2018**	**2.8 - 2.9**																
BH10b	**12/07/2018**	**0.4 - 0.5**	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
BH10b	**12/07/2018**	**1.6 - 1.7**																
BH11b	**12/07/2018**	**0.4 - 0.5**																
BH11b	**12/07/2018**	**0.9 - 1**	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
BH12b	**12/07/2018**	**1.1 - 1.2**	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
BH12b	**12/07/2018**	**1.7 - 1.8**																
BH13b	**12/07/2018**	**0.2 - 0.3**	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
BH13b	**12/07/2018**	**0.8 - 0.9**																
BH14b	**12/07/2018**	**0.6 - 0.7**	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
BH14b	**12/07/2018**	**1.7 - 1.8**																
BH-QA	**12/07/2018**	**1.7 - 1.8**																

Environmental Standards
CRC Care, 2011, CRC Care HSL-D Commercial / Industrial
NEPM, NEPM 2013 Table 1B(7) Management Limits Comm / Ind, Coarse Soil
USEPA, May 2016, USEPA RSLs Industrial Soil THQ=0.1
NEPM, 2013, NEPM 2013 Table 1B(5) Generic EIL - Comm/Ind (KPMG SGA)

Project number: 338588
Site: 54-68 Ferndell Street, South Granville, NSW
Client: Dexus Funds Management Limited

Table 7 - Stage 2 Soil Investigation

			PAH														
			Ronnel	Acenaphthene	Acenaphthylene	Anthracene	Benz(a)anthracene	Benzo(a) pyrene	Benzo(g,h,i)perylene	Chrysene	Dibenz(a,h)anthracene	Fluoranthene	Fluorene	Indeno(1,2,3-c,d)pyrene	Naphthalene	Phenanthrene	Pyrene	PAHs (Sum of positives)
			mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
EQL			0.1	0.1	0.1	0.1	0.1	0.05	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.05
CRC Care HSL-D Commercial / Industrial															11,000			
NEPM 2013 Table 1B(7) Management Limits Comm / Ind, Coarse Soil																		
USEPA RSLs Industrial Soil THQ=0.1			5,800	4,500		23,000	21			2,100	2.1	3,000	3,000	21			2,300	
NEPM 2013 Table 1A(3) Comm/Ind D Soil HSL for Vapour Intrusion, Sand																		
0-1m															NL			
1-2m															NL			
2-4m															NL			
NEPM 2013 Table 1B(5) Generic EIL - Comm/Ind (KPMG SGA)															370			
NEPM 2013 Table 1B(6) ESLs for Comm/Ind, Fine Soil																		
0-2m								1.4										
NEPM 2013 Table 1A(1) HILs Comm/Ind D Soil																		
Field ID	**Date**	**Depth**																
BH01b	**11/07/2018**	**0.5 - 0.6**		<0.1	<0.1	<0.1	<0.1	<0.05	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.05
BH01b	**11/07/2018**	**1.8 - 1.9**	<0.1	<0.1	<0.1	<0.1	<0.1	<0.05	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.05
BH02b	**11/07/2018**	**0.3 - 0.4**	<0.1	<0.1	<0.1	<0.1	<0.1	<0.05	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.05
BH02b	**11/07/2018**	**1.3 - 1.4**		<0.1	<0.1	<0.1	<0.1	<0.05	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.05
BH03b	**11/07/2018**	**1.5 - 1.6**	<0.1	<0.1	<0.1	<0.1	<0.1	<0.05	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.05
BH03b	**11/07/2018**	**3.1 - 3.2**		<0.1	<0.1	<0.1	<0.1	<0.05	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.05
BH04b	**11/07/2018**	**0.4 - 0.5**	<0.1	<0.1	<0.1	<0.1	<0.1	<0.05	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.05
BH04b	**11/07/2018**	**1.5 - 1.6**		<0.1	<0.1	<0.1	<0.1	<0.05	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.05
BH05b	**11/07/2018**	**0.6 - 0.7**		<0.1	<0.1	<0.1	<0.1	<0.05	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.05
BH05b	**11/07/2018**	**2.8 - 2.9**	<0.1	<0.1	<0.1	<0.1	<0.1	<0.05	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.05
BH06b	**11/07/2018**	**0.4 - 0.5**	<0.1	<0.1	<0.1	<0.1	<0.1	<0.05	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.05
BH06b	**11/07/2018**	**1.8 - 1.9**		<0.1	<0.1	<0.1	<0.1	<0.05	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.05
BH07b	**12/07/2018**	**0.6 - 0.7**	<0.1	<0.1	<0.1	<0.1	<0.1	<0.05	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.05
BH07b	**12/07/2018**	**1.7 - 1.8**		<0.1	<0.1	<0.1	<0.1	<0.05	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.05
BH08b	**12/07/2018**	**0.5 - 0.6**	<0.1	<0.1	<0.1	<0.1	<0.1	<0.05	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.05
BH08b	**12/07/2018**	**1.18 - 1.9**		<0.1	<0.1	<0.1	<0.1	<0.05	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.05
BH09b	**12/07/2018**	**0.8 - 0.9**	<0.1	<0.1	<0.1	<0.1	<0.1	<0.05	<0.1	0.1	<0.1	0.2	<0.1	<0.1	<0.1	0.1	0.2	0.62
BH09b	**12/07/2018**	**2.8 - 2.9**		<0.1	<0.1	<0.1	<0.1	<0.05	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.05
BH10b	**12/07/2018**	**0.4 - 0.5**	<0.1	0.4	<0.1	0.4	1.8	1.6	1.1	1.6	0.1	7.1	<0.1	0.8	<0.1	1.8	6.1	25
BH10b	**12/07/2018**	**1.6 - 1.7**		<0.1	<0.1	<0.1	<0.1	<0.05	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.05
BH11b	**12/07/2018**	**0.4 - 0.5**		<0.1	<0.1	<0.1	0.2	0.2	0.2	0.2	<0.1	0.2	<0.1	0.1	<0.1	<0.1	0.2	1.7
BH11b	**12/07/2018**	**0.9 - 1**	<0.1	<0.1	<0.1	<0.1	<0.1	<0.05	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.05
BH12b	**12/07/2018**	**1.1 - 1.2**	<0.1	<0.1	<0.1	<0.1	<0.1	<0.05	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.05
BH12b	**12/07/2018**	**1.7 - 1.8**		<0.1	<0.1	<0.1	<0.1	<0.05	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.05
BH13b	**12/07/2018**	**0.2 - 0.3**	<0.1	<0.1	<0.1	<0.1	<0.1	<0.05	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.05
BH13b	**12/07/2018**	**0.8 - 0.9**		<0.1	<0.1	<0.1	<0.1	<0.05	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.05
BH14b	**12/07/2018**	**0.6 - 0.7**	<0.1	<0.1	<0.1	<0.1	<0.1	<0.05	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.05
BH14b	**12/07/2018**	**1.7 - 1.8**		<0.1	<0.1	<0.1	<0.1	<0.05	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.05
BH-QA	**12/07/2018**	**1.7 - 1.8**		<0.1	<0.1	<0.1	<0.1	<0.05	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.05

Environmental Standards
CRC Care, 2011, CRC Care HSL-D Commercial / Industrial
NEPM, NEPM 2013 Table 1B(7) Management Limits Comm / Ind, Coarse Soil
USEPA, May 2016, USEPA RSLs Industrial Soil THQ=0.1
NEPM, 2013, NEPM 2013 Table 1B(5) Generic EIL - Comm/Ind (KPMG SGA)

Project number: 338588
Site: 54-68 Ferndell Street, South Granville, NSW
Client: Dexus Funds Management Limited

Table 7 - Stage 2 Soil Investigation

			PCBs								Solvents
			Arochlor 1016	Arochlor 1221	Arochlor 1232	Arochlor 1242	Arochlor 1248	Arochlor 1254	Arochlor 1260	PCBs (Sum of total)	Cyclohexane
			mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
EQL			0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	1
CRC Care HSL-D Commercial / Industrial											
NEPM 2013 Table 1B(7) Management Limits Comm / Ind, Coarse Soil											
USEPA RSLs Industrial Soil THQ=0.1			5.1	0.83	0.72	0.95	0.95	0.97	0.99		2,700
NEPM 2013 Table 1A(3) Comm/Ind D Soil HSL for Vapour Intrusion, Sand											
0-1m											
1-2m											
2-4m											
NEPM 2013 Table 1B(5) Generic EIL - Comm/Ind (KPMG SGA)											
NEPM 2013 Table 1B(6) ESLs for Comm/Ind, Fine Soil											
0-2m											
NEPM 2013 Table 1A(1) HILs Comm/Ind D Soil										7	
Field ID	**Date**	**Depth**									
BH01b	**11/07/2018**	**0.5 - 0.6**									
BH01b	**11/07/2018**	**1.8 - 1.9**	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<1
BH02b	**11/07/2018**	**0.3 - 0.4**	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<1
BH02b	**11/07/2018**	**1.3 - 1.4**									
BH03b	**11/07/2018**	**1.5 - 1.6**	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<1
BH03b	**11/07/2018**	**3.1 - 3.2**									
BH04b	**11/07/2018**	**0.4 - 0.5**	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<1
BH04b	**11/07/2018**	**1.5 - 1.6**									
BH05b	**11/07/2018**	**0.6 - 0.7**									
BH05b	**11/07/2018**	**2.8 - 2.9**	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<1
BH06b	**11/07/2018**	**0.4 - 0.5**	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<1
BH06b	**11/07/2018**	**1.8 - 1.9**									
BH07b	**12/07/2018**	**0.6 - 0.7**	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<1
BH07b	**12/07/2018**	**1.7 - 1.8**									
BH08b	**12/07/2018**	**0.5 - 0.6**	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<1
BH08b	**12/07/2018**	**1.18 - 1.9**									
BH09b	**12/07/2018**	**0.8 - 0.9**	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<1
BH09b	**12/07/2018**	**2.8 - 2.9**									
BH10b	**12/07/2018**	**0.4 - 0.5**	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<1
BH10b	**12/07/2018**	**1.6 - 1.7**									
BH11b	**12/07/2018**	**0.4 - 0.5**									
BH11b	**12/07/2018**	**0.9 - 1**	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<1
BH12b	**12/07/2018**	**1.1 - 1.2**	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<1
BH12b	**12/07/2018**	**1.7 - 1.8**									
BH13b	**12/07/2018**	**0.2 - 0.3**	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<1
BH13b	**12/07/2018**	**0.8 - 0.9**									
BH14b	**12/07/2018**	**0.6 - 0.7**	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<1
BH14b	**12/07/2018**	**1.7 - 1.8**									
BH-QA	**12/07/2018**	**1.7 - 1.8**									

Environmental Standards
CRC Care, 2011, CRC Care HSL-D Commercial / Industrial
NEPM, NEPM 2013 Table 1B(7) Management Limits Comm / Ind, Coarse Soil
USEPA, May 2016, USEPA RSLs Industrial Soil THQ=0.1
NEPM, 2013, NEPM 2013 Table 1B(5) Generic EIL - Comm/Ind (KPMG SGA)

APPENDIX A

DEVELOPMENT PLANS

Area Schedule

Gross Site Area	100,301 sqm
Biodiversity Area	10,584 sqm
Developable Area	89,717 sqm

Warehouse 1

Warehouse	6,900 sqm
Office	1,000 sqm
Undercroft Carpark	1,673 sqm
Total	9,573 sqm

Warehouse 2

Warehouse	19,212 sqm
Office	1,600 sqm
Total	20,812 sqm

Warehouse 3

Warehouse	12,108 sqm
Office	1,200 sqm
Undercroft Carpark	1,008 sqm
Total	14,316 sqm

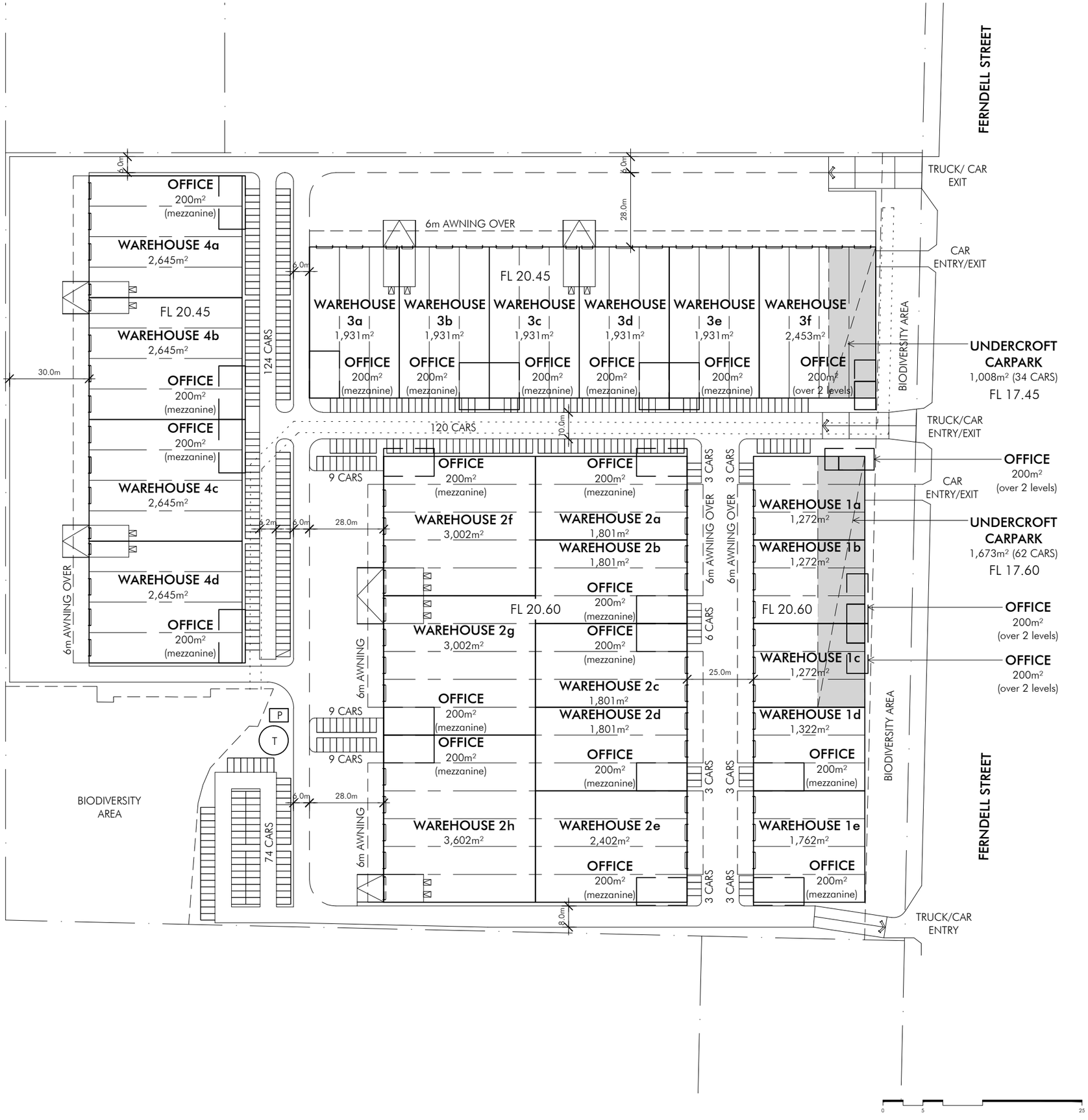
Warehouse 4

Warehouse	10,580 sqm
Office	800 sqm
Total	11,380 sqm

Total Warehouse	48,800 sqm
Total Office	4,600 sqm
Undercroft Carpark	2,681 sqm

Required Parking

Warehouse (1 per 300m²)	163
OFFICE (1 per 40m²)	115
Total Required	278
Undercroft Carpark Provided	96
On-ground Carpark Provided	369
Total Carpark Provided	465



Ferndell Street

Granville

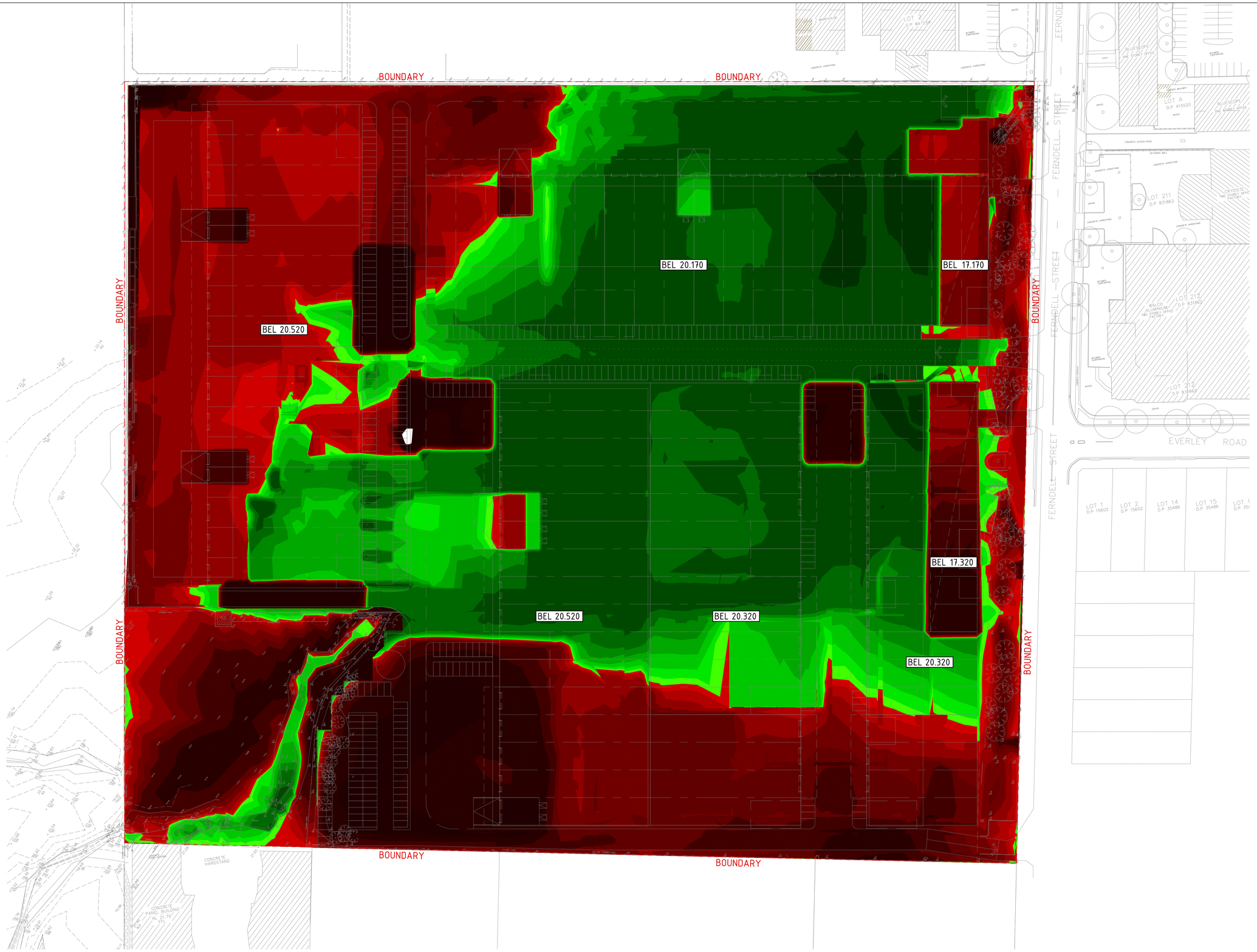
Option 1

1:1500 @ A3
1:750 @ A1

July 2018

10867_SK006

nettletontribe



LEGEND

-5.0 TO -2.5m		0.0 TO 0.1m	
-2.5 TO -1.5m		0.1 TO 0.25m	
-1.5 TO -1.0m		0.25 TO 0.5m	
-1.0 TO -0.75m		0.5 TO 0.75m	
-0.75 TO -0.5m		0.75 TO 1.0m	
-0.5 TO -0.25m		1.0 TO 1.5m	
-0.25 TO -0.2m		1.5 TO 2.5m	
-0.1 TO 0.0m		2.5 TO 5.0m	

BULK EARTHWORKS

1. BULK EARTHWORKS LEVELS BASED ON SURVEY PREPARED BY S.P. SITE SETOUT LTD, REF:SP1027_001.PRO DATED 01/08/16. THE CONTRACTOR SHALL VERIFY LEVELS PRIOR TO CONSTRUCTION COMMENCEMENT, ANY DISCREPANCIES SHALL BE NOTIFIED TO THE ENGINEER OR SUPERINTENDENT FOR CLARIFICATION.
2. BULK EARTHWORKS ARE TO BE TO BE UNDERTAKEN IN ACCORDANCE WITH AS3798-2007, GUIDELINES ON EARTHWORKS FOR COMMERCIAL AND RESIDENTIAL DEVELOPMENTS.
3. CUT TO FILL DEPTHS SHOWN ARE BASED ON SURVEY PREPARED BY S.P. SITE SETOUT LTD, REF:SP1027_001.PRO DATED 01/08/16.
4. VOLUMES DETAILED BELOW DO NOT TAKE INTO ACCOUNT BULKING AND COMPACTION OF THE MATERIAL AND DETAILED EXCAVATION FOR SERVICES TRENCHING & FOUNDATIONS.
   - CUT = 49734m³
   - FILL = 64548m³
   - IMPORT = 14814m³
3. VOLUMES BASED ON NO TOPSOIL STRIP.
4. VOLUMES BASED ON PAVEMENT THICKNESS'S NOTED:
   - CONCRETE HARDSTAND = 280mm
   - CARPARK PAVEMENT = 280mm
   - WAREHOUSE FLOOR SLAB = 280mm

ISSUED FOR BUDGET ESTIMATE

1. DO NOT SCALE OFF THIS DRAWING. USE DIMENSIONS & ARCHITECTURAL DRAWINGS ONLY
2. DRAWINGS TO BE READ IN CONJUNCTION WITH SPECIFICATION.
3. LEVELS ARE INDICATIVE ONLY AND ARE TO BE CHECKED PRIOR TO COMMENCEMENT OF ANY WORKS
4. AUTHORITIES MARKS AND/OR EXISTING SERVICES ARE TO BE LOCATED AND CHECKED PRIOR TO COMMENCEMENT OF ANY WORKS
5. COMPLETION OF THE QUALITY RECORD IS EVIDENCE THAT THE DESIGN AND DRAWING HAVE BEEN VERIFIED.

VERIFICATION
THE STATUS OF THE DRAWING STATUS IS EVIDENCE THAT THE DESIGN HAS BEEN VERIFIED AS CONFORMING TO THE REQUIREMENTS OF THE PROJECT QUALITY PLAN.

DRAWING STATUS	INITIAL	DATE
PRELIMINARY		
FOR INFORMATION ONLY		
FOR CLIENT APPROVAL		
FOR TENDER		
FOR CONSTRUCTION		

CHECKED | DATE
APPROVED | DATE
PAGE | PLOT DATE: A0 | July 20, 2018

NORTH POINT

SCALE 1:500 @ A0
0 5 10 15 20 25 30 35 40
METERS

DATE	No	AMENDMENT	INIT	REV
20.07.18		ISSUED FOR BUDGET ESTIMATE	BB	1

DATE	No	AMENDMENT	INIT	REV

CLIENT: dexus

PROJECT: 54 FERNDELL ST, SOUTH GRANVILLE

SPARKS+PARTNERS
CONSULTING ENGINEERS
HYDRAULIC | CIVIL | FIRE
Level 1, 91 George Street | Parramatta | NSW 2150
P 02 9891 5033 | F 02 9891 3958 | E admin@sparksandpartners.com.au

ARCHITECT: nettletontribe

DRAWING TITLE: CIVIL DESIGN
BULK EARTHWORKS CUT TO FILL DEPTH PLAN

AHSCA

DATE	DESIGNED
JULY 2018	DL
SCALE	DRAWN
1:500m @A0	DL
JOB No	DWG No	No IN SET	REV
18109	C3.05		1

APPENDIX B

URS SITE LAYOUT FIGURE

Legend

- New Soil Bore (Jul-Aug 2013)*
- New Monitoring Well (Jul-Aug 2013)
- Legacy Areas
- Site Boundary
- Cadastre

* Approximate Location

N W E S

0 5 10 20 Metres

Coordinate System: GDA 1994 MGA Zone 56
Projection: Transverse Mercator
Datum: GDA 1994
Units: Meter

PATH: T:\JOBS\43218416\Workspaces\43218416.009.mxd

FILE NO: 43218416.009

DRAWN: SJB APPROVED: CC DATE: 5/11/2013

MERCK SHARP & DOHME PTY LTD

ENVIRONMENTAL SITE INVESTIGATION

54-68 FERNDELL STREET, SOUTH GRANVILLE, NSW.

SITE LAYOUT MAP

URS Figure: 2 Rev. A A3

APPENDIX C

BORELOGS

APPENDIX D

LABORATORY CERTIFICATE OF ANALYSIS

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 170012

Client:

KPMG SGA
Tower3, International Towers Sydney
300 Barangaroo Ave
Sydney
NSW 2000

Attention: Jake Atkins

Sample log in details:

Your Reference:	**314465**		
No. of samples:	71 Soils		
Date samples received / completed instructions received	22/06/17	/	26/06/17

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:	3/07/17	/	3/07/17
Date of Preliminary Report:	Not Issued		

NATA accreditation number 2901. This document shall not be reproduced except in full.
Accredited for compliance with ISO/IEC 17025 - Testing **Tests not covered by NATA are denoted with *.**

Results Approved By:

David Springer
General Manager

VOCs in soil Our Reference: Your Reference	UNITS ----------	170012-4 BH01_1.0	170012-9 BH02_0.2	170012-13 BH02_3.0	170012-15 BH03_1.0	170012-19 BH04_0.5
Depth	----------	1	0.2	3	1	0.5
Date Sampled		20/06/2017	20/06/2017	20/06/2017	20/06/2017	20/06/2017
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	28/06/2017	28/06/2017	28/06/2017	28/06/2017	28/06/2017
Date analysed	-	28/06/2017	28/06/2017	28/06/2017	28/06/2017	28/06/2017
Dichlorodifluoromethane	mg/kg	<1	<1	<1	<1	<1
Chloromethane	mg/kg	<1	<1	<1	<1	<1
Vinyl Chloride	mg/kg	<1	<1	<1	<1	<1
Bromomethane	mg/kg	<1	<1	<1	<1	<1
Chloroethane	mg/kg	<1	<1	<1	<1	<1
Trichlorofluoromethane	mg/kg	<1	<1	<1	<1	<1
1,1-Dichloroethene	mg/kg	<1	<1	<1	<1	<1
trans-1,2-dichloroethene	mg/kg	<1	<1	<1	<1	<1
1,1-dichloroethane	mg/kg	<1	<1	<1	<1	<1
cis-1,2-dichloroethene	mg/kg	<1	<1	<1	<1	<1
bromochloromethane	mg/kg	<1	<1	<1	<1	<1
chloroform	mg/kg	<1	<1	<1	<1	<1
2,2-dichloropropane	mg/kg	<1	<1	<1	<1	<1
1,2-dichloroethane	mg/kg	<1	<1	<1	<1	<1
1,1,1-trichloroethane	mg/kg	<1	<1	<1	<1	<1
1,1-dichloropropene	mg/kg	<1	<1	<1	<1	<1
Cyclohexane	mg/kg	<1	<1	<1	<1	<1
carbon tetrachloride	mg/kg	<1	<1	<1	<1	<1
Benzene	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
dibromomethane	mg/kg	<1	<1	<1	<1	<1
1,2-dichloropropane	mg/kg	<1	<1	<1	<1	<1
trichloroethene	mg/kg	<1	<1	<1	<1	<1
bromodichloromethane	mg/kg	<1	<1	<1	<1	<1
trans-1,3-dichloropropene	mg/kg	<1	<1	<1	<1	<1
cis-1,3-dichloropropene	mg/kg	<1	<1	<1	<1	<1
1,1,2-trichloroethane	mg/kg	<1	<1	<1	<1	<1
Toluene	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
1,3-dichloropropane	mg/kg	<1	<1	<1	<1	<1
dibromochloromethane	mg/kg	<1	<1	<1	<1	<1
1,2-dibromoethane	mg/kg	<1	<1	<1	<1	<1
tetrachloroethene	mg/kg	<1	<1	<1	<1	<1
1,1,1,2-tetrachloroethane	mg/kg	<1	<1	<1	<1	<1
chlorobenzene	mg/kg	<1	<1	<1	<1	<1
Ethylbenzene	mg/kg	<1	<1	<1	<1	<1
bromoform	mg/kg	<1	<1	<1	<1	<1
m+p-xylene	mg/kg	<2	<2	<2	<2	<2
styrene	mg/kg	<1	<1	<1	<1	<1
1,1,2,2-tetrachloroethane	mg/kg	<1	<1	<1	<1	<1

VOCs in soil Our Reference: Your Reference	UNITS ----------	170012-4 BH01_1.0	170012-9 BH02_0.2	170012-13 BH02_3.0	170012-15 BH03_1.0	170012-19 BH04_0.5
Depth	----------	1	0.2	3	1	0.5
Date Sampled		20/06/2017	20/06/2017	20/06/2017	20/06/2017	20/06/2017
Type of sample		Soil	Soil	Soil	Soil	Soil
o-Xylene	mg/kg	<1	<1	<1	<1	<1
1,2,3-trichloropropane	mg/kg	<1	<1	<1	<1	<1
isopropylbenzene	mg/kg	<1	<1	<1	<1	<1
bromobenzene	mg/kg	<1	<1	<1	<1	<1
n-propyl benzene	mg/kg	<1	<1	<1	<1	<1
2-chlorotoluene	mg/kg	<1	<1	<1	<1	<1
4-chlorotoluene	mg/kg	<1	<1	<1	<1	<1
1,3,5-trimethyl benzene	mg/kg	<1	<1	<1	<1	<1
tert-butyl benzene	mg/kg	<1	<1	<1	<1	<1
1,2,4-trimethyl benzene	mg/kg	<1	<1	<1	<1	<1
1,3-dichlorobenzene	mg/kg	<1	<1	<1	<1	<1
sec-butyl benzene	mg/kg	<1	<1	<1	<1	<1
1,4-dichlorobenzene	mg/kg	<1	<1	<1	<1	<1
4-isopropyl toluene	mg/kg	<1	<1	<1	<1	<1
1,2-dichlorobenzene	mg/kg	<1	<1	<1	<1	<1
n-butyl benzene	mg/kg	<1	<1	<1	<1	<1
1,2-dibromo-3-chloropropane	mg/kg	<1	<1	<1	<1	<1
1,2,4-trichlorobenzene	mg/kg	<1	<1	<1	<1	<1
hexachlorobutadiene	mg/kg	<1	<1	<1	<1	<1
1,2,3-trichlorobenzene	mg/kg	<1	<1	<1	<1	<1
Surrogate Dibromofluorometha	%	95	96	97	97	98
Surrogate aaa-Trifluorotoluene	%	85	89	90	83	94
Surrogate Toluene-d_8	%	99	99	99	98	98
Surrogate 4-Bromofluorobenzene	%	93	93	94	91	92

VOCs in soil Our Reference: Your Reference	UNITS ----------	170012-24 BH05_1.4	170012-28 BH06_0.6	170012-33 BH07_0.3	170012-37 BH08_0.5	170012-41 BH09_0.7
Depth	- ----------	1.4	0.6	0.3	0.5	0.7
Date Sampled		20/06/2017	21/06/2017	21/06/2017	21/06/2017	21/06/2017
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	28/06/2017	28/06/2017	28/06/2017	28/06/2017	28/06/2017
Date analysed	-	28/06/2017	28/06/2017	28/06/2017	28/06/2017	28/06/2017
Dichlorodifluoromethane	mg/kg	<1	<1	<1	<1	<1
Chloromethane	mg/kg	<1	<1	<1	<1	<1
Vinyl Chloride	mg/kg	<1	<1	<1	<1	<1
Bromomethane	mg/kg	<1	<1	<1	<1	<1
Chloroethane	mg/kg	<1	<1	<1	<1	<1
Trichlorofluoromethane	mg/kg	<1	<1	<1	<1	<1
1,1-Dichloroethene	mg/kg	<1	<1	<1	<1	<1
trans-1,2-dichloroethene	mg/kg	<1	<1	<1	<1	<1
1,1-dichloroethane	mg/kg	<1	<1	<1	<1	<1
cis-1,2-dichloroethene	mg/kg	<1	<1	<1	<1	<1
bromochloromethane	mg/kg	<1	<1	<1	<1	<1
chloroform	mg/kg	<1	<1	<1	<1	<1
2,2-dichloropropane	mg/kg	<1	<1	<1	<1	<1
1,2-dichloroethane	mg/kg	<1	<1	<1	<1	<1
1,1,1-trichloroethane	mg/kg	<1	<1	<1	<1	<1
1,1-dichloropropene	mg/kg	<1	<1	<1	<1	<1
Cyclohexane	mg/kg	<1	<1	<1	<1	<1
carbon tetrachloride	mg/kg	<1	<1	<1	<1	<1
Benzene	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
dibromomethane	mg/kg	<1	<1	<1	<1	<1
1,2-dichloropropane	mg/kg	<1	<1	<1	<1	<1
trichloroethene	mg/kg	<1	<1	<1	<1	<1
bromodichloromethane	mg/kg	<1	<1	<1	<1	<1
trans-1,3-dichloropropene	mg/kg	<1	<1	<1	<1	<1
cis-1,3-dichloropropene	mg/kg	<1	<1	<1	<1	<1
1,1,2-trichloroethane	mg/kg	<1	<1	<1	<1	<1
Toluene	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
1,3-dichloropropane	mg/kg	<1	<1	<1	<1	<1
dibromochloromethane	mg/kg	<1	<1	<1	<1	<1
1,2-dibromoethane	mg/kg	<1	<1	<1	<1	<1
tetrachloroethene	mg/kg	<1	<1	<1	<1	<1
1,1,1,2-tetrachloroethane	mg/kg	<1	<1	<1	<1	<1
chlorobenzene	mg/kg	<1	<1	<1	<1	<1
Ethylbenzene	mg/kg	<1	<1	<1	<1	<1
bromoform	mg/kg	<1	<1	<1	<1	<1
m+p-xylene	mg/kg	<2	<2	<2	<2	<2
styrene	mg/kg	<1	<1	<1	<1	<1
1,1,2,2-tetrachloroethane	mg/kg	<1	<1	<1	<1	<1
o-Xylene	mg/kg	<1	<1	<1	<1	<1

VOCs in soil Our Reference: Your Reference	UNITS ----------	170012-24 BH05_1.4	170012-28 BH06_0.6	170012-33 BH07_0.3	170012-37 BH08_0.5	170012-41 BH09_0.7
Depth	----------	1.4	0.6	0.3	0.5	0.7
Date Sampled		20/06/2017	21/06/2017	21/06/2017	21/06/2017	21/06/2017
Type of sample		Soil	Soil	Soil	Soil	Soil
1,2,3-trichloropropane	mg/kg	<1	<1	<1	<1	<1
isopropylbenzene	mg/kg	<1	<1	<1	<1	<1
bromobenzene	mg/kg	<1	<1	<1	<1	<1
n-propyl benzene	mg/kg	<1	<1	<1	<1	<1
2-chlorotoluene	mg/kg	<1	<1	<1	<1	<1
4-chlorotoluene	mg/kg	<1	<1	<1	<1	<1
1,3,5-trimethyl benzene	mg/kg	<1	<1	<1	<1	<1
tert-butyl benzene	mg/kg	<1	<1	<1	<1	<1
1,2,4-trimethyl benzene	mg/kg	<1	<1	<1	<1	<1
1,3-dichlorobenzene	mg/kg	<1	<1	<1	<1	<1
sec-butyl benzene	mg/kg	<1	<1	<1	<1	<1
1,4-dichlorobenzene	mg/kg	<1	<1	<1	<1	<1
4-isopropyl toluene	mg/kg	<1	<1	<1	<1	<1
1,2-dichlorobenzene	mg/kg	<1	<1	<1	<1	<1
n-butyl benzene	mg/kg	<1	<1	<1	<1	<1
1,2-dibromo-3-chloropropane	mg/kg	<1	<1	<1	<1	<1
1,2,4-trichlorobenzene	mg/kg	<1	<1	<1	<1	<1
hexachlorobutadiene	mg/kg	<1	<1	<1	<1	<1
1,2,3-trichlorobenzene	mg/kg	<1	<1	<1	<1	<1
Surrogate Dibromofluorometha	%	99	98	100	101	102
Surrogate aaa-Trifluorotoluene	%	83	92	94	97	94
Surrogate Toluene-d_8	%	98	98	98	97	98
Surrogate 4-Bromofluorobenzene	%	91	95	93	95	90

VOCs in soil Our Reference: Your Reference	UNITS ----------	170012-45 BH10_0.7	170012-47 BH11_0.5	170012-50 BH11_2.4	170012-51 BH12_0.4	170012-55 BH13_1.0
Depth	----------	0.7	0.5	2	0.4	1
Date Sampled		21/06/2017	21/06/2017	21/06/2017	21/06/2017	22/06/2017
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	28/06/2017	28/06/2017	28/06/2017	28/06/2017	28/06/2017
Date analysed	-	28/06/2017	28/06/2017	28/06/2017	28/06/2017	28/06/2017
Dichlorodifluoromethane	mg/kg	<1	<1	<1	<1	<1
Chloromethane	mg/kg	<1	<1	<1	<1	<1
Vinyl Chloride	mg/kg	<1	<1	<1	<1	<1
Bromomethane	mg/kg	<1	<1	<1	<1	<1
Chloroethane	mg/kg	<1	<1	<1	<1	<1
Trichlorofluoromethane	mg/kg	<1	<1	<1	<1	<1
1,1-Dichloroethene	mg/kg	<1	<1	<1	<1	<1
trans-1,2-dichloroethene	mg/kg	<1	<1	<1	<1	<1
1,1-dichloroethane	mg/kg	<1	<1	<1	<1	<1
cis-1,2-dichloroethene	mg/kg	<1	<1	<1	<1	<1
bromochloromethane	mg/kg	<1	<1	<1	<1	<1
chloroform	mg/kg	<1	<1	<1	<1	<1
2,2-dichloropropane	mg/kg	<1	<1	<1	<1	<1
1,2-dichloroethane	mg/kg	<1	<1	<1	<1	<1
1,1,1-trichloroethane	mg/kg	<1	<1	<1	<1	<1
1,1-dichloropropene	mg/kg	<1	<1	<1	<1	<1
Cyclohexane	mg/kg	<1	<1	<1	<1	<1
carbon tetrachloride	mg/kg	<1	<1	<1	<1	<1
Benzene	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
dibromomethane	mg/kg	<1	<1	<1	<1	<1
1,2-dichloropropane	mg/kg	<1	<1	<1	<1	<1
trichloroethene	mg/kg	<1	<1	<1	<1	<1
bromodichloromethane	mg/kg	<1	<1	<1	<1	<1
trans-1,3-dichloropropene	mg/kg	<1	<1	<1	<1	<1
cis-1,3-dichloropropene	mg/kg	<1	<1	<1	<1	<1
1,1,2-trichloroethane	mg/kg	<1	<1	<1	<1	<1
Toluene	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
1,3-dichloropropane	mg/kg	<1	<1	<1	<1	<1
dibromochloromethane	mg/kg	<1	<1	<1	<1	<1
1,2-dibromoethane	mg/kg	<1	<1	<1	<1	<1
tetrachloroethene	mg/kg	<1	<1	<1	<1	<1
1,1,1,2-tetrachloroethane	mg/kg	<1	<1	<1	<1	<1
chlorobenzene	mg/kg	<1	<1	<1	<1	<1
Ethylbenzene	mg/kg	<1	<1	<1	<1	<1
bromoform	mg/kg	<1	<1	<1	<1	<1
m+p-xylene	mg/kg	<2	<2	<2	<2	<2
styrene	mg/kg	<1	<1	<1	<1	<1
1,1,2,2-tetrachloroethane	mg/kg	<1	<1	<1	<1	<1
o-Xylene	mg/kg	<1	<1	<1	<1	<1

VOCs in soil Our Reference: Your Reference	UNITS ----------	170012-45 BH10_0.7	170012-47 BH11_0.5	170012-50 BH11_2.4	170012-51 BH12_0.4	170012-55 BH13_1.0
Depth	----------	0.7	0.5	2	0.4	1
Date Sampled		21/06/2017	21/06/2017	21/06/2017	21/06/2017	22/06/2017
Type of sample		Soil	Soil	Soil	Soil	Soil
1,2,3-trichloropropane	mg/kg	<1	<1	<1	<1	<1
isopropylbenzene	mg/kg	<1	<1	<1	<1	<1
bromobenzene	mg/kg	<1	<1	<1	<1	<1
n-propyl benzene	mg/kg	<1	<1	<1	<1	<1
2-chlorotoluene	mg/kg	<1	<1	<1	<1	<1
4-chlorotoluene	mg/kg	<1	<1	<1	<1	<1
1,3,5-trimethyl benzene	mg/kg	<1	<1	<1	<1	<1
tert-butyl benzene	mg/kg	<1	<1	<1	<1	<1
1,2,4-trimethyl benzene	mg/kg	<1	<1	<1	<1	<1
1,3-dichlorobenzene	mg/kg	<1	<1	<1	<1	<1
sec-butyl benzene	mg/kg	<1	<1	<1	<1	<1
1,4-dichlorobenzene	mg/kg	<1	<1	<1	<1	<1
4-isopropyl toluene	mg/kg	<1	<1	<1	<1	<1
1,2-dichlorobenzene	mg/kg	<1	<1	<1	<1	<1
n-butyl benzene	mg/kg	<1	<1	<1	<1	<1
1,2-dibromo-3-chloropropane	mg/kg	<1	<1	<1	<1	<1
1,2,4-trichlorobenzene	mg/kg	<1	<1	<1	<1	<1
hexachlorobutadiene	mg/kg	<1	<1	<1	<1	<1
1,2,3-trichlorobenzene	mg/kg	<1	<1	<1	<1	<1
Surrogate Dibromofluorometha	%	102	102	101	104	104
Surrogate aaa-Trifluorotoluene	%	78	88	78	83	83
Surrogate Toluene-d_8	%	98	98	97	98	98
Surrogate 4-Bromofluorobenzene	%	93	87	92	91	87

VOCs in soil Our Reference: Your Reference	UNITS ----------	170012-59 BH14_0.9	170012-62 BH15_0.5	170012-66 BH16_1.6	170012-68 TB
Depth	-	0.9	0.5	1.6	-
Date Sampled	----------	22/06/2017	22/06/2017	22/06/2017	22/06/2017
Type of sample		Soil	Soil	Soil	Soil
Date extracted	-	28/06/2017	28/06/2017	28/06/2017	28/06/2017
Date analysed	-	28/06/2017	28/06/2017	28/06/2017	28/06/2017
Dichlorodifluoromethane	mg/kg	<1	<1	<1	<1
Chloromethane	mg/kg	<1	<1	<1	<1
Vinyl Chloride	mg/kg	<1	<1	<1	<1
Bromomethane	mg/kg	<1	<1	<1	<1
Chloroethane	mg/kg	<1	<1	<1	<1
Trichlorofluoromethane	mg/kg	<1	<1	<1	<1
1,1-Dichloroethene	mg/kg	<1	<1	<1	<1
trans-1,2-dichloroethene	mg/kg	<1	<1	<1	<1
1,1-dichloroethane	mg/kg	<1	<1	<1	<1
cis-1,2-dichloroethene	mg/kg	<1	<1	<1	<1
bromochloromethane	mg/kg	<1	<1	<1	<1
chloroform	mg/kg	<1	<1	<1	<1
2,2-dichloropropane	mg/kg	<1	<1	<1	<1
1,2-dichloroethane	mg/kg	<1	<1	<1	<1
1,1,1-trichloroethane	mg/kg	<1	<1	<1	<1
1,1-dichloropropene	mg/kg	<1	<1	<1	<1
Cyclohexane	mg/kg	<1	<1	<1	<1
carbon tetrachloride	mg/kg	<1	<1	<1	<1
Benzene	mg/kg	<0.2	<0.2	<0.2	<0.2
dibromomethane	mg/kg	<1	<1	<1	<1
1,2-dichloropropane	mg/kg	<1	<1	<1	<1
trichloroethene	mg/kg	<1	<1	<1	<1
bromodichloromethane	mg/kg	<1	<1	<1	<1
trans-1,3-dichloropropene	mg/kg	<1	<1	<1	<1
cis-1,3-dichloropropene	mg/kg	<1	<1	<1	<1
1,1,2-trichloroethane	mg/kg	<1	<1	<1	<1
Toluene	mg/kg	<0.5	<0.5	<0.5	<0.5
1,3-dichloropropane	mg/kg	<1	<1	<1	<1
dibromochloromethane	mg/kg	<1	<1	<1	<1
1,2-dibromoethane	mg/kg	<1	<1	<1	<1
tetrachloroethene	mg/kg	<1	<1	<1	<1
1,1,1,2-tetrachloroethane	mg/kg	<1	<1	<1	<1
chlorobenzene	mg/kg	<1	<1	<1	<1
Ethylbenzene	mg/kg	<1	<1	<1	<1
bromoform	mg/kg	<1	<1	<1	<1
m+p-xylene	mg/kg	<2	<2	<2	<2
styrene	mg/kg	<1	<1	<1	<1
1,1,2,2-tetrachloroethane	mg/kg	<1	<1	<1	<1
o-Xylene	mg/kg	<1	<1	<1	<1

VOCs in soil Our Reference: Your Reference	UNITS ----------	170012-59 BH14_0.9	170012-62 BH15_0.5	170012-66 BH16_1.6	170012-68 TB
Depth	----------	0.9	0.5	1.6	-
Date Sampled		22/06/2017	22/06/2017	22/06/2017	22/06/2017
Type of sample		Soil	Soil	Soil	Soil
1,2,3-trichloropropane	mg/kg	<1	<1	<1	<1
isopropylbenzene	mg/kg	<1	<1	<1	<1
bromobenzene	mg/kg	<1	<1	<1	<1
n-propyl benzene	mg/kg	<1	<1	<1	<1
2-chlorotoluene	mg/kg	<1	<1	<1	<1
4-chlorotoluene	mg/kg	<1	<1	<1	<1
1,3,5-trimethyl benzene	mg/kg	<1	<1	<1	<1
tert-butyl benzene	mg/kg	<1	<1	<1	<1
1,2,4-trimethyl benzene	mg/kg	<1	<1	<1	<1
1,3-dichlorobenzene	mg/kg	<1	<1	<1	<1
sec-butyl benzene	mg/kg	<1	<1	<1	<1
1,4-dichlorobenzene	mg/kg	<1	<1	<1	<1
4-isopropyl toluene	mg/kg	<1	<1	<1	<1
1,2-dichlorobenzene	mg/kg	<1	<1	<1	<1
n-butyl benzene	mg/kg	<1	<1	<1	<1
1,2-dibromo-3-chloropropane	mg/kg	<1	<1	<1	<1
1,2,4-trichlorobenzene	mg/kg	<1	<1	<1	<1
hexachlorobutadiene	mg/kg	<1	<1	<1	<1
1,2,3-trichlorobenzene	mg/kg	<1	<1	<1	<1
Surrogate Dibromofluorometha	%	104	104	103	104
Surrogate aaa-Trifluorotoluene	%	92	84	82	103
Surrogate Toluene-d_8	%	97	97	97	98
Surrogate 4-Bromofluorobenzene	%	88	90	89	90

vTRH(C6-C10)/BTEXN in Soil						
Our Reference:	UNITS	170012-1	170012-2	170012-4	170012-7	170012-9
Your Reference	---------- -	DUP01	DUP02	BH01_1.0	BH01_2.5	BH02_0.2
Depth	----------	-	-	1	2.5	0.2
Date Sampled		20/06/2017	20/06/2017	20/06/2017	20/06/2017	20/06/2017
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	28/06/2017	28/06/2017	28/06/2017	28/06/2017	28/06/2017
Date analysed	-	28/06/2017	28/06/2017	28/06/2017	28/06/2017	28/06/2017
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	%	103	102	85	101	89

vTRH(C6-C10)/BTEXN in Soil						
Our Reference:	UNITS	170012-13	170012-15	170012-17	170012-19	170012-21
Your Reference	---------- -	BH02_3.0	BH03_1.0	BH03_2.0	BH04_0.5	BH04_2.8
Depth	----------	3	1	2	0.5	2.8
Date Sampled		20/06/2017	20/06/2017	20/06/2017	20/06/2017	20/06/2017
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	28/06/2017	28/06/2017	28/06/2017	28/06/2017	28/06/2017
Date analysed	-	28/06/2017	28/06/2017	28/06/2017	28/06/2017	28/06/2017
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	%	90	83	90	94	104

vTRH(C6-C10)/BTEXN in Soil						
Our Reference:	UNITS	170012-22	170012-24	170012-28	170012-30	170012-32
Your Reference	---------- -	BH05_0.5	BH05_1.4	BH06_0.6	BH06_2.0	BH06_3.4
Depth	----------	0.5	1.4	0.6	2	3.4
Date Sampled		20/06/2017	20/06/2017	21/06/2017	21/06/2017	21/06/2017
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	28/06/2017	28/06/2017	28/06/2017	28/06/2017	28/06/2017
Date analysed	-	28/06/2017	28/06/2017	28/06/2017	28/06/2017	28/06/2017
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	%	103	83	92	95	95

vTRH(C6-C10)/BTEXN in Soil						
Our Reference:	UNITS	170012-33	170012-35	170012-37	170012-38	170012-41
Your Reference	---------- -	BH07_0.3	BH07_1.8	BH08_0.5	BH08_1.0	BH09_0.7
Depth	----------	0.3	1.8	0.5	1	0.7
Date Sampled		21/06/2017	21/06/2017	21/06/2017	21/06/2017	21/06/2017
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	28/06/2017	28/06/2017	28/06/2017	28/06/2017	28/06/2017
Date analysed	-	28/06/2017	28/06/2017	28/06/2017	28/06/2017	28/06/2017
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	%	94	107	97	94	94

vTRH(C6-C10)/BTEXN in Soil						
Our Reference:	UNITS	170012-43	170012-44	170012-45	170012-47	170012-50
Your Reference	---------- -	BH09_2.0	BH10_0.3	BH10_0.7	BH11_0.5	BH11_2.4
Depth	----------	2	0.3	0.7	0.5	2
Date Sampled		21/06/2017	21/06/2017	21/06/2017	21/06/2017	21/06/2017
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	28/06/2017	28/06/2017	28/06/2017	28/06/2017	28/06/2017
Date analysed	-	28/06/2017	28/06/2017	28/06/2017	28/06/2017	28/06/2017
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	%	95	89	78	88	78

vTRH(C6-C10)/BTEXN in Soil						
Our Reference:	UNITS	170012-51	170012-53	170012-55	170012-57	170012-59
Your Reference	---------- -	BH12_0.4	BH12_1.5	BH13_1.0	BH13_2.5	BH14_0.9
Depth	----------	0.4	1.5	1	2.5	0.9
Date Sampled		21/06/2017	21/06/2017	22/06/2017	22/06/2017	22/06/2017
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	28/06/2017	28/06/2017	28/06/2017	28/06/2017	28/06/2017
Date analysed	-	28/06/2017	28/06/2017	28/06/2017	28/06/2017	28/06/2017
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	%	83	87	83	96	92

vTRH(C6-C10)/BTEXN in Soil						
Our Reference:	UNITS	170012-61	170012-62	170012-63	170012-65	170012-66
Your Reference	---------- -	BH14_2.0	BH15_0.5	BH15_1.3	BH16_0.7	BH16_1.6
Depth	----------	2	0.5	1.3	0.7	1.6
Date Sampled		22/06/2017	22/06/2017	22/06/2017	22/06/2017	22/06/2017
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	28/06/2017	28/06/2017	28/06/2017	28/06/2017	28/06/2017
Date analysed	-	28/06/2017	28/06/2017	28/06/2017	28/06/2017	28/06/2017
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	%	78	84	101	101	82

vTRH(C6-C10)/BTEXN in Soil		
Our Reference:	UNITS	170012-69
Your Reference	---------- -	TS
Depth	----------	-
Date Sampled		22/06/2017
Type of sample		Soil
Date extracted	-	28/06/2017
Date analysed	-	29/06/2017
Benzene	mg/kg	100%
Toluene	mg/kg	98%
Ethylbenzene	mg/kg	102%
m+p-xylene	mg/kg	99%
o-Xylene	mg/kg	100%
Surrogate aaa-Trifluorotoluene	%	99

svTRH (C10-C40) in Soil						
Our Reference:	UNITS	170012-1	170012-2	170012-4	170012-7	170012-9
Your Reference	---------- -	DUP01	DUP02	BH01_1.0	BH01_2.5	BH02_0.2
Depth	----------	-	-	1	2.5	0.2
Date Sampled		20/06/2017	20/06/2017	20/06/2017	20/06/2017	20/06/2017
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	28/06/2017	28/06/2017	28/06/2017	28/06/2017	28/06/2017
Date analysed	-	28/06/2017	28/06/2017	28/06/2017	28/06/2017	28/06/2017
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	92	91	93	90

svTRH (C10-C40) in Soil						
Our Reference:	UNITS	170012-13	170012-15	170012-17	170012-19	170012-21
Your Reference	---------- -	BH02_3.0	BH03_1.0	BH03_2.0	BH04_0.5	BH04_2.8
Depth	----------	3	1	2	0.5	2.8
Date Sampled		20/06/2017	20/06/2017	20/06/2017	20/06/2017	20/06/2017
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	28/06/2017	28/06/2017	28/06/2017	28/06/2017	28/06/2017
Date analysed	-	28/06/2017	28/06/2017	29/06/2017	29/06/2017	29/06/2017
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	90	91	91	92

svTRH (C10-C40) in Soil						
Our Reference:	UNITS	170012-22	170012-24	170012-28	170012-30	170012-32
Your Reference	---------- -	BH05_0.5	BH05_1.4	BH06_0.6	BH06_2.0	BH06_3.4
Depth	----------	0.5	1.4	0.6	2	3.4
Date Sampled		20/06/2017	20/06/2017	21/06/2017	21/06/2017	21/06/2017
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	28/06/2017	28/06/2017	28/06/2017	28/06/2017	28/06/2017
Date analysed	-	29/06/2017	29/06/2017	29/06/2017	29/06/2017	29/06/2017
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	%	88	89	88	90	91

svTRH (C10-C40) in Soil						
Our Reference:	UNITS	170012-33	170012-35	170012-37	170012-38	170012-41
Your Reference	---------- -	BH07_0.3	BH07_1.8	BH08_0.5	BH08_1.0	BH09_0.7
Depth	----------	0.3	1.8	0.5	1	0.7
Date Sampled		21/06/2017	21/06/2017	21/06/2017	21/06/2017	21/06/2017
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	28/06/2017	28/06/2017	28/06/2017	28/06/2017	28/06/2017
Date analysed	-	29/06/2017	29/06/2017	29/06/2017	29/06/2017	29/06/2017
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	%	90	91	90	91	89

svTRH (C10-C40) in Soil						
Our Reference:	UNITS	170012-43	170012-44	170012-45	170012-47	170012-50
Your Reference	---------- -	BH09_2.0	BH10_0.3	BH10_0.7	BH11_0.5	BH11_2.4
Depth	----------	2	0.3	0.7	0.5	2
Date Sampled		21/06/2017	21/06/2017	21/06/2017	21/06/2017	21/06/2017
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	28/06/2017	28/06/2017	28/06/2017	28/06/2017	28/06/2017
Date analysed	-	29/06/2017	29/06/2017	29/06/2017	29/06/2017	29/06/2017
TRHC$_{10}$ - C$_{14}$	mg/kg	<50	<50	<50	<50	<50
TRHC$_{15}$ - C$_{28}$	mg/kg	<100	<100	<100	140	<100
TRHC$_{29}$ - C$_{36}$	mg/kg	<100	<100	<100	430	<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	450	<100
TRH>C$_{34}$-C$_{40}$	mg/kg	<100	<100	<100	340	<100
Total +ve TRH (>C10-C40)	mg/kg	<50	<50	<50	790	<50
Surrogate o-Terphenyl	%	88	88	90	90	92

svTRH (C10-C40) in Soil						
Our Reference:	UNITS	170012-51	170012-53	170012-55	170012-57	170012-59
Your Reference	---------- -	BH12_0.4	BH12_1.5	BH13_1.0	BH13_2.5	BH14_0.9
Depth	----------	0.4	1.5	1	2.5	0.9
Date Sampled		21/06/2017	21/06/2017	22/06/2017	22/06/2017	22/06/2017
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	28/06/2017	28/06/2017	28/06/2017	28/06/2017	28/06/2017
Date analysed	-	29/06/2017	29/06/2017	29/06/2017	29/06/2017	29/06/2017
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	%	94	94	90	92	93

svTRH (C10-C40) in Soil						
Our Reference:	UNITS	170012-61	170012-62	170012-63	170012-65	170012-66
Your Reference	---------- -	BH14_2.0	BH15_0.5	BH15_1.3	BH16_0.7	BH16_1.6
Depth	----------	2	0.5	1.3	0.7	1.6
Date Sampled		22/06/2017	22/06/2017	22/06/2017	22/06/2017	22/06/2017
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	28/06/2017	28/06/2017	28/06/2017	28/06/2017	28/06/2017
Date analysed	-	29/06/2017	29/06/2017	29/06/2017	29/06/2017	29/06/2017
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	%	94	98	94	90	90

PAHs in Soil Our Reference: Your Reference	UNITS	170012-1 DUP01	170012-2 DUP02	170012-4 BH01_1.0	170012-7 BH01_2.5	170012-9 BH02_0.2
Depth	-	-	1	2.5	0.2	
Date Sampled		20/06/2017	20/06/2017	20/06/2017	20/06/2017	20/06/2017
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	28/06/2017	28/06/2017	28/06/2017	28/06/2017	28/06/2017
Date analysed	-	29/06/2017	29/06/2017	29/06/2017	29/06/2017	29/06/2017
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	0.2	<0.1	<0.1	1.0
Anthracene	mg/kg	<0.1	<0.1	<0.1	<0.1	0.6
Fluoranthene	mg/kg	<0.1	0.4	0.2	<0.1	1.6
Pyrene	mg/kg	<0.1	0.4	0.1	<0.1	1.5
Benzo(a)anthracene	mg/kg	<0.1	0.1	<0.1	<0.1	0.8
Chrysene	mg/kg	<0.1	0.2	<0.1	<0.1	0.7
Benzo(b,j+k)fluoranthene	mg/kg	<0.2	0.3	<0.2	<0.2	1
Benzo(a)pyrene	mg/kg	<0.05	0.1	0.05	<0.05	0.59
Indeno(1,2,3-c,d)pyrene	mg/kg	<0.1	<0.1	<0.1	<0.1	0.3
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	0.3
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	0.98	0.3	<0.05	7.7
Surrogate p-Terphenyl-d14	%	80	104	101	92	105

PAHs in Soil Our Reference: Your Reference Depth Date Sampled Type of sample	UNITS ---------- - ---------- 	170012-13 BH02_3.0 3 20/06/2017 Soil	170012-15 BH03_1.0 1 20/06/2017 Soil	170012-17 BH03_2.0 2 20/06/2017 Soil	170012-19 BH04_0.5 0.5 20/06/2017 Soil	170012-21 BH04_2.8 2.8 20/06/2017 Soil
Date extracted	-	28/06/2017	28/06/2017	28/06/2017	28/06/2017	28/06/2017
Date analysed	-	29/06/2017	29/06/2017	29/06/2017	29/06/2017	29/06/2017
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	%	90	94	90	95	89

PAHs in Soil Our Reference: Your Reference	UNITS ----------	170012-22 BH05_0.5	170012-24 BH05_1.4	170012-28 BH06_0.6	170012-30 BH06_2.0	170012-32 BH06_3.4
Depth	-	0.5	1.4	0.6	2	3.4
Date Sampled	----------	20/06/2017	20/06/2017	21/06/2017	21/06/2017	21/06/2017
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	28/06/2017	28/06/2017	28/06/2017	28/06/2017	28/06/2017
Date analysed	-	29/06/2017	29/06/2017	29/06/2017	29/06/2017	29/06/2017
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	%	97	99	101	98	97

PAHs in Soil Our Reference: Your Reference	UNITS ----------	170012-33 BH07_0.3	170012-35 BH07_1.8	170012-37 BH08_0.5	170012-38 BH08_1.0	170012-41 BH09_0.7
Depth	----------	0.3	1.8	0.5	1	0.7
Date Sampled		21/06/2017	21/06/2017	21/06/2017	21/06/2017	21/06/2017
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	28/06/2017	28/06/2017	28/06/2017	28/06/2017	28/06/2017
Date analysed	-	29/06/2017	29/06/2017	29/06/2017	29/06/2017	29/06/2017
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	0.4	<0.1	<0.1	<0.1	<0.1
Anthracene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Fluoranthene	mg/kg	0.4	<0.1	<0.1	<0.1	<0.1
Pyrene	mg/kg	0.4	<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	0.2	<0.1	<0.1	<0.1	<0.1
Benzo(b,j+k)fluoranthene	mg/kg	0.3	<0.2	<0.2	<0.2	<0.2
Benzo(a)pyrene	mg/kg	0.1	<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	2.2	<0.05	<0.05	<0.05	<0.05
Surrogate p-Terphenyl-d14	%	96	94	94	94	93

PAHs in Soil Our Reference: Your Reference	UNITS ----------	170012-43 BH09_2.0	170012-44 BH10_0.3	170012-45 BH10_0.7	170012-47 BH11_0.5	170012-50 BH11_2.4
Depth	-	2	0.3	0.7	0.5	2
Date Sampled	----------	21/06/2017	21/06/2017	21/06/2017	21/06/2017	21/06/2017
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	28/06/2017	28/06/2017	28/06/2017	28/06/2017	28/06/2017
Date analysed	-	29/06/2017	29/06/2017	29/06/2017	29/06/2017	29/06/2017
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	0.2	<0.1	<0.1	<0.1
Anthracene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Fluoranthene	mg/kg	<0.1	0.2	<0.1	<0.1	<0.1
Pyrene	mg/kg	<0.1	0.2	<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	0.06	<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	0.75	<0.05	<0.05	<0.05
Surrogate p-Terphenyl-d14	%	93	101	93	99	98

PAHs in Soil Our Reference: Your Reference	UNITS ----------	170012-51 BH12_0.4	170012-53 BH12_1.5	170012-55 BH13_1.0	170012-57 BH13_2.5	170012-59 BH14_0.9
Depth	- ----------	0.4	1.5	1	2.5	0.9
Date Sampled		21/06/2017	21/06/2017	22/06/2017	22/06/2017	22/06/2017
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	28/06/2017	28/06/2017	28/06/2017	28/06/2017	28/06/2017
Date analysed	-	29/06/2017	29/06/2017	29/06/2017	29/06/2017	29/06/2017
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	0.2	<0.1	<0.1	<0.1	<0.1
Pyrene	mg/kg	0.2	<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	0.58	<0.05	<0.05	<0.05	<0.05
Surrogate p-Terphenyl-d14	%	100	99	100	100	96

PAHs in Soil Our Reference: Your Reference Depth Date Sampled Type of sample	UNITS ---------- - ---------- 	170012-61 BH14_2.0 2 22/06/2017 Soil	170012-62 BH15_0.5 0.5 22/06/2017 Soil	170012-63 BH15_1.3 1.3 22/06/2017 Soil	170012-65 BH16_0.7 0.7 22/06/2017 Soil	170012-66 BH16_1.6 1.6 22/06/2017 Soil
Date extracted	-	28/06/2017	28/06/2017	28/06/2017	28/06/2017	28/06/2017
Date analysed	-	29/06/2017	29/06/2017	29/06/2017	29/06/2017	29/06/2017
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	%	95	99	95	97	106

Acid Extractable metals in soil						
Our Reference:	UNITS	170012-1	170012-2	170012-4	170012-7	170012-9
Your Reference	---------- -	DUP01	DUP02	BH01_1.0	BH01_2.5	BH02_0.2
Depth	----------	-	-	1	2.5	0.2
Date Sampled		20/06/2017	20/06/2017	20/06/2017	20/06/2017	20/06/2017
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	28/06/2017	28/06/2017	28/06/2017	28/06/2017	28/06/2017
Date analysed	-	29/06/2017	29/06/2017	29/06/2017	29/06/2017	29/06/2017
Arsenic	mg/kg	5	15	8	<4	<4
Cadmium	mg/kg	<0.4	<0.4	<0.4	<0.4	<0.4
Chromium	mg/kg	9	32	17	9	14
Copper	mg/kg	22	27	26	13	41
Lead	mg/kg	13	35	20	9	17
Mercury	mg/kg	<0.1	<0.1	0.5	<0.1	<0.1
Nickel	mg/kg	13	31	11	3	12
Zinc	mg/kg	44	54	85	10	43

Acid Extractable metals in soil						
Our Reference:	UNITS	170012-13	170012-15	170012-17	170012-19	170012-21
Your Reference	---------- -	BH02_3.0	BH03_1.0	BH03_2.0	BH04_0.5	BH04_2.8
Depth	----------	3	1	2	0.5	2.8
Date Sampled		20/06/2017	20/06/2017	20/06/2017	20/06/2017	20/06/2017
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	28/06/2017	28/06/2017	28/06/2017	28/06/2017	28/06/2017
Date analysed	-	29/06/2017	29/06/2017	29/06/2017	29/06/2017	29/06/2017
Arsenic	mg/kg	<4	<4	7	7	<4
Cadmium	mg/kg	<0.4	<0.4	<0.4	<0.4	<0.4
Chromium	mg/kg	11	13	16	16	10
Copper	mg/kg	14	14	20	34	14
Lead	mg/kg	13	11	13	27	12
Mercury	mg/kg	<0.1	0.3	<0.1	0.2	<0.1
Nickel	mg/kg	5	4	4	12	3
Zinc	mg/kg	20	15	15	99	8

Acid Extractable metals in soil						
Our Reference:	UNITS	170012-22	170012-24	170012-28	170012-30	170012-32
Your Reference	---------- -	BH05_0.5	BH05_1.4	BH06_0.6	BH06_2.0	BH06_3.4
Depth	----------	0.5	1.4	0.6	2	3.4
Date Sampled		20/06/2017	20/06/2017	21/06/2017	21/06/2017	21/06/2017
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	28/06/2017	28/06/2017	28/06/2017	28/06/2017	28/06/2017
Date analysed	-	29/06/2017	29/06/2017	29/06/2017	29/06/2017	29/06/2017
Arsenic	mg/kg	<4	<4	8	<4	4
Cadmium	mg/kg	<0.4	<0.4	<0.4	<0.4	<0.4
Chromium	mg/kg	19	33	13	9	21
Copper	mg/kg	29	50	26	14	31
Lead	mg/kg	7	5	22	8	9
Mercury	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Nickel	mg/kg	30	66	9	5	16
Zinc	mg/kg	33	43	97	17	26

Acid Extractable metals in soil						
Our Reference:	UNITS	170012-33	170012-35	170012-37	170012-38	170012-41
Your Reference	---------- -	BH07_0.3	BH07_1.8	BH08_0.5	BH08_1.0	BH09_0.7
Depth	----------	0.3	1.8	0.5	1	0.7
Date Sampled		21/06/2017	21/06/2017	21/06/2017	21/06/2017	21/06/2017
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	28/06/2017	28/06/2017	28/06/2017	28/06/2017	28/06/2017
Date analysed	-	29/06/2017	29/06/2017	29/06/2017	29/06/2017	29/06/2017
Arsenic	mg/kg	5	5	4	5	35
Cadmium	mg/kg	<0.4	<0.4	<0.4	<0.4	<0.4
Chromium	mg/kg	31	9	12	15	16
Copper	mg/kg	29	19	14	20	27
Lead	mg/kg	34	18	9	11	19
Mercury	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Nickel	mg/kg	33	3	3	6	16
Zinc	mg/kg	130	12	12	19	85

Acid Extractable metals in soil						
Our Reference:	UNITS	170012-43	170012-44	170012-45	170012-47	170012-50
Your Reference	---------- -	BH09_2.0	BH10_0.3	BH10_0.7	BH11_0.5	BH11_2.4
Depth	----------	2	0.3	0.7	0.5	2
Date Sampled		21/06/2017	21/06/2017	21/06/2017	21/06/2017	21/06/2017
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	28/06/2017	28/06/2017	28/06/2017	28/06/2017	28/06/2017
Date analysed	-	29/06/2017	29/06/2017	29/06/2017	29/06/2017	29/06/2017
Arsenic	mg/kg	<4	4	<4	<4	6
Cadmium	mg/kg	<0.4	<0.4	<0.4	<0.4	<0.4
Chromium	mg/kg	7	22	10	6	10
Copper	mg/kg	5	40	16	36	40
Lead	mg/kg	4	32	9	9	17
Mercury	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Nickel	mg/kg	2	12	2	9	15
Zinc	mg/kg	7	50	16	26	72

Acid Extractable metals in soil						
Our Reference:	UNITS	170012-51	170012-53	170012-55	170012-57	170012-59
Your Reference	---------- -	BH12_0.4	BH12_1.5	BH13_1.0	BH13_2.5	BH14_0.9
Depth	----------	0.4	1.5	1	2.5	0.9
Date Sampled		21/06/2017	21/06/2017	22/06/2017	22/06/2017	22/06/2017
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	28/06/2017	28/06/2017	28/06/2017	28/06/2017	28/06/2017
Date analysed	-	29/06/2017	29/06/2017	29/06/2017	29/06/2017	29/06/2017
Arsenic	mg/kg	<4	6	10	<4	<4
Cadmium	mg/kg	<0.4	<0.4	<0.4	<0.4	<0.4
Chromium	mg/kg	12	17	24	11	8
Copper	mg/kg	54	17	33	25	66
Lead	mg/kg	11	15	16	11	3
Mercury	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Nickel	mg/kg	27	3	24	3	52
Zinc	mg/kg	34	14	77	28	48

Acid Extractable metals in soil						
Our Reference:	UNITS	170012-61	170012-62	170012-63	170012-65	170012-66
Your Reference	---------- -	BH14_2.0	BH15_0.5	BH15_1.3	BH16_0.7	BH16_1.6
Depth	----------	2	0.5	1.3	0.7	1.6
Date Sampled		22/06/2017	22/06/2017	22/06/2017	22/06/2017	22/06/2017
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	28/06/2017	28/06/2017	28/06/2017	28/06/2017	28/06/2017
Date analysed	-	29/06/2017	29/06/2017	29/06/2017	29/06/2017	29/06/2017
Arsenic	mg/kg	6	6	10	11	9
Cadmium	mg/kg	<0.4	<0.4	<0.4	<0.4	<0.4
Chromium	mg/kg	17	16	29	17	27
Copper	mg/kg	20	25	13	30	14
Lead	mg/kg	14	13	21	16	28
Mercury	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Nickel	mg/kg	4	8	8	22	9
Zinc	mg/kg	23	70	23	95	34

Acid Extractable metals in soil				
Our Reference:	UNITS	170012-72	170012-73	170012-74
Your Reference	---------- -	DUP01 - [TRIPLICATE]	BH09_0.7 - [TRIPLICATE]	BH15_0.5 - [TRIPLICATE]
Depth	----------	-	0.7	0.5
Date Sampled		20/06/2017	21/06/2017	22/06/2017
Type of sample		Soil	Soil	Soil
Date prepared	-	28/06/2017	28/06/2017	28/06/2017
Date analysed	-	29/06/2017	29/06/2017	29/06/2017
Arsenic	mg/kg	24	24	7
Cadmium	mg/kg	<0.4	<0.4	<0.4
Chromium	mg/kg	17	18	15
Copper	mg/kg	39	22	30
Lead	mg/kg	46	17	17
Mercury	mg/kg	<0.1	<0.1	<0.1
Nickel	mg/kg	28	12	12
Zinc	mg/kg	230	54	63

Moisture						
Our Reference:	UNITS	170012-1	170012-2	170012-4	170012-7	170012-9
Your Reference	---------- -	DUP01	DUP02	BH01_1.0	BH01_2.5	BH02_0.2
Depth	----------	-	-	1	2.5	0.2
Date Sampled		20/06/2017	20/06/2017	20/06/2017	20/06/2017	20/06/2017
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	28/06/2017	28/06/2017	28/06/2017	28/06/2017	28/06/2017
Date analysed	-	29/06/2017	29/06/2017	29/06/2017	29/06/2017	29/06/2017
Moisture	%	13	18	14	18	16

Moisture						
Our Reference:	UNITS	170012-13	170012-15	170012-17	170012-19	170012-21
Your Reference	---------- -	BH02_3.0	BH03_1.0	BH03_2.0	BH04_0.5	BH04_2.8
Depth	----------	3	1	2	0.5	2.8
Date Sampled		20/06/2017	20/06/2017	20/06/2017	20/06/2017	20/06/2017
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	28/06/2017	28/06/2017	28/06/2017	28/06/2017	28/06/2017
Date analysed	-	29/06/2017	29/06/2017	29/06/2017	29/06/2017	29/06/2017
Moisture	%	20	14	19	16	15

Moisture						
Our Reference:	UNITS	170012-22	170012-24	170012-28	170012-30	170012-32
Your Reference	---------- -	BH05_0.5	BH05_1.4	BH06_0.6	BH06_2.0	BH06_3.4
Depth	----------	0.5	1.4	0.6	2	3.4
Date Sampled		20/06/2017	20/06/2017	21/06/2017	21/06/2017	21/06/2017
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	28/06/2017	28/06/2017	28/06/2017	28/06/2017	28/06/2017
Date analysed	-	29/06/2017	29/06/2017	29/06/2017	29/06/2017	29/06/2017
Moisture	%	14	18	15	15	16

Moisture						
Our Reference:	UNITS	170012-33	170012-35	170012-37	170012-38	170012-41
Your Reference	---------- -	BH07_0.3	BH07_1.8	BH08_0.5	BH08_1.0	BH09_0.7
Depth	----------	0.3	1.8	0.5	1	0.7
Date Sampled		21/06/2017	21/06/2017	21/06/2017	21/06/2017	21/06/2017
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	28/06/2017	28/06/2017	28/06/2017	28/06/2017	28/06/2017
Date analysed	-	29/06/2017	29/06/2017	29/06/2017	29/06/2017	29/06/2017
Moisture	%	18	16	15	19	14

Moisture						
Our Reference:	UNITS	170012-43	170012-44	170012-45	170012-47	170012-50
Your Reference	---------- -	BH09_2.0	BH10_0.3	BH10_0.7	BH11_0.5	BH11_2.4
Depth	----------	2	0.3	0.7	0.5	2
Date Sampled		21/06/2017	21/06/2017	21/06/2017	21/06/2017	21/06/2017
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	28/06/2017	28/06/2017	28/06/2017	28/06/2017	28/06/2017
Date analysed	-	29/06/2017	29/06/2017	29/06/2017	29/06/2017	29/06/2017
Moisture	%	14	18	17	3.7	17

Moisture						
Our Reference:	UNITS	170012-51	170012-53	170012-55	170012-57	170012-59
Your Reference	---------- -	BH12_0.4	BH12_1.5	BH13_1.0	BH13_2.5	BH14_0.9
Depth	----------	0.4	1.5	1	2.5	0.9
Date Sampled		21/06/2017	21/06/2017	22/06/2017	22/06/2017	22/06/2017
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	28/06/2017	28/06/2017	28/06/2017	28/06/2017	28/06/2017
Date analysed	-	29/06/2017	29/06/2017	29/06/2017	29/06/2017	29/06/2017
Moisture	%	8.9	20	17	18	4.4

Moisture						
Our Reference:	UNITS	170012-61	170012-62	170012-63	170012-65	170012-66
Your Reference	---------- -	BH14_2.0	BH15_0.5	BH15_1.3	BH16_0.7	BH16_1.6
Depth	----------	2	0.5	1.3	0.7	1.6
Date Sampled		22/06/2017	22/06/2017	22/06/2017	22/06/2017	22/06/2017
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	28/06/2017	28/06/2017	28/06/2017	28/06/2017	28/06/2017
Date analysed	-	29/06/2017	29/06/2017	29/06/2017	29/06/2017	29/06/2017
Moisture	%	19	18	14	17	21

Misc Soil - Inorg						
Our Reference:	UNITS	170012-37	170012-45	170012-51	170012-55	170012-59
Your Reference	---------- -	BH08_0.5	BH10_0.7	BH12_0.4	BH13_1.0	BH14_0.9
Depth	----------	0.5	0.7	0.4	1	0.9
Date Sampled		21/06/2017	21/06/2017	21/06/2017	22/06/2017	22/06/2017
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	28/06/2017	28/06/2017	28/06/2017	28/06/2017	28/06/2017
Date analysed	-	29/06/2017	29/06/2017	29/06/2017	29/06/2017	29/06/2017
Total Phenolics (as Phenol)	mg/kg	<5	<5	<5	<5	<5

Misc Soil - Inorg			
Our Reference:	UNITS	170012-62	170012-66
Your Reference	---------- -	BH15_0.5	BH16_1.6
Depth	----------	0.5	1.6
Date Sampled		22/06/2017	22/06/2017
Type of sample		Soil	Soil
Date prepared	-	28/06/2017	28/06/2017
Date analysed	-	29/06/2017	29/06/2017
Total Phenolics (as Phenol)	mg/kg	<5	<5

CEC Our Reference: Your Reference	UNITS ---------- -	170012-8 BH01_3.0	170012-39 BH08_2.0	170012-50 BH11_2.4
Depth	----------	3	2	2
Date Sampled		20/06/2017	21/06/2017	21/06/2017
Type of sample		Soil	Soil	Soil
Date prepared	-	30/06/2017	30/06/2017	30/06/2017
Date analysed	-	30/06/2017	30/06/2017	30/06/2017
Exchangeable Ca	meq/100g	<0.1	<0.1	0.2
Exchangeable K	meq/100g	0.1	0.2	<0.1
Exchangeable Mg	meq/100g	5.4	5.1	6.2
Exchangeable Na	meq/100g	3.9	3.5	5.0
Cation Exchange Capacity	meq/100g	9.6	8.8	11

Misc Inorg - Soil				
Our Reference:	UNITS	170012-8	170012-39	170012-50
Your Reference	----------	BH01_3.0	BH08_2.0	BH11_2.4
	-			
Depth	----------	3	2	2
Date Sampled		20/06/2017	21/06/2017	21/06/2017
Type of sample		Soil	Soil	Soil
Date prepared	-	30/06/2017	30/06/2017	30/06/2017
Date analysed	-	30/06/2017	30/06/2017	30/06/2017
pH 1:5 soil:water	pH Units	7.0	7.1	7.4

Method ID	Methodology Summary
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.
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.
Metals-020	Determination of various metals by ICP-AES.
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.
Inorg-031	Total Phenolics by segmented flow analyser (in line distillation with colourimetric finish). Solids are extracted in a caustic media prior to analysis.
Metals-009	Determination of exchangeable cations and cation exchange capacity in soils using 1M Ammonium Chloride exchange and ICP-AES analytical finish.
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.

QUALITY CONTROL VOCs in soil	UNITS	PQL	METHOD	Blank	Duplicate Sm#	Duplicate results Base II Duplicate II %RPD	Spike Sm#	Spike % Recovery
Date extracted	-			28/06/2017	[NT]	[NT]	LCS-4	28/06/2017
Date analysed	-			28/06/2017	[NT]	[NT]	LCS-4	28/06/2017
Dichlorodifluoromethane	mg/kg	1	Org-014	<1	[NT]	[NT]	[NR]	[NR]
Chloromethane	mg/kg	1	Org-014	<1	[NT]	[NT]	[NR]	[NR]
Vinyl Chloride	mg/kg	1	Org-014	<1	[NT]	[NT]	[NR]	[NR]
Bromomethane	mg/kg	1	Org-014	<1	[NT]	[NT]	[NR]	[NR]
Chloroethane	mg/kg	1	Org-014	<1	[NT]	[NT]	[NR]	[NR]
Trichlorofluoromethane	mg/kg	1	Org-014	<1	[NT]	[NT]	[NR]	[NR]
1,1-Dichloroethene	mg/kg	1	Org-014	<1	[NT]	[NT]	[NR]	[NR]
trans-1,2-dichloroethene	mg/kg	1	Org-014	<1	[NT]	[NT]	[NR]	[NR]
1,1-dichloroethane	mg/kg	1	Org-014	<1	[NT]	[NT]	LCS-4	82%
cis-1,2-dichloroethene	mg/kg	1	Org-014	<1	[NT]	[NT]	[NR]	[NR]
bromochloromethane	mg/kg	1	Org-014	<1	[NT]	[NT]	[NR]	[NR]
chloroform	mg/kg	1	Org-014	<1	[NT]	[NT]	LCS-4	80%
2,2-dichloropropane	mg/kg	1	Org-014	<1	[NT]	[NT]	[NR]	[NR]
1,2-dichloroethane	mg/kg	1	Org-014	<1	[NT]	[NT]	LCS-4	81%
1,1,1-trichloroethane	mg/kg	1	Org-014	<1	[NT]	[NT]	LCS-4	70%
1,1-dichloropropene	mg/kg	1	Org-014	<1	[NT]	[NT]	[NR]	[NR]
Cyclohexane	mg/kg	1	Org-014	<1	[NT]	[NT]	[NR]	[NR]
carbon tetrachloride	mg/kg	1	Org-014	<1	[NT]	[NT]	[NR]	[NR]
Benzene	mg/kg	0.2	Org-014	<0.2	[NT]	[NT]	[NR]	[NR]
dibromomethane	mg/kg	1	Org-014	<1	[NT]	[NT]	[NR]	[NR]
1,2-dichloropropane	mg/kg	1	Org-014	<1	[NT]	[NT]	[NR]	[NR]
trichloroethene	mg/kg	1	Org-014	<1	[NT]	[NT]	LCS-4	77%
bromodichloromethane	mg/kg	1	Org-014	<1	[NT]	[NT]	LCS-4	79%
trans-1,3-dichloropropene	mg/kg	1	Org-014	<1	[NT]	[NT]	[NR]	[NR]
cis-1,3-dichloropropene	mg/kg	1	Org-014	<1	[NT]	[NT]	[NR]	[NR]
1,1,2-trichloroethane	mg/kg	1	Org-014	<1	[NT]	[NT]	[NR]	[NR]
Toluene	mg/kg	0.5	Org-014	<0.5	[NT]	[NT]	[NR]	[NR]
1,3-dichloropropane	mg/kg	1	Org-014	<1	[NT]	[NT]	[NR]	[NR]
dibromochloromethane	mg/kg	1	Org-014	<1	[NT]	[NT]	LCS-4	70%
1,2-dibromoethane	mg/kg	1	Org-014	<1	[NT]	[NT]	[NR]	[NR]
tetrachloroethene	mg/kg	1	Org-014	<1	[NT]	[NT]	LCS-4	80%
1,1,1,2-tetrachloroethane	mg/kg	1	Org-014	<1	[NT]	[NT]	[NR]	[NR]
chlorobenzene	mg/kg	1	Org-014	<1	[NT]	[NT]	[NR]	[NR]
Ethylbenzene	mg/kg	1	Org-014	<1	[NT]	[NT]	[NR]	[NR]
bromoform	mg/kg	1	Org-014	<1	[NT]	[NT]	[NR]	[NR]
m+p-xylene	mg/kg	2	Org-014	<2	[NT]	[NT]	[NR]	[NR]
styrene	mg/kg	1	Org-014	<1	[NT]	[NT]	[NR]	[NR]
1,1,2,2-tetrachloroethane	mg/kg	1	Org-014	<1	[NT]	[NT]	[NR]	[NR]
o-Xylene	mg/kg	1	Org-014	<1	[NT]	[NT]	[NR]	[NR]
1,2,3-trichloropropane	mg/kg	1	Org-014	<1	[NT]	[NT]	[NR]	[NR]

QUALITY CONTROL VOCs in soil	UNITS	PQL	METHOD	Blank	Duplicate Sm#	Duplicate results Base ll Duplicate ll %RPD	Spike Sm#	Spike % Recovery
isopropylbenzene	mg/kg	1	Org-014	<1	[NT]	[NT]	[NR]	[NR]
bromobenzene	mg/kg	1	Org-014	<1	[NT]	[NT]	[NR]	[NR]
n-propyl benzene	mg/kg	1	Org-014	<1	[NT]	[NT]	[NR]	[NR]
2-chlorotoluene	mg/kg	1	Org-014	<1	[NT]	[NT]	[NR]	[NR]
4-chlorotoluene	mg/kg	1	Org-014	<1	[NT]	[NT]	[NR]	[NR]
1,3,5-trimethyl benzene	mg/kg	1	Org-014	<1	[NT]	[NT]	[NR]	[NR]
tert-butyl benzene	mg/kg	1	Org-014	<1	[NT]	[NT]	[NR]	[NR]
1,2,4-trimethyl benzene	mg/kg	1	Org-014	<1	[NT]	[NT]	[NR]	[NR]
1,3-dichlorobenzene	mg/kg	1	Org-014	<1	[NT]	[NT]	[NR]	[NR]
sec-butyl benzene	mg/kg	1	Org-014	<1	[NT]	[NT]	[NR]	[NR]
1,4-dichlorobenzene	mg/kg	1	Org-014	<1	[NT]	[NT]	[NR]	[NR]
4-isopropyl toluene	mg/kg	1	Org-014	<1	[NT]	[NT]	[NR]	[NR]
1,2-dichlorobenzene	mg/kg	1	Org-014	<1	[NT]	[NT]	[NR]	[NR]
n-butyl benzene	mg/kg	1	Org-014	<1	[NT]	[NT]	[NR]	[NR]
1,2-dibromo-3-chloropropane	mg/kg	1	Org-014	<1	[NT]	[NT]	[NR]	[NR]
1,2,4-trichlorobenzene	mg/kg	1	Org-014	<1	[NT]	[NT]	[NR]	[NR]
hexachlorobutadiene	mg/kg	1	Org-014	<1	[NT]	[NT]	[NR]	[NR]
1,2,3-trichlorobenzene	mg/kg	1	Org-014	<1	[NT]	[NT]	[NR]	[NR]
Surrogate Dibromofluorometha	%		Org-014	96	[NT]	[NT]	LCS-4	94%
Surrogate aaa-Trifluorotoluene	%		Org-014	91	[NT]	[NT]	LCS-4	84%
Surrogate Toluene-d_8	%		Org-014	99	[NT]	[NT]	LCS-4	102%
Surrogate 4-Bromofluorobenzene	%		Org-014	97	[NT]	[NT]	LCS-4	100%

QUALITY CONTROL vTRH(C6-C10)/BTEXN in Soil	UNITS	PQL	METHOD	Blank	Duplicate Sm#	Duplicate results Base ll Duplicate ll %RPD	Spike Sm#	Spike % Recovery
Date extracted	-			28/06/2017	170012-1	28/06/2017 || 28/06/2017	LCS-4	28/06/2017
Date analysed	-			28/06/2017	170012-1	28/06/2017 || 28/06/2017	LCS-4	28/06/2017
$TRHC_6$ - C_9	mg/kg	25	Org-016	<25	170012-1	<25 || <25	LCS-4	86%
$TRHC_6$ - C_{10}	mg/kg	25	Org-016	<25	170012-1	<25 || <25	LCS-4	86%
Benzene	mg/kg	0.2	Org-016	<0.2	170012-1	<0.2 || <0.2	LCS-4	80%
Toluene	mg/kg	0.5	Org-016	<0.5	170012-1	<0.5 || <0.5	LCS-4	87%
Ethylbenzene	mg/kg	1	Org-016	<1	170012-1	<1 || <1	LCS-4	88%
m+p-xylene	mg/kg	2	Org-016	<2	170012-1	<2 || <2	LCS-4	88%
o-Xylene	mg/kg	1	Org-016	<1	170012-1	<1 || <1	LCS-4	81%
naphthalene	mg/kg	1	Org-014	<1	170012-1	<1 || <1	[NR]	[NR]
Surrogate aaa-Trifluorotoluene	%		Org-016	91	170012-1	103 || 94 || RPD: 9	LCS-4	84%

QUALITY CONTROL svTRH (C10-C40) in Soil	UNITS	PQL	METHOD	Blank	Duplicate Sm#	Duplicate results Base ll Duplicate ll %RPD	Spike Sm#	Spike % Recovery
Date extracted	-			28/06/2017	170012-1	28/06/2017 || 28/06/2017	LCS-4	28/06/2017
Date analysed	-			29/06/2017	170012-1	28/06/2017 || 28/06/2017	LCS-4	28/06/2017
$TRHC_{10}$ - C_{14}	mg/kg	50	Org-003	<50	170012-1	<50 || <50	LCS-4	124%
$TRHC_{15}$ - C_{28}	mg/kg	100	Org-003	<100	170012-1	<100 || <100	LCS-4	115%
$TRHC_{29}$ - C_{36}	mg/kg	100	Org-003	<100	170012-1	<100 || <100	LCS-4	106%
$TRH>C_{10}$-C_{16}	mg/kg	50	Org-003	<50	170012-1	<50 || <50	LCS-4	124%
$TRH>C_{16}$-C_{34}	mg/kg	100	Org-003	<100	170012-1	<100 || <100	LCS-4	115%
$TRH>C_{34}$-C_{40}	mg/kg	100	Org-003	<100	170012-1	<100 || <100	LCS-4	106%
Surrogate o-Terphenyl	%		Org-003	95	170012-1	91 || 91 || RPD: 0	LCS-4	85%

QUALITY CONTROL PAHs in Soil	UNITS	PQL	METHOD	Blank	Duplicate Sm#	Duplicate results Base ll Duplicate ll %RPD	Spike Sm#	Spike % Recovery
Date extracted	-			28/06/2017	170012-1	28/06/2017 || 28/06/2017	LCS-4	28/06/2017
Date analysed	-			29/06/2017	170012-1	29/06/2017 || 29/06/2017	LCS-4	29/06/2017
Naphthalene	mg/kg	0.1	Org-012	<0.1	170012-1	<0.1 || <0.1	LCS-4	107%
Acenaphthylene	mg/kg	0.1	Org-012	<0.1	170012-1	<0.1 || <0.1	[NR]	[NR]
Acenaphthene	mg/kg	0.1	Org-012	<0.1	170012-1	<0.1 || <0.1	[NR]	[NR]
Fluorene	mg/kg	0.1	Org-012	<0.1	170012-1	<0.1 || <0.1	LCS-4	96%
Phenanthrene	mg/kg	0.1	Org-012	<0.1	170012-1	<0.1 || <0.1	LCS-4	97%
Anthracene	mg/kg	0.1	Org-012	<0.1	170012-1	<0.1 || <0.1	[NR]	[NR]
Fluoranthene	mg/kg	0.1	Org-012	<0.1	170012-1	<0.1 || <0.1	LCS-4	94%
Pyrene	mg/kg	0.1	Org-012	<0.1	170012-1	<0.1 || <0.1	LCS-4	93%
Benzo(a)anthracene	mg/kg	0.1	Org-012	<0.1	170012-1	<0.1 || <0.1	[NR]	[NR]
Chrysene	mg/kg	0.1	Org-012	<0.1	170012-1	<0.1 || <0.1	LCS-4	108%
Benzo(b,j+k) fluoranthene	mg/kg	0.2	Org-012	<0.2	170012-1	<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	170012-1	<0.05 || <0.05	LCS-4	81%
Indeno(1,2,3-c,d)pyrene	mg/kg	0.1	Org-012	<0.1	170012-1	<0.1 || <0.1	[NR]	[NR]
Dibenzo(a,h)anthracene	mg/kg	0.1	Org-012	<0.1	170012-1	<0.1 || <0.1	[NR]	[NR]
Benzo(g,h,i)perylene	mg/kg	0.1	Org-012	<0.1	170012-1	<0.1 || <0.1	[NR]	[NR]
Surrogate p-Terphenyl-d14	%		Org-012	97	170012-1	80 || 88 || RPD: 10	LCS-4	120%
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	-			28/06/2017	170012-1	28/06/2017 || 28/06/2017	LCS-4	28/06/2017
Date analysed	-			29/06/2017	170012-1	29/06/2017 || 29/06/2017	LCS-4	29/06/2017
Arsenic	mg/kg	4	Metals-020	<4	170012-1	5 || 11 || RPD: 75	LCS-4	111%
Cadmium	mg/kg	0.4	Metals-020	<0.4	170012-1	<0.4 || <0.4	LCS-4	103%
Chromium	mg/kg	1	Metals-020	<1	170012-1	9 || 11 || RPD: 20	LCS-4	109%
Copper	mg/kg	1	Metals-020	<1	170012-1	22 || 17 || RPD: 26	LCS-4	111%
Lead	mg/kg	1	Metals-020	<1	170012-1	13 || 19 || RPD: 38	LCS-4	105%
Mercury	mg/kg	0.1	Metals-021	<0.1	170012-1	<0.1 || <0.1	LCS-4	113%
Nickel	mg/kg	1	Metals-020	<1	170012-1	13 || 17 || RPD: 27	LCS-4	103%
Zinc	mg/kg	1	Metals-020	<1	170012-1	44 || 75 || RPD: 52	LCS-4	104%
QUALITY CONTROL Misc Soil - Inorg	UNITS	PQL	METHOD	Blank	Duplicate Sm#	Duplicate results Base ll Duplicate ll %RPD	Spike Sm#	Spike % Recovery
Date prepared	-			29/06/2017	[NT]	[NT]	LCS-4	29/06/2017
Date analysed	-			29/06/2017	[NT]	[NT]	LCS-4	29/06/2017
Total Phenolics (as Phenol)	mg/kg	5	Inorg-031	<5	[NT]	[NT]	LCS-4	97%
QUALITY CONTROL CEC	UNITS	PQL	METHOD	Blank	Duplicate Sm#	Duplicate results Base ll Duplicate ll %RPD	Spike Sm#	Spike % Recovery
Date prepared	-			30/06/2017	[NT]	[NT]	LCS-1	30/06/2017
Date analysed	-			30/06/2017	[NT]	[NT]	LCS-1	30/06/2017
Exchangeable Ca	meq/100g	0.1	Metals-009	<0.1	[NT]	[NT]	LCS-1	98%
Exchangeable K	meq/100g	0.1	Metals-009	<0.1	[NT]	[NT]	LCS-1	100%
Exchangeable Mg	meq/100g	0.1	Metals-009	<0.1	[NT]	[NT]	LCS-1	96%
Exchangeable Na	meq/100g	0.1	Metals-009	<0.1	[NT]	[NT]	LCS-1	102%

QUALITY CONTROL Misc Inorg - Soil	UNITS	PQL	METHOD	Blank	Duplicate Sm#	Duplicate results Base II Duplicate II %RPD	Spike Sm#	Spike % Recovery
Date prepared	-			30/06/2017	[NT]	[NT]	LCS-4	30/06/2017
Date analysed	-			30/06/2017	[NT]	[NT]	LCS-4	30/06/2017
pH 1:5 soil:water	pH Units		Inorg-001	[NT]	[NT]	[NT]	LCS-4	102%

QUALITY CONTROL vTRH(C6-C10)/BTEXN in Soil	UNITS	Dup. Sm#	Duplicate Base + Duplicate + %RPD	Spike Sm#	Spike % Recovery
Date extracted	-	170012-22	28/06/2017 || 28/06/2017	LCS-5	28/06/2017
Date analysed	-	170012-22	28/06/2017 || 28/06/2017	LCS-5	28/06/2017
$TRHC_6$ - C_9	mg/kg	170012-22	<25 || <25	LCS-5	108%
$TRHC_6$ - C_{10}	mg/kg	170012-22	<25 || <25	LCS-5	108%
Benzene	mg/kg	170012-22	<0.2 || <0.2	LCS-5	106%
Toluene	mg/kg	170012-22	<0.5 || <0.5	LCS-5	111%
Ethylbenzene	mg/kg	170012-22	<1 || <1	LCS-5	105%
m+p-xylene	mg/kg	170012-22	<2 || <2	LCS-5	108%
o-Xylene	mg/kg	170012-22	<1 || <1	LCS-5	105%
naphthalene	mg/kg	170012-22	<1 || <1	[NR]	[NR]
Surrogate aaa-Trifluorotoluene	%	170012-22	103 || 111 || RPD: 7	LCS-5	115%

QUALITY CONTROL svTRH (C10-C40) in Soil	UNITS	Dup. Sm#	Duplicate Base + Duplicate + %RPD	Spike Sm#	Spike % Recovery
Date extracted	-	170012-22	28/06/2017 || 28/06/2017	LCS-5	28/06/2017
Date analysed	-	170012-22	29/06/2017 || 29/06/2017	LCS-5	29/06/2017
$TRHC_{10}$ - C_{14}	mg/kg	170012-22	<50 || <50	LCS-5	129%
$TRHC_{15}$ - C_{28}	mg/kg	170012-22	<100 || <100	LCS-5	122%
$TRHC_{29}$ - C_{36}	mg/kg	170012-22	<100 || <100	LCS-5	121%
$TRH>C_{10}$-C_{16}	mg/kg	170012-22	<50 || <50	LCS-5	129%
$TRH>C_{16}$-C_{34}	mg/kg	170012-22	<100 || <100	LCS-5	122%
$TRH>C_{34}$-C_{40}	mg/kg	170012-22	<100 || <100	LCS-5	121%
Surrogate o-Terphenyl	%	170012-22	88 || 86 || RPD: 2	LCS-5	90%

QUALITY CONTROL PAHs in Soil	UNITS	Dup. Sm#	Duplicate Base + Duplicate + %RPD	Spike Sm#	Spike % Recovery
Date extracted	-	170012-22	28/06/2017 || 28/06/2017	LCS-5	28/06/2017
Date analysed	-	170012-22	29/06/2017 || 29/06/2017	LCS-5	29/06/2017
Naphthalene	mg/kg	170012-22	<0.1 || <0.1	LCS-5	106%
Acenaphthylene	mg/kg	170012-22	<0.1 || <0.1	[NR]	[NR]
Acenaphthene	mg/kg	170012-22	<0.1 || <0.1	[NR]	[NR]
Fluorene	mg/kg	170012-22	<0.1 || <0.1	LCS-5	96%
Phenanthrene	mg/kg	170012-22	<0.1 || <0.1	LCS-5	97%
Anthracene	mg/kg	170012-22	<0.1 || <0.1	[NR]	[NR]
Fluoranthene	mg/kg	170012-22	<0.1 || <0.1	LCS-5	95%
Pyrene	mg/kg	170012-22	<0.1 || <0.1	LCS-5	95%

QUALITY CONTROL PAHs in Soil	UNITS	Dup. Sm#	Duplicate Base + Duplicate + %RPD	Spike Sm#	Spike % Recovery
Benzo(a)anthracene	mg/kg	170012-22	<0.1 || <0.1	[NR]	[NR]
Chrysene	mg/kg	170012-22	<0.1 || <0.1	LCS-5	108%
Benzo(b,j+k)fluoranthene	mg/kg	170012-22	<0.2 || <0.2	[NR]	[NR]
Benzo(a)pyrene	mg/kg	170012-22	<0.05 || <0.05	LCS-5	93%
Indeno(1,2,3-c,d)pyrene	mg/kg	170012-22	<0.1 || <0.1	[NR]	[NR]
Dibenzo(a,h)anthracene	mg/kg	170012-22	<0.1 || <0.1	[NR]	[NR]
Benzo(g,h,i)perylene	mg/kg	170012-22	<0.1 || <0.1	[NR]	[NR]
Surrogate p-Terphenyl-d14	%	170012-22	97 || 98 || RPD: 1	LCS-5	123%
QUALITY CONTROL Acid Extractable metals in soil	UNITS	Dup. Sm#	Duplicate Base + Duplicate + %RPD	Spike Sm#	Spike % Recovery
Date prepared	-	170012-22	28/06/2017 || 28/06/2017	LCS-5	28/06/2017
Date analysed	-	170012-22	29/06/2017 || 29/06/2017	LCS-5	29/06/2017
Arsenic	mg/kg	170012-22	<4 || <4	LCS-5	107%
Cadmium	mg/kg	170012-22	<0.4 || <0.4	LCS-5	101%
Chromium	mg/kg	170012-22	19 || 28 || RPD: 38	LCS-5	105%
Copper	mg/kg	170012-22	29 || 19 || RPD: 42	LCS-5	108%
Lead	mg/kg	170012-22	7 || 7 || RPD: 0	LCS-5	100%
Mercury	mg/kg	170012-22	<0.1 || <0.1	LCS-5	107%
Nickel	mg/kg	170012-22	30 || 29 || RPD: 3	LCS-5	99%
Zinc	mg/kg	170012-22	33 || 38 || RPD: 14	LCS-5	101%

QUALITY CONTROL VOCs in soil	UNITS	Dup. Sm#	Duplicate Base + Duplicate + %RPD
Date extracted	-	170012-41	28/06/2017 || 28/06/2017
Date analysed	-	170012-41	28/06/2017 || 28/06/2017
Dichlorodifluoromethane	mg/kg	170012-41	<1 || <1
Chloromethane	mg/kg	170012-41	<1 || <1
Vinyl Chloride	mg/kg	170012-41	<1 || <1
Bromomethane	mg/kg	170012-41	<1 || <1
Chloroethane	mg/kg	170012-41	<1 || <1
Trichlorofluoromethane	mg/kg	170012-41	<1 || <1
1,1-Dichloroethene	mg/kg	170012-41	<1 || <1
trans-1,2-dichloroethene	mg/kg	170012-41	<1 || <1
1,1-dichloroethane	mg/kg	170012-41	<1 || <1
cis-1,2-dichloroethene	mg/kg	170012-41	<1 || <1
bromochloromethane	mg/kg	170012-41	<1 || <1
chloroform	mg/kg	170012-41	<1 || <1
2,2-dichloropropane	mg/kg	170012-41	<1 || <1
1,2-dichloroethane	mg/kg	170012-41	<1 || <1
1,1,1-trichloroethane	mg/kg	170012-41	<1 || <1
1,1-dichloropropene	mg/kg	170012-41	<1 || <1
Cyclohexane	mg/kg	170012-41	<1 || <1

QUALITY CONTROL VOCs in soil	UNITS	Dup. Sm#	Duplicate Base + Duplicate + %RPD
carbon tetrachloride	mg/kg	170012-41	<1 || <1
Benzene	mg/kg	170012-41	<0.2 || <0.2
dibromomethane	mg/kg	170012-41	<1 || <1
1,2-dichloropropane	mg/kg	170012-41	<1 || <1
trichloroethene	mg/kg	170012-41	<1 || <1
bromodichloromethane	mg/kg	170012-41	<1 || <1
trans-1,3-dichloropropene	mg/kg	170012-41	<1 || <1
cis-1,3-dichloropropene	mg/kg	170012-41	<1 || <1
1,1,2-trichloroethane	mg/kg	170012-41	<1 || <1
Toluene	mg/kg	170012-41	<0.5 || <0.5
1,3-dichloropropane	mg/kg	170012-41	<1 || <1
dibromochloromethane	mg/kg	170012-41	<1 || <1
1,2-dibromoethane	mg/kg	170012-41	<1 || <1
tetrachloroethene	mg/kg	170012-41	<1 || <1
1,1,1,2-tetrachloroethane	mg/kg	170012-41	<1 || <1
chlorobenzene	mg/kg	170012-41	<1 || <1
Ethylbenzene	mg/kg	170012-41	<1 || <1
bromoform	mg/kg	170012-41	<1 || <1
m+p-xylene	mg/kg	170012-41	<2 || <2
styrene	mg/kg	170012-41	<1 || <1
1,1,2,2-tetrachloroethane	mg/kg	170012-41	<1 || <1
o-Xylene	mg/kg	170012-41	<1 || <1
1,2,3-trichloropropane	mg/kg	170012-41	<1 || <1
isopropylbenzene	mg/kg	170012-41	<1 || <1
bromobenzene	mg/kg	170012-41	<1 || <1
n-propyl benzene	mg/kg	170012-41	<1 || <1
2-chlorotoluene	mg/kg	170012-41	<1 || <1
4-chlorotoluene	mg/kg	170012-41	<1 || <1
1,3,5-trimethyl benzene	mg/kg	170012-41	<1 || <1
tert-butyl benzene	mg/kg	170012-41	<1 || <1
1,2,4-trimethyl benzene	mg/kg	170012-41	<1 || <1
1,3-dichlorobenzene	mg/kg	170012-41	<1 || <1
sec-butyl benzene	mg/kg	170012-41	<1 || <1
1,4-dichlorobenzene	mg/kg	170012-41	<1 || <1
4-isopropyl toluene	mg/kg	170012-41	<1 || <1
1,2-dichlorobenzene	mg/kg	170012-41	<1 || <1
n-butyl benzene	mg/kg	170012-41	<1 || <1
1,2-dibromo-3-chloropropane	mg/kg	170012-41	<1 || <1
1,2,4-trichlorobenzene	mg/kg	170012-41	<1 || <1
hexachlorobutadiene	mg/kg	170012-41	<1 || <1
1,2,3-trichlorobenzene	mg/kg	170012-41	<1 || <1

QUALITY CONTROL VOCs in soil	UNITS	Dup. Sm#	Duplicate Base + Duplicate + %RPD
Surrogate Dibromofluorometha	%	170012-41	102 || 101 || RPD: 1
Surrogate aaa-Trifluorotoluene	%	170012-41	94 || 82 || RPD: 14
Surrogate Toluene-d_8	%	170012-41	98 || 98 || RPD: 0
Surrogate 4-Bromofluorobenzene	%	170012-41	90 || 95 || RPD: 5

QUALITY CONTROL vTRH(C6-C10)/BTEXN in Soil	UNITS	Dup. Sm#	Duplicate Base + Duplicate + %RPD	Spike Sm#	Spike % Recovery
Date extracted	-	170012-41	28/06/2017 || 28/06/2017	170012-2	28/06/2017
Date analysed	-	170012-41	28/06/2017 || 28/06/2017	170012-2	28/06/2017
TRHC_6 - C_9	mg/kg	170012-41	<25 || <25	170012-2	74%
TRHC_6 - C_{10}	mg/kg	170012-41	<25 || <25	170012-2	74%
Benzene	mg/kg	170012-41	<0.2 || <0.2	170012-2	72%
Toluene	mg/kg	170012-41	<0.5 || <0.5	170012-2	75%
Ethylbenzene	mg/kg	170012-41	<1 || <1	170012-2	73%
m+p-xylene	mg/kg	170012-41	<2 || <2	170012-2	75%
o-Xylene	mg/kg	170012-41	<1 || <1	170012-2	73%
naphthalene	mg/kg	170012-41	<1 || <1	[NR]	[NR]
Surrogate aaa-Trifluorotoluene	%	170012-41	94 || 82 || RPD: 14	170012-2	78%

QUALITY CONTROL svTRH (C10-C40) in Soil	UNITS	Dup. Sm#	Duplicate Base + Duplicate + %RPD	Spike Sm#	Spike % Recovery
Date extracted	-	170012-41	28/06/2017 || 28/06/2017	170012-2	28/06/2017
Date analysed	-	170012-41	29/06/2017 || 29/06/2017	170012-2	28/06/2017
TRHC_{10} - C_{14}	mg/kg	170012-41	<50 || <50	170012-2	126%
TRHC_{15} - C_{28}	mg/kg	170012-41	<100 || <100	170012-2	111%
TRHC_{29} - C_{36}	mg/kg	170012-41	<100 || <100	170012-2	101%
TRH>C_{10}-C_{16}	mg/kg	170012-41	<50 || <50	170012-2	126%
TRH>C_{16}-C_{34}	mg/kg	170012-41	<100 || <100	170012-2	111%
TRH>C_{34}-C_{40}	mg/kg	170012-41	<100 || <100	170012-2	101%
Surrogate o-Terphenyl	%	170012-41	89 || 89 || RPD: 0	170012-2	92%

QUALITY CONTROL PAHs in Soil	UNITS	Dup. Sm#	Duplicate Base + Duplicate + %RPD	Spike Sm#	Spike % Recovery
Date extracted	-	170012-41	28/06/2017 || 28/06/2017	170012-2	28/06/2017
Date analysed	-	170012-41	29/06/2017 || 29/06/2017	170012-2	29/06/2017
Naphthalene	mg/kg	170012-41	<0.1 || <0.1	170012-2	98%
Acenaphthylene	mg/kg	170012-41	<0.1 || <0.1	[NR]	[NR]
Acenaphthene	mg/kg	170012-41	<0.1 || <0.1	[NR]	[NR]
Fluorene	mg/kg	170012-41	<0.1 || <0.1	170012-2	89%
Phenanthrene	mg/kg	170012-41	<0.1 || <0.1	170012-2	87%
Anthracene	mg/kg	170012-41	<0.1 || <0.1	[NR]	[NR]
Fluoranthene	mg/kg	170012-41	<0.1 || <0.1	170012-2	88%
Pyrene	mg/kg	170012-41	<0.1 || <0.1	170012-2	96%
Benzo(a)anthracene	mg/kg	170012-41	<0.1 || <0.1	[NR]	[NR]
Chrysene	mg/kg	170012-41	<0.1 || <0.1	170012-2	101%
Benzo(b,j+k)fluoranthene	mg/kg	170012-41	<0.2 || <0.2	[NR]	[NR]
Benzo(a)pyrene	mg/kg	170012-41	<0.05 || <0.05	170012-2	95%
Indeno(1,2,3-c,d)pyrene	mg/kg	170012-41	<0.1 || <0.1	[NR]	[NR]
Dibenzo(a,h)anthracene	mg/kg	170012-41	<0.1 || <0.1	[NR]	[NR]
Benzo(g,h,i)perylene	mg/kg	170012-41	<0.1 || <0.1	[NR]	[NR]
Surrogate p-Terphenyl-d14	%	170012-41	93 || 98 || RPD: 5	170012-2	122%

QUALITY CONTROL Acid Extractable metals in soil	UNITS	Dup. Sm#	Duplicate Base + Duplicate + %RPD	Spike Sm#	Spike % Recovery
Date prepared	-	170012-41	28/06/2017 || 28/06/2017	170012-2	28/06/2017
Date analysed	-	170012-41	29/06/2017 || 29/06/2017	170012-2	29/06/2017
Arsenic	mg/kg	170012-41	35 || 60 || RPD: 53	170012-2	130%
Cadmium	mg/kg	170012-41	<0.4 || <0.4	170012-2	97%
Chromium	mg/kg	170012-41	16 || 17 || RPD: 6	170012-2	108%
Copper	mg/kg	170012-41	27 || 24 || RPD: 12	170012-2	110%
Lead	mg/kg	170012-41	19 || 19 || RPD: 0	170012-2	115%
Mercury	mg/kg	170012-41	<0.1 || <0.1	170012-2	106%
Nickel	mg/kg	170012-41	16 || 12 || RPD: 29	170012-2	71%
Zinc	mg/kg	170012-41	85 || 59 || RPD: 36	170012-2	95%

QUALITY CONTROL VOCs in soil	UNITS	Dup. Sm#	Duplicate Base + Duplicate + %RPD	Spike Sm#	Spike % Recovery
Date extracted	-	170012-62	28/06/2017 || 28/06/2017	170012-45	28/06/2017
Date analysed	-	170012-62	28/06/2017 || 28/06/2017	170012-45	28/06/2017
Dichlorodifluoromethane	mg/kg	170012-62	<1 || <1	[NR]	[NR]
Chloromethane	mg/kg	170012-62	<1 || <1	[NR]	[NR]
Vinyl Chloride	mg/kg	170012-62	<1 || <1	[NR]	[NR]
Bromomethane	mg/kg	170012-62	<1 || <1	[NR]	[NR]
Chloroethane	mg/kg	170012-62	<1 || <1	[NR]	[NR]
Trichlorofluoromethane	mg/kg	170012-62	<1 || <1	[NR]	[NR]
1,1-Dichloroethene	mg/kg	170012-62	<1 || <1	[NR]	[NR]
trans-1,2-dichloroethene	mg/kg	170012-62	<1 || <1	[NR]	[NR]
1,1-dichloroethane	mg/kg	170012-62	<1 || <1	170012-45	91%
cis-1,2-dichloroethene	mg/kg	170012-62	<1 || <1	[NR]	[NR]
bromochloromethane	mg/kg	170012-62	<1 || <1	[NR]	[NR]
chloroform	mg/kg	170012-62	<1 || <1	170012-45	91%
2,2-dichloropropane	mg/kg	170012-62	<1 || <1	[NR]	[NR]
1,2-dichloroethane	mg/kg	170012-62	<1 || <1	170012-45	92%
1,1,1-trichloroethane	mg/kg	170012-62	<1 || <1	170012-45	79%
1,1-dichloropropene	mg/kg	170012-62	<1 || <1	[NR]	[NR]
Cyclohexane	mg/kg	170012-62	<1 || <1	[NR]	[NR]
carbon tetrachloride	mg/kg	170012-62	<1 || <1	[NR]	[NR]
Benzene	mg/kg	170012-62	<0.2 || <0.2	[NR]	[NR]
dibromomethane	mg/kg	170012-62	<1 || <1	[NR]	[NR]
1,2-dichloropropane	mg/kg	170012-62	<1 || <1	[NR]	[NR]
trichloroethene	mg/kg	170012-62	<1 || <1	170012-45	86%
bromodichloromethane	mg/kg	170012-62	<1 || <1	170012-45	83%
trans-1,3-dichloropropene	mg/kg	170012-62	<1 || <1	[NR]	[NR]
cis-1,3-dichloropropene	mg/kg	170012-62	<1 || <1	[NR]	[NR]
1,1,2-trichloroethane	mg/kg	170012-62	<1 || <1	[NR]	[NR]
Toluene	mg/kg	170012-62	<0.5 || <0.5	[NR]	[NR]
1,3-dichloropropane	mg/kg	170012-62	<1 || <1	[NR]	[NR]
dibromochloromethane	mg/kg	170012-62	<1 || <1	170012-45	71%
1,2-dibromoethane	mg/kg	170012-62	<1 || <1	[NR]	[NR]
tetrachloroethene	mg/kg	170012-62	<1 || <1	170012-45	90%
1,1,1,2-tetrachloroethane	mg/kg	170012-62	<1 || <1	[NR]	[NR]
chlorobenzene	mg/kg	170012-62	<1 || <1	[NR]	[NR]
Ethylbenzene	mg/kg	170012-62	<1 || <1	[NR]	[NR]
bromoform	mg/kg	170012-62	<1 || <1	[NR]	[NR]
m+p-xylene	mg/kg	170012-62	<2 || <2	[NR]	[NR]
styrene	mg/kg	170012-62	<1 || <1	[NR]	[NR]
1,1,2,2-tetrachloroethane	mg/kg	170012-62	<1 || <1	[NR]	[NR]
o-Xylene	mg/kg	170012-62	<1 || <1	[NR]	[NR]
1,2,3-trichloropropane	mg/kg	170012-62	<1 || <1	[NR]	[NR]

QUALITY CONTROL VOCs in soil	UNITS	Dup. Sm#	Duplicate Base + Duplicate + %RPD	Spike Sm#	Spike % Recovery
isopropylbenzene	mg/kg	170012-62	<1 || <1	[NR]	[NR]
bromobenzene	mg/kg	170012-62	<1 || <1	[NR]	[NR]
n-propyl benzene	mg/kg	170012-62	<1 || <1	[NR]	[NR]
2-chlorotoluene	mg/kg	170012-62	<1 || <1	[NR]	[NR]
4-chlorotoluene	mg/kg	170012-62	<1 || <1	[NR]	[NR]
1,3,5-trimethyl benzene	mg/kg	170012-62	<1 || <1	[NR]	[NR]
tert-butyl benzene	mg/kg	170012-62	<1 || <1	[NR]	[NR]
1,2,4-trimethyl benzene	mg/kg	170012-62	<1 || <1	[NR]	[NR]
1,3-dichlorobenzene	mg/kg	170012-62	<1 || <1	[NR]	[NR]
sec-butyl benzene	mg/kg	170012-62	<1 || <1	[NR]	[NR]
1,4-dichlorobenzene	mg/kg	170012-62	<1 || <1	[NR]	[NR]
4-isopropyl toluene	mg/kg	170012-62	<1 || <1	[NR]	[NR]
1,2-dichlorobenzene	mg/kg	170012-62	<1 || <1	[NR]	[NR]
n-butyl benzene	mg/kg	170012-62	<1 || <1	[NR]	[NR]
1,2-dibromo-3-chloropropane	mg/kg	170012-62	<1 || <1	[NR]	[NR]
1,2,4-trichlorobenzene	mg/kg	170012-62	<1 || <1	[NR]	[NR]
hexachlorobutadiene	mg/kg	170012-62	<1 || <1	[NR]	[NR]
1,2,3-trichlorobenzene	mg/kg	170012-62	<1 || <1	[NR]	[NR]
Surrogate Dibromofluorometha	%	170012-62	104 || 104 || RPD: 0	170012-45	98%
Surrogate aaa-Trifluorotoluene	%	170012-62	84 || 95 || RPD: 12	170012-45	81%
Surrogate Toluene-d_8	%	170012-62	97 || 99 || RPD: 2	170012-45	98%
Surrogate 4-Bromofluorobenzene	%	170012-62	90 || 89 || RPD: 1	170012-45	97%

QUALITY CONTROL vTRH(C6-C10)/BTEXN in Soil	UNITS	Dup. Sm#	Duplicate Base + Duplicate + %RPD	Spike Sm#	Spike % Recovery
Date extracted	-	170012-62	28/06/2017 || 28/06/2017	170012-45	28/06/2017
Date analysed	-	170012-62	28/06/2017 || 28/06/2017	170012-45	28/06/2017
$TRHC_6$ - C_9	mg/kg	170012-62	<25 || <25	170012-45	93%
$TRHC_6$ - C_{10}	mg/kg	170012-62	<25 || <25	170012-45	93%
Benzene	mg/kg	170012-62	<0.2 || <0.2	170012-45	84%
Toluene	mg/kg	170012-62	<0.5 || <0.5	170012-45	95%
Ethylbenzene	mg/kg	170012-62	<1 || <1	170012-45	90%
m+p-xylene	mg/kg	170012-62	<2 || <2	170012-45	99%
o-Xylene	mg/kg	170012-62	<1 || <1	170012-45	85%
naphthalene	mg/kg	170012-62	<1 || <1	[NR]	[NR]
Surrogate aaa-Trifluorotoluene	%	170012-62	84 || 95 || RPD: 12	170012-45	81%

QUALITY CONTROL svTRH (C10-C40) in Soil	UNITS	Dup. Sm#	Duplicate Base + Duplicate + %RPD	Spike Sm#	Spike % Recovery
Date extracted	-	170012-62	28/06/2017 || 28/06/2017	170012-45	28/06/2017
Date analysed	-	170012-62	29/06/2017 || 29/06/2017	170012-45	29/06/2017
$TRHC_{10}$ - C_{14}	mg/kg	170012-62	<50 || <50	170012-45	125%
$TRHC_{15}$ - C_{28}	mg/kg	170012-62	<100 || <100	170012-45	113%
$TRHC_{29}$ - C_{36}	mg/kg	170012-62	<100 || <100	170012-45	100%
$TRH>C_{10}$-C_{16}	mg/kg	170012-62	<50 || <50	170012-45	125%
$TRH>C_{16}$-C_{34}	mg/kg	170012-62	<100 || <100	170012-45	113%
$TRH>C_{34}$-C_{40}	mg/kg	170012-62	<100 || <100	170012-45	100%
Surrogate o-Terphenyl	%	170012-62	98 || 94 || RPD: 4	170012-45	90%

QUALITY CONTROL PAHs in Soil	UNITS	Dup. Sm#	Duplicate Base + Duplicate + %RPD	Spike Sm#	Spike % Recovery
Date extracted	-	170012-62	28/06/2017 || 28/06/2017	170012-45	28/06/2017
Date analysed	-	170012-62	29/06/2017 || 29/06/2017	170012-45	29/06/2017
Naphthalene	mg/kg	170012-62	<0.1 || <0.1	170012-45	106%
Acenaphthylene	mg/kg	170012-62	<0.1 || <0.1	[NR]	[NR]
Acenaphthene	mg/kg	170012-62	<0.1 || <0.1	[NR]	[NR]
Fluorene	mg/kg	170012-62	<0.1 || <0.1	170012-45	95%
Phenanthrene	mg/kg	170012-62	<0.1 || <0.1	170012-45	92%
Anthracene	mg/kg	170012-62	<0.1 || <0.1	[NR]	[NR]
Fluoranthene	mg/kg	170012-62	<0.1 || <0.1	170012-45	90%
Pyrene	mg/kg	170012-62	<0.1 || <0.1	170012-45	94%
Benzo(a)anthracene	mg/kg	170012-62	<0.1 || <0.1	[NR]	[NR]
Chrysene	mg/kg	170012-62	<0.1 || <0.1	170012-45	106%
Benzo(b,j+k)fluoranthene	mg/kg	170012-62	<0.2 || <0.2	[NR]	[NR]
Benzo(a)pyrene	mg/kg	170012-62	<0.05 || <0.05	170012-45	86%
Indeno(1,2,3-c,d)pyrene	mg/kg	170012-62	<0.1 || <0.1	[NR]	[NR]
Dibenzo(a,h)anthracene	mg/kg	170012-62	<0.1 || <0.1	[NR]	[NR]

QUALITY CONTROL PAHs in Soil	UNITS	Dup. Sm#	Duplicate Base + Duplicate + %RPD	Spike Sm#	Spike % Recovery
Benzo(g,h,i)perylene	mg/kg	170012-62	<0.1 || <0.1	[NR]	[NR]
Surrogate p-Terphenyl-d14	%	170012-62	99 || 100 || RPD: 1	170012-45	120%
QUALITY CONTROL Acid Extractable metals in soil	UNITS	Dup. Sm#	Duplicate Base + Duplicate + %RPD	Spike Sm#	Spike % Recovery
Date prepared	-	170012-62	28/06/2017 || 28/06/2017	170012-45	28/06/2017
Date analysed	-	170012-62	29/06/2017 || 29/06/2017	170012-45	29/06/2017
Arsenic	mg/kg	170012-62	6 || 6 || RPD: 0	170012-45	90%
Cadmium	mg/kg	170012-62	<0.4 || <0.4	170012-45	101%
Chromium	mg/kg	170012-62	16 || 14 || RPD: 13	170012-45	100%
Copper	mg/kg	170012-62	25 || 30 || RPD: 18	170012-45	100%
Lead	mg/kg	170012-62	13 || 14 || RPD: 7	170012-45	102%
Mercury	mg/kg	170012-62	<0.1 || <0.1	170012-45	109%
Nickel	mg/kg	170012-62	8 || 16 || RPD: 67	170012-45	100%
Zinc	mg/kg	170012-62	70 || 76 || RPD: 8	170012-45	95%

QUALITY CONTROL Misc Soil - Inorg	UNITS	Dup. Sm#	Duplicate Base + Duplicate + %RPD
Date prepared	-	170012-51	28/06/2017 || 28/06/2017
Date analysed	-	170012-51	29/06/2017 || 29/06/2017
Total Phenolics (as Phenol)	mg/kg	170012-51	<5 || <5

QUALITY CONTROL CEC	UNITS	Dup. Sm#	Duplicate Base + Duplicate + %RPD
Date prepared	-	170012-8	30/06/2017 || 30/06/2017
Date analysed	-	170012-8	30/06/2017 || 30/06/2017
Exchangeable Ca	meq/100 g	170012-8	<0.1 || <0.1
Exchangeable K	meq/100 g	170012-8	0.1 || 0.1 || RPD: 0
Exchangeable Mg	meq/100 g	170012-8	5.4 || 5.4 || RPD: 0
Exchangeable Na	meq/100 g	170012-8	3.9 || 3.9 || RPD: 0

Report Comments:

Acid Extractable Metals in Soil: The laboratory RPD acceptance criteria has been exceeded for 170012-1 for Zn. Therefore a triplicate result has been issued as laboratory sample number 170012-72.

Acid Extractable Metals in Soil: The laboratory RPD acceptance criteria has been exceeded for 170012-41 for As. Therefore a triplicate result has been issued as laboratory sample number 170012-73.

Acid Extractable Metals in Soil: The laboratory RPD acceptance criteria has been exceeded for 170012-62 for Ni. Therefore a triplicate result has been issued as laboratory sample number 170012-74.

Asbestos ID was analysed by Approved Identifier:	Not applicable for this job
Asbestos ID was authorised by Approved Signatory:	Not applicable for this job

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

Aileen Hie

From: Atkins, Jake <jatkins1@kpmg.com.au>
Sent: Friday, 7 July 2017 3:01 PM
To: 'sydney@envirolab.com.au'
Cc: Ken Nguyen
Subject: RE: Results for Registration 170012 314465

Hello,

-12

For batch 170012 can I please schedule on a 5 day TAT combo 3 for BH02_1.9?

Regards

Jake Atkins
Environmental Consultant

KPMG
Tower Three
International Towers Sydney
300 Barangaroo Avenue
Sydney NSW 2000 Australia

Tel +61 2 9335 8495
Mob +61 448 396 281
jatkins1@kpmg.com.au

kpmg.com.au

Envirolab Ref: 170012 A

Due: 14/7/17

Std 7/A.

From: Ken Nguyen [mailto:KNguyen@envirolab.com.au]
Sent: Monday, 3 July 2017 5:06 PM
To: Atkins, Jake <jatkins1@kpmg.com.au>
Subject: Results for Registration 170012 314465

Please refer to attached for:
a copy of the Certificate of Analysis
a copy of the Invoice
a copy of the COC
an excel file containing the results

Please note that a hard copy will not be posted.

Enquiries should be made directly to:
customerservice@envirolab.com.au

Regards

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 170012-A

Client:

KPMG SGA
Tower3, International Towers Sydney
300 Barangaroo Ave
Sydney
NSW 2000

Attention: Jake Atkins

Sample log in details:

Your Reference:	**314465**
No. of samples:	Additional Testing on 1 Soil
Date samples received / completed instructions received	22/06/17 / 07/07/17

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:	14/07/17 / 12/07/17
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	170012-A-12
Your Reference	---------- -	BH02_1.9
Depth	----------	1.9
Date Sampled		20/06/2017
Type of sample		Soil
Date extracted	-	11/07/2017
Date analysed	-	12/07/2017
TRHC$_6$ - C$_9$	mg/kg	<25
TRHC$_6$ - C$_{10}$	mg/kg	<25
vTPHC$_6$ - 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
Total +ve Xylenes	mg/kg	<1
naphthalene	mg/kg	<1
Surrogate aaa-Trifluorotoluene	%	103

svTRH (C10-C40) in Soil		
Our Reference:	UNITS	170012-A-12
Your Reference	---------- -	BH02_1.9
Depth	----------	1.9
Date Sampled		20/06/2017
Type of sample		Soil
Date extracted	-	11/07/2017
Date analysed	-	11/07/2017
$TRHC_{10}$ - C_{14}	mg/kg	<50
$TRHC_{15}$ - C_{28}	mg/kg	<100
$TRHC_{29}$ - 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	%	88

PAHs in Soil Our Reference: Your Reference Depth Date Sampled Type of sample	UNITS ---------- - ---------- 	170012-A-12 BH02_1.9 1.9 20/06/2017 Soil
Date extracted	-	11/07/2017
Date analysed	-	11/07/2017
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
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
Total +ve PAH's	mg/kg	<0.05
Surrogate p-Terphenyl-d14	%	97

Acid Extractable metals in soil		
Our Reference:	UNITS	170012-A-12
Your Reference	----------	BH02_1.9
	-	
Depth	----------	1.9
Date Sampled		20/06/2017
Type of sample		Soil
Date prepared	-	11/07/2017
Date analysed	-	11/07/2017
Arsenic	mg/kg	7
Cadmium	mg/kg	<0.4
Chromium	mg/kg	10
Copper	mg/kg	23
Lead	mg/kg	17
Mercury	mg/kg	<0.1
Nickel	mg/kg	20
Zinc	mg/kg	75

Moisture		
Our Reference:	UNITS	170012-A-12
Your Reference	----------	BH02_1.9
	-	
Depth	----------	1.9
Date Sampled		20/06/2017
Type of sample		Soil
Date prepared	-	10/07/2017
Date analysed	-	11/07/2017
Moisture	%	15

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.
Metals-020	Determination of various metals by ICP-AES.
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.

QUALITY CONTROL vTRH(C6-C10)/BTEXN in Soil	UNITS	PQL	METHOD	Blank	Duplicate Sm#	Duplicate results Base ll Duplicate ll %RPD	Spike Sm#	Spike % Recovery
Date extracted	-			11/07/2017	[NT]	[NT]	LCS-5	11/07/2017
Date analysed	-			12/07/2017	[NT]	[NT]	LCS-5	12/07/2017
$TRHC_6$ - C_9	mg/kg	25	Org-016	<25	[NT]	[NT]	LCS-5	115%
$TRHC_6$ - C_{10}	mg/kg	25	Org-016	<25	[NT]	[NT]	LCS-5	115%
Benzene	mg/kg	0.2	Org-016	<0.2	[NT]	[NT]	LCS-5	105%
Toluene	mg/kg	0.5	Org-016	<0.5	[NT]	[NT]	LCS-5	118%
Ethylbenzene	mg/kg	1	Org-016	<1	[NT]	[NT]	LCS-5	117%
m+p-xylene	mg/kg	2	Org-016	<2	[NT]	[NT]	LCS-5	118%
o-Xylene	mg/kg	1	Org-016	<1	[NT]	[NT]	LCS-5	118%
naphthalene	mg/kg	1	Org-014	<1	[NT]	[NT]	[NR]	[NR]
Surrogate aaa-Trifluorotoluene	%		Org-016	111	[NT]	[NT]	LCS-5	123%

QUALITY CONTROL svTRH (C10-C40) in Soil	UNITS	PQL	METHOD	Blank	Duplicate Sm#	Duplicate results Base ll Duplicate ll %RPD	Spike Sm#	Spike % Recovery
Date extracted	-			11/07/2017	[NT]	[NT]	LCS-5	11/07/2017
Date analysed	-			11/07/2017	[NT]	[NT]	LCS-5	11/07/2017
$TRHC_{10}$ - C_{14}	mg/kg	50	Org-003	<50	[NT]	[NT]	LCS-5	116%
$TRHC_{15}$ - C_{28}	mg/kg	100	Org-003	<100	[NT]	[NT]	LCS-5	108%
$TRHC_{29}$ - C_{36}	mg/kg	100	Org-003	<100	[NT]	[NT]	LCS-5	106%
$TRH>C_{10}$-C_{16}	mg/kg	50	Org-003	<50	[NT]	[NT]	LCS-5	116%
$TRH>C_{16}$-C_{34}	mg/kg	100	Org-003	<100	[NT]	[NT]	LCS-5	108%
$TRH>C_{34}$-C_{40}	mg/kg	100	Org-003	<100	[NT]	[NT]	LCS-5	106%
Surrogate o-Terphenyl	%		Org-003	90	[NT]	[NT]	LCS-5	114%

QUALITY CONTROL PAHs in Soil	UNITS	PQL	METHOD	Blank	Duplicate Sm#	Duplicate results Base ll Duplicate ll %RPD	Spike Sm#	Spike % Recovery
Date extracted	-			11/07/2017	[NT]	[NT]	LCS-5	11/07/2017
Date analysed	-			12/07/2017	[NT]	[NT]	LCS-5	12/07/2017
Naphthalene	mg/kg	0.1	Org-012	<0.1	[NT]	[NT]	LCS-5	106%
Acenaphthylene	mg/kg	0.1	Org-012	<0.1	[NT]	[NT]	[NR]	[NR]
Acenaphthene	mg/kg	0.1	Org-012	<0.1	[NT]	[NT]	[NR]	[NR]
Fluorene	mg/kg	0.1	Org-012	<0.1	[NT]	[NT]	LCS-5	101%
Phenanthrene	mg/kg	0.1	Org-012	<0.1	[NT]	[NT]	LCS-5	104%
Anthracene	mg/kg	0.1	Org-012	<0.1	[NT]	[NT]	[NR]	[NR]
Fluoranthene	mg/kg	0.1	Org-012	<0.1	[NT]	[NT]	LCS-5	106%
Pyrene	mg/kg	0.1	Org-012	<0.1	[NT]	[NT]	LCS-5	108%
Benzo(a)anthracene	mg/kg	0.1	Org-012	<0.1	[NT]	[NT]	[NR]	[NR]
Chrysene	mg/kg	0.1	Org-012	<0.1	[NT]	[NT]	LCS-5	118%
Benzo(b,j+k) fluoranthene	mg/kg	0.2	Org-012	<0.2	[NT]	[NT]	[NR]	[NR]

QUALITY CONTROL PAHs in Soil	UNITS	PQL	METHOD	Blank	Duplicate Sm#	Duplicate results Base II Duplicate II %RPD	Spike Sm#	Spike % Recovery
Benzo(a)pyrene	mg/kg	0.05	Org-012	<0.05	[NT]	[NT]	LCS-5	97%
Indeno(1,2,3-c,d)pyrene	mg/kg	0.1	Org-012	<0.1	[NT]	[NT]	[NR]	[NR]
Dibenzo(a,h)anthracene	mg/kg	0.1	Org-012	<0.1	[NT]	[NT]	[NR]	[NR]
Benzo(g,h,i)perylene	mg/kg	0.1	Org-012	<0.1	[NT]	[NT]	[NR]	[NR]
Surrogate p-Terphenyl-d14	%		Org-012	89	[NT]	[NT]	LCS-5	127%
QUALITY CONTROL Acid Extractable metals in soil	UNITS	PQL	METHOD	Blank	Duplicate Sm#	Duplicate results Base II Duplicate II %RPD	Spike Sm#	Spike % Recovery
Date prepared	-			11/07/2017	[NT]	[NT]	LCS-5	11/07/2017
Date analysed	-			11/07/2017	[NT]	[NT]	LCS-5	11/07/2017
Arsenic	mg/kg	4	Metals-020	<4	[NT]	[NT]	LCS-5	111%
Cadmium	mg/kg	0.4	Metals-020	<0.4	[NT]	[NT]	LCS-5	105%
Chromium	mg/kg	1	Metals-020	<1	[NT]	[NT]	LCS-5	110%
Copper	mg/kg	1	Metals-020	<1	[NT]	[NT]	LCS-5	109%
Lead	mg/kg	1	Metals-020	<1	[NT]	[NT]	LCS-5	103%
Mercury	mg/kg	0.1	Metals-021	<0.1	[NT]	[NT]	LCS-5	88%
Nickel	mg/kg	1	Metals-020	<1	[NT]	[NT]	LCS-5	102%
Zinc	mg/kg	1	Metals-020	<1	[NT]	[NT]	LCS-5	104%

Report Comments:

Asbestos ID was analysed by Approved Identifier:	Not applicable for this job
Asbestos ID was authorised by Approved Signatory:	Not applicable for this job

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

CHAIN OF CUSTODY - Client

ENVIROLAB GROUP - National phone number 1300 424 344

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Ph: 08 8967 1201 / darwin@envirolab.com.au

Client: KPMG SGA	Client Project Name / Number / Site etc (ie report title): 314465
Contact Person: Jake Atkins	
Project Mgr: Jake Atkins	PO No.:
Sampler: Jake Atkins	Envirolab Quote No. : 2016-R00C3
Address: 300 Barangaroo Avenue, Sydney NSW 2000	Date results required: 5 day TAT Or choose: *Note: Inform lab in advance if urgent turnaround is required - surcharges apply*
Phone: 02 9335 8495 Mob: 0448 396 2881	Additional report format: esdat / equis /
Email: jatkins1@kpmg.com.au	Lab Comments:

Sample information					Tests Required														Comments
Envirolab Sample ID	Client Sample ID or information	Depth	Date sampled	Type of sample	Combo 3	VOCs	CEC	pH	Phenols										Provide as much information about the sample as you can
1	DUP01		20-Jun	Soil	X														
2	DUP02		21-Jun	Soil	X														
NR	DUP03		21-Jun	Soil	~~X~~	JMH.													
3	BH01_0.2	0.2	20-Jun	Soil															Hold
4	BH01_1.0	1	20-Jun	Soil	X	X													
5	BH01_1.6	1.6	20-Jun	Soil															Hold
6	BH01_2.0	2	20-Jun	Soil															Hold
7	BH01_2.5	2.5	20-Jun	Soil	X														
8	BH01_3.0	3	20-Jun	Soil			X	X											
9	BH02_0.2	0.2	20-Jun	Soil	X	X													
10	BH02_1.0	1	20-Jun	Soil															Hold
11	BH02_1.3	1.3	20-Jun	Soil															Hold
12	BH02_1.9	1.9	20-Jun	Soil															Hold

ENVIROLAB Envirolab Services 12 Ashley St Chatswood NSW 2067 Ph: (02) 9910 6200
Job No: 170012
Date Received: 22/6/17 COC 266047
Time Received: 1450
Received by:
Temp: Cool/Ambient
Cooling: Ice/Icepack
Security: Intact/Broken/None

Relinquished by (Company):	KPMG SGA	Received by (Company):	ELS
Print Name:	Jake Atkins	Print Name:	Ellen Wu.
Date & Time:	28/04/2016 12:30	Date & Time:	22/6/17 1450
Signature:		Signature:	

COC rec'd 266047 JMH.

Lab use only:
Samples Received: Cool or Ambient (circle one)
Temperature Received at: (if applicable)
Transported by: Hand delivered / courier

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Ph: 08 8967 1201 / darwin@envirolab.com.au

Client: KPMG SGA	**Client Project Name / Number / Site etc (ie report title):** 314465
Contact Person: Jake Atkins	
Project Mgr: Jake Atkins	**PO No.:**
Sampler: Jake Atkins	**Envirolab Quote No. :** 2016-R00C3
Address: 300 Barangaroo Avenue, Sydney NSW 2000	**Date results required:** 5 day TAT
	Or choose: *Note: Inform lab in advance if urgent turnaround is required - surcharges apply*
Phone: 02 9335 8495 **Mob:** 0448 396 2881	**Additional report format:** esdat / equis /
Email: jatkins1@kpmg.com.au	**Lab Comments:**

Sample information					Tests Required															Comments
Envirolab Sample ID	Client Sample ID or information	Depth	Date sampled	Type of sample	Combo 3	VOCs	CEC	pH	Phenols											Provide as much information about the sample as you can
13	BH02_3.0	3	20-Jun	Soil	X	x														
14	BH03_0.3	0.3	20-Jun	Soil																Hold
15	BH03_1.0	1	20-Jun	Soil	X	x														
16	BH03_1.5	1.5	20-Jun	Soil																Hold
17	BH03_2.0	2	20-Jun	Soil	X															
18	BH03_3.2	3.2	20-Jun	Soil																Hold
19	BH04_0.5	0.5	20-Jun	Soil	X	x														
20	BH04_1.2	1.2	20-Jun	Soil																Hold
21	BH04_2.8	2.8	20-Jun	Soil	X															
22	BH05_0.5	0.5	20-Jun	Soil	X															
23	BH05_1.0	1	20-Jun	Soil																Hold
24	BH05_1.4	1.4	20-Jun	Soil	X	x														
25	BH05_2.0	2	20-Jun	Soil																Hold

Relinquished by (Company): KPMG SGA	**Received by (Company):** Ecl.
Print Name: Jake Atkins	**Print Name:** #170012
Date & Time: 28/04/2016 12:30	**Date & Time:** 9/5/2
Signature:	**Signature:**

Lab use only:
Samples Received: Cool or Ambient (circle one)
Temperature Received at: **(if applicable)**
Transported by: Hand delivered / courier

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Client: KPMG SGA	**Client Project Name / Number / Site etc (ie report title):** 314465
Contact Person: Jake Atkins	
Project Mgr: Jake Atkins	**PO No.:**
Sampler: Jake Atkins	**Envirolab Quote No. :** 2016-R00C3
Address: 300 Barangaroo Avenue, Sydney NSW 2000	**Date results required:** 5 day TAT **Or choose:** *Note: Inform lab in advance if urgent turnaround is required - surcharges apply*
Phone: 02 9335 8495 **Mob:** 0448 396 2881	**Additional report format:** esdat / equis /
Email: jatkins1@kpmg.com.au	**Lab Comments:**

Sample information					Tests Required															Comments
Envirolab Sample ID	Client Sample ID or information	Depth	Date sampled	Type of sample	Combo 3	VOCs	CEC	pH	Phenols											Provide as much information about the sample as you can
26	BH05_2.9	2.9	20-Jun	Soil																Hold
27	BH06_0.3	0.3	21-Jun	Soil																Hold
28	BH06_0.6	0.6	21-Jun	Soil	X	x														
29	BH06_1.1	1.1	21-Jun	Soil																Hold
30	BH06_2.0	2	21-Jun	Soil	X															
31	BH06_3.0	3	21-Jun	Soil																Hold
32	BH06_3.4	3.4	21-Jun	Soil	X															
33	BH07_0.3	0.3	21-Jun	Soil	X	x														
34	BH07_0.8	0.8	21-Jun	Soil																Hold
35	BH07_1.8	1.8	21-Jun	Soil	X															
36	BH08_0.1	0.1	21-Jun	Soil																Hold
37	BH08_0.5	0.5	21-Jun	Soil	X	x			x											
38	BH08_1.0	1	21-Jun	Soil	X															

Relinquished by (Company):	KPMG SGA	**Received by (Company):** ES	*Lab use only:*
Print Name:	Jake Atkins	**Print Name:**	#170012
Date & Time:	28/04/2016 12:30	**Date & Time:**	**Samples Received: Cool or Ambient (circle one)**
Signature:		**Signature:**	**Temperature Received at:** (if applicable)
			Transported by: Hand delivered / courier

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Client: KPMG SGA	Client Project Name / Number / Site etc (ie report title): 314465
Contact Person: Jake Atkins	
Project Mgr: Jake Atkins	PO No.:
Sampler: Jake Atkins	Envirolab Quote No. : 2016-R00C3
Address: 300 Barangaroo Avenue, Sydney NSW 2000	Date results required: 5 day TAT Or choose: *Note: Inform lab in advance if urgent turnaround is required - surcharges apply*
Phone: 02 9335 8495 Mob: 0448 396 2881	Additional report format: esdat / equis /
Email: jatkins1@kpmg.com.au	Lab Comments:

Sample information					Tests Required														Comments
Envirolab Sample ID	Client Sample ID or information	Depth	Date sampled	Type of sample	Combo 3	VOCs	CEC	pH	Phenols										Provide as much information about the sample as you can
39	BH08_2.0	2	21-Jun	Soil			x	x											
40	BH09_0.2	0.2	21-Jun	Soil															Hold
41	BH09_0.7	0.7	21-Jun	Soil	x	x													
42	BH09_1.2	1.2	21-Jun	Soil															Hold
43	BH09_2.0	2	21-Jun	Soil	x														
44	BH10_0.3	0.3	21-Jun	Soil	x														
45	BH10_0.7	0.7	21-Jun	Soil	x	x			x										
46	BH10_2.0	2	21-Jun	Soil															Hold
47	BH11_0.5	0.5	21-Jun	Soil	x	x													
48	BH11_1.0	1	21-Jun	Soil															Hold
49	BH11_1.5	1.5	21-Jun	Soil															Hold
50	BH11_2.4	2	21-Jun	Soil	x	x	x	x											
51	BH12_0.4	0.4	21-Jun	Soil	x	x			x										

Relinquished by (Company):	KPMG SGA	Received by (Company): ES	*Lab use only:*
Print Name:	Jake Atkins	Print Name: #170012	Samples Received: Cool or Ambient (circle one)
Date & Time:	28/04/2016 12:30	Date & Time:	Temperature Received at: (if applicable)
Signature:		Signature:	Transported by: Hand delivered / courier

CHAIN OF CUSTODY - Client

ENVIROLAB GROUP - National phone number 1300 424 344

Sydney Lab - Envirolab Services
12 Ashley St, Chatswood, NSW 2067
Ph: 02 9910 6200 / sydney@envirolab.com.au

Perth Lab - MPL Laboratories
16-18 Hayden Crt Myaree, WA 6154
Ph: 08 9317 2505 / lab@mpl.com.au

Melbourne Lab - Envirolab Services
1A Dalmore Drive Scoresby VIC 3179
Ph: 03 9763 2500 / melbourne@envirolab.com.au

Adelaide Office - Envirolab Services
7a The Parade, Norwood, SA 5067
Ph: 08 7087 6800 / adelaide@envirolab.com.au

Brisbane Office - Envirolab Services
20a, 10-20 Depot St, Banyo, QLD 4014
Ph: 07 3266 9532 / brisbane@envirolab.com.au

Darwin Office - Envirolab Services
Unit 7, 17 Willes Rd, Berrimah, NT 0820
Ph: 08 8967 1201 / darwin@envirolab.com.au

Client: KPMG SGA	Client Project Name / Number / Site etc (ie report title): 314465
Contact Person: Jake Atkins	
Project Mgr: Jake Atkins	PO No.:
Sampler: Jake Atkins	Envirolab Quote No. : 2016-R00C3
Address: 300 Barangaroo Avenue, Sydney NSW 2000	Date results required: 5 day TAT Or choose: *Note: Inform lab in advance if urgent turnaround is required - surcharges apply*
Phone: 02 9335 8495 Mob: 0448 396 2881	Additional report format: esdat / equis /
Email: jatkins1@kpmg.com.au	Lab Comments:

Sample information					Tests Required														Comments
Envirolab Sample ID	Client Sample ID or information	Depth	Date sampled	Type of sample	Combo 3	VOCs	CEC	pH	Phenols										Provide as much information about the sample as you can
52	BH12_1.0	1	21-Jun	Soil															Hold
53	BH12_1.5	1.5	21-Jun	Soil	X														
54	BH13_0.5	0.5	22-Jun	Soil															Hold
55	BH13_1.0	1	22-Jun	Soil	X	x			x										
56	BH13_1.7	1.7	22-Jun	Soil															Hold
57	BH13_2.5	2.5	22-Jun	Soil	X														
58	BH14_0.4	0.4	22-Jun	Soil															Hold
59	BH14_0.9	0.9	22-Jun	Soil	X	x			x										
60	BH14_1.5	1.5	22-Jun	Soil															Hold
—	BH14_1.5	1.5	22-Jun	Soil															Hold
61	BH14_2.0	2	22-Jun	Soil	X														
62	BH15_0.5	0.5	22-Jun	Soil	X	x			x										
63	BH15_1.3	1.3	22-Jun	Soil	X														

Relinquished by (Company): KPMG SGA	Received by (Company): ES	*Lab use only:*
Print Name: Jake Atkins	Print Name: #170012	Samples Received: Cool or Ambient (circle one)
Date & Time: 28/04/2016 12:30	Date & Time:	Temperature Received at: (if applicable)
Signature:	Signature:	Transported by: Hand delivered / courier

CHAIN OF CUSTODY - Client

ENVIROLAB GROUP - National phone number 1300 424 344

Sydney Lab - Envirolab Services
12 Ashley St, Chatswood, NSW 2067
Ph: 02 9910 6200 / sydney@envirolab.com.au

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Ph: 08 7087 6800 / adelaide@envirolab.com.au

Brisbane Office - Envirolab Services
20a, 10-20 Depot St, Banyo, QLD 4014
Ph: 07 3266 9532 / brisbane@envirolab.com.au

Darwin Office - Envirolab Services
Unit 7, 17 Willes Rd, Berrimah, NT 0820
Ph: 08 8967 1201 / darwin@envirolab.com.au

Client: KPMG SGA	**Client Project Name / Number / Site etc (ie report title):** 314465
Contact Person: Jake Atkins	
Project Mgr: Jake Atkins	**PO No.:**
Sampler: Jake Atkins	**Envirolab Quote No. :** 2016-R00C3
Address: 300 Barangaroo Avenue, Sydney NSW 2000	**Date results required:** 5 day TAT
	Or choose: *Note: Inform lab in advance if urgent turnaround is required - surcharges apply*
Phone: 02 9335 8495 **Mob:** 0448 396 2881	**Additional report format:** esdat / equis /
Email: jatkins1@kpmg.com.au	**Lab Comments:**

Sample information					Tests Required															Comments
Envirolab Sample ID	Client Sample ID or information	Depth	Date sampled	Type of sample	Combo 3	VOCs	CEC	pH	Phenols											Provide as much information about the sample as you can
64	BH15_2.0	2	22-Jun	Soil																Hold
65	BH16_0.7	0.7	22-Jun	Soil	X															
66	BH16_1.6	1.6	22-Jun	Soil	X	x			x											
67	BH16_2.0	2	22-Jun	Soil																Hold
68	TB			Soil		x														
69	TS			Soil		x														
70	BH04-2.0	2.0	200617	Soil																
71	DUP 05		20617	Soil																

Relinquished by (Company):	KPMG SGA	**Received by (Company):**	ELS
Print Name:	Jake Atkins	**Print Name:**	#170012
Date & Time:	28/04/2016 12:30	**Date & Time:**	
Signature:		**Signature:**	

Lab use only:
Samples Received: Cool or Ambient (circle one)
Temperature Received at: (if applicable)
Transported by: Hand delivered / courier

Jessica Hie

From: Atkins, Jake <jatkins1@kpmg.com.au>
Sent: Tuesday, 27 June 2017 12:57 PM
To: Jessica Hie
Cc: Jones, Dylan
Subject: Re: missing and extra; 314465
Attachments: image379325.PNG; 6e95de.png; 24f153.png; image5f38ef.PNG

Hi Jess,

Leave DUP03 off the samples to be analyzed for now please.

Thanks

Sent from my iPhone

> On Jun 26, 2017, at 6:29 PM, Jessica Hie <JHie@envirolab.com.au> wrote:
>
>
> Hey Jake,
>
> When did you switch over to KPMG?
>
> Re the job attached, we didn't receive DUP03.
> However we got 2 extra samples: BH04_2.0 and DUP05. Did you want to transfer the Combo3 testing to either of these?
>
> ELS reference: 170012
>
>
>
> Regards,
>
> Jessica Hie | Customer Service/Asbestos Analyst | Envirolab Services Pty Ltd
>
>
> Great Science, Great Service.
>
> 12 Ashley Street Chatswood NSW 2067
> T 612 9910 6200 F 612 9910 6201
> E jhie@envirolab.com.au<mailto:jhie@envirolab.com.au> | W www.envirolab.com.au<https://urldefense.proofpoint.com/v2/url?u=http-3A__www.envirolab.com.au&d=DwMGaQ&c=vgc7_vOYmgImobMVdyKsCY1rdGZhhtCa2JetijQZAG0&r=P55_x7_9soyG6BO1k5CsbhiCby2TZdAwa3VgQEmtsI8&m=7ZLWE88GsjqusVWkmNmyhN47HdDXeDe4Rs0KnF-9U-s&s=nzfieS5c7JDOUlCmCmOus9Wjlc7I3lL7YksVVQLweh8&e=>
>
> _____
>
>
> [Envirolab Group]<https://urldefense.proofpoint.com/v2/url?u=http-3A__envirolab.com.au_&d=DwMGaQ&c=vgc7_vOYmgImobMVdyKsCY1rdGZhhtCa2JetijQZAG0&r=P55_x7_9soyG6BO1k5CsbhiCby2TZdAwa3VgQEmtsI8&m=7ZLWE88GsjqusVWkmNmyhN47HdDXeDe4Rs0KnF-9U-s&s=GEqr9L1evgRHpmUcAClXHJMU6QM1gLGHspfnobG2TeI&e=>

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

SAMPLE RECEIPT ADVICE

Client Details	
Client	KPMG SGA
Attention	Jake Atkins

Sample Login Details	
Your Reference	314465
Envirolab Reference	**170012**
Date Sample Received	22/06/2017
Date Instructions Received	26/06/2017
Date Results Expected to be Reported	**03/07/2017**

Sample Condition	
Samples received in appropriate condition for analysis	YES
No. of Samples Provided	71 Soils
Turnaround Time Requested	Standard
Temperature on receipt (°C)	-2.2
Cooling Method	Ice
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
TS - BTEX only

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

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

Sample Id	*VOCs in soil*	*vTRH(C6-C10)/BTEXN in Soil*	*svTRH (C10-C40) in Soil*	*PAHs in Soil*	*Acid Extractable metals in soil*	*Total Phenolics (as Phenol)*	*CEC*	*pH 1:5 soil:water*	*On Hold*
DUP01		✓	✓	✓	✓				
DUP02		✓	✓	✓	✓				
BH01_0.2-0.2									✓
BH01_1.0-1	✓	✓	✓	✓	✓				
BH01_1.6-1.6									✓
BH01_2.0-2									✓
BH01_2.5-2.5		✓	✓	✓	✓				
BH01_3.0-3							✓	✓	
BH02_0.2-0.2	✓	✓	✓	✓	✓				
BH02_1.0-1									✓
BH02_1.3-1.3									✓
BH02_1.9-1.9									✓
BH02_3.0-3	✓	✓	✓	✓	✓				
BH03_0.3-0.3									✓
BH03_1.0-1	✓	✓	✓	✓	✓				
BH03_1.5-1.5									✓
BH03_2.0-2		✓	✓	✓	✓				
BH03_3.2-3.2									✓
BH04_0.5-0.5	✓	✓	✓	✓	✓				
BH04_1.2-1.2									✓
BH04_2.8-2.8		✓	✓	✓	✓				
BH05_0.5-0.5		✓	✓	✓	✓				
BH05_1.0-1									✓
BH05_1.4-1.4	✓	✓	✓	✓	✓				
BH05_2.0-2									✓
BH05_2.9-2.9									✓
BH06_0.3-0.3									✓
BH06_0.6-0.6	✓	✓	✓	✓	✓				
BH06_1.1-1.1									✓
BH06_2.0-2		✓	✓	✓	✓				
BH06_3.0 -3									✓
BH06_3.4-3.4		✓	✓	✓	✓				
BH07_0.3-0.3	✓	✓	✓	✓	✓				
BH07_0.8-0.8									✓
BH07_1.8-1.8		✓	✓	✓	✓				
BH08_0.1-0.1									✓
BH08_0.5-0.5	✓	✓	✓	✓	✓	✓			
BH08_1.0-1		✓	✓	✓	✓				
BH08_2.0-2							✓	✓	
BH09_0.2-0.2									✓
BH09_0.7-0.7	✓	✓	✓	✓	✓				
BH09_1.2-1.2									✓

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ph 02 9910 6200 fax 02 9910 6201
enquiries@envirolabservices.com.au
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Sample Id	*VOCs in soil*	*vTRH(C6-C10)/BTEXN in Soil*	*svTRH (C10-C40) in Soil*	*PAHs in Soil*	*Acid Extractable metals in soil*	*Total Phenolics (as Phenol)*	*CEC*	*pH 1:5 soil:water*	*On Hold*
BH09_2.0-2		✓	✓	✓	✓				
BH10_0.3-0.3		✓	✓	✓	✓				
BH10_0.7-0.7	✓	✓	✓	✓	✓	✓			
BH10_2.0-2									✓
BH11_0.5-0.5	✓	✓	✓	✓	✓				
BH11_1.0-1									✓
BH11_1.5-1.5									✓
BH11_2.4-2	✓	✓	✓	✓	✓		✓	✓	
BH12_0.4-0.4	✓	✓	✓	✓	✓	✓			
BH12_1.0-1									✓
BH12_1.5-1.5		✓	✓	✓	✓				
BH13_0.5-0.5									✓
BH13_1.0-1	✓	✓	✓	✓	✓	✓			
BH13_1.7-1.7									✓
BH13_2.5-2.5		✓	✓	✓	✓				
BH14_0.4-0.4									✓
BH14_0.9-0.9	✓	✓	✓	✓	✓	✓			
BH14_1.5-1.5									✓
BH14_2.0-2		✓	✓	✓	✓				
BH15_0.5-0.5	✓	✓	✓	✓	✓	✓			
BH15_1.3-1.3		✓	✓	✓	✓				
BH15_2.0-2									✓
BH16_0.7-0.7		✓	✓	✓	✓				
BH16_1.6-1.6	✓	✓	✓	✓	✓	✓			
BH16_2.0-2									✓
TB	✓								
TS		✓							
BH04_2.0-2.0									✓
DUP05									✓

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

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 170335

Client:

KPMG SGA
Tower3, International Towers Sydney
300 Barangaroo Ave
Sydney
NSW 2000

Attention: Dylan Jones

Sample log in details:

Your Reference:	**314465 TEI**		
No. of samples:	8 canister		
Date samples received / completed instructions received	29/06/2017	/	29/06/2017

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:	7/07/17	/	7/07/17
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

TPH Air/ Air Phase Hydrocarbon						
Our Reference:	UNITS	170335-1	170335-2	170335-3	170335-4	170335-5
Your Reference	---------- -	VS-1	VS-2	VS-3	VS-4	VS-5
Date Sampled	----------	27/06/2017	27/06/2017	27/06/2017	27/06/2017	28/06/2017
Type of sample		Air	Air	Air	Air	Air
Date prepared	-	06/07/2017	06/07/2017	06/07/2017	06/07/2017	06/07/2017
Date analysed	-	06/07/2017	06/07/2017	06/07/2017	06/07/2017	06/07/2017
TPHC$_5$ - C$_8$ Aliphatic	µg/m^3	600	600	600	700	2,000
TPHC$_9$ - C$_{12}$ Aliphatic	µg/m^3	990	190	230	110	100
TPHC$_9$ - C$_{10}$ Aromatic	µg/m^3	<100	<100	<100	<100	<100
TPHC$_6$ - C$_{10}$ - BTEX (F1)	µg/m^3	1,100	370	620	490	1,700
TPH>C$_{10}$ - C$_{12}$ - Naphthalene (F2)	µg/m^3	450	150	80	60	70

TPH Air/ Air Phase Hydrocarbon				
Our Reference:	UNITS	170335-6	170335-7	170335-8
Your Reference	---------- -	VS-6	VS-7	BR-1
Date Sampled	----------	28/06/2017	28/06/2017	28/06/2017
Type of sample		Air	Air	Air
Date prepared	-	06/07/2017	06/07/2017	06/07/2017
Date analysed	-	06/07/2017	06/07/2017	06/07/2017
TPHC$_5$ - C$_8$ Aliphatic	µg/m^3	1,000	300	300
TPHC$_9$ - C$_{12}$ Aliphatic	µg/m^3	790	76	110
TPHC$_9$ - C$_{10}$ Aromatic	µg/m^3	<100	<100	<100
TPHC$_6$ - C$_{10}$ - BTEX (F1)	µg/m^3	1,700	270	290
TPH>C$_{10}$ - C$_{12}$ - Naphthalene (F2)	µg/m^3	160	50	80

TO15 in Canisters/Bags Our Reference: Your Reference Date Sampled Type of sample	UNITS ---------- - ----------	170335-1 VS-1 27/06/2017 Air	170335-2 VS-2 27/06/2017 Air	170335-3 VS-3 27/06/2017 Air	170335-4 VS-4 27/06/2017 Air	170335-5 VS-5 28/06/2017 Air
Vacuum before Shipment	Hg"	-30	-30	-30	-30	-30
Vacuum before Analysis	Hg"	-7	-8	-7	-7	-7
Date prepared	-	06/07/2017	06/07/2017	06/07/2017	06/07/2017	06/07/2017
Date analysed	-	06/07/2017	06/07/2017	06/07/2017	06/07/2017	06/07/2017
Vinyl chloride	ppbv	<0.5	<0.5	<0.5	<0.5	<0.5
Isopropyl Alcohol	ppbv	61	55	140	17	4
1,1-Dichloroethene	ppbv	<0.5	<0.5	<0.5	<0.5	<0.5
trans-1,2-dichloroethene	ppbv	<0.5	<0.5	<0.5	<0.5	<0.5
1,1- Dichloroethane	ppbv	<0.5	<0.5	<0.5	<0.5	4
cis-1,2-Dichloroethene	ppbv	<0.5	<0.5	<0.5	<0.5	<0.5
1,2-Dichloroethane	ppbv	<0.5	<0.5	<0.5	<0.5	<0.5
Benzene	ppbv	1	2	0.9	0.9	9.6
Trichloroethene	ppbv	<0.5	<0.5	<0.5	<0.5	<0.5
Toluene	ppbv	5.2	3	5.5	3	5.1
Tetrachloroethene	ppbv	<0.5	<0.5	<0.5	<0.5	12
Chlorobenzene	ppbv	<0.5	<0.5	<0.5	<0.5	2
Ethylbenzene	ppbv	0.7	0.6	0.8	0.6	0.7
m-& p-Xylene	ppbv	3	2	2	2	2
o-Xylene	ppbv	1	0.9	0.7	0.7	0.5
1,3-Dichlorobenzene	ppbv	<0.5	<0.5	<0.5	<0.5	<0.5
1,4-Dichlorobenzene	ppbv	<0.5	<0.5	<0.5	<0.5	<0.5
1,2-Dichlorobenzene	ppbv	<0.5	<0.5	<0.5	<0.5	<0.5
1,2,4-Trichlorobenzene	ppbv	<0.5	<0.5	<0.5	<0.5	<0.5
Naphthalene	ppbv	<0.5	<0.5	<0.5	<0.5	<0.5
Surrogate-Bromochloromethane	% rec	94	91	94	100	101
Surrogate -1,4-Difluorobenzene	% rec	89	86	91	90	91
Surrogate-Chlorobenzene-D5	% rec	88	83	79	84	87

TO15 in Canisters/Bags Our Reference: Your Reference Date Sampled Type of sample	UNITS ---------- - ---------- 	170335-6 VS-6 28/06/2017 Air	170335-7 VS-7 28/06/2017 Air	170335-8 BR-1 28/06/2017 Air
Vacuum before Shipment	Hg"	-30	-30	-30
Vacuum before Analysis	Hg"	-4	-8	-9
Date prepared	-	06/07/2017	06/07/2017	06/07/2017
Date analysed	-	06/07/2017	06/07/2017	06/07/2017
Vinyl chloride	ppbv	<0.5	<0.5	<0.5
Isopropyl Alcohol	ppbv	4	5	37
1,1-Dichloroethene	ppbv	<0.5	<0.5	<0.5
trans-1,2-dichloroethene	ppbv	<0.5	<0.5	<0.5
1,1- Dichloroethane	ppbv	<0.5	<0.5	<0.5
cis-1,2-Dichloroethene	ppbv	<0.5	<0.5	<0.5
1,2-Dichloroethane	ppbv	<0.5	<0.5	<0.5
Benzene	ppbv	2	0.6	0.6
Trichloroethene	ppbv	<0.5	<0.5	<0.5
Toluene	ppbv	9.6	2	2
Tetrachloroethene	ppbv	0.5	<0.5	<0.5
Chlorobenzene	ppbv	<0.5	<0.5	<0.5
Ethylbenzene	ppbv	1	5.3	4
m-& p-Xylene	ppbv	3	7	6
o-Xylene	ppbv	1	0.5	0.5
1,3-Dichlorobenzene	ppbv	<0.5	<0.5	<0.5
1,4-Dichlorobenzene	ppbv	<0.5	<0.5	<0.5
1,2-Dichlorobenzene	ppbv	<0.5	<0.5	<0.5
1,2,4-Trichlorobenzene	ppbv	<0.5	<0.5	<0.5
Naphthalene	ppbv	<0.5	<0.5	<0.5
Surrogate-Bromochloromethane	% rec	91	96	95
Surrogate -1,4-Difluorobenzene	% rec	90	94	93
Surrogate-Chlorobenzene-D5	% rec	85	85	83

TO15 in Canisters ug/m3 Our Reference: Your Reference Date Sampled Type of sample	UNITS ---------- - ---------- 	170335-1 VS-1 27/06/2017 Air	170335-2 VS-2 27/06/2017 Air	170335-3 VS-3 27/06/2017 Air	170335-4 VS-4 27/06/2017 Air	170335-5 VS-5 28/06/2017 Air
Vacuum before Shipment	Hg"	-30	-30	-30	-30	-30
Vacuum before Analysis	Hg"	-7	-8	-7	-7	-7
Date prepared	-	06/07/2017	06/07/2017	06/07/2017	06/07/2017	06/07/2017
Date analysed	-	06/07/2017	06/07/2017	06/07/2017	06/07/2017	06/07/2017
Vinyl chloride	µg/m^3	<1	<1	<1	<1	<1
Isopropyl Alcohol	µg/m^3	150	130	340	42	10
1,1-Dichloroethene	µg/m^3	<2	<2	<2	<2	<2
trans-1,2-dichloroethene	µg/m^3	<2	<2	<2	<2	<2
1,1- Dichloroethane	µg/m^3	<2	<2	<2	<2	10
cis-1,2-Dichloroethene	µg/m^3	<2	<2	<2	<2	<2
1,2-Dichloroethane	µg/m^3	<2	<2	<2	<2	<2
Benzene	µg/m^3	4	7	3	3	31
Trichloroethene	µg/m^3	<3	<3	<3	<3	<3
Toluene	µg/m^3	19	10	21	10	19
Tetrachloroethene	µg/m^3	<3	<3	<3	<3	78
Chlorobenzene	µg/m^3	<2	<2	<2	<2	9
Ethylbenzene	µg/m^3	3	3	3	3	3
m-& p-Xylene	µg/m^3	10	9	10	10	9
o-Xylene	µg/m^3	4	4	3	3	2
1,3-Dichlorobenzene	µg/m^3	<3	<3	<3	<3	<3
1,4-Dichlorobenzene	µg/m^3	<3	<3	<3	<3	<3
1,2-Dichlorobenzene	µg/m^3	<3	<3	<3	<3	<3
1,2,4-Trichlorobenzene	µg/m^3	<4	<4	<4	<4	<4
Naphthalene	µg/m^3	<3	<3	<3	<3	<3
Surrogate-Bromochloromethane	% rec	94	91	94	100	101
Surrogate -1,4-Difluorobenzene	% rec	89	86	91	90	91
Surrogate-Chlorobenzene-D5	% rec	88	83	79	84	87

TO15 in Canisters ug/m3 Our Reference: Your Reference Date Sampled Type of sample	UNITS ---------- - ---------- 	170335-6 VS-6 28/06/2017 Air	170335-7 VS-7 28/06/2017 Air	170335-8 BR-1 28/06/2017 Air
Vacuum before Shipment	Hg"	-30	-30	-30
Vacuum before Analysis	Hg"	-4	-8	-9
Date prepared	-	06/07/2017	06/07/2017	06/07/2017
Date analysed	-	06/07/2017	06/07/2017	06/07/2017
Vinyl chloride	µg/m^3	<1	<1	<1
Isopropyl Alcohol	µg/m^3	10	10	91
1,1-Dichloroethene	µg/m^3	<2	<2	<2
trans-1,2-dichloroethene	µg/m^3	<2	<2	<2
1,1- Dichloroethane	µg/m^3	<2	<2	<2
cis-1,2-Dichloroethene	µg/m^3	<2	<2	<2
1,2-Dichloroethane	µg/m^3	<2	<2	<2
Benzene	µg/m^3	6	2	2
Trichloroethene	µg/m^3	<3	<3	<3
Toluene	µg/m^3	36	7	8
Tetrachloroethene	µg/m^3	4	<3	<3
Chlorobenzene	µg/m^3	<2	<2	<2
Ethylbenzene	µg/m^3	5	23	20
m-& p-Xylene	µg/m^3	10	30	20
o-Xylene	µg/m^3	4	<2	2
1,3-Dichlorobenzene	µg/m^3	<3	<3	<3
1,4-Dichlorobenzene	µg/m^3	<3	<3	<3
1,2-Dichlorobenzene	µg/m^3	<3	<3	<3
1,2,4-Trichlorobenzene	µg/m^3	<4	<4	<4
Naphthalene	µg/m^3	<3	<3	<3
Surrogate-Bromochloromethane	% rec	91	96	95
Surrogate -1,4-Difluorobenzene	% rec	90	94	93
Surrogate-Chlorobenzene-D5	% rec	85	85	83

Method ID	Methodology Summary
AT-005	Measurement of Air-Phase Petroleum Hydrocarbons and Ozone Precursors by GC/MS
TO15	USEPA TO15 - Analysis of VOC's in air following USEPA TO15 protocols

QUALITY CONTROL TPH Air/ Air Phase Hydrocarbon	UNITS	PQL	METHOD	Blank	Duplicate Sm#	Duplicate results Base II Duplicate II %RPD	Spike Sm#	Spike % Recovery
Date prepared	-			06/07/2017	170335-8	06/07/2017 || 06/07/2017	LCS-1	06/07/2017
Date analysed	-			06/07/2017	170335-8	06/07/2017 || 06/07/2017	LCS-1	06/07/2017
TPH C_5 - C_8 Aliphatic	µg/m^3	200	AT-005	<200	170335-8	300 || 300 || RPD: 0	LCS-1	95%
TPH C_9 - C_{12} Aliphatic	µg/m^3	50	AT-005	<50	170335-8	110 || 120 || RPD: 9	LCS-1	83%
TPH C_9 - C_{10} Aromatic	µg/m^3	100	AT-005	<100	170335-8	<100 || <100	LCS-1	87%
TPH C_6 - C_{10} - BTEX (F1)	µg/m^3	200	TO15	<200	170335-8	290 || 300 || RPD: 3	LCS-1	90%
TPH >C_{10} - C_{12} - Naphthalene (F2)	µg/m^3	40	TO15	<40	170335-8	80 || 90 || RPD: 12	LCS-1	78%
QUALITY CONTROL TO15 in Canisters/Bags	UNITS	PQL	METHOD	Blank	Duplicate Sm#	Duplicate results Base II Duplicate II %RPD	Spike Sm#	Spike % Recovery
Vacuum before Shipment	Hg"			[NT]	170335-8	-30 || -30 || RPD: 0	[NR]	[NR]
Vacuum before Analysis	Hg"			[NT]	170335-8	-9 || -9 || RPD: 0	[NR]	[NR]
Date prepared	-			06/07/2017	170335-8	06/07/2017 || 06/07/2017	LCS-1	06/07/2017
Date analysed	-			06/07/2017	170335-8	06/07/2017 || 06/07/2017	LCS-1	06/07/2017
Vinyl chloride	ppbv	0.5	TO15	<0.5	170335-8	<0.5 || <0.5	[NR]	[NR]
Isopropyl Alcohol	ppbv	0.5	TO15	<0.5	170335-8	37 || 39 || RPD: 5	[NR]	[NR]
1,1-Dichloroethene	ppbv	0.5	TO15	<0.5	170335-8	<0.5 || <0.5	[NR]	[NR]
trans-1,2-dichloroethene	ppbv	0.5	TO15	<0.5	170335-8	<0.5 || <0.5	[NR]	[NR]
1,1- Dichloroethane	ppbv	0.5	TO15	<0.5	170335-8	<0.5 || <0.5	[NR]	[NR]
cis-1,2-Dichloroethene	ppbv	0.5	TO15	<0.5	170335-8	<0.5 || <0.5	[NR]	[NR]
1,2-Dichloroethane	ppbv	0.5	TO15	<0.5	170335-8	<0.5 || <0.5	[NR]	[NR]
Benzene	ppbv	0.5	TO15	<0.5	170335-8	0.6 || 0.6 || RPD: 0	LCS-1	111%
Trichloroethene	ppbv	0.5	TO15	<0.5	170335-8	<0.5 || <0.5	[NR]	[NR]
Toluene	ppbv	0.5	TO15	<0.5	170335-8	2 || 2 || RPD: 0	LCS-1	110%
Tetrachloroethene	ppbv	0.5	TO15	<0.5	170335-8	<0.5 || <0.5	[NR]	[NR]
Chlorobenzene	ppbv	0.5	TO15	<0.5	170335-8	<0.5 || <0.5	[NR]	[NR]
Ethylbenzene	ppbv	0.5	TO15	<0.5	170335-8	4 || 4 || RPD: 0	LCS-1	113%
m-& p-Xylene	ppbv	1	TO15	<1	170335-8	6 || 5 || RPD: 18	LCS-1	110%
o-Xylene	ppbv	0.5	TO15	<0.5	170335-8	0.5 || 0.5 || RPD: 0	LCS-1	115%
1,3-Dichlorobenzene	ppbv	0.5	TO15	<0.5	170335-8	<0.5 || <0.5	[NR]	[NR]
1,4-Dichlorobenzene	ppbv	0.5	TO15	<0.5	170335-8	<0.5 || <0.5	[NR]	[NR]
1,2-Dichlorobenzene	ppbv	0.5	TO15	<0.5	170335-8	<0.5 || <0.5	[NR]	[NR]
1,2,4-Trichlorobenzene	ppbv	0.5	TO15	<0.5	170335-8	<0.5 || <0.5	[NR]	[NR]
Naphthalene	ppbv	0.5	TO15	<0.5	170335-8	<0.5 || <0.5	[NR]	[NR]
Surrogate-Bromochloromethane	% rec		TO15	99	170335-8	95 || 93 || RPD: 2	LCS-1	111%
Surrogate -1,4-Difluorobenzene	% rec		TO15	101	170335-8	93 || 91 || RPD: 2	LCS-1	112%

QUALITY CONTROL TO15 in Canisters/Bags	UNITS	PQL	METHOD	Blank	Duplicate Sm#	Duplicate results Base ll Duplicate ll %RPD	Spike Sm#	Spike % Recovery
Surrogate-Chlorobenzene-D5	% rec		TO15	86	170335-8	83 || 81 || RPD: 2	LCS-1	107%

QUALITY CONTROL TO15 in Canisters ug/m3	UNITS	PQL	METHOD	Blank	Duplicate Sm#	Duplicate results Base ll Duplicate ll %RPD
Vacuum before Shipment	Hg"			[NT]	170335-8	-30 || -30 || RPD: 0
Vacuum before Analysis	Hg"			[NT]	170335-8	-9 || -9 || RPD: 0
Date prepared	-			06/07/2017	170335-8	06/07/2017 || 06/07/2017
Date analysed	-			06/07/2017	170335-8	06/07/2017 || 06/07/2017
Vinyl chloride	µg/m^3	1.3	TO15	<1	170335-8	<1 || <1
Isopropyl Alcohol	µg/m^3	1.2	TO15	<1	170335-8	91 || 96 || RPD: 5
1,1-Dichloroethene	µg/m^3	2.0	TO15	<2	170335-8	<2 || <2
trans-1,2-dichloroethene	µg/m^3	2.0	TO15	<2	170335-8	<2 || <2
1,1- Dichloroethane	µg/m^3	2.0	TO15	<2	170335-8	<2 || <2
cis-1,2-Dichloroethene	µg/m^3	2.0	TO15	<2	170335-8	<2 || <2
1,2-Dichloroethane	µg/m^3	2.0	TO15	<2	170335-8	<2 || <2
Benzene	µg/m^3	1.6	TO15	<2	170335-8	2 || 2 || RPD: 0
Trichloroethene	µg/m^3	2.7	TO15	<3	170335-8	<3 || <3
Toluene	µg/m^3	1.9	TO15	<2	170335-8	8 || 8 || RPD: 0
Tetrachloroethene	µg/m^3	3.4	TO15	<3	170335-8	<3 || <3
Chlorobenzene	µg/m^3	2.3	TO15	<2	170335-8	<2 || <2
Ethylbenzene	µg/m^3	2.2	TO15	<2	170335-8	20 || 20 || RPD: 0
m-& p-Xylene	µg/m^3	4.3	TO15	<4	170335-8	20 || 20 || RPD: 0
o-Xylene	µg/m^3	2.2	TO15	<2	170335-8	2 || 2 || RPD: 0
1,3-Dichlorobenzene	µg/m^3	3.0	TO15	<3	170335-8	<3 || <3
1,4-Dichlorobenzene	µg/m^3	3.0	TO15	<3	170335-8	<3 || <3
1,2-Dichlorobenzene	µg/m^3	3.0	TO15	<3	170335-8	<3 || <3
1,2,4-Trichlorobenzene	µg/m^3	3.7	TO15	<4	170335-8	<4 || <4
Naphthalene	µg/m^3	2.6	TO15	<3	170335-8	<3 || <3
Surrogate-Bromochloromethane	% rec		TO15	99	170335-8	95 || 93 || RPD: 2
Surrogate -1,4-Difluorobenzene	% rec		TO15	101	170335-8	93 || 91 || RPD: 2
Surrogate-Chlorobenzene-D5	% rec		TO15	86	170335-8	83 || 81 || RPD: 2

Report Comments:

Asbestos ID was analysed by Approved Identifier:	Not applicable for this job
Asbestos ID was authorised by Approved Signatory:	Not applicable for this job

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

CANISTER CHAIN OF CUSTODY RECORD

Page _____ of _____

Client Name	KPMG SGA	Project Contact	DYLAN JONES	Quote No	
Client Address	ITS 3, 300 BARANGAROO AVE, SYDNEY NSW	Contact Phone No	0478 788 988	Date Results Required	1 day / 2 days / 3 days / Standard
		Contact Mobile No			
Project Name	314465 TEI	Results Required by		E-mail Report To	djones6@kpmg.com.au
Site Location		Sampled by	D. JONES	PO No	

Client sample ID (Field location)	Canister #	Soil gas train / Mass flow controller #	Leak Test Passed	PID Reading (ppmv)	Date of Collection	Collection Time		Canister vacuum (Hg")		Analysis requested							
						Time on	Time off	Initial	Final	TO-15	TPH	5-Sulfides	Ozone precursors	general gases *	RGA full list		
-31@9:59 -19@10:2 -22@11:07 -26@1:32 -24@10:23 VS-1 (1)	1946	1979	✓		27-6-17	10:34	11:32	-30	-8								
VS-2 (2)	1910	1966	✓			11:28	12:28	-29.5	-7								
VS-3 (3)	1904	1968	✓			2:02	3:01	-28.5	-7								
VS-4 (4)	1926	1969	✓			3:00	3:56	-30	-7								
VS-5 (5)	1916	1974	✓		28-6-17	10:57	12:00	-29.5	-6								
VS-6 (6)	1917	1970	✓			12:09	1:13	-29.5	-5								
VS-7 (7)	1918	1969	✓			2:27	3:19	-30	-9								
possible leak BR-1 (8)	1905	1972	✓			2:27	3:19	-29	-9								

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

ENVIROLAB
Job No: 170335
Date Received: 29/6/17
Time Received: 16:00
Received By: CS
Temp: Cool/Ambient
Cooling: Ice/Icepack
Security: Intact/Broken/None

* Please tick for general gases

1) Methane, oxygen, carbon dioxide, carbon monoxide, nitrogen, or
2) Methane, oxygen, carbon dioxide, carbon monoxide, helium, hydrogen or
3) Specify analytes (NB: If nitrogen and helium/hydrogen are required, please contact ELS.):

Relinquished by				Received by				Notes:
Print Name	KPMG A. BARKWAY	Date & Time	29-6-17	Print Name	Lab	Date & Time		
		Signature				Signature		

Daniel Ford

From: Jones, Dylan <djones6@kpmg.com.au>
Sent: Friday, 30 June 2017 11:17 AM
To: Daniel Ford
Cc: AirTox Sydney
Subject: RE: Project: 314465 TEI

Hi Daniel,

Sorry about that.

Yes please for vTRH, BTEX, and TO15 10-20 analytes specifically ensuring to get chlorinated solvents PCE, TCE, DCE, VC and chlorinated benzenes (dichlorobenzene).

Cheers]

From: Daniel Ford [mailto:DFord@envirolab.com.au]
Sent: Friday, 30 June 2017 10:34 AM
To: Jones, Dylan <djones6@kpmg.com.au>
Cc: AirTox Sydney <AirToxSydney@envirolabservices.com.au>
Subject: Project: 314465 TEI

Hey Dylan,

The testing on the COC is blank. I noticed in previous emails that you requested the analysis shown below. In addition to BTEX were there any additional analytes from the TO-15 suite that you wanted to include. I looked back at previous jobs and normally chlorinated compounds are analysed for also. Did you want me to include any of those compounds?

- 8 x 1 litre summa canister
- 1 x 6 litre summa canister (for purge)
- 1 duel canister manifold
- 8 x flow restrictors @ 14mL/min
- Analysis of 8 samples for VOCs (TO15) <10 analytes + TRH and BTEX

Thanks,
Daniel

Regards,

Daniel Ford | Customer Service | Envirolab Services Pty Ltd

Great Science, Great Service.

12 Ashley Street Chatswood NSW 2067
T 612 9910 6200 **F** 612 9910 6201
E dford@envirolab.com.au | **W** www.envirolab.com.au

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

SAMPLE RECEIPT ADVICE

Client Details	
Client	KPMG SGA
Attention	Dylan Jones

Sample Login Details	
Your Reference	314465 TEI
Envirolab Reference	**170335**
Date Sample Received	29/06/2017
Date Instructions Received	29/06/2017
Date Results Expected to be Reported	**07/07/2017**

Sample Condition	
Samples received in appropriate condition for analysis	YES
No. of Samples Provided	8 canister
Turnaround Time Requested	Standard
Temperature on receipt (°C)	n/a
Cooling Method	Not applicable
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

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

Sample Id	*BTEX in Canisters/Bags*	*BTEX in Canisters ug/m3*	*TO15 Chlorinated in Cans ppbv*	*TO15 chlorinated in Cans ug/m3*	*TPH Air/ Air Phase Hydrocarbon*
VS-1	✓	✓	✓	✓	✓
VS-2	✓	✓	✓	✓	✓
VS-3	✓	✓	✓	✓	✓
VS-4	✓	✓	✓	✓	✓
VS-5	✓	✓	✓	✓	✓
VS-6	✓	✓	✓	✓	✓
VS-7	✓	✓	✓	✓	✓
BR-1	✓	✓	✓	✓	✓

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

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 170474

Client:

KPMG SGA
Tower3, International Towers Sydney
300 Barangaroo Ave
Sydney
NSW 2000

Attention: Anthony Barkway, Dylan Jones

Sample log in details:

Your Reference:	**314465.01**		
No. of samples:	8 Waters		
Date samples received / completed instructions received	29/06/17	/	30/06/17

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:	7/07/17	/	7/07/17
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

VOCs in water Our Reference: Your Reference Date Sampled Type of sample	UNITS ---------- - ----------	170474-1 BRW2 29/06/2017 Water	170474-2 BRW3 29/06/2017 Water	170474-3 BRW4 29/06/2017 Water	170474-4 BRW5 29/06/2017 Water	170474-5 BRW7 29/06/2017 Water
Date extracted	-	30/06/2017	30/06/2017	30/06/2017	30/06/2017	30/06/2017
Date analysed	-	30/06/2017	30/06/2017	30/06/2017	30/06/2017	30/06/2017
Dichlorodifluoromethane	µg/L	<10	<10	<10	<10	<10
Chloromethane	µg/L	<10	<10	<10	<10	<10
Vinyl Chloride	µg/L	<10	<10	<10	<10	<10
Bromomethane	µg/L	<10	<10	<10	<10	<10
Chloroethane	µg/L	<10	<10	<10	<10	<10
Trichlorofluoromethane	µg/L	<10	<10	<10	<10	<10
1,1-Dichloroethene	µg/L	1	<1	<1	8	<1
Trans-1,2-dichloroethene	µg/L	<1	<1	<1	<1	<1
1,1-dichloroethane	µg/L	<1	<1	<1	<1	<1
Cis-1,2-dichloroethene	µg/L	<1	<1	<1	4	2
Bromochloromethane	µg/L	<1	<1	<1	<1	<1
Chloroform	µg/L	<1	<1	<1	<1	<1
2,2-dichloropropane	µg/L	<1	<1	<1	<1	<1
1,2-dichloroethane	µg/L	<1	<1	<1	<1	<1
1,1,1-trichloroethane	µg/L	<1	<1	<1	<1	<1
1,1-dichloropropene	µg/L	<1	<1	<1	<1	<1
Cyclohexane	µg/L	<1	<1	<1	<1	<1
Carbon tetrachloride	µg/L	<1	<1	<1	<1	<1
Benzene	µg/L	4	<1	<1	<1	<1
Dibromomethane	µg/L	<1	<1	<1	<1	<1
1,2-dichloropropane	µg/L	<1	<1	<1	<1	<1
Trichloroethene	µg/L	<1	<1	<1	5	<1
Bromodichloromethane	µg/L	<1	<1	<1	<1	<1
trans-1,3-dichloropropene	µg/L	<1	<1	<1	<1	<1
cis-1,3-dichloropropene	µg/L	<1	<1	<1	<1	<1
1,1,2-trichloroethane	µg/L	<1	<1	<1	<1	<1
Toluene	µg/L	<1	<1	<1	<1	<1
1,3-dichloropropane	µg/L	<1	<1	<1	<1	<1
Dibromochloromethane	µg/L	<1	<1	<1	<1	<1
1,2-dibromoethane	µg/L	<1	<1	<1	<1	<1
Tetrachloroethene	µg/L	<1	<1	<1	<1	<1
1,1,1,2-tetrachloroethane	µg/L	<1	<1	<1	<1	<1
Chlorobenzene	µg/L	39	<1	<1	<1	<1
Ethylbenzene	µg/L	<1	<1	<1	<1	<1
Bromoform	µg/L	<1	<1	<1	<1	<1
m+p-xylene	µg/L	<2	<2	<2	<2	<2
Styrene	µg/L	<1	<1	<1	<1	<1
1,1,2,2-tetrachloroethane	µg/L	<1	<1	<1	<1	<1
o-xylene	µg/L	<1	<1	<1	<1	<1

VOCs in water Our Reference: Your Reference Date Sampled Type of sample	UNITS ---------- - ----------	170474-1 BRW2 29/06/2017 Water	170474-2 BRW3 29/06/2017 Water	170474-3 BRW4 29/06/2017 Water	170474-4 BRW5 29/06/2017 Water	170474-5 BRW7 29/06/2017 Water
1,2,3-trichloropropane	µg/L	<1	<1	<1	<1	<1
Isopropylbenzene	µg/L	<1	<1	<1	<1	<1
Bromobenzene	µg/L	<1	<1	<1	<1	<1
n-propyl benzene	µg/L	<1	<1	<1	<1	<1
2-chlorotoluene	µg/L	<1	<1	<1	<1	<1
4-chlorotoluene	µg/L	<1	<1	<1	<1	<1
1,3,5-trimethyl benzene	µg/L	<1	<1	<1	<1	<1
Tert-butyl benzene	µg/L	<1	<1	<1	<1	<1
1,2,4-trimethyl benzene	µg/L	<1	<1	<1	<1	<1
1,3-dichlorobenzene	µg/L	10	<1	3	<1	<1
Sec-butyl benzene	µg/L	<1	<1	<1	<1	<1
1,4-dichlorobenzene	µg/L	270	<1	<1	<1	<1
4-isopropyl toluene	µg/L	<1	<1	<1	<1	<1
1,2-dichlorobenzene	µg/L	6,200	<1	52	2	<1
n-butyl benzene	µg/L	<1	<1	<1	<1	<1
1,2-dibromo-3-chloropropane	µg/L	<1	<1	<1	<1	<1
1,2,4-trichlorobenzene	µg/L	<1	<1	<1	<1	<1
Hexachlorobutadiene	µg/L	<1	<1	<1	<1	<1
1,2,3-trichlorobenzene	µg/L	<1	<1	<1	<1	<1
Surrogate Dibromofluoromethane	%	109	111	114	113	116
Surrogate toluene-d8	%	95	96	97	96	97
Surrogate 4-BFB	%	87	92	89	90	84

VOCs in water Our Reference: Your Reference Date Sampled Type of sample	UNITS ---------- - ---------- 	170474-6 BRW9 29/06/2017 Water	170474-7 PH12 29/06/2017 Water
Date extracted	-	30/06/2017	30/06/2017
Date analysed	-	30/06/2017	30/06/2017
Dichlorodifluoromethane	µg/L	<10	<10
Chloromethane	µg/L	<10	<10
Vinyl Chloride	µg/L	<10	<10
Bromomethane	µg/L	<10	<10
Chloroethane	µg/L	<10	<10
Trichlorofluoromethane	µg/L	<10	<10
1,1-Dichloroethene	µg/L	<1	<1
Trans-1,2-dichloroethene	µg/L	<1	<1
1,1-dichloroethane	µg/L	<1	<1
Cis-1,2-dichloroethene	µg/L	<1	<1
Bromochloromethane	µg/L	<1	<1
Chloroform	µg/L	<1	<1
2,2-dichloropropane	µg/L	<1	<1
1,2-dichloroethane	µg/L	<1	<1
1,1,1-trichloroethane	µg/L	<1	<1
1,1-dichloropropene	µg/L	<1	<1
Cyclohexane	µg/L	<1	<1
Carbon tetrachloride	µg/L	<1	<1
Benzene	µg/L	<1	<1
Dibromomethane	µg/L	<1	<1
1,2-dichloropropane	µg/L	<1	<1
Trichloroethene	µg/L	<1	<1
Bromodichloromethane	µg/L	<1	<1
trans-1,3-dichloropropene	µg/L	<1	<1
cis-1,3-dichloropropene	µg/L	<1	<1
1,1,2-trichloroethane	µg/L	<1	<1
Toluene	µg/L	<1	<1
1,3-dichloropropane	µg/L	<1	<1
Dibromochloromethane	µg/L	<1	<1
1,2-dibromoethane	µg/L	<1	<1
Tetrachloroethene	µg/L	<1	<1
1,1,1,2-tetrachloroethane	µg/L	<1	<1
Chlorobenzene	µg/L	<1	<1
Ethylbenzene	µg/L	<1	<1
Bromoform	µg/L	<1	<1
m+p-xylene	µg/L	<2	<2
Styrene	µg/L	<1	<1
1,1,2,2-tetrachloroethane	µg/L	<1	<1
o-xylene	µg/L	<1	<1
1,2,3-trichloropropane	µg/L	<1	<1

VOCs in water Our Reference: Your Reference Date Sampled Type of sample	UNITS ---------- - ----------	170474-6 BRW9 29/06/2017 Water	170474-7 PH12 29/06/2017 Water
Isopropylbenzene	µg/L	<1	<1
Bromobenzene	µg/L	<1	<1
n-propyl benzene	µg/L	<1	<1
2-chlorotoluene	µg/L	<1	<1
4-chlorotoluene	µg/L	<1	<1
1,3,5-trimethyl benzene	µg/L	<1	<1
Tert-butyl benzene	µg/L	<1	<1
1,2,4-trimethyl benzene	µg/L	<1	<1
1,3-dichlorobenzene	µg/L	<1	<1
Sec-butyl benzene	µg/L	<1	<1
1,4-dichlorobenzene	µg/L	<1	<1
4-isopropyl toluene	µg/L	<1	<1
1,2-dichlorobenzene	µg/L	<1	<1
n-butyl benzene	µg/L	<1	<1
1,2-dibromo-3-chloropropane	µg/L	<1	<1
1,2,4-trichlorobenzene	µg/L	<1	<1
Hexachlorobutadiene	µg/L	<1	<1
1,2,3-trichlorobenzene	µg/L	<1	<1
Surrogate Dibromofluoromethane	%	117	120
Surrogate toluene-d8	%	98	97
Surrogate 4-BFB	%	87	86

vTRH(C6-C10)/BTEXN in Water						
Our Reference:	UNITS	170474-1	170474-2	170474-3	170474-4	170474-5
Your Reference	---------- -	BRW2	BRW3	BRW4	BRW5	BRW7
Date Sampled	----------	29/06/2017	29/06/2017	29/06/2017	29/06/2017	29/06/2017
Type of sample		Water	Water	Water	Water	Water
Date extracted	-	30/06/2017	30/06/2017	30/06/2017	30/06/2017	30/06/2017
Date analysed	-	01/07/2017	01/07/2017	01/07/2017	01/07/2017	01/07/2017
TRHC$_6$ - C$_9$	µg/L	61	<10	<10	12	<10
TRHC$_6$ - C$_{10}$	µg/L	65	<10	<10	12	<10
TRHC$_6$ - C$_{10}$ less BTEX (F1)	µg/L	61	<10	<10	12	<10
Benzene	µg/L	4	<1	<1	<1	<1
Toluene	µg/L	<1	<1	<1	<1	<1
Ethylbenzene	µg/L	<1	<1	<1	<1	<1
m+p-xylene	µg/L	<2	<2	<2	<2	<2
o-xylene	µg/L	<1	<1	<1	<1	<1
Naphthalene	µg/L	<1	<1	<1	<1	<1
Surrogate Dibromofluoromethane	%	109	111	114	113	116
Surrogate toluene-d8	%	95	96	97	96	97
Surrogate 4-BFB	%	87	92	89	90	84

vTRH(C6-C10)/BTEXN in Water				
Our Reference:	UNITS	170474-6	170474-7	170474-8
Your Reference	---------- -	BRW9	PH12	FD01
Date Sampled	----------	29/06/2017	29/06/2017	29/06/2017
Type of sample		Water	Water	Water
Date extracted	-	30/06/2017	30/06/2017	30/06/2017
Date analysed	-	01/07/2017	01/07/2017	01/07/2017
TRHC$_6$ - C$_9$	µg/L	<10	<10	<10
TRHC$_6$ - C$_{10}$	µg/L	<10	<10	<10
TRHC$_6$ - C$_{10}$ less BTEX (F1)	µg/L	<10	<10	<10
Benzene	µg/L	<1	<1	<1
Toluene	µg/L	<1	<1	<1
Ethylbenzene	µg/L	<1	<1	<1
m+p-xylene	µg/L	<2	<2	<2
o-xylene	µg/L	<1	<1	<1
Naphthalene	µg/L	<1	<1	<1
Surrogate Dibromofluoromethane	%	117	120	118
Surrogate toluene-d8	%	98	97	96
Surrogate 4-BFB	%	87	86	85

svTRH (C10-C40) in Water						
Our Reference:	UNITS	170474-1	170474-2	170474-3	170474-4	170474-5
Your Reference	---------- -	BRW2	BRW3	BRW4	BRW5	BRW7
Date Sampled	----------	29/06/2017	29/06/2017	29/06/2017	29/06/2017	29/06/2017
Type of sample		Water	Water	Water	Water	Water
Date extracted	-	03/07/2017	03/07/2017	03/07/2017	03/07/2017	03/07/2017
Date analysed	-	03/07/2017	03/07/2017	03/07/2017	03/07/2017	03/07/2017
TRHC$_{10}$ - C$_{14}$	µg/L	<50	<50	<50	<50	<50
TRHC$_{15}$ - C$_{28}$	µg/L	<100	<100	<100	<100	<100
TRHC$_{29}$ - C$_{36}$	µg/L	<100	<100	<100	<100	<100
TRH>C$_{10}$ - C$_{16}$	µg/L	<50	<50	<50	<50	<50
TRH>C$_{10}$ - C$_{16}$ less Naphthalene (F2)	µg/L	<50	<50	<50	<50	<50
TRH>C$_{16}$ - C$_{34}$	µg/L	<100	<100	<100	<100	<100
TRH>C$_{34}$ - C$_{40}$	µg/L	<100	<100	<100	<100	<100
Surrogate o-Terphenyl	%	98	107	109	110	108

svTRH (C10-C40) in Water				
Our Reference:	UNITS	170474-6	170474-7	170474-8
Your Reference	---------- -	BRW9	PH12	FD01
Date Sampled	----------	29/06/2017	29/06/2017	29/06/2017
Type of sample		Water	Water	Water
Date extracted	-	03/07/2017	03/07/2017	03/07/2017
Date analysed	-	03/07/2017	03/07/2017	03/07/2017
TRHC$_{10}$ - C$_{14}$	µg/L	<50	<50	<50
TRHC$_{15}$ - C$_{28}$	µg/L	<100	<100	<100
TRHC$_{29}$ - C$_{36}$	µg/L	<100	<100	<100
TRH>C$_{10}$ - C$_{16}$	µg/L	<50	<50	<50
TRH>C$_{10}$ - C$_{16}$ less Naphthalene (F2)	µg/L	<50	<50	<50
TRH>C$_{16}$ - C$_{34}$	µg/L	<100	<100	<100
TRH>C$_{34}$ - C$_{40}$	µg/L	<100	<100	<100
Surrogate o-Terphenyl	%	114	109	103

PAHs in Water Our Reference: Your Reference	UNITS	170474-1 BRW2	170474-2 BRW3	170474-3 BRW4	170474-4 BRW5	170474-5 BRW7
Date Sampled	-	29/06/2017	29/06/2017	29/06/2017	29/06/2017	29/06/2017
Type of sample		Water	Water	Water	Water	Water
Date extracted	-	03/07/2017	03/07/2017	03/07/2017	03/07/2017	03/07/2017
Date analysed	-	04/07/2017	04/07/2017	04/07/2017	04/07/2017	04/07/2017
Naphthalene	µg/L	<1	<1	<1	<1	<1
Acenaphthylene	µg/L	<1	<1	<1	<1	<1
Acenaphthene	µg/L	<1	<1	<1	<1	<1
Fluorene	µg/L	<1	<1	<1	<1	<1
Phenanthrene	µg/L	<1	<1	<1	<1	<1
Anthracene	µg/L	<1	<1	<1	<1	<1
Fluoranthene	µg/L	<1	<1	<1	<1	<1
Pyrene	µg/L	<1	<1	<1	<1	<1
Benzo(a)anthracene	µg/L	<1	<1	<1	<1	<1
Chrysene	µg/L	<1	<1	<1	<1	<1
Benzo(b,j+k)fluoranthene	µg/L	<2	<2	<2	<2	<2
Benzo(a)pyrene	µg/L	<1	<1	<1	<1	<1
Indeno(1,2,3-c,d)pyrene	µg/L	<1	<1	<1	<1	<1
Dibenzo(a,h)anthracene	µg/L	<1	<1	<1	<1	<1
Benzo(g,h,i)perylene	µg/L	<1	<1	<1	<1	<1
Benzo(a)pyrene TEQ	µg/L	<5	<5	<5	<5	<5
Total +ve PAH's	µg/L	NIL (+)VE	NIL (+)VE	NIL (+)VE	NIL (+)VE	NIL (+)VE
Surrogate p-Terphenyl-d14	%	102	111	109	108	99

PAHs in Water Our Reference: Your Reference Date Sampled Type of sample	UNITS ---------- - ---------- 	170474-6 BRW9 29/06/2017 Water	170474-7 PH12 29/06/2017 Water
Date extracted	-	03/07/2017	03/07/2017
Date analysed	-	04/07/2017	05/07/2017
Naphthalene	µg/L	<1	<1
Acenaphthylene	µg/L	<1	<1
Acenaphthene	µg/L	<1	<1
Fluorene	µg/L	<1	<1
Phenanthrene	µg/L	<1	<1
Anthracene	µg/L	<1	<1
Fluoranthene	µg/L	<1	<1
Pyrene	µg/L	<1	<1
Benzo(a)anthracene	µg/L	<1	<1
Chrysene	µg/L	<1	<1
Benzo(b,j+k)fluoranthene	µg/L	<2	<2
Benzo(a)pyrene	µg/L	<1	<1
Indeno(1,2,3-c,d)pyrene	µg/L	<1	<1
Dibenzo(a,h)anthracene	µg/L	<1	<1
Benzo(g,h,i)perylene	µg/L	<1	<1
Benzo(a)pyrene TEQ	µg/L	<5	<5
Total +ve PAH's	µg/L	NIL (+)VE	NIL (+)VE
Surrogate p-Terphenyl-d14	%	122	106

HM in water - dissolved Our Reference: Your Reference Date Sampled Type of sample	UNITS ---------- - ----------	170474-1 BRW2 29/06/2017 Water	170474-2 BRW3 29/06/2017 Water	170474-3 BRW4 29/06/2017 Water	170474-4 BRW5 29/06/2017 Water	170474-5 BRW7 29/06/2017 Water
Date prepared	-	03/07/2017	03/07/2017	03/07/2017	03/07/2017	03/07/2017
Date analysed	-	03/07/2017	03/07/2017	03/07/2017	03/07/2017	03/07/2017
Arsenic-Dissolved	µg/L	<1	<1	1	<1	<1
Cadmium-Dissolved	µg/L	0.1	<0.1	<0.1	<0.1	0.2
Chromium-Dissolved	µg/L	<1	<1	<1	<1	<1
Copper-Dissolved	µg/L	<1	<1	<1	<1	<1
Lead-Dissolved	µg/L	<1	<1	<1	<1	<1
Mercury-Dissolved	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05
Nickel-Dissolved	µg/L	5	<1	2	2	1
Zinc-Dissolved	µg/L	2	<1	<1	1	2

HM in water - dissolved Our Reference: Your Reference Date Sampled Type of sample	UNITS ---------- - ----------	170474-6 BRW9 29/06/2017 Water	170474-7 PH12 29/06/2017 Water	170474-8 FD01 29/06/2017 Water
Date prepared	-	03/07/2017	03/07/2017	03/07/2017
Date analysed	-	03/07/2017	03/07/2017	03/07/2017
Arsenic-Dissolved	µg/L	24	<1	25
Cadmium-Dissolved	µg/L	<0.1	<0.1	<0.1
Chromium-Dissolved	µg/L	<1	<1	<1
Copper-Dissolved	µg/L	<1	<1	<1
Lead-Dissolved	µg/L	<1	<1	<1
Mercury-Dissolved	µg/L	<0.05	<0.05	<0.05
Nickel-Dissolved	µg/L	11	2	11
Zinc-Dissolved	µg/L	<1	3	<1

Method ID	Methodology Summary
Org-013	Water samples are analysed directly 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-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-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.
Metals-022	Determination of various metals by ICP-MS.
Metals-021	Determination of Mercury by Cold Vapour AAS.

QUALITY CONTROL VOCs in water	UNITS	PQL	METHOD	Blank	Duplicate Sm#	Duplicate results Base II Duplicate II %RPD	Spike Sm#	Spike % Recovery
Date extracted	-			30/06/2017	170474-3	30/06/2017 || 30/06/2017	LCS-W4	30/06/2017
Date analysed	-			03/07/2017	170474-3	30/06/2017 || 03/07/2017	LCS-W4	01/07/2017
Dichlorodifluoromethane	µg/L	10	Org-013	<10	170474-3	<10 || <10	[NR]	[NR]
Chloromethane	µg/L	10	Org-013	<10	170474-3	<10 || <10	[NR]	[NR]
Vinyl Chloride	µg/L	10	Org-013	<10	170474-3	<10 || <10	[NR]	[NR]
Bromomethane	µg/L	10	Org-013	<10	170474-3	<10 || <10	[NR]	[NR]
Chloroethane	µg/L	10	Org-013	<10	170474-3	<10 || <10	[NR]	[NR]
Trichlorofluoromethane	µg/L	10	Org-013	<10	170474-3	<10 || <10	[NR]	[NR]
1,1-Dichloroethene	µg/L	1	Org-013	<1	170474-3	<1 || <1	[NR]	[NR]
Trans-1,2-dichloroethene	µg/L	1	Org-013	<1	170474-3	<1 || <1	[NR]	[NR]
1,1-dichloroethane	µg/L	1	Org-013	<1	170474-3	<1 || <1	LCS-W4	86%
Cis-1,2-dichloroethene	µg/L	1	Org-013	<1	170474-3	<1 || <1	[NR]	[NR]
Bromochloromethane	µg/L	1	Org-013	<1	170474-3	<1 || <1	[NR]	[NR]
Chloroform	µg/L	1	Org-013	<1	170474-3	<1 || <1	LCS-W4	86%
2,2-dichloropropane	µg/L	1	Org-013	<1	170474-3	<1 || <1	[NR]	[NR]
1,2-dichloroethane	µg/L	1	Org-013	<1	170474-3	<1 || <1	LCS-W4	81%
1,1,1-trichloroethane	µg/L	1	Org-013	<1	170474-3	<1 || <1	LCS-W4	88%
1,1-dichloropropene	µg/L	1	Org-013	<1	170474-3	<1 || <1	[NR]	[NR]
Cyclohexane	µg/L	1	Org-013	<1	170474-3	<1 || <1	[NR]	[NR]
Carbon tetrachloride	µg/L	1	Org-013	<1	170474-3	<1 || <1	[NR]	[NR]
Benzene	µg/L	1	Org-013	<1	170474-3	<1 || <1	[NR]	[NR]
Dibromomethane	µg/L	1	Org-013	<1	170474-3	<1 || <1	[NR]	[NR]
1,2-dichloropropane	µg/L	1	Org-013	<1	170474-3	<1 || <1	[NR]	[NR]
Trichloroethene	µg/L	1	Org-013	<1	170474-3	<1 || <1	LCS-W4	109%
Bromodichloromethane	µg/L	1	Org-013	<1	170474-3	<1 || <1	LCS-W4	86%
trans-1,3-dichloropropene	µg/L	1	Org-013	<1	170474-3	<1 || <1	[NR]	[NR]
cis-1,3-dichloropropene	µg/L	1	Org-013	<1	170474-3	<1 || <1	[NR]	[NR]
1,1,2-trichloroethane	µg/L	1	Org-013	<1	170474-3	<1 || <1	[NR]	[NR]
Toluene	µg/L	1	Org-013	<1	170474-3	<1 || <1	[NR]	[NR]
1,3-dichloropropane	µg/L	1	Org-013	<1	170474-3	<1 || <1	[NR]	[NR]
Dibromochloromethane	µg/L	1	Org-013	<1	170474-3	<1 || <1	LCS-W4	88%
1,2-dibromoethane	µg/L	1	Org-013	<1	170474-3	<1 || <1	[NR]	[NR]
Tetrachloroethene	µg/L	1	Org-013	<1	170474-3	<1 || <1	LCS-W4	92%
1,1,1,2-tetrachloroethane	µg/L	1	Org-013	<1	170474-3	<1 || <1	[NR]	[NR]
Chlorobenzene	µg/L	1	Org-013	<1	170474-3	<1 || <1	[NR]	[NR]
Ethylbenzene	µg/L	1	Org-013	<1	170474-3	<1 || <1	[NR]	[NR]
Bromoform	µg/L	1	Org-013	<1	170474-3	<1 || <1	[NR]	[NR]
m+p-xylene	µg/L	2	Org-013	<2	170474-3	<2 || <2	[NR]	[NR]
Styrene	µg/L	1	Org-013	<1	170474-3	<1 || <1	[NR]	[NR]
1,1,2,2-tetrachloroethane	µg/L	1	Org-013	<1	170474-3	<1 || <1	[NR]	[NR]
o-xylene	µg/L	1	Org-013	<1	170474-3	<1 || <1	[NR]	[NR]

QUALITY CONTROL VOCs in water	UNITS	PQL	METHOD	Blank	Duplicate Sm#	Duplicate results Base ll Duplicate ll %RPD	Spike Sm#	Spike % Recovery
1,2,3-trichloropropane	µg/L	1	Org-013	<1	170474-3	<1 || <1	[NR]	[NR]
Isopropylbenzene	µg/L	1	Org-013	<1	170474-3	<1 || <1	[NR]	[NR]
Bromobenzene	µg/L	1	Org-013	<1	170474-3	<1 || <1	[NR]	[NR]
n-propyl benzene	µg/L	1	Org-013	<1	170474-3	<1 || <1	[NR]	[NR]
2-chlorotoluene	µg/L	1	Org-013	<1	170474-3	<1 || <1	[NR]	[NR]
4-chlorotoluene	µg/L	1	Org-013	<1	170474-3	<1 || <1	[NR]	[NR]
1,3,5-trimethyl benzene	µg/L	1	Org-013	<1	170474-3	<1 || <1	[NR]	[NR]
Tert-butyl benzene	µg/L	1	Org-013	<1	170474-3	<1 || <1	[NR]	[NR]
1,2,4-trimethyl benzene	µg/L	1	Org-013	<1	170474-3	<1 || <1	[NR]	[NR]
1,3-dichlorobenzene	µg/L	1	Org-013	<1	170474-3	3 || 3 || RPD: 0	[NR]	[NR]
Sec-butyl benzene	µg/L	1	Org-013	<1	170474-3	<1 || <1	[NR]	[NR]
1,4-dichlorobenzene	µg/L	1	Org-013	<1	170474-3	<1 || <1	[NR]	[NR]
4-isopropyl toluene	µg/L	1	Org-013	<1	170474-3	<1 || <1	[NR]	[NR]
1,2-dichlorobenzene	µg/L	1	Org-013	<1	170474-3	52 || 46 || RPD: 12	[NR]	[NR]
n-butyl benzene	µg/L	1	Org-013	<1	170474-3	<1 || <1	[NR]	[NR]
1,2-dibromo-3-chloropropane	µg/L	1	Org-013	<1	170474-3	<1 || <1	[NR]	[NR]
1,2,4-trichlorobenzene	µg/L	1	Org-013	<1	170474-3	<1 || <1	[NR]	[NR]
Hexachlorobutadiene	µg/L	1	Org-013	<1	170474-3	<1 || <1	[NR]	[NR]
1,2,3-trichlorobenzene	µg/L	1	Org-013	<1	170474-3	<1 || <1	[NR]	[NR]
Surrogate Dibromofluoromethane	%		Org-013	102	170474-3	114 || 115 || RPD: 1	LCS-W4	90%
Surrogate toluene-d8	%		Org-013	95	170474-3	97 || 97 || RPD: 0	LCS-W4	103%
Surrogate 4-BFB	%		Org-013	89	170474-3	89 || 85 || RPD: 5	LCS-W4	105%

QUALITY CONTROL vTRH(C6-C10)/BTEXN in Water	UNITS	PQL	METHOD	Blank	Duplicate Sm#	Duplicate results Base || Duplicate || %RPD	Spike Sm#	Spike % Recovery
Date extracted	-			30/06/2017	170474-3	30/06/2017 || 30/06/2017	LCS-W4	30/06/2017
Date analysed	-			03/07/2017	170474-3	01/07/2017 || 03/07/2017	LCS-W4	01/07/2017
TRHC$_6$ - C$_9$	µg/L	10	Org-016	<10	170474-3	<10 || <10	LCS-W4	97%
TRHC$_6$ - C$_{10}$	µg/L	10	Org-016	<10	170474-3	<10 || <10	LCS-W4	97%
Benzene	µg/L	1	Org-016	<1	170474-3	<1 || <1	LCS-W4	94%
Toluene	µg/L	1	Org-016	<1	170474-3	<1 || <1	LCS-W4	99%
Ethylbenzene	µg/L	1	Org-016	<1	170474-3	<1 || <1	LCS-W4	97%
m+p-xylene	µg/L	2	Org-016	<2	170474-3	<2 || <2	LCS-W4	98%
o-xylene	µg/L	1	Org-016	<1	170474-3	<1 || <1	LCS-W4	98%
Naphthalene	µg/L	1	Org-013	<1	170474-3	<1 || <1	[NR]	[NR]
Surrogate Dibromofluoromethane	%		Org-016	102	170474-3	114 || 115 || RPD: 1	LCS-W4	90%
Surrogate toluene-d8	%		Org-016	95	170474-3	97 || 97 || RPD: 0	LCS-W4	103%
Surrogate 4-BFB	%		Org-016	89	170474-3	89 || 85 || RPD: 5	LCS-W4	105%

QUALITY CONTROL svTRH (C10-C40) in Water	UNITS	PQL	METHOD	Blank	Duplicate Sm#	Duplicate results Base || Duplicate || %RPD	Spike Sm#	Spike % Recovery
Date extracted	-			03/07/2017	[NT]	[NT]	LCS-W1	03/07/2017
Date analysed	-			03/07/2017	[NT]	[NT]	LCS-W1	03/07/2017
TRHC$_{10}$ - C$_{14}$	µg/L	50	Org-003	<50	[NT]	[NT]	LCS-W1	127%
TRHC$_{15}$ - C$_{28}$	µg/L	100	Org-003	<100	[NT]	[NT]	LCS-W1	121%
TRHC$_{29}$ - C$_{36}$	µg/L	100	Org-003	<100	[NT]	[NT]	LCS-W1	83%
TRH>C$_{10}$ - C$_{16}$	µg/L	50	Org-003	<50	[NT]	[NT]	LCS-W1	127%
TRH>C$_{16}$ - C$_{34}$	µg/L	100	Org-003	<100	[NT]	[NT]	LCS-W1	121%
TRH>C$_{34}$ - C$_{40}$	µg/L	100	Org-003	<100	[NT]	[NT]	LCS-W1	83%
Surrogate o-Terphenyl	%		Org-003	103	[NT]	[NT]	LCS-W1	109%

QUALITY CONTROL PAHs in Water	UNITS	PQL	METHOD	Blank	Duplicate Sm#	Duplicate results Base || Duplicate || %RPD	Spike Sm#	Spike % Recovery
Date extracted	-			03/07/2017	[NT]	[NT]	LCS-W2	03/07/2017
Date analysed	-			05/07/2017	[NT]	[NT]	LCS-W2	04/07/2017
Naphthalene	µg/L	1	Org-012	<1	[NT]	[NT]	LCS-W2	77%
Acenaphthylene	µg/L	1	Org-012	<1	[NT]	[NT]	[NR]	[NR]
Acenaphthene	µg/L	1	Org-012	<1	[NT]	[NT]	[NR]	[NR]
Fluorene	µg/L	1	Org-012	<1	[NT]	[NT]	LCS-W2	74%
Phenanthrene	µg/L	1	Org-012	<1	[NT]	[NT]	LCS-W2	82%
Anthracene	µg/L	1	Org-012	<1	[NT]	[NT]	[NR]	[NR]
Fluoranthene	µg/L	1	Org-012	<1	[NT]	[NT]	LCS-W2	78%
Pyrene	µg/L	1	Org-012	<1	[NT]	[NT]	LCS-W2	77%
Benzo(a)anthracene	µg/L	1	Org-012	<1	[NT]	[NT]	[NR]	[NR]

QUALITY CONTROL PAHs in Water	UNITS	PQL	METHOD	Blank	Duplicate Sm#	Duplicate results Base ll Duplicate ll %RPD	Spike Sm#	Spike % Recovery
Chrysene	µg/L	1	Org-012	<1	[NT]	[NT]	LCS-W2	93%
Benzo(b,j +k)fluoranthene	µg/L	2	Org-012	<2	[NT]	[NT]	[NR]	[NR]
Benzo(a)pyrene	µg/L	1	Org-012	<1	[NT]	[NT]	LCS-W2	83%
Indeno(1,2,3-c,d)pyrene	µg/L	1	Org-012	<1	[NT]	[NT]	[NR]	[NR]
Dibenzo(a,h)anthracene	µg/L	1	Org-012	<1	[NT]	[NT]	[NR]	[NR]
Benzo(g,h,i)perylene	µg/L	1	Org-012	<1	[NT]	[NT]	[NR]	[NR]
Surrogate p-Terphenyl-d14	%		Org-012	86	[NT]	[NT]	LCS-W2	128%

QUALITY CONTROL HM in water - dissolved	UNITS	PQL	METHOD	Blank	Duplicate Sm#	Duplicate results Base ll Duplicate ll %RPD	Spike Sm#	Spike % Recovery
Date prepared	-			03/07/2017	[NT]	[NT]	LCS-W3	03/07/2017
Date analysed	-			03/07/2017	[NT]	[NT]	LCS-W3	03/07/2017
Arsenic-Dissolved	µg/L	1	Metals-022	<1	[NT]	[NT]	LCS-W3	102%
Cadmium-Dissolved	µg/L	0.1	Metals-022	<0.1	[NT]	[NT]	LCS-W3	104%
Chromium-Dissolved	µg/L	1	Metals-022	<1	[NT]	[NT]	LCS-W3	98%
Copper-Dissolved	µg/L	1	Metals-022	<1	[NT]	[NT]	LCS-W3	98%
Lead-Dissolved	µg/L	1	Metals-022	<1	[NT]	[NT]	LCS-W3	110%
Mercury-Dissolved	µg/L	0.05	Metals-021	<0.05	[NT]	[NT]	LCS-W3	100%
Nickel-Dissolved	µg/L	1	Metals-022	<1	[NT]	[NT]	LCS-W3	97%
Zinc-Dissolved	µg/L	1	Metals-022	<1	[NT]	[NT]	LCS-W3	101%

QUALITY CONTROL svTRH (C10-C40) in Water	UNITS	Dup. Sm#	Duplicate Base + Duplicate + %RPD
Date extracted	-	170474-4	03/07/2017 || 03/07/2017
Date analysed	-	170474-4	03/07/2017 || 03/07/2017
TRH C_{10} - C_{14}	µg/L	170474-4	<50 || <50
TRH C_{15} - C_{28}	µg/L	170474-4	<100 || <100
TRH C_{29} - C_{36}	µg/L	170474-4	<100 || <100
TRH >C_{10} - C_{16}	µg/L	170474-4	<50 || <50
TRH >C_{16} - C_{34}	µg/L	170474-4	<100 || <100
TRH >C_{34} - C_{40}	µg/L	170474-4	<100 || <100
Surrogate o-Terphenyl	%	170474-4	110 || 110 || RPD: 0

QUALITY CONTROL PAHs in Water	UNITS	Dup. Sm#	Duplicate Base + Duplicate + %RPD
Date extracted	-	170474-4	03/07/2017 || 03/07/2017
Date analysed	-	170474-4	04/07/2017 || 04/07/2017
Naphthalene	µg/L	170474-4	<1 || <1
Acenaphthylene	µg/L	170474-4	<1 || <1
Acenaphthene	µg/L	170474-4	<1 || <1
Fluorene	µg/L	170474-4	<1 || <1
Phenanthrene	µg/L	170474-4	<1 || <1
Anthracene	µg/L	170474-4	<1 || <1
Fluoranthene	µg/L	170474-4	<1 || <1
Pyrene	µg/L	170474-4	<1 || <1
Benzo(a)anthracene	µg/L	170474-4	<1 || <1
Chrysene	µg/L	170474-4	<1 || <1
Benzo(b,j+k)fluoranthene	µg/L	170474-4	<2 || <2
Benzo(a)pyrene	µg/L	170474-4	<1 || <1
Indeno(1,2,3-c,d)pyrene	µg/L	170474-4	<1 || <1
Dibenzo(a,h)anthracene	µg/L	170474-4	<1 || <1
Benzo(g,h,i)perylene	µg/L	170474-4	<1 || <1
Surrogate p-Terphenyl-d14	%	170474-4	108 || 115 || RPD: 6

QUALITY CONTROL HM in water - dissolved	UNITS	Dup. Sm#	Duplicate Base + Duplicate + %RPD	Spike Sm#	Spike % Recovery
Date prepared	-	[NT]	[NT]	170474-2	03/07/2017
Date analysed	-	[NT]	[NT]	170474-2	03/07/2017
Arsenic-Dissolved	µg/L	[NT]	[NT]	[NR]	[NR]
Cadmium-Dissolved	µg/L	[NT]	[NT]	[NR]	[NR]
Chromium-Dissolved	µg/L	[NT]	[NT]	[NR]	[NR]
Copper-Dissolved	µg/L	[NT]	[NT]	[NR]	[NR]
Lead-Dissolved	µg/L	[NT]	[NT]	[NR]	[NR]
Mercury-Dissolved	µg/L	[NT]	[NT]	170474-2	88%
Nickel-Dissolved	µg/L	[NT]	[NT]	[NR]	[NR]
Zinc-Dissolved	µg/L	[NT]	[NT]	[NR]	[NR]

QUALITY CONTROL HM in water - dissolved	UNITS	Dup. Sm#	Duplicate Base + Duplicate + %RPD
Date prepared	-	170474-1	03/07/2017 || 03/07/2017
Date analysed	-	170474-1	03/07/2017 || 03/07/2017
Arsenic-Dissolved	µg/L	170474-1	<1 || <1
Cadmium-Dissolved	µg/L	170474-1	0.1 || 0.1 || RPD: 0
Chromium-Dissolved	µg/L	170474-1	<1 || <1
Copper-Dissolved	µg/L	170474-1	<1 || <1
Lead-Dissolved	µg/L	170474-1	<1 || <1
Mercury-Dissolved	µg/L	170474-1	<0.05 || <0.05
Nickel-Dissolved	µg/L	170474-1	5 || 6 || RPD: 18
Zinc-Dissolved	µg/L	170474-1	2 || 2 || RPD: 0

Report Comments:

Asbestos ID was analysed by Approved Identifier:	Not applicable for this job
Asbestos ID was authorised by Approved Signatory:	Not applicable for this job

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

CHAIN OF CUSTODY - Client

ENVIROLAB GROUP - National phone number 1300 42 43 44

Sydney Lab - Envirolab Services
12 Ashley St, Chatswood, NSW 2067
Ph 02 9910 6200 / sydney@envirolab.com.au

Perth Lab - MPL Laboratories
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Ph 08 9317 2505 / lab@mpl.com.au

Melbourne Lab - Envirolab Services
1A Dalmore Drive Scoresby VIC 3179
Ph 03 9763 2500 / melbourne@envirolab.com.au

Brisbane Office - Envirolab Services
20a, 10-20 Depot St, Banyo, QLD 4014
Ph 07 3266 9532 / brisbane@envirolab.com.au

Adelaide Office - Envirolab Services
7 Palmerston Road Windsor Gardens, SA 5087
Ph 0406 350 706 / adelaide@envirolab.com.au

Client: KPMG SGA
Contact Person: Anthony Barkway
Project Mgr: Dylan Jones
Sampler: Anthony Barkway
Address: Tower 3, International Towers Sydney
300 Barangaroo Avenue
Sydney NSW 2000
Phone: 9455 9387 Mob: 0419 801 515
Email: abarkway@kpmg.com.au

Client Project Name / Number / Site etc (ie report title): 314465.01
PO No.:
Envirolab Quote No. : R00C2
Date results required:
Or choose: standard /1 day/2 day/3 day
Note: Inform lab in advance if urgent turnaround is required - surcharges apply
Report format: excel
Lab Comments:

Sample information					Tests Required														Comments
Envirolab Sample ID	Client Sample ID or information	Depth	Date sampled	Type of sample	Combination 3	VOCs	Combination 1m												Provide as much information about the sample as you can
1	BRW2	-	29/06/2017	Water	X	X													
2	BRW3	-	29/06/2017	Water	X	X													
3	BRW4	-	29/06/2017	Water	X	X													
4	BRW5	-	29/06/2017	Water	X	X													
5	BRW7	-	29/06/2017	Water	X	X													
6	BRW9	-	29/06/2017	Water	X	X													
7	PH12	-	29/06/2017	Water	X	X													
8	FD01	-	29/06/2017	Water			X												
9																			

Relinquished by (Company): KPMG SGA
Print Name: Anthony Barkway
Date & Time: 30/06/2017 14:30pm
Signature: AB

Received by (Company): EL
Print Name: DW
Date & Time: 29/6/17 14:00
Signature:

Lab use only:
Samples Received: Cool or Ambient (circle one)
Temperature Received at: 14.3 (if applicable)
Transported by: Hand delivered / courier

White - Lab copy / Blue - Client copy / Pink - Retain in Book

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

Job No: 170474
Date Received: ~~30/6~~ 29/6 3 samples
Time Received: 14:00
Received by: DW
Temp: Cool/Ambient
Cooling: Ice/Icepack
Security: Intact/Broken/None

COC-30/6

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

SAMPLE RECEIPT ADVICE

Client Details	
Client	KPMG SGA
Attention	Anthony Barkway, Dylan Jones

Sample Login Details	
Your Reference	314465.01
Envirolab Reference	**170474**
Date Sample Received	29/06/2017
Date Instructions Received	30/06/2017
Date Results Expected to be Reported	**07/07/2017**

Sample Condition	
Samples received in appropriate condition for analysis	YES
No. of Samples Provided	8 Waters
Turnaround Time Requested	Standard
Temperature on receipt (°C)	14.3
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

Envirolab Services Pty Ltd
ABN 37 112 535 645
12 Ashley St Chatswood NSW 2067
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enquiries@envirolabservices.com.au
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Sample Id	*VOCs in water*	*vTRH(C6-C10)/BTEXN in Water*	*svTRH (C10-C40) in Water*	*PAHs in Water*	*HM in water - dissolved*
BRW2	✓	✓	✓	✓	✓
BRW3	✓	✓	✓	✓	✓
BRW4	✓	✓	✓	✓	✓
BRW5	✓	✓	✓	✓	✓
BRW7	✓	✓	✓	✓	✓
BRW9	✓	✓	✓	✓	✓
PH12	✓	✓	✓	✓	✓
FD01		✓	✓		✓

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

Envirolab Services Pty Ltd
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12 Ashley St Chatswood NSW 2067
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CERTIFICATE OF ANALYSIS 196261

Client Details

Client	KPMG SGA
Attention	Dylan Jones
Address	Tower3, International Towers Sydney, 300 Barangaroo Ave, Sydney, NSW, 2000

Sample Details

Your Reference	**338588**
Number of Samples	31 Soil
Date samples received	12/07/2018
Date completed instructions received	13/07/2018

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	20/07/2018
Date of Issue	19/07/2018

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

Results Approved By
Dragana Tomas, Senior Chemist
Ken Nguyen, Senior Chemist
Leon Ow, Chemist
Nick Sarlamis, Inorganics Supervisor
Priya Samarawickrama, Senior Chemist
Steven Luong, Senior Chemist

Authorised By

Jacinta Hurst, Laboratory Manager

VOCs in soil						
Our Reference		196261-2	196261-3	196261-5	196261-8	196261-11
Your Reference	UNITS	BH01	BH02	BH03	BH04	BH05
Depth		1.8-1.9	0.3-0.4	1.5-1.6	0.4-0.5	2.8-2.9
Date Sampled		11/07/2018	11/07/2018	11/07/2018	11/07/2018	11/07/2018
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	16/07/2018	16/07/2018	16/07/2018	16/07/2018	16/07/2018
Date analysed	-	17/07/2018	17/07/2018	17/07/2018	17/07/2018	17/07/2018
Dichlorodifluoromethane	mg/kg	<1	<1	<1	<1	<1
Chloromethane	mg/kg	<1	<1	<1	<1	<1
Vinyl Chloride	mg/kg	<1	<1	<1	<1	<1
Bromomethane	mg/kg	<1	<1	<1	<1	<1
Chloroethane	mg/kg	<1	<1	<1	<1	<1
Trichlorofluoromethane	mg/kg	<1	<1	<1	<1	<1
1,1-Dichloroethene	mg/kg	<1	<1	<1	<1	<1
trans-1,2-dichloroethene	mg/kg	<1	<1	<1	<1	<1
1,1-dichloroethane	mg/kg	<1	<1	<1	<1	<1
cis-1,2-dichloroethene	mg/kg	<1	<1	<1	<1	<1
bromochloromethane	mg/kg	<1	<1	<1	<1	<1
chloroform	mg/kg	<1	<1	<1	<1	<1
2,2-dichloropropane	mg/kg	<1	<1	<1	<1	<1
1,2-dichloroethane	mg/kg	<1	<1	<1	<1	<1
1,1,1-trichloroethane	mg/kg	<1	<1	<1	<1	<1
1,1-dichloropropene	mg/kg	<1	<1	<1	<1	<1
Cyclohexane	mg/kg	<1	<1	<1	<1	<1
carbon tetrachloride	mg/kg	<1	<1	<1	<1	<1
Benzene	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
dibromomethane	mg/kg	<1	<1	<1	<1	<1
1,2-dichloropropane	mg/kg	<1	<1	<1	<1	<1
trichloroethene	mg/kg	<1	<1	<1	<1	<1
bromodichloromethane	mg/kg	<1	<1	<1	<1	<1
trans-1,3-dichloropropene	mg/kg	<1	<1	<1	<1	<1
cis-1,3-dichloropropene	mg/kg	<1	<1	<1	<1	<1
1,1,2-trichloroethane	mg/kg	<1	<1	<1	<1	<1
Toluene	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
1,3-dichloropropane	mg/kg	<1	<1	<1	<1	<1
dibromochloromethane	mg/kg	<1	<1	<1	<1	1
1,2-dibromoethane	mg/kg	<1	<1	<1	<1	<1
tetrachloroethene	mg/kg	<1	<1	<1	<1	<1
1,1,1,2-tetrachloroethane	mg/kg	<1	<1	<1	<1	<1
chlorobenzene	mg/kg	<1	<1	<1	<1	<1
Ethylbenzene	mg/kg	<1	<1	<1	<1	<1

VOCs in soil						
Our Reference		196261-2	196261-3	196261-5	196261-8	196261-11
Your Reference	UNITS	BH01	BH02	BH03	BH04	BH05
Depth		1.8-1.9	0.3-0.4	1.5-1.6	0.4-0.5	2.8-2.9
Date Sampled		11/07/2018	11/07/2018	11/07/2018	11/07/2018	11/07/2018
Type of sample		Soil	Soil	Soil	Soil	Soil
bromoform	mg/kg	<1	<1	<1	<1	<1
m+p-xylene	mg/kg	<2	<2	<2	<2	<2
styrene	mg/kg	<1	<1	<1	<1	<1
1,1,2,2-tetrachloroethane	mg/kg	<1	<1	<1	<1	<1
o-Xylene	mg/kg	<1	<1	<1	<1	<1
1,2,3-trichloropropane	mg/kg	<1	<1	<1	<1	<1
isopropylbenzene	mg/kg	<1	<1	<1	<1	<1
bromobenzene	mg/kg	<1	<1	<1	<1	<1
n-propyl benzene	mg/kg	<1	<1	<1	<1	<1
2-chlorotoluene	mg/kg	<1	<1	<1	<1	<1
4-chlorotoluene	mg/kg	<1	<1	<1	<1	<1
1,3,5-trimethyl benzene	mg/kg	<1	<1	<1	<1	<1
tert-butyl benzene	mg/kg	<1	<1	<1	<1	<1
1,2,4-trimethyl benzene	mg/kg	<1	<1	<1	<1	<1
1,3-dichlorobenzene	mg/kg	<1	<1	<1	<1	<1
sec-butyl benzene	mg/kg	<1	<1	<1	<1	<1
1,4-dichlorobenzene	mg/kg	<1	<1	<1	<1	<1
4-isopropyl toluene	mg/kg	<1	<1	<1	<1	<1
1,2-dichlorobenzene	mg/kg	<1	<1	4	<1	<1
n-butyl benzene	mg/kg	<1	<1	<1	<1	<1
1,2-dibromo-3-chloropropane	mg/kg	<1	<1	<1	<1	<1
1,2,4-trichlorobenzene	mg/kg	<1	<1	<1	<1	<1
hexachlorobutadiene	mg/kg	<1	<1	<1	<1	<1
1,2,3-trichlorobenzene	mg/kg	<1	<1	<1	<1	<1
Surrogate Dibromofluorometha	%	117	116	117	114	119
Surrogate aaa-Trifluorotoluene	%	90	86	96	90	99
Surrogate Toluene-d_8	%	97	116	122	96	122
Surrogate 4-Bromofluorobenzene	%	89	72	85	89	89

VOCs in soil						
Our Reference		196261-13	196261-14	196261-16	196261-19	196261-21
Your Reference	UNITS	BH06	BH07	BH08	BH09	BH10
Depth		0.4-0.5	0.6-0.7	0.5-0.6	0.8-0.9	0.4-0.9
Date Sampled		11/07/2018	12/07/2018	12/07/2018	12/07/2018	12/07/2018
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	16/07/2018	16/07/2018	16/07/2018	16/07/2018	16/07/2018
Date analysed	-	17/07/2018	17/07/2018	17/07/2018	17/07/2018	17/07/2018
Dichlorodifluoromethane	mg/kg	<1	<1	<1	<1	<1
Chloromethane	mg/kg	<1	<1	<1	<1	<1
Vinyl Chloride	mg/kg	<1	<1	<1	<1	<1
Bromomethane	mg/kg	<1	<1	<1	<1	<1
Chloroethane	mg/kg	<1	<1	<1	<1	<1
Trichlorofluoromethane	mg/kg	<1	<1	<1	<1	<1
1,1-Dichloroethene	mg/kg	<1	<1	<1	<1	<1
trans-1,2-dichloroethene	mg/kg	<1	<1	<1	<1	<1
1,1-dichloroethane	mg/kg	<1	<1	<1	<1	<1
cis-1,2-dichloroethene	mg/kg	<1	<1	<1	<1	<1
bromochloromethane	mg/kg	<1	<1	<1	<1	<1
chloroform	mg/kg	<1	<1	<1	<1	<1
2,2-dichloropropane	mg/kg	<1	<1	<1	<1	<1
1,2-dichloroethane	mg/kg	<1	<1	<1	<1	<1
1,1,1-trichloroethane	mg/kg	<1	<1	<1	<1	<1
1,1-dichloropropene	mg/kg	<1	<1	<1	<1	<1
Cyclohexane	mg/kg	<1	<1	<1	<1	<1
carbon tetrachloride	mg/kg	<1	<1	<1	<1	<1
Benzene	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
dibromomethane	mg/kg	<1	<1	<1	<1	<1
1,2-dichloropropane	mg/kg	<1	<1	<1	<1	<1
trichloroethene	mg/kg	<1	<1	<1	<1	<1
bromodichloromethane	mg/kg	<1	<1	<1	<1	<1
trans-1,3-dichloropropene	mg/kg	<1	<1	<1	<1	<1
cis-1,3-dichloropropene	mg/kg	<1	<1	<1	<1	<1
1,1,2-trichloroethane	mg/kg	<1	<1	<1	<1	<1
Toluene	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
1,3-dichloropropane	mg/kg	<1	<1	<1	<1	<1
dibromochloromethane	mg/kg	<1	<1	<1	<1	<1
1,2-dibromoethane	mg/kg	<1	<1	<1	<1	<1
tetrachloroethene	mg/kg	<1	<1	<1	<1	<1
1,1,1,2-tetrachloroethane	mg/kg	<1	<1	<1	<1	<1
chlorobenzene	mg/kg	<1	<1	<1	<1	<1
Ethylbenzene	mg/kg	<1	<1	<1	<1	<1

VOCs in soil						
Our Reference		196261-13	196261-14	196261-16	196261-19	196261-21
Your Reference	UNITS	BH06	BH07	BH08	BH09	BH10
Depth		0.4-0.5	0.6-0.7	0.5-0.6	0.8-0.9	0.4-0.9
Date Sampled		11/07/2018	12/07/2018	12/07/2018	12/07/2018	12/07/2018
Type of sample		Soil	Soil	Soil	Soil	Soil
bromoform	mg/kg	<1	<1	<1	<1	<1
m+p-xylene	mg/kg	<2	<2	<2	<2	<2
styrene	mg/kg	<1	<1	<1	<1	<1
1,1,2,2-tetrachloroethane	mg/kg	<1	<1	<1	<1	<1
o-Xylene	mg/kg	<1	<1	<1	<1	<1
1,2,3-trichloropropane	mg/kg	<1	<1	<1	<1	<1
isopropylbenzene	mg/kg	<1	<1	<1	<1	<1
bromobenzene	mg/kg	<1	<1	<1	<1	<1
n-propyl benzene	mg/kg	<1	<1	<1	<1	<1
2-chlorotoluene	mg/kg	<1	<1	<1	<1	<1
4-chlorotoluene	mg/kg	<1	<1	<1	<1	<1
1,3,5-trimethyl benzene	mg/kg	<1	<1	<1	<1	<1
tert-butyl benzene	mg/kg	<1	<1	<1	<1	<1
1,2,4-trimethyl benzene	mg/kg	<1	<1	<1	<1	<1
1,3-dichlorobenzene	mg/kg	<1	<1	<1	<1	<1
sec-butyl benzene	mg/kg	<1	<1	<1	<1	<1
1,4-dichlorobenzene	mg/kg	<1	<1	<1	<1	<1
4-isopropyl toluene	mg/kg	<1	<1	<1	<1	<1
1,2-dichlorobenzene	mg/kg	<1	<1	<1	<1	<1
n-butyl benzene	mg/kg	<1	<1	<1	<1	<1
1,2-dibromo-3-chloropropane	mg/kg	<1	<1	<1	<1	<1
1,2,4-trichlorobenzene	mg/kg	<1	<1	<1	<1	<1
hexachlorobutadiene	mg/kg	<1	<1	<1	<1	<1
1,2,3-trichlorobenzene	mg/kg	<1	<1	<1	<1	<1
Surrogate Dibromofluorometha	%	121	119	96	120	112
Surrogate aaa-Trifluorotoluene	%	84	82	72	99	71
Surrogate Toluene-d_8	%	97	97	77	96	95
Surrogate 4-Bromofluorobenzene	%	90	83	87	100	90

VOCs in soil					
Our Reference		196261-24	196261-25	196261-27	196261-29
Your Reference	UNITS	BH11	BH12	BH13	BH14
Depth		0.9-1.0	1.1-1.2	0.2-0.3	0.6-0.7
Date Sampled		12/07/2018	12/07/2018	12/07/2018	12/07/2018
Type of sample		Soil	Soil	Soil	Soil
Date extracted	-	16/07/2018	16/07/2018	16/07/2018	16/07/2018
Date analysed	-	17/07/2018	17/07/2018	17/07/2018	17/07/2018
Dichlorodifluoromethane	mg/kg	<1	<1	<1	<1
Chloromethane	mg/kg	<1	<1	<1	<1
Vinyl Chloride	mg/kg	<1	<1	<1	<1
Bromomethane	mg/kg	<1	<1	<1	<1
Chloroethane	mg/kg	<1	<1	<1	<1
Trichlorofluoromethane	mg/kg	<1	<1	<1	<1
1,1-Dichloroethene	mg/kg	<1	<1	<1	<1
trans-1,2-dichloroethene	mg/kg	<1	<1	<1	<1
1,1-dichloroethane	mg/kg	<1	<1	<1	<1
cis-1,2-dichloroethene	mg/kg	<1	<1	<1	<1
bromochloromethane	mg/kg	<1	<1	<1	<1
chloroform	mg/kg	<1	<1	<1	<1
2,2-dichloropropane	mg/kg	<1	<1	<1	<1
1,2-dichloroethane	mg/kg	<1	<1	<1	<1
1,1,1-trichloroethane	mg/kg	<1	<1	<1	<1
1,1-dichloropropene	mg/kg	<1	<1	<1	<1
Cyclohexane	mg/kg	<1	<1	<1	<1
carbon tetrachloride	mg/kg	<1	<1	<1	<1
Benzene	mg/kg	<0.2	<0.2	<0.2	<0.2
dibromomethane	mg/kg	<1	<1	<1	<1
1,2-dichloropropane	mg/kg	<1	<1	<1	<1
trichloroethene	mg/kg	<1	<1	<1	<1
bromodichloromethane	mg/kg	<1	<1	<1	<1
trans-1,3-dichloropropene	mg/kg	<1	<1	<1	<1
cis-1,3-dichloropropene	mg/kg	<1	<1	<1	<1
1,1,2-trichloroethane	mg/kg	<1	<1	<1	<1
Toluene	mg/kg	<0.5	<0.5	<0.5	<0.5
1,3-dichloropropane	mg/kg	<1	<1	<1	<1
dibromochloromethane	mg/kg	1	<1	<1	<1
1,2-dibromoethane	mg/kg	<1	<1	<1	<1
tetrachloroethene	mg/kg	<1	<1	<1	<1
1,1,1,2-tetrachloroethane	mg/kg	<1	<1	<1	<1
chlorobenzene	mg/kg	<1	<1	<1	<1
Ethylbenzene	mg/kg	<1	<1	<1	<1

VOCs in soil					
Our Reference		196261-24	196261-25	196261-27	196261-29
Your Reference	UNITS	BH11	BH12	BH13	BH14
Depth		0.9-1.0	1.1-1.2	0.2-0.3	0.6-0.7
Date Sampled		12/07/2018	12/07/2018	12/07/2018	12/07/2018
Type of sample		Soil	Soil	Soil	Soil
bromoform	mg/kg	<1	<1	<1	<1
m+p-xylene	mg/kg	<2	<2	<2	<2
styrene	mg/kg	<1	<1	<1	<1
1,1,2,2-tetrachloroethane	mg/kg	<1	<1	<1	<1
o-Xylene	mg/kg	<1	<1	<1	<1
1,2,3-trichloropropane	mg/kg	<1	<1	<1	<1
isopropylbenzene	mg/kg	<1	<1	<1	<1
bromobenzene	mg/kg	<1	<1	<1	<1
n-propyl benzene	mg/kg	<1	<1	<1	<1
2-chlorotoluene	mg/kg	<1	<1	<1	<1
4-chlorotoluene	mg/kg	<1	<1	<1	<1
1,3,5-trimethyl benzene	mg/kg	<1	<1	<1	<1
tert-butyl benzene	mg/kg	<1	<1	<1	<1
1,2,4-trimethyl benzene	mg/kg	<1	<1	<1	<1
1,3-dichlorobenzene	mg/kg	<1	<1	<1	<1
sec-butyl benzene	mg/kg	<1	<1	<1	<1
1,4-dichlorobenzene	mg/kg	<1	<1	<1	<1
4-isopropyl toluene	mg/kg	<1	<1	<1	<1
1,2-dichlorobenzene	mg/kg	<1	<1	<1	<1
n-butyl benzene	mg/kg	<1	<1	<1	<1
1,2-dibromo-3-chloropropane	mg/kg	<1	<1	<1	<1
1,2,4-trichlorobenzene	mg/kg	<1	<1	<1	<1
hexachlorobutadiene	mg/kg	<1	<1	<1	<1
1,2,3-trichlorobenzene	mg/kg	<1	<1	<1	<1
Surrogate Dibromofluorometha	%	111	112	114	107
Surrogate aaa-Trifluorotoluene	%	100	101	102	84
Surrogate Toluene-d_8	%	94	94	97	95
Surrogate 4-Bromofluorobenzene	%	89	89	93	88

vTRH(C6-C10)/BTEXN in Soil						
Our Reference		196261-1	196261-2	196261-3	196261-4	196261-5
Your Reference	UNITS	BH01	BH01	BH02	BH02	BH03
Depth		0.5-0.6	1.8-1.9	0.3-0.4	1.3-1.4	1.5-1.6
Date Sampled		11/07/2018	11/07/2018	11/07/2018	11/07/2018	11/07/2018
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	16/07/2018	16/07/2018	16/07/2018	16/07/2018	16/07/2018
Date analysed	-	17/07/2018	17/07/2018	17/07/2018	17/07/2018	17/07/2018
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	<1	<1	<1	<1	<1
Surrogate aaa-Trifluorotoluene	%	109	90	86	107	96

vTRH(C6-C10)/BTEXN in Soil						
Our Reference		196261-7	196261-8	196261-9	196261-10	196261-11
Your Reference	UNITS	BH03	BH04	BH04	BH05	BH05
Depth		3.1-3.2	0.4-0.5	1.5-1.6	0.6-0.7	2.8-2.9
Date Sampled		11/07/2018	11/07/2018	11/07/2018	11/07/2018	11/07/2018
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	16/07/2018	16/07/2018	16/07/2018	16/07/2018	16/07/2018
Date analysed	-	17/07/2018	17/07/2018	17/07/2018	17/07/2018	17/07/2018
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	<1	<1	<1	<1	<1
Surrogate aaa-Trifluorotoluene	%	93	90	107	101	99

vTRH(C6-C10)/BTEXN in Soil						
Our Reference		196261-12	196261-13	196261-14	196261-15	196261-16
Your Reference	UNITS	BH06	BH06	BH07	BH07	BH08
Depth		1.8-1.9	0.4-0.5	0.6-0.7	1.7-1.8	0.5-0.6
Date Sampled		11/07/2018	11/07/2018	12/07/2018	12/07/2018	12/07/2018
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	16/07/2018	16/07/2018	16/07/2018	16/07/2018	16/07/2018
Date analysed	-	17/07/2018	17/07/2018	17/07/2018	17/07/2018	17/07/2018
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	<1	<1	<1	<1	<1
Surrogate aaa-Trifluorotoluene	%	98	84	82	93	72

vTRH(C6-C10)/BTEXN in Soil						
Our Reference		196261-17	196261-19	196261-20	196261-21	196261-22
Your Reference	UNITS	BH08	BH09	BH09	BH10	BH10
Depth		1.18-1.9	0.8-0.9	2.8-2.9	0.4-0.9	1.6-1.7
Date Sampled		12/07/2018	12/07/2018	12/07/2018	12/07/2018	12/07/2018
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	16/07/2018	16/07/2018	16/07/2018	16/07/2018	16/07/2018
Date analysed	-	17/07/2018	17/07/2018	17/07/2018	17/07/2018	17/07/2018
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	<1	<1	<1	<1	<1
Surrogate aaa-Trifluorotoluene	%	103	99	102	71	104

vTRH(C6-C10)/BTEXN in Soil						
Our Reference		196261-23	196261-24	196261-25	196261-26	196261-27
Your Reference	UNITS	BH11	BH11	BH12	BH12	BH13
Depth		0.4-0.5	0.9-1.0	1.1-1.2	1.7-1.8	0.2-0.3
Date Sampled		12/07/2018	12/07/2018	12/07/2018	12/07/2018	12/07/2018
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	16/07/2018	16/07/2018	16/07/2018	16/07/2018	16/07/2018
Date analysed	-	17/07/2018	17/07/2018	17/07/2018	17/07/2018	17/07/2018
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	<1	<1	<1	<1	<1
Surrogate aaa-Trifluorotoluene	%	96	100	101	100	102

vTRH(C6-C10)/BTEXN in Soil					
Our Reference		196261-28	196261-29	196261-30	196261-31
Your Reference	UNITS	BH13	BH14	BH14	BH-QA
Depth		0.8-0.9	0.6-0.7	1.7-1.8	1.7-1.8
Date Sampled		12/07/2018	12/07/2018	12/07/2018	12/07/2018
Type of sample		Soil	Soil	Soil	Soil
Date extracted	-	16/07/2018	16/07/2018	16/07/2018	16/07/2018
Date analysed	-	17/07/2018	17/07/2018	17/07/2018	17/07/2018
TRH C_6 - C_9	mg/kg	<25	<25	<25	<25
TRH C_6 - C_{10}	mg/kg	<25	<25	<25	<25
vTPH C_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
naphthalene	mg/kg	<1	<1	<1	<1
Total +ve Xylenes	mg/kg	<1	<1	<1	<1
Surrogate aaa-Trifluorotoluene	%	93	84	102	99

svTRH (C10-C40) in Soil						
Our Reference		196261-1	196261-2	196261-3	196261-4	196261-5
Your Reference	UNITS	BH01	BH01	BH02	BH02	BH03
Depth		0.5-0.6	1.8-1.9	0.3-0.4	1.3-1.4	1.5-1.6
Date Sampled		11/07/2018	11/07/2018	11/07/2018	11/07/2018	11/07/2018
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	16/07/2018	16/07/2018	16/07/2018	16/07/2018	16/07/2018
Date analysed	-	17/07/2018	17/07/2018	17/07/2018	17/07/2018	17/07/2018
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	%	96	97	96	95	96

svTRH (C10-C40) in Soil						
Our Reference		196261-7	196261-8	196261-9	196261-10	196261-11
Your Reference	UNITS	BH03	BH04	BH04	BH05	BH05
Depth		3.1-3.2	0.4-0.5	1.5-1.6	0.6-0.7	2.8-2.9
Date Sampled		11/07/2018	11/07/2018	11/07/2018	11/07/2018	11/07/2018
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	16/07/2018	16/07/2018	16/07/2018	16/07/2018	16/07/2018
Date analysed	-	17/07/2018	17/07/2018	17/07/2018	17/07/2018	17/07/2018
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	%	95	95	97	96	95

svTRH (C10-C40) in Soil						
Our Reference		196261-12	196261-13	196261-14	196261-15	196261-16
Your Reference	UNITS	BH06	BH06	BH07	BH07	BH08
Depth		1.8-1.9	0.4-0.5	0.6-0.7	1.7-1.8	0.5-0.6
Date Sampled		11/07/2018	11/07/2018	12/07/2018	12/07/2018	12/07/2018
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	16/07/2018	16/07/2018	16/07/2018	16/07/2018	16/07/2018
Date analysed	-	17/07/2018	17/07/2018	17/07/2018	17/07/2018	17/07/2018
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	%	94	96	96	96	95

svTRH (C10-C40) in Soil						
Our Reference		196261-17	196261-19	196261-20	196261-21	196261-22
Your Reference	UNITS	BH08	BH09	BH09	BH10	BH10
Depth		1.18-1.9	0.8-0.9	2.8-2.9	0.4-0.9	1.6-1.7
Date Sampled		12/07/2018	12/07/2018	12/07/2018	12/07/2018	12/07/2018
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	16/07/2018	16/07/2018	16/07/2018	16/07/2018	16/07/2018
Date analysed	-	17/07/2018	17/07/2018	17/07/2018	17/07/2018	17/07/2018
TRH C_{10} - C_{14}	mg/kg	<50	<50	<50	<50	<50
TRH C_{15} - C_{28}	mg/kg	<100	<100	<100	520	<100
TRH C_{29} - C_{36}	mg/kg	<100	<100	<100	840	<100
TRH >C_{10} -C_{16}	mg/kg	<50	<50	<50	110	<50
TRH >C_{10} - C_{16} less Naphthalene (F2)	mg/kg	<50	<50	<50	110	<50
TRH >C_{16} -C_{34}	mg/kg	<100	<100	<100	1,100	<100
TRH >C_{34} -C_{40}	mg/kg	<100	<100	<100	260	<100
Total +ve TRH (>C10-C40)	mg/kg	<50	<50	<50	1,500	<50
Surrogate o-Terphenyl	%	95	94	100	99	97

svTRH (C10-C40) in Soil						
Our Reference		196261-23	196261-24	196261-25	196261-26	196261-27
Your Reference	UNITS	BH11	BH11	BH12	BH12	BH13
Depth		0.4-0.5	0.9-1.0	1.1-1.2	1.7-1.8	0.2-0.3
Date Sampled		12/07/2018	12/07/2018	12/07/2018	12/07/2018	12/07/2018
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	16/07/2018	16/07/2018	16/07/2018	16/07/2018	16/07/2018
Date analysed	-	17/07/2018	17/07/2018	17/07/2018	17/07/2018	17/07/2018
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	%	87	97	96	95	96

svTRH (C10-C40) in Soil					
Our Reference		196261-28	196261-29	196261-30	196261-31
Your Reference	UNITS	BH13	BH14	BH14	BH-QA
Depth		0.8-0.9	0.6-0.7	1.7-1.8	1.7-1.8
Date Sampled		12/07/2018	12/07/2018	12/07/2018	12/07/2018
Type of sample		Soil	Soil	Soil	Soil
Date extracted	-	16/07/2018	16/07/2018	16/07/2018	16/07/2018
Date analysed	-	17/07/2018	17/07/2018	17/07/2018	17/07/2018
TRH C_{10} - C_{14}	mg/kg	<50	<50	<50	<50
TRH C_{15} - C_{28}	mg/kg	<100	<100	<100	<100
TRH C_{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	%	95	97	95	95

PAHs in Soil						
Our Reference		196261-1	196261-2	196261-3	196261-4	196261-5
Your Reference	UNITS	BH01	BH01	BH02	BH02	BH03
Depth		0.5-0.6	1.8-1.9	0.3-0.4	1.3-1.4	1.5-1.6
Date Sampled		11/07/2018	11/07/2018	11/07/2018	11/07/2018	11/07/2018
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	16/07/2018	16/07/2018	16/07/2018	16/07/2018	16/07/2018
Date analysed	-	17/07/2018	17/07/2018	17/07/2018	17/07/2018	17/07/2018
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	%	101	99	98	97	100

PAHs in Soil						
Our Reference		196261-7	196261-8	196261-9	196261-10	196261-11
Your Reference	UNITS	BH03	BH04	BH04	BH05	BH05
Depth		3.1-3.2	0.4-0.5	1.5-1.6	0.6-0.7	2.8-2.9
Date Sampled		11/07/2018	11/07/2018	11/07/2018	11/07/2018	11/07/2018
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	16/07/2018	16/07/2018	16/07/2018	16/07/2018	16/07/2018
Date analysed	-	17/07/2018	17/07/2018	17/07/2018	17/07/2018	17/07/2018
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	%	96	99	96	96	95

PAHs in Soil						
Our Reference		196261-12	196261-13	196261-14	196261-15	196261-16
Your Reference	UNITS	BH06	BH06	BH07	BH07	BH08
Depth		1.8-1.9	0.4-0.5	0.6-0.7	1.7-1.8	0.5-0.6
Date Sampled		11/07/2018	11/07/2018	12/07/2018	12/07/2018	12/07/2018
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	16/07/2018	16/07/2018	16/07/2018	16/07/2018	16/07/2018
Date analysed	-	17/07/2018	17/07/2018	17/07/2018	17/07/2018	17/07/2018
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	%	97	92	97	94	92

PAHs in Soil						
Our Reference		196261-17	196261-19	196261-20	196261-21	196261-22
Your Reference	UNITS	BH08	BH09	BH09	BH10	BH10
Depth		1.18-1.9	0.8-0.9	2.8-2.9	0.4-0.9	1.6-1.7
Date Sampled		12/07/2018	12/07/2018	12/07/2018	12/07/2018	12/07/2018
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	16/07/2018	16/07/2018	16/07/2018	16/07/2018	16/07/2018
Date analysed	-	17/07/2018	17/07/2018	17/07/2018	17/07/2018	17/07/2018
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	0.4	<0.1
Fluorene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Phenanthrene	mg/kg	<0.1	0.1	<0.1	1.8	<0.1
Anthracene	mg/kg	<0.1	<0.1	<0.1	0.4	<0.1
Fluoranthene	mg/kg	<0.1	0.2	<0.1	7.1	<0.1
Pyrene	mg/kg	<0.1	0.2	<0.1	6.1	<0.1
Benzo(a)anthracene	mg/kg	<0.1	<0.1	<0.1	1.8	<0.1
Chrysene	mg/kg	<0.1	0.1	<0.1	1.6	<0.1
Benzo(b,j+k)fluoranthene	mg/kg	<0.2	<0.2	<0.2	2.6	<0.2
Benzo(a)pyrene	mg/kg	<0.05	<0.05	<0.05	1.6	<0.05
Indeno(1,2,3-c,d)pyrene	mg/kg	<0.1	<0.1	<0.1	0.8	<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	1.1	<0.1
Total +ve PAH's	mg/kg	<0.05	0.62	<0.05	25	<0.05
Benzo(a)pyrene TEQ calc (zero)	mg/kg	<0.5	<0.5	<0.5	2.3	<0.5
Benzo(a)pyrene TEQ calc(half)	mg/kg	<0.5	<0.5	<0.5	2.3	<0.5
Benzo(a)pyrene TEQ calc(PQL)	mg/kg	<0.5	<0.5	<0.5	2.3	<0.5
Surrogate p-Terphenyl-d14	%	96	98	97	100	96

PAHs in Soil						
Our Reference		196261-23	196261-24	196261-25	196261-26	196261-27
Your Reference	UNITS	BH11	BH11	BH12	BH12	BH13
Depth		0.4-0.5	0.9-1.0	1.1-1.2	1.7-1.8	0.2-0.3
Date Sampled		12/07/2018	12/07/2018	12/07/2018	12/07/2018	12/07/2018
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	16/07/2018	16/07/2018	16/07/2018	16/07/2018	16/07/2018
Date analysed	-	17/07/2018	17/07/2018	17/07/2018	17/07/2018	17/07/2018
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	0.2	<0.1	<0.1	<0.1	<0.1
Pyrene	mg/kg	0.2	<0.1	<0.1	<0.1	<0.1
Benzo(a)anthracene	mg/kg	0.2	<0.1	<0.1	<0.1	<0.1
Chrysene	mg/kg	0.2	<0.1	<0.1	<0.1	<0.1
Benzo(b,j+k)fluoranthene	mg/kg	0.4	<0.2	<0.2	<0.2	<0.2
Benzo(a)pyrene	mg/kg	0.2	<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	0.2	<0.1	<0.1	<0.1	<0.1
Total +ve PAH's	mg/kg	1.7	<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	%	96	96	90	94	93

PAHs in Soil					
Our Reference		196261-28	196261-29	196261-30	196261-31
Your Reference	UNITS	BH13	BH14	BH14	BH-QA
Depth		0.8-0.9	0.6-0.7	1.7-1.8	1.7-1.8
Date Sampled		12/07/2018	12/07/2018	12/07/2018	12/07/2018
Type of sample		Soil	Soil	Soil	Soil
Date extracted	-	16/07/2018	16/07/2018	16/07/2018	16/07/2018
Date analysed	-	17/07/2018	17/07/2018	17/07/2018	17/07/2018
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
Total +ve PAH's	mg/kg	<0.05	<0.05	<0.05	<0.05
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
Surrogate p-Terphenyl-d14	%	91	95	94	93

Organochlorine Pesticides in soil						
Our Reference		196261-2	196261-3	196261-5	196261-8	196261-11
Your Reference	UNITS	BH01	BH02	BH03	BH04	BH05
Depth		1.8-1.9	0.3-0.4	1.5-1.6	0.4-0.5	2.8-2.9
Date Sampled		11/07/2018	11/07/2018	11/07/2018	11/07/2018	11/07/2018
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	16/07/2018	16/07/2018	16/07/2018	16/07/2018	16/07/2018
Date analysed	-	16/07/2018	16/07/2018	16/07/2018	16/07/2018	16/07/2018
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	%	121	115	116	111	121

Organochlorine Pesticides in soil						
Our Reference		196261-13	196261-14	196261-16	196261-19	196261-21
Your Reference	UNITS	BH06	BH07	BH08	BH09	BH10
Depth		0.4-0.5	0.6-0.7	0.5-0.6	0.8-0.9	0.4-0.9
Date Sampled		11/07/2018	12/07/2018	12/07/2018	12/07/2018	12/07/2018
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	16/07/2018	16/07/2018	16/07/2018	16/07/2018	16/07/2018
Date analysed	-	16/07/2018	16/07/2018	16/07/2018	16/07/2018	16/07/2018
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	%	125	118	115	116	119

Organochlorine Pesticides in soil					
Our Reference		196261-24	196261-25	196261-27	196261-29
Your Reference	UNITS	BH11	BH12	BH13	BH14
Depth		0.9-1.0	1.1-1.2	0.2-0.3	0.6-0.7
Date Sampled		12/07/2018	12/07/2018	12/07/2018	12/07/2018
Type of sample		Soil	Soil	Soil	Soil
Date extracted	-	16/07/2018	16/07/2018	16/07/2018	16/07/2018
Date analysed	-	16/07/2018	16/07/2018	16/07/2018	16/07/2018
HCB	mg/kg	<0.1	<0.1	<0.1	<0.1
alpha-BHC	mg/kg	<0.1	<0.1	<0.1	<0.1
gamma-BHC	mg/kg	<0.1	<0.1	<0.1	<0.1
beta-BHC	mg/kg	<0.1	<0.1	<0.1	<0.1
Heptachlor	mg/kg	<0.1	<0.1	<0.1	<0.1
delta-BHC	mg/kg	<0.1	<0.1	<0.1	<0.1
Aldrin	mg/kg	<0.1	<0.1	<0.1	<0.1
Heptachlor Epoxide	mg/kg	<0.1	<0.1	<0.1	<0.1
gamma-Chlordane	mg/kg	<0.1	<0.1	<0.1	<0.1
alpha-chlordane	mg/kg	<0.1	<0.1	<0.1	<0.1
Endosulfan I	mg/kg	<0.1	<0.1	<0.1	<0.1
pp-DDE	mg/kg	<0.1	<0.1	<0.1	<0.1
Dieldrin	mg/kg	<0.1	<0.1	<0.1	<0.1
Endrin	mg/kg	<0.1	<0.1	<0.1	<0.1
pp-DDD	mg/kg	<0.1	<0.1	<0.1	<0.1
Endosulfan II	mg/kg	<0.1	<0.1	<0.1	<0.1
pp-DDT	mg/kg	<0.1	<0.1	<0.1	<0.1
Endrin Aldehyde	mg/kg	<0.1	<0.1	<0.1	<0.1
Endosulfan Sulphate	mg/kg	<0.1	<0.1	<0.1	<0.1
Methoxychlor	mg/kg	<0.1	<0.1	<0.1	<0.1
Total +ve DDT+DDD+DDE	mg/kg	<0.1	<0.1	<0.1	<0.1
Surrogate TCMX	%	123	115	118	120

Organophosphorus Pesticides						
Our Reference		196261-2	196261-3	196261-5	196261-8	196261-11
Your Reference	UNITS	BH01	BH02	BH03	BH04	BH05
Depth		1.8-1.9	0.3-0.4	1.5-1.6	0.4-0.5	2.8-2.9
Date Sampled		11/07/2018	11/07/2018	11/07/2018	11/07/2018	11/07/2018
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	16/07/2018	16/07/2018	16/07/2018	16/07/2018	16/07/2018
Date analysed	-	16/07/2018	16/07/2018	16/07/2018	16/07/2018	16/07/2018
Azinphos-methyl (Guthion)	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Bromophos-ethyl	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Chlorpyriphos	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Chlorpyriphos-methyl	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Diazinon	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Dichlorvos	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Dimethoate	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Ethion	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Fenitrothion	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Malathion	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Parathion	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Ronnel	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Surrogate TCMX	%	121	115	116	111	121

Organophosphorus Pesticides						
Our Reference		196261-13	196261-14	196261-16	196261-19	196261-21
Your Reference	UNITS	BH06	BH07	BH08	BH09	BH10
Depth		0.4-0.5	0.6-0.7	0.5-0.6	0.8-0.9	0.4-0.9
Date Sampled		11/07/2018	12/07/2018	12/07/2018	12/07/2018	12/07/2018
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	16/07/2018	16/07/2018	16/07/2018	16/07/2018	16/07/2018
Date analysed	-	16/07/2018	16/07/2018	16/07/2018	16/07/2018	16/07/2018
Azinphos-methyl (Guthion)	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Bromophos-ethyl	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Chlorpyriphos	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Chlorpyriphos-methyl	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Diazinon	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Dichlorvos	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Dimethoate	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Ethion	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Fenitrothion	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Malathion	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Parathion	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Ronnel	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Surrogate TCMX	%	125	118	115	116	119

Organophosphorus Pesticides					
Our Reference		196261-24	196261-25	196261-27	196261-29
Your Reference	UNITS	BH11	BH12	BH13	BH14
Depth		0.9-1.0	1.1-1.2	0.2-0.3	0.6-0.7
Date Sampled		12/07/2018	12/07/2018	12/07/2018	12/07/2018
Type of sample		Soil	Soil	Soil	Soil
Date extracted	-	16/07/2018	16/07/2018	16/07/2018	16/07/2018
Date analysed	-	16/07/2018	16/07/2018	16/07/2018	16/07/2018
Azinphos-methyl (Guthion)	mg/kg	<0.1	<0.1	<0.1	<0.1
Bromophos-ethyl	mg/kg	<0.1	<0.1	<0.1	<0.1
Chlorpyriphos	mg/kg	<0.1	<0.1	<0.1	<0.1
Chlorpyriphos-methyl	mg/kg	<0.1	<0.1	<0.1	<0.1
Diazinon	mg/kg	<0.1	<0.1	<0.1	<0.1
Dichlorvos	mg/kg	<0.1	<0.1	<0.1	<0.1
Dimethoate	mg/kg	<0.1	<0.1	<0.1	<0.1
Ethion	mg/kg	<0.1	<0.1	<0.1	<0.1
Fenitrothion	mg/kg	<0.1	<0.1	<0.1	<0.1
Malathion	mg/kg	<0.1	<0.1	<0.1	<0.1
Parathion	mg/kg	<0.1	<0.1	<0.1	<0.1
Ronnel	mg/kg	<0.1	<0.1	<0.1	<0.1
Surrogate TCMX	%	123	115	118	120

PCBs in Soil						
Our Reference		196261-2	196261-3	196261-5	196261-8	196261-11
Your Reference	UNITS	BH01	BH02	BH03	BH04	BH05
Depth		1.8-1.9	0.3-0.4	1.5-1.6	0.4-0.5	2.8-2.9
Date Sampled		11/07/2018	11/07/2018	11/07/2018	11/07/2018	11/07/2018
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	16/07/2018	16/07/2018	16/07/2018	16/07/2018	16/07/2018
Date analysed	-	16/07/2018	16/07/2018	16/07/2018	16/07/2018	16/07/2018
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	%	121	115	116	111	121

PCBs in Soil						
Our Reference		196261-13	196261-14	196261-16	196261-19	196261-21
Your Reference	UNITS	BH06	BH07	BH08	BH09	BH10
Depth		0.4-0.5	0.6-0.7	0.5-0.6	0.8-0.9	0.4-0.9
Date Sampled		11/07/2018	12/07/2018	12/07/2018	12/07/2018	12/07/2018
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	16/07/2018	16/07/2018	16/07/2018	16/07/2018	16/07/2018
Date analysed	-	16/07/2018	16/07/2018	16/07/2018	16/07/2018	16/07/2018
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	%	125	118	115	116	119

PCBs in Soil					
Our Reference		196261-24	196261-25	196261-27	196261-29
Your Reference	UNITS	BH11	BH12	BH13	BH14
Depth		0.9-1.0	1.1-1.2	0.2-0.3	0.6-0.7
Date Sampled		12/07/2018	12/07/2018	12/07/2018	12/07/2018
Type of sample		Soil	Soil	Soil	Soil
Date extracted	-	16/07/2018	16/07/2018	16/07/2018	16/07/2018
Date analysed	-	16/07/2018	16/07/2018	16/07/2018	16/07/2018
Aroclor 1016	mg/kg	<0.1	<0.1	<0.1	<0.1
Aroclor 1221	mg/kg	<0.1	<0.1	<0.1	<0.1
Aroclor 1232	mg/kg	<0.1	<0.1	<0.1	<0.1
Aroclor 1242	mg/kg	<0.1	<0.1	<0.1	<0.1
Aroclor 1248	mg/kg	<0.1	<0.1	<0.1	<0.1
Aroclor 1254	mg/kg	<0.1	<0.1	<0.1	<0.1
Aroclor 1260	mg/kg	<0.1	<0.1	<0.1	<0.1
Total +ve PCBs (1016-1260)	mg/kg	<0.1	<0.1	<0.1	<0.1
Surrogate TCLMX	%	123	115	118	120

Acid Extractable metals in soil						
Our Reference		196261-1	196261-2	196261-3	196261-4	196261-5
Your Reference	UNITS	BH01	BH01	BH02	BH02	BH03
Depth		0.5-0.6	1.8-1.9	0.3-0.4	1.3-1.4	1.5-1.6
Date Sampled		11/07/2018	11/07/2018	11/07/2018	11/07/2018	11/07/2018
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	16/07/2018	16/07/2018	16/07/2018	16/07/2018	16/07/2018
Date analysed	-	16/07/2018	16/07/2018	16/07/2018	16/07/2018	16/07/2018
Arsenic	mg/kg	<4	4	6	9	5
Cadmium	mg/kg	<0.4	<0.4	<0.4	<0.4	<0.4
Chromium	mg/kg	13	12	20	14	11
Copper	mg/kg	34	7	47	30	20
Lead	mg/kg	13	16	15	14	17
Mercury	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Nickel	mg/kg	8	7	49	12	9
Zinc	mg/kg	48	15	51	59	37

Acid Extractable metals in soil						
Our Reference		196261-7	196261-8	196261-9	196261-10	196261-11
Your Reference	UNITS	BH03	BH04	BH04	BH05	BH05
Depth		3.1-3.2	0.4-0.5	1.5-1.6	0.6-0.7	2.8-2.9
Date Sampled		11/07/2018	11/07/2018	11/07/2018	11/07/2018	11/07/2018
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	16/07/2018	16/07/2018	16/07/2018	16/07/2018	16/07/2018
Date analysed	-	16/07/2018	16/07/2018	16/07/2018	16/07/2018	16/07/2018
Arsenic	mg/kg	8	7	7	7	7
Cadmium	mg/kg	<0.4	<0.4	<0.4	<0.4	<0.4
Chromium	mg/kg	19	13	16	16	13
Copper	mg/kg	28	21	17	27	37
Lead	mg/kg	20	26	13	15	17
Mercury	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Nickel	mg/kg	14	8	16	23	19
Zinc	mg/kg	61	86	46	44	91

Acid Extractable metals in soil						
Our Reference		196261-12	196261-13	196261-14	196261-15	196261-16
Your Reference	UNITS	BH06	BH06	BH07	BH07	BH08
Depth		1.8-1.9	0.4-0.5	0.6-0.7	1.7-1.8	0.5-0.6
Date Sampled		11/07/2018	11/07/2018	12/07/2018	12/07/2018	12/07/2018
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	16/07/2018	16/07/2018	16/07/2018	16/07/2018	16/07/2018
Date analysed	-	16/07/2018	16/07/2018	16/07/2018	16/07/2018	16/07/2018
Arsenic	mg/kg	6	9	5	4	9
Cadmium	mg/kg	<0.4	<0.4	<0.4	<0.4	<0.4
Chromium	mg/kg	13	14	12	13	13
Copper	mg/kg	26	52	22	16	39
Lead	mg/kg	26	20	15	9	12
Mercury	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Nickel	mg/kg	15	17	13	4	36
Zinc	mg/kg	110	84	46	13	50

Acid Extractable metals in soil						
Our Reference		196261-17	196261-19	196261-20	196261-21	196261-22
Your Reference	UNITS	BH08	BH09	BH09	BH10	BH10
Depth		1.18-1.9	0.8-0.9	2.8-2.9	0.4-0.9	1.6-1.7
Date Sampled		12/07/2018	12/07/2018	12/07/2018	12/07/2018	12/07/2018
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	16/07/2018	16/07/2018	16/07/2018	16/07/2018	16/07/2018
Date analysed	-	16/07/2018	16/07/2018	16/07/2018	16/07/2018	16/07/2018
Arsenic	mg/kg	<4	8	9	<4	6
Cadmium	mg/kg	<0.4	<0.4	<0.4	0.6	<0.4
Chromium	mg/kg	12	22	15	12	17
Copper	mg/kg	9	40	35	13	18
Lead	mg/kg	9	30	29	13	13
Mercury	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Nickel	mg/kg	4	14	19	9	6
Zinc	mg/kg	15	78	110	120	38

Acid Extractable metals in soil						
Our Reference		196261-23	196261-24	196261-25	196261-26	196261-27
Your Reference	UNITS	BH11	BH11	BH12	BH12	BH13
Depth		0.4-0.5	0.9-1.0	1.1-1.2	1.7-1.8	0.2-0.3
Date Sampled		12/07/2018	12/07/2018	12/07/2018	12/07/2018	12/07/2018
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	16/07/2018	16/07/2018	16/07/2018	16/07/2018	16/07/2018
Date analysed	-	16/07/2018	16/07/2018	16/07/2018	16/07/2018	16/07/2018
Arsenic	mg/kg	<4	7	<4	<4	5
Cadmium	mg/kg	0.9	<0.4	<0.4	<0.4	<0.4
Chromium	mg/kg	19	15	10	9	17
Copper	mg/kg	41	30	15	12	14
Lead	mg/kg	14	13	10	8	13
Mercury	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Nickel	mg/kg	30	20	9	7	3
Zinc	mg/kg	67	60	27	50	14

Acid Extractable metals in soil						
Our Reference		196261-28	196261-29	196261-30	196261-31	196261-32
Your Reference	UNITS	BH13	BH14	BH14	BH-QA	BH01 - [TRIPLICATE]
Depth		0.8-0.9	0.6-0.7	1.7-1.8	1.7-1.8	1.8-1.9
Date Sampled		12/07/2018	12/07/2018	12/07/2018	12/07/2018	11/07/2018
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	16/07/2018	16/07/2018	16/07/2018	16/07/2018	16/07/2018
Date analysed	-	16/07/2018	16/07/2018	16/07/2018	16/07/2018	16/07/2018
Arsenic	mg/kg	<4	<4	<4	<4	5
Cadmium	mg/kg	<0.4	<0.4	<0.4	<0.4	<0.4
Chromium	mg/kg	12	2	11	12	12
Copper	mg/kg	5	<1	14	13	5
Lead	mg/kg	14	<1	11	9	18
Mercury	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Nickel	mg/kg	3	<1	3	4	5
Zinc	mg/kg	7	1	9	12	11

Misc Soil - Inorg						
Our Reference		196261-2	196261-3	196261-5	196261-8	196261-11
Your Reference	UNITS	BH01	BH02	BH03	BH04	BH05
Depth		1.8-1.9	0.3-0.4	1.5-1.6	0.4-0.5	2.8-2.9
Date Sampled		11/07/2018	11/07/2018	11/07/2018	11/07/2018	11/07/2018
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	16/07/2018	16/07/2018	16/07/2018	16/07/2018	16/07/2018
Date analysed	-	16/07/2018	16/07/2018	16/07/2018	16/07/2018	16/07/2018
Total Phenolics (as Phenol)	mg/kg	<5	<5	<5	<5	<5

Misc Soil - Inorg						
Our Reference		196261-13	196261-14	196261-16	196261-19	196261-21
Your Reference	UNITS	BH06	BH07	BH08	BH09	BH10
Depth		0.4-0.5	0.6-0.7	0.5-0.6	0.8-0.9	0.4-0.9
Date Sampled		11/07/2018	12/07/2018	12/07/2018	12/07/2018	12/07/2018
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	16/07/2018	16/07/2018	16/07/2018	16/07/2018	16/07/2018
Date analysed	-	16/07/2018	16/07/2018	16/07/2018	16/07/2018	16/07/2018
Total Phenolics (as Phenol)	mg/kg	<5	<5	<5	<5	<5

Misc Soil - Inorg					
Our Reference		196261-24	196261-25	196261-27	196261-29
Your Reference	UNITS	BH11	BH12	BH13	BH14
Depth		0.9-1.0	1.1-1.2	0.2-0.3	0.6-0.7
Date Sampled		12/07/2018	12/07/2018	12/07/2018	12/07/2018
Type of sample		Soil	Soil	Soil	Soil
Date prepared	-	16/07/2018	16/07/2018	16/07/2018	16/07/2018
Date analysed	-	16/07/2018	16/07/2018	16/07/2018	16/07/2018
Total Phenolics (as Phenol)	mg/kg	<5	<5	<5	<5

Misc Inorg - Soil		
Our Reference		196261-15
Your Reference	UNITS	BH07
Depth		1.7-1.8
Date Sampled		12/07/2018
Type of sample		Soil
Date prepared	-	17/07/2018
Date analysed	-	17/07/2018
pH 1:5 soil:water	pH Units	5.9

Moisture						
Our Reference		196261-1	196261-2	196261-3	196261-4	196261-5
Your Reference	UNITS	BH01	BH01	BH02	BH02	BH03
Depth		0.5-0.6	1.8-1.9	0.3-0.4	1.3-1.4	1.5-1.6
Date Sampled		11/07/2018	11/07/2018	11/07/2018	11/07/2018	11/07/2018
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	16/07/2018	16/07/2018	16/07/2018	16/07/2018	16/07/2018
Date analysed	-	17/07/2018	17/07/2018	17/07/2018	17/07/2018	17/07/2018
Moisture	%	15	8.3	10	15	12

Moisture						
Our Reference		196261-7	196261-8	196261-9	196261-10	196261-11
Your Reference	UNITS	BH03	BH04	BH04	BH05	BH05
Depth		3.1-3.2	0.4-0.5	1.5-1.6	0.6-0.7	2.8-2.9
Date Sampled		11/07/2018	11/07/2018	11/07/2018	11/07/2018	11/07/2018
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	16/07/2018	16/07/2018	16/07/2018	16/07/2018	16/07/2018
Date analysed	-	17/07/2018	17/07/2018	17/07/2018	17/07/2018	17/07/2018
Moisture	%	21	13	7.9	8.4	15

Moisture						
Our Reference		196261-12	196261-13	196261-14	196261-15	196261-16
Your Reference	UNITS	BH06	BH06	BH07	BH07	BH08
Depth		1.8-1.9	0.4-0.5	0.6-0.7	1.7-1.8	0.5-0.6
Date Sampled		11/07/2018	11/07/2018	12/07/2018	12/07/2018	12/07/2018
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	16/07/2018	16/07/2018	16/07/2018	16/07/2018	16/07/2018
Date analysed	-	17/07/2018	17/07/2018	17/07/2018	17/07/2018	17/07/2018
Moisture	%	14	17	8.7	15	8.3

Moisture						
Our Reference		196261-17	196261-19	196261-20	196261-21	196261-22
Your Reference	UNITS	BH08	BH09	BH09	BH10	BH10
Depth		1.18-1.9	0.8-0.9	2.8-2.9	0.4-0.9	1.6-1.7
Date Sampled		12/07/2018	12/07/2018	12/07/2018	12/07/2018	12/07/2018
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	16/07/2018	16/07/2018	16/07/2018	16/07/2018	16/07/2018
Date analysed	-	17/07/2018	17/07/2018	17/07/2018	17/07/2018	17/07/2018
Moisture	%	16	9.5	18	8.5	21

Moisture						
Our Reference		196261-23	196261-24	196261-25	196261-26	196261-27
Your Reference	UNITS	BH11	BH11	BH12	BH12	BH13
Depth		0.4-0.5	0.9-1.0	1.1-1.2	1.7-1.8	0.2-0.3
Date Sampled		12/07/2018	12/07/2018	12/07/2018	12/07/2018	12/07/2018
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	16/07/2018	16/07/2018	16/07/2018	16/07/2018	16/07/2018
Date analysed	-	17/07/2018	17/07/2018	17/07/2018	17/07/2018	17/07/2018
Moisture	%	13	24	14	13	18

Moisture					
Our Reference		196261-28	196261-29	196261-30	196261-31
Your Reference	UNITS	BH13	BH14	BH14	BH-QA
Depth		0.8-0.9	0.6-0.7	1.7-1.8	1.7-1.8
Date Sampled		12/07/2018	12/07/2018	12/07/2018	12/07/2018
Type of sample		Soil	Soil	Soil	Soil
Date prepared	-	16/07/2018	16/07/2018	16/07/2018	16/07/2018
Date analysed	-	17/07/2018	17/07/2018	17/07/2018	17/07/2018
Moisture	%	14	3.6	19	15

CEC		
Our Reference		196261-15
Your Reference	UNITS	BH07
Depth		1.7-1.8
Date Sampled		12/07/2018
Type of sample		Soil
Date prepared	-	17/07/2018
Date analysed	-	17/07/2018
Exchangeable Ca	meq/100g	0.3
Exchangeable K	meq/100g	0.2
Exchangeable Mg	meq/100g	6.4
Exchangeable Na	meq/100g	2.2
Cation Exchange Capacity	meq/100g	9.1

Method ID	Methodology Summary
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-008	Moisture content determined by heating at 105+/-5 °C for a minimum of 12 hours.
Inorg-031	Total Phenolics by segmented flow analyser (in line distillation with colourimetric finish). Solids are extracted in a caustic media prior to analysis.
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.
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-008	Soil samples are extracted with dichloromethane/acetone and waters with dichloromethane and analysed by GC with dual ECD's.

Method ID	Methodology Summary
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: VOCs in soil						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-8	196261-3
Date extracted	-			16/07/2018	2	16/07/2018	16/07/2018		16/07/2018	16/07/2018
Date analysed	-			17/07/2018	2	17/07/2018	17/07/2018		17/07/2018	17/07/2018
Dichlorodifluoromethane	mg/kg	1	Org-014	<1	2	<1	<1	0	[NT]	[NT]
Chloromethane	mg/kg	1	Org-014	<1	2	<1	<1	0	[NT]	[NT]
Vinyl Chloride	mg/kg	1	Org-014	<1	2	<1	<1	0	[NT]	[NT]
Bromomethane	mg/kg	1	Org-014	<1	2	<1	<1	0	[NT]	[NT]
Chloroethane	mg/kg	1	Org-014	<1	2	<1	<1	0	[NT]	[NT]
Trichlorofluoromethane	mg/kg	1	Org-014	<1	2	<1	<1	0	[NT]	[NT]
1,1-Dichloroethene	mg/kg	1	Org-014	<1	2	<1	<1	0	[NT]	[NT]
trans-1,2-dichloroethene	mg/kg	1	Org-014	<1	2	<1	<1	0	[NT]	[NT]
1,1-dichloroethane	mg/kg	1	Org-014	<1	2	<1	<1	0	72	83
cis-1,2-dichloroethene	mg/kg	1	Org-014	<1	2	<1	<1	0	[NT]	[NT]
bromochloromethane	mg/kg	1	Org-014	<1	2	<1	<1	0	[NT]	[NT]
chloroform	mg/kg	1	Org-014	<1	2	<1	<1	0	80	89
2,2-dichloropropane	mg/kg	1	Org-014	<1	2	<1	<1	0	[NT]	[NT]
1,2-dichloroethane	mg/kg	1	Org-014	<1	2	<1	<1	0	84	96
1,1,1-trichloroethane	mg/kg	1	Org-014	<1	2	<1	<1	0	81	90
1,1-dichloropropene	mg/kg	1	Org-014	<1	2	<1	<1	0	[NT]	[NT]
Cyclohexane	mg/kg	1	Org-014	<1	2	<1	<1	0	[NT]	[NT]
carbon tetrachloride	mg/kg	1	Org-014	<1	2	<1	<1	0	[NT]	[NT]
Benzene	mg/kg	0.2	Org-014	<0.2	2	<0.2	<0.2	0	[NT]	[NT]
dibromomethane	mg/kg	1	Org-014	<1	2	<1	<1	0	[NT]	[NT]
1,2-dichloropropane	mg/kg	1	Org-014	<1	2	<1	<1	0	[NT]	[NT]
trichloroethene	mg/kg	1	Org-014	<1	2	<1	<1	0	87	82
bromodichloromethane	mg/kg	1	Org-014	<1	2	<1	<1	0	109	102
trans-1,3-dichloropropene	mg/kg	1	Org-014	<1	2	<1	<1	0	[NT]	[NT]
cis-1,3-dichloropropene	mg/kg	1	Org-014	<1	2	<1	<1	0	[NT]	[NT]
1,1,2-trichloroethane	mg/kg	1	Org-014	<1	2	<1	<1	0	[NT]	[NT]
Toluene	mg/kg	0.5	Org-014	<0.5	2	<0.5	<0.5	0	[NT]	[NT]
1,3-dichloropropane	mg/kg	1	Org-014	<1	2	<1	<1	0	[NT]	[NT]
dibromochloromethane	mg/kg	1	Org-014	<1	2	<1	<1	0	111	119
1,2-dibromoethane	mg/kg	1	Org-014	<1	2	<1	<1	0	[NT]	[NT]
tetrachloroethene	mg/kg	1	Org-014	<1	2	<1	<1	0	81	107
1,1,1,2-tetrachloroethane	mg/kg	1	Org-014	<1	2	<1	<1	0	[NT]	[NT]
chlorobenzene	mg/kg	1	Org-014	<1	2	<1	<1	0	[NT]	[NT]
Ethylbenzene	mg/kg	1	Org-014	<1	2	<1	<1	0	[NT]	[NT]
bromoform	mg/kg	1	Org-014	<1	2	<1	<1	0	[NT]	[NT]
m+p-xylene	mg/kg	2	Org-014	<2	2	<2	<2	0	[NT]	[NT]
styrene	mg/kg	1	Org-014	<1	2	<1	<1	0	[NT]	[NT]
1,1,2,2-tetrachloroethane	mg/kg	1	Org-014	<1	2	<1	<1	0	[NT]	[NT]
o-Xylene	mg/kg	1	Org-014	<1	2	<1	<1	0	[NT]	[NT]

QUALITY CONTROL: VOCs in soil					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-8	196261-3
1,2,3-trichloropropane	mg/kg	1	Org-014	<1	2	<1	<1	0	[NT]	[NT]
isopropylbenzene	mg/kg	1	Org-014	<1	2	<1	<1	0	[NT]	[NT]
bromobenzene	mg/kg	1	Org-014	<1	2	<1	<1	0	[NT]	[NT]
n-propyl benzene	mg/kg	1	Org-014	<1	2	<1	<1	0	[NT]	[NT]
2-chlorotoluene	mg/kg	1	Org-014	<1	2	<1	<1	0	[NT]	[NT]
4-chlorotoluene	mg/kg	1	Org-014	<1	2	<1	<1	0	[NT]	[NT]
1,3,5-trimethyl benzene	mg/kg	1	Org-014	<1	2	<1	<1	0	[NT]	[NT]
tert-butyl benzene	mg/kg	1	Org-014	<1	2	<1	<1	0	[NT]	[NT]
1,2,4-trimethyl benzene	mg/kg	1	Org-014	<1	2	<1	<1	0	[NT]	[NT]
1,3-dichlorobenzene	mg/kg	1	Org-014	<1	2	<1	<1	0	[NT]	[NT]
sec-butyl benzene	mg/kg	1	Org-014	<1	2	<1	<1	0	[NT]	[NT]
1,4-dichlorobenzene	mg/kg	1	Org-014	<1	2	<1	<1	0	[NT]	[NT]
4-isopropyl toluene	mg/kg	1	Org-014	<1	2	<1	<1	0	[NT]	[NT]
1,2-dichlorobenzene	mg/kg	1	Org-014	<1	2	<1	<1	0	[NT]	[NT]
n-butyl benzene	mg/kg	1	Org-014	<1	2	<1	<1	0	[NT]	[NT]
1,2-dibromo-3-chloropropane	mg/kg	1	Org-014	<1	2	<1	<1	0	[NT]	[NT]
1,2,4-trichlorobenzene	mg/kg	1	Org-014	<1	2	<1	<1	0	[NT]	[NT]
hexachlorobutadiene	mg/kg	1	Org-014	<1	2	<1	<1	0	[NT]	[NT]
1,2,3-trichlorobenzene	mg/kg	1	Org-014	<1	2	<1	<1	0	[NT]	[NT]
Surrogate Dibromofluorometha	%		Org-014	97	2	117	110	6	93	117
Surrogate aaa-Trifluorotoluene	%		Org-014	96	2	90	85	6	87	101
Surrogate Toluene-d_8	%		Org-014	86	2	97	97	0	106	118
Surrogate 4-Bromofluorobenzene	%		Org-014	94	2	89	73	20	99	98

QUALITY CONTROL: VOCs in soil					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	[NT]	[NT]
Date extracted	-			[NT]	5	16/07/2018	16/07/2018		[NT]	[NT]
Date analysed	-			[NT]	5	17/07/2018	17/07/2018		[NT]	[NT]
Dichlorodifluoromethane	mg/kg	1	Org-014	[NT]	5	<1	<1	0	[NT]	[NT]
Chloromethane	mg/kg	1	Org-014	[NT]	5	<1	<1	0	[NT]	[NT]
Vinyl Chloride	mg/kg	1	Org-014	[NT]	5	<1	<1	0	[NT]	[NT]
Bromomethane	mg/kg	1	Org-014	[NT]	5	<1	<1	0	[NT]	[NT]
Chloroethane	mg/kg	1	Org-014	[NT]	5	<1	<1	0	[NT]	[NT]
Trichlorofluoromethane	mg/kg	1	Org-014	[NT]	5	<1	<1	0	[NT]	[NT]
1,1-Dichloroethene	mg/kg	1	Org-014	[NT]	5	<1	<1	0	[NT]	[NT]
trans-1,2-dichloroethene	mg/kg	1	Org-014	[NT]	5	<1	<1	0	[NT]	[NT]
1,1-dichloroethane	mg/kg	1	Org-014	[NT]	5	<1	<1	0	[NT]	[NT]
cis-1,2-dichloroethene	mg/kg	1	Org-014	[NT]	5	<1	<1	0	[NT]	[NT]
bromochloromethane	mg/kg	1	Org-014	[NT]	5	<1	<1	0	[NT]	[NT]
chloroform	mg/kg	1	Org-014	[NT]	5	<1	<1	0	[NT]	[NT]
2,2-dichloropropane	mg/kg	1	Org-014	[NT]	5	<1	<1	0	[NT]	[NT]
1,2-dichloroethane	mg/kg	1	Org-014	[NT]	5	<1	<1	0	[NT]	[NT]
1,1,1-trichloroethane	mg/kg	1	Org-014	[NT]	5	<1	<1	0	[NT]	[NT]
1,1-dichloropropene	mg/kg	1	Org-014	[NT]	5	<1	<1	0	[NT]	[NT]
Cyclohexane	mg/kg	1	Org-014	[NT]	5	<1	<1	0	[NT]	[NT]
carbon tetrachloride	mg/kg	1	Org-014	[NT]	5	<1	<1	0	[NT]	[NT]
Benzene	mg/kg	0.2	Org-014	[NT]	5	<0.2	<0.2	0	[NT]	[NT]
dibromomethane	mg/kg	1	Org-014	[NT]	5	<1	<1	0	[NT]	[NT]
1,2-dichloropropane	mg/kg	1	Org-014	[NT]	5	<1	<1	0	[NT]	[NT]
trichloroethene	mg/kg	1	Org-014	[NT]	5	<1	<1	0	[NT]	[NT]
bromodichloromethane	mg/kg	1	Org-014	[NT]	5	<1	<1	0	[NT]	[NT]
trans-1,3-dichloropropene	mg/kg	1	Org-014	[NT]	5	<1	<1	0	[NT]	[NT]
cis-1,3-dichloropropene	mg/kg	1	Org-014	[NT]	5	<1	<1	0	[NT]	[NT]
1,1,2-trichloroethane	mg/kg	1	Org-014	[NT]	5	<1	<1	0	[NT]	[NT]
Toluene	mg/kg	0.5	Org-014	[NT]	5	<0.5	<0.5	0	[NT]	[NT]
1,3-dichloropropane	mg/kg	1	Org-014	[NT]	5	<1	<1	0	[NT]	[NT]
dibromochloromethane	mg/kg	1	Org-014	[NT]	5	<1	<1	0	[NT]	[NT]
1,2-dibromoethane	mg/kg	1	Org-014	[NT]	5	<1	<1	0	[NT]	[NT]
tetrachloroethene	mg/kg	1	Org-014	[NT]	5	<1	<1	0	[NT]	[NT]
1,1,1,2-tetrachloroethane	mg/kg	1	Org-014	[NT]	5	<1	<1	0	[NT]	[NT]
chlorobenzene	mg/kg	1	Org-014	[NT]	5	<1	<1	0	[NT]	[NT]
Ethylbenzene	mg/kg	1	Org-014	[NT]	5	<1	<1	0	[NT]	[NT]
bromoform	mg/kg	1	Org-014	[NT]	5	<1	<1	0	[NT]	[NT]
m+p-xylene	mg/kg	2	Org-014	[NT]	5	<2	<2	0	[NT]	[NT]
styrene	mg/kg	1	Org-014	[NT]	5	<1	<1	0	[NT]	[NT]
1,1,2,2-tetrachloroethane	mg/kg	1	Org-014	[NT]	5	<1	<1	0	[NT]	[NT]
o-Xylene	mg/kg	1	Org-014	[NT]	5	<1	<1	0	[NT]	[NT]

QUALITY CONTROL: VOCs in soil					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	[NT]	[NT]
1,2,3-trichloropropane	mg/kg	1	Org-014	[NT]	5	<1	<1	0	[NT]	[NT]
isopropylbenzene	mg/kg	1	Org-014	[NT]	5	<1	<1	0	[NT]	[NT]
bromobenzene	mg/kg	1	Org-014	[NT]	5	<1	<1	0	[NT]	[NT]
n-propyl benzene	mg/kg	1	Org-014	[NT]	5	<1	<1	0	[NT]	[NT]
2-chlorotoluene	mg/kg	1	Org-014	[NT]	5	<1	<1	0	[NT]	[NT]
4-chlorotoluene	mg/kg	1	Org-014	[NT]	5	<1	<1	0	[NT]	[NT]
1,3,5-trimethyl benzene	mg/kg	1	Org-014	[NT]	5	<1	<1	0	[NT]	[NT]
tert-butyl benzene	mg/kg	1	Org-014	[NT]	5	<1	<1	0	[NT]	[NT]
1,2,4-trimethyl benzene	mg/kg	1	Org-014	[NT]	5	<1	<1	0	[NT]	[NT]
1,3-dichlorobenzene	mg/kg	1	Org-014	[NT]	5	<1	<1	0	[NT]	[NT]
sec-butyl benzene	mg/kg	1	Org-014	[NT]	5	<1	<1	0	[NT]	[NT]
1,4-dichlorobenzene	mg/kg	1	Org-014	[NT]	5	<1	<1	0	[NT]	[NT]
4-isopropyl toluene	mg/kg	1	Org-014	[NT]	5	<1	<1	0	[NT]	[NT]
1,2-dichlorobenzene	mg/kg	1	Org-014	[NT]	5	4	4	0	[NT]	[NT]
n-butyl benzene	mg/kg	1	Org-014	[NT]	5	<1	<1	0	[NT]	[NT]
1,2-dibromo-3-chloropropane	mg/kg	1	Org-014	[NT]	5	<1	<1	0	[NT]	[NT]
1,2,4-trichlorobenzene	mg/kg	1	Org-014	[NT]	5	<1	<1	0	[NT]	[NT]
hexachlorobutadiene	mg/kg	1	Org-014	[NT]	5	<1	<1	0	[NT]	[NT]
1,2,3-trichlorobenzene	mg/kg	1	Org-014	[NT]	5	<1	<1	0	[NT]	[NT]
Surrogate Dibromofluorometha	%		Org-014	[NT]	5	117	104	12	[NT]	[NT]
Surrogate aaa-Trifluorotoluene	%		Org-014	[NT]	5	96	93	3	[NT]	[NT]
Surrogate Toluene-d_8	%		Org-014	[NT]	5	122	97	23	[NT]	[NT]
Surrogate 4-Bromofluorobenzene	%		Org-014	[NT]	5	85	89	5	[NT]	[NT]

QUALITY CONTROL: VOCs in soil					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	[NT]	[NT]
Date extracted	-			[NT]	14	16/07/2018	16/07/2018		[NT]	[NT]
Date analysed	-			[NT]	14	17/07/2018	17/07/2018		[NT]	[NT]
Dichlorodifluoromethane	mg/kg	1	Org-014	[NT]	14	<1	<1	0	[NT]	[NT]
Chloromethane	mg/kg	1	Org-014	[NT]	14	<1	<1	0	[NT]	[NT]
Vinyl Chloride	mg/kg	1	Org-014	[NT]	14	<1	<1	0	[NT]	[NT]
Bromomethane	mg/kg	1	Org-014	[NT]	14	<1	<1	0	[NT]	[NT]
Chloroethane	mg/kg	1	Org-014	[NT]	14	<1	<1	0	[NT]	[NT]
Trichlorofluoromethane	mg/kg	1	Org-014	[NT]	14	<1	<1	0	[NT]	[NT]
1,1-Dichloroethene	mg/kg	1	Org-014	[NT]	14	<1	<1	0	[NT]	[NT]
trans-1,2-dichloroethene	mg/kg	1	Org-014	[NT]	14	<1	<1	0	[NT]	[NT]
1,1-dichloroethane	mg/kg	1	Org-014	[NT]	14	<1	<1	0	[NT]	[NT]
cis-1,2-dichloroethene	mg/kg	1	Org-014	[NT]	14	<1	<1	0	[NT]	[NT]
bromochloromethane	mg/kg	1	Org-014	[NT]	14	<1	<1	0	[NT]	[NT]
chloroform	mg/kg	1	Org-014	[NT]	14	<1	<1	0	[NT]	[NT]
2,2-dichloropropane	mg/kg	1	Org-014	[NT]	14	<1	<1	0	[NT]	[NT]
1,2-dichloroethane	mg/kg	1	Org-014	[NT]	14	<1	<1	0	[NT]	[NT]
1,1,1-trichloroethane	mg/kg	1	Org-014	[NT]	14	<1	<1	0	[NT]	[NT]
1,1-dichloropropene	mg/kg	1	Org-014	[NT]	14	<1	<1	0	[NT]	[NT]
Cyclohexane	mg/kg	1	Org-014	[NT]	14	<1	<1	0	[NT]	[NT]
carbon tetrachloride	mg/kg	1	Org-014	[NT]	14	<1	<1	0	[NT]	[NT]
Benzene	mg/kg	0.2	Org-014	[NT]	14	<0.2	<0.2	0	[NT]	[NT]
dibromomethane	mg/kg	1	Org-014	[NT]	14	<1	<1	0	[NT]	[NT]
1,2-dichloropropane	mg/kg	1	Org-014	[NT]	14	<1	<1	0	[NT]	[NT]
trichloroethene	mg/kg	1	Org-014	[NT]	14	<1	<1	0	[NT]	[NT]
bromodichloromethane	mg/kg	1	Org-014	[NT]	14	<1	<1	0	[NT]	[NT]
trans-1,3-dichloropropene	mg/kg	1	Org-014	[NT]	14	<1	<1	0	[NT]	[NT]
cis-1,3-dichloropropene	mg/kg	1	Org-014	[NT]	14	<1	<1	0	[NT]	[NT]
1,1,2-trichloroethane	mg/kg	1	Org-014	[NT]	14	<1	<1	0	[NT]	[NT]
Toluene	mg/kg	0.5	Org-014	[NT]	14	<0.5	<0.5	0	[NT]	[NT]
1,3-dichloropropane	mg/kg	1	Org-014	[NT]	14	<1	<1	0	[NT]	[NT]
dibromochloromethane	mg/kg	1	Org-014	[NT]	14	<1	<1	0	[NT]	[NT]
1,2-dibromoethane	mg/kg	1	Org-014	[NT]	14	<1	<1	0	[NT]	[NT]
tetrachloroethene	mg/kg	1	Org-014	[NT]	14	<1	<1	0	[NT]	[NT]
1,1,1,2-tetrachloroethane	mg/kg	1	Org-014	[NT]	14	<1	<1	0	[NT]	[NT]
chlorobenzene	mg/kg	1	Org-014	[NT]	14	<1	<1	0	[NT]	[NT]
Ethylbenzene	mg/kg	1	Org-014	[NT]	14	<1	<1	0	[NT]	[NT]
bromoform	mg/kg	1	Org-014	[NT]	14	<1	<1	0	[NT]	[NT]
m+p-xylene	mg/kg	2	Org-014	[NT]	14	<2	<2	0	[NT]	[NT]
styrene	mg/kg	1	Org-014	[NT]	14	<1	<1	0	[NT]	[NT]
1,1,2,2-tetrachloroethane	mg/kg	1	Org-014	[NT]	14	<1	<1	0	[NT]	[NT]
o-Xylene	mg/kg	1	Org-014	[NT]	14	<1	<1	0	[NT]	[NT]

QUALITY CONTROL: VOCs in soil					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	[NT]	[NT]
1,2,3-trichloropropane	mg/kg	1	Org-014	[NT]	14	<1	<1	0	[NT]	[NT]
isopropylbenzene	mg/kg	1	Org-014	[NT]	14	<1	<1	0	[NT]	[NT]
bromobenzene	mg/kg	1	Org-014	[NT]	14	<1	<1	0	[NT]	[NT]
n-propyl benzene	mg/kg	1	Org-014	[NT]	14	<1	<1	0	[NT]	[NT]
2-chlorotoluene	mg/kg	1	Org-014	[NT]	14	<1	<1	0	[NT]	[NT]
4-chlorotoluene	mg/kg	1	Org-014	[NT]	14	<1	<1	0	[NT]	[NT]
1,3,5-trimethyl benzene	mg/kg	1	Org-014	[NT]	14	<1	<1	0	[NT]	[NT]
tert-butyl benzene	mg/kg	1	Org-014	[NT]	14	<1	<1	0	[NT]	[NT]
1,2,4-trimethyl benzene	mg/kg	1	Org-014	[NT]	14	<1	<1	0	[NT]	[NT]
1,3-dichlorobenzene	mg/kg	1	Org-014	[NT]	14	<1	<1	0	[NT]	[NT]
sec-butyl benzene	mg/kg	1	Org-014	[NT]	14	<1	<1	0	[NT]	[NT]
1,4-dichlorobenzene	mg/kg	1	Org-014	[NT]	14	<1	<1	0	[NT]	[NT]
4-isopropyl toluene	mg/kg	1	Org-014	[NT]	14	<1	<1	0	[NT]	[NT]
1,2-dichlorobenzene	mg/kg	1	Org-014	[NT]	14	<1	<1	0	[NT]	[NT]
n-butyl benzene	mg/kg	1	Org-014	[NT]	14	<1	<1	0	[NT]	[NT]
1,2-dibromo-3-chloropropane	mg/kg	1	Org-014	[NT]	14	<1	<1	0	[NT]	[NT]
1,2,4-trichlorobenzene	mg/kg	1	Org-014	[NT]	14	<1	<1	0	[NT]	[NT]
hexachlorobutadiene	mg/kg	1	Org-014	[NT]	14	<1	<1	0	[NT]	[NT]
1,2,3-trichlorobenzene	mg/kg	1	Org-014	[NT]	14	<1	<1	0	[NT]	[NT]
Surrogate Dibromofluorometha	%		Org-014	[NT]	14	119	120	1	[NT]	[NT]
Surrogate aaa-Trifluorotoluene	%		Org-014	[NT]	14	82	91	10	[NT]	[NT]
Surrogate Toluene-d_8	%		Org-014	[NT]	14	97	96	1	[NT]	[NT]
Surrogate 4-Bromofluorobenzene	%		Org-014	[NT]	14	83	89	7	[NT]	[NT]

QUALITY CONTROL: vTRH(C6-C10)/BTEXN in Soil						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-8	196261-3
Date extracted	-			17/07/2018	2	16/07/2018	16/07/2018		16/07/2018	16/07/2018
Date analysed	-			18/07/2018	2	17/07/2018	17/07/2018		17/07/2018	17/07/2018
TRH C_6 - C_9	mg/kg	25	Org-016	<25	2	<25	<25	0	100	77
TRH C_6 - C_{10}	mg/kg	25	Org-016	<25	2	<25	<25	0	100	77
Benzene	mg/kg	0.2	Org-016	<0.2	2	<0.2	<0.2	0	89	66
Toluene	mg/kg	0.5	Org-016	<0.5	2	<0.5	<0.5	0	92	87
Ethylbenzene	mg/kg	1	Org-016	<1	2	<1	<1	0	103	71
m+p-xylene	mg/kg	2	Org-016	<2	2	<2	<2	0	109	81
o-Xylene	mg/kg	1	Org-016	<1	2	<1	<1	0	99	71
naphthalene	mg/kg	1	Org-014	<1	2	<1	<1	0	[NT]	[NT]
Surrogate aaa-Trifluorotoluene	%		Org-016	113	2	90	85	6	111	101

QUALITY CONTROL: vTRH(C6-C10)/BTEXN in Soil						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-9	196261-23
Date extracted	-			[NT]	5	16/07/2018	16/07/2018		16/07/2018	16/07/2018
Date analysed	-			[NT]	5	17/07/2018	17/07/2018		17/07/2018	17/07/2018
TRH C_6 - C_9	mg/kg	25	Org-016	[NT]	5	<25	<25	0	106	99
TRH C_6 - C_{10}	mg/kg	25	Org-016	[NT]	5	<25	<25	0	106	99
Benzene	mg/kg	0.2	Org-016	[NT]	5	<0.2	<0.2	0	93	87
Toluene	mg/kg	0.5	Org-016	[NT]	5	<0.5	<0.5	0	104	92
Ethylbenzene	mg/kg	1	Org-016	[NT]	5	<1	<1	0	111	101
m+p-xylene	mg/kg	2	Org-016	[NT]	5	<2	<2	0	117	107
o-Xylene	mg/kg	1	Org-016	[NT]	5	<1	<1	0	107	98
naphthalene	mg/kg	1	Org-014	[NT]	5	<1	<1	0	[NT]	[NT]
Surrogate aaa-Trifluorotoluene	%		Org-016	[NT]	5	96	93	3	108	104

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]	14	16/07/2018	16/07/2018		[NT]	[NT]
Date analysed	-			[NT]	14	17/07/2018	17/07/2018		[NT]	[NT]
TRH C_6 - C_9	mg/kg	25	Org-016	[NT]	14	<25	<25	0	[NT]	[NT]
TRH C_6 - C_{10}	mg/kg	25	Org-016	[NT]	14	<25	<25	0	[NT]	[NT]
Benzene	mg/kg	0.2	Org-016	[NT]	14	<0.2	<0.2	0	[NT]	[NT]
Toluene	mg/kg	0.5	Org-016	[NT]	14	<0.5	<0.5	0	[NT]	[NT]
Ethylbenzene	mg/kg	1	Org-016	[NT]	14	<1	<1	0	[NT]	[NT]
m+p-xylene	mg/kg	2	Org-016	[NT]	14	<2	<2	0	[NT]	[NT]
o-Xylene	mg/kg	1	Org-016	[NT]	14	<1	<1	0	[NT]	[NT]
naphthalene	mg/kg	1	Org-014	[NT]	14	<1	<1	0	[NT]	[NT]
Surrogate aaa-Trifluorotoluene	%		Org-016	[NT]	14	82	91	10	[NT]	[NT]

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]	22	16/07/2018	16/07/2018		[NT]	[NT]
Date analysed	-			[NT]	22	17/07/2018	17/07/2018		[NT]	[NT]
TRH C_6 - C_9	mg/kg	25	Org-016	[NT]	22	<25	<25	0	[NT]	[NT]
TRH C_6 - C_{10}	mg/kg	25	Org-016	[NT]	22	<25	<25	0	[NT]	[NT]
Benzene	mg/kg	0.2	Org-016	[NT]	22	<0.2	<0.2	0	[NT]	[NT]
Toluene	mg/kg	0.5	Org-016	[NT]	22	<0.5	<0.5	0	[NT]	[NT]
Ethylbenzene	mg/kg	1	Org-016	[NT]	22	<1	<1	0	[NT]	[NT]
m+p-xylene	mg/kg	2	Org-016	[NT]	22	<2	<2	0	[NT]	[NT]
o-Xylene	mg/kg	1	Org-016	[NT]	22	<1	<1	0	[NT]	[NT]
naphthalene	mg/kg	1	Org-014	[NT]	22	<1	<1	0	[NT]	[NT]
Surrogate aaa-Trifluorotoluene	%		Org-016	[NT]	22	104	97	7	[NT]	[NT]

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]	31	16/07/2018	16/07/2018		[NT]	[NT]
Date analysed	-			[NT]	31	17/07/2018	17/07/2018		[NT]	[NT]
TRH C_6 - C_9	mg/kg	25	Org-016	[NT]	31	<25	<25	0	[NT]	[NT]
TRH C_6 - C_{10}	mg/kg	25	Org-016	[NT]	31	<25	<25	0	[NT]	[NT]
Benzene	mg/kg	0.2	Org-016	[NT]	31	<0.2	<0.2	0	[NT]	[NT]
Toluene	mg/kg	0.5	Org-016	[NT]	31	<0.5	<0.5	0	[NT]	[NT]
Ethylbenzene	mg/kg	1	Org-016	[NT]	31	<1	<1	0	[NT]	[NT]
m+p-xylene	mg/kg	2	Org-016	[NT]	31	<2	<2	0	[NT]	[NT]
o-Xylene	mg/kg	1	Org-016	[NT]	31	<1	<1	0	[NT]	[NT]
naphthalene	mg/kg	1	Org-014	[NT]	31	<1	<1	0	[NT]	[NT]
Surrogate aaa-Trifluorotoluene	%		Org-016	[NT]	31	99	106	7	[NT]	[NT]

QUALITY CONTROL: svTRH (C10-C40) in Soil						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-8	196261-3
Date extracted	-			17/07/2018	2	16/07/2018	16/07/2018		16/07/2018	16/07/2018
Date analysed	-			17/07/2018	2	17/07/2018	17/07/2018		16/07/2018	17/07/2018
TRH C_{10} - C_{14}	mg/kg	50	Org-003	<50	2	<50	<50	0	120	122
TRH C_{15} - C_{28}	mg/kg	100	Org-003	<100	2	<100	<100	0	112	113
TRH C_{29} - C_{36}	mg/kg	100	Org-003	<100	2	<100	<100	0	108	75
TRH >C_{10} -C_{16}	mg/kg	50	Org-003	<50	2	<50	<50	0	120	122
TRH >C_{16} -C_{34}	mg/kg	100	Org-003	<100	2	<100	<100	0	112	113
TRH >C_{34} -C_{40}	mg/kg	100	Org-003	<100	2	<100	<100	0	108	75
Surrogate o-Terphenyl	%		Org-003	114	2	97	95	2	98	96

QUALITY CONTROL: svTRH (C10-C40) in Soil						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-9	196261-23
Date extracted	-			[NT]	14	16/07/2018	16/07/2018		16/07/2018	16/07/2018
Date analysed	-			[NT]	14	17/07/2018	17/07/2018		17/07/2018	17/07/2018
TRH C_{10} - C_{14}	mg/kg	50	Org-003	[NT]	14	<50	<50	0	122	92
TRH C_{15} - C_{28}	mg/kg	100	Org-003	[NT]	14	<100	<100	0	115	106
TRH C_{29} - C_{36}	mg/kg	100	Org-003	[NT]	14	<100	<100	0	123	92
TRH >C_{10} -C_{16}	mg/kg	50	Org-003	[NT]	14	<50	<50	0	122	92
TRH >C_{16} -C_{34}	mg/kg	100	Org-003	[NT]	14	<100	<100	0	115	106
TRH >C_{34} -C_{40}	mg/kg	100	Org-003	[NT]	14	<100	<100	0	123	92
Surrogate o-Terphenyl	%		Org-003	[NT]	14	96	96	0	100	94

QUALITY CONTROL: svTRH (C10-C40) in Soil						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	[NT]	[NT]
Date extracted	-			[NT]	21	16/07/2018	16/07/2018		[NT]	[NT]
Date analysed	-			[NT]	21	17/07/2018	17/07/2018		[NT]	[NT]
TRH C_{10} - C_{14}	mg/kg	50	Org-003	[NT]	21	<50	<50	0	[NT]	[NT]
TRH C_{15} - C_{28}	mg/kg	100	Org-003	[NT]	21	520	680	27	[NT]	[NT]
TRH C_{29} - C_{36}	mg/kg	100	Org-003	[NT]	21	840	1100	27	[NT]	[NT]
TRH >C_{10} -C_{16}	mg/kg	50	Org-003	[NT]	21	110	<50	75	[NT]	[NT]
TRH >C_{16} -C_{34}	mg/kg	100	Org-003	[NT]	21	1100	1600	37	[NT]	[NT]
TRH >C_{34} -C_{40}	mg/kg	100	Org-003	[NT]	21	260	460	56	[NT]	[NT]
Surrogate o-Terphenyl	%		Org-003	[NT]	21	99	108	9	[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]	22	16/07/2018	16/07/2018		[NT]	[NT]
Date analysed	-			[NT]	22	17/07/2018	17/07/2018		[NT]	[NT]
TRH C_{10} - C_{14}	mg/kg	50	Org-003	[NT]	22	<50	<50	0	[NT]	[NT]
TRH C_{15} - C_{28}	mg/kg	100	Org-003	[NT]	22	<100	<100	0	[NT]	[NT]
TRH C_{29} - C_{36}	mg/kg	100	Org-003	[NT]	22	<100	<100	0	[NT]	[NT]
TRH >C_{10} -C_{16}	mg/kg	50	Org-003	[NT]	22	<50	<50	0	[NT]	[NT]
TRH >C_{16} -C_{34}	mg/kg	100	Org-003	[NT]	22	<100	<100	0	[NT]	[NT]
TRH >C_{34} -C_{40}	mg/kg	100	Org-003	[NT]	22	<100	<100	0	[NT]	[NT]
Surrogate o-Terphenyl	%		Org-003	[NT]	22	97	98	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]	31	16/07/2018	16/07/2018		[NT]	[NT]
Date analysed	-			[NT]	31	17/07/2018	17/07/2018		[NT]	[NT]
TRH C_{10} - C_{14}	mg/kg	50	Org-003	[NT]	31	<50	<50	0	[NT]	[NT]
TRH C_{15} - C_{28}	mg/kg	100	Org-003	[NT]	31	<100	<100	0	[NT]	[NT]
TRH C_{29} - C_{36}	mg/kg	100	Org-003	[NT]	31	<100	<100	0	[NT]	[NT]
TRH >C_{10} -C_{16}	mg/kg	50	Org-003	[NT]	31	<50	<50	0	[NT]	[NT]
TRH >C_{16} -C_{34}	mg/kg	100	Org-003	[NT]	31	<100	<100	0	[NT]	[NT]
TRH >C_{34} -C_{40}	mg/kg	100	Org-003	[NT]	31	<100	<100	0	[NT]	[NT]
Surrogate o-Terphenyl	%		Org-003	[NT]	31	95	96	1	[NT]	[NT]

QUALITY CONTROL: PAHs in Soil						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-8	196261-3
Date extracted	-			16/07/2018	2	16/07/2018	16/07/2018		16/07/2018	16/07/2018
Date analysed	-			17/07/2018	2	17/07/2018	17/07/2018		17/07/2018	17/07/2018
Naphthalene	mg/kg	0.1	Org-012	<0.1	2	<0.1	<0.1	0	111	100
Acenaphthylene	mg/kg	0.1	Org-012	<0.1	2	<0.1	<0.1	0	[NT]	[NT]
Acenaphthene	mg/kg	0.1	Org-012	<0.1	2	<0.1	<0.1	0	[NT]	[NT]
Fluorene	mg/kg	0.1	Org-012	<0.1	2	<0.1	<0.1	0	116	95
Phenanthrene	mg/kg	0.1	Org-012	<0.1	2	<0.1	<0.1	0	106	97
Anthracene	mg/kg	0.1	Org-012	<0.1	2	<0.1	<0.1	0	[NT]	[NT]
Fluoranthene	mg/kg	0.1	Org-012	<0.1	2	<0.1	<0.1	0	106	98
Pyrene	mg/kg	0.1	Org-012	<0.1	2	<0.1	<0.1	0	112	104
Benzo(a)anthracene	mg/kg	0.1	Org-012	<0.1	2	<0.1	<0.1	0	[NT]	[NT]
Chrysene	mg/kg	0.1	Org-012	<0.1	2	<0.1	<0.1	0	99	94
Benzo(b,j+k)fluoranthene	mg/kg	0.2	Org-012	<0.2	2	<0.2	<0.2	0	[NT]	[NT]
Benzo(a)pyrene	mg/kg	0.05	Org-012	<0.05	2	<0.05	<0.05	0	99	90
Indeno(1,2,3-c,d)pyrene	mg/kg	0.1	Org-012	<0.1	2	<0.1	<0.1	0	[NT]	[NT]
Dibenzo(a,h)anthracene	mg/kg	0.1	Org-012	<0.1	2	<0.1	<0.1	0	[NT]	[NT]
Benzo(g,h,i)perylene	mg/kg	0.1	Org-012	<0.1	2	<0.1	<0.1	0	[NT]	[NT]
Surrogate p-Terphenyl-d14	%		Org-012	97	2	99	96	3	124	123

QUALITY CONTROL: PAHs in Soil						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-9	196261-23
Date extracted	-			[NT]	14	16/07/2018	16/07/2018		16/07/2018	16/07/2018
Date analysed	-			[NT]	14	17/07/2018	17/07/2018		17/07/2018	17/07/2018
Naphthalene	mg/kg	0.1	Org-012	[NT]	14	<0.1	<0.1	0	112	96
Acenaphthylene	mg/kg	0.1	Org-012	[NT]	14	<0.1	<0.1	0	[NT]	[NT]
Acenaphthene	mg/kg	0.1	Org-012	[NT]	14	<0.1	<0.1	0	[NT]	[NT]
Fluorene	mg/kg	0.1	Org-012	[NT]	14	<0.1	<0.1	0	116	93
Phenanthrene	mg/kg	0.1	Org-012	[NT]	14	<0.1	<0.1	0	105	94
Anthracene	mg/kg	0.1	Org-012	[NT]	14	<0.1	<0.1	0	[NT]	[NT]
Fluoranthene	mg/kg	0.1	Org-012	[NT]	14	<0.1	<0.1	0	105	90
Pyrene	mg/kg	0.1	Org-012	[NT]	14	<0.1	<0.1	0	111	94
Benzo(a)anthracene	mg/kg	0.1	Org-012	[NT]	14	<0.1	<0.1	0	[NT]	[NT]
Chrysene	mg/kg	0.1	Org-012	[NT]	14	<0.1	<0.1	0	101	87
Benzo(b,j+k)fluoranthene	mg/kg	0.2	Org-012	[NT]	14	<0.2	<0.2	0	[NT]	[NT]
Benzo(a)pyrene	mg/kg	0.05	Org-012	[NT]	14	<0.05	<0.05	0	97	82
Indeno(1,2,3-c,d)pyrene	mg/kg	0.1	Org-012	[NT]	14	<0.1	<0.1	0	[NT]	[NT]
Dibenzo(a,h)anthracene	mg/kg	0.1	Org-012	[NT]	14	<0.1	<0.1	0	[NT]	[NT]
Benzo(g,h,i)perylene	mg/kg	0.1	Org-012	[NT]	14	<0.1	<0.1	0	[NT]	[NT]
Surrogate p-Terphenyl-d14	%		Org-012	[NT]	14	97	93	4	119	117

QUALITY CONTROL: PAHs in Soil						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	[NT]	[NT]
Date extracted	-			[NT]	22	16/07/2018	16/07/2018		[NT]	[NT]
Date analysed	-			[NT]	22	17/07/2018	17/07/2018		[NT]	[NT]
Naphthalene	mg/kg	0.1	Org-012	[NT]	22	<0.1	<0.1	0	[NT]	[NT]
Acenaphthylene	mg/kg	0.1	Org-012	[NT]	22	<0.1	<0.1	0	[NT]	[NT]
Acenaphthene	mg/kg	0.1	Org-012	[NT]	22	<0.1	<0.1	0	[NT]	[NT]
Fluorene	mg/kg	0.1	Org-012	[NT]	22	<0.1	<0.1	0	[NT]	[NT]
Phenanthrene	mg/kg	0.1	Org-012	[NT]	22	<0.1	<0.1	0	[NT]	[NT]
Anthracene	mg/kg	0.1	Org-012	[NT]	22	<0.1	<0.1	0	[NT]	[NT]
Fluoranthene	mg/kg	0.1	Org-012	[NT]	22	<0.1	<0.1	0	[NT]	[NT]
Pyrene	mg/kg	0.1	Org-012	[NT]	22	<0.1	<0.1	0	[NT]	[NT]
Benzo(a)anthracene	mg/kg	0.1	Org-012	[NT]	22	<0.1	<0.1	0	[NT]	[NT]
Chrysene	mg/kg	0.1	Org-012	[NT]	22	<0.1	<0.1	0	[NT]	[NT]
Benzo(b,j+k)fluoranthene	mg/kg	0.2	Org-012	[NT]	22	<0.2	<0.2	0	[NT]	[NT]
Benzo(a)pyrene	mg/kg	0.05	Org-012	[NT]	22	<0.05	<0.05	0	[NT]	[NT]
Indeno(1,2,3-c,d)pyrene	mg/kg	0.1	Org-012	[NT]	22	<0.1	<0.1	0	[NT]	[NT]
Dibenzo(a,h)anthracene	mg/kg	0.1	Org-012	[NT]	22	<0.1	<0.1	0	[NT]	[NT]
Benzo(g,h,i)perylene	mg/kg	0.1	Org-012	[NT]	22	<0.1	<0.1	0	[NT]	[NT]
Surrogate p-Terphenyl-d14	%		Org-012	[NT]	22	96	97	1	[NT]	[NT]

QUALITY CONTROL: PAHs in Soil						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	[NT]	[NT]
Date extracted	-			[NT]	31	16/07/2018	16/07/2018		[NT]	[NT]
Date analysed	-			[NT]	31	17/07/2018	17/07/2018		[NT]	[NT]
Naphthalene	mg/kg	0.1	Org-012	[NT]	31	<0.1	<0.1	0	[NT]	[NT]
Acenaphthylene	mg/kg	0.1	Org-012	[NT]	31	<0.1	<0.1	0	[NT]	[NT]
Acenaphthene	mg/kg	0.1	Org-012	[NT]	31	<0.1	<0.1	0	[NT]	[NT]
Fluorene	mg/kg	0.1	Org-012	[NT]	31	<0.1	<0.1	0	[NT]	[NT]
Phenanthrene	mg/kg	0.1	Org-012	[NT]	31	<0.1	<0.1	0	[NT]	[NT]
Anthracene	mg/kg	0.1	Org-012	[NT]	31	<0.1	<0.1	0	[NT]	[NT]
Fluoranthene	mg/kg	0.1	Org-012	[NT]	31	<0.1	<0.1	0	[NT]	[NT]
Pyrene	mg/kg	0.1	Org-012	[NT]	31	<0.1	<0.1	0	[NT]	[NT]
Benzo(a)anthracene	mg/kg	0.1	Org-012	[NT]	31	<0.1	<0.1	0	[NT]	[NT]
Chrysene	mg/kg	0.1	Org-012	[NT]	31	<0.1	<0.1	0	[NT]	[NT]
Benzo(b,j+k)fluoranthene	mg/kg	0.2	Org-012	[NT]	31	<0.2	<0.2	0	[NT]	[NT]
Benzo(a)pyrene	mg/kg	0.05	Org-012	[NT]	31	<0.05	<0.05	0	[NT]	[NT]
Indeno(1,2,3-c,d)pyrene	mg/kg	0.1	Org-012	[NT]	31	<0.1	<0.1	0	[NT]	[NT]
Dibenzo(a,h)anthracene	mg/kg	0.1	Org-012	[NT]	31	<0.1	<0.1	0	[NT]	[NT]
Benzo(g,h,i)perylene	mg/kg	0.1	Org-012	[NT]	31	<0.1	<0.1	0	[NT]	[NT]
Surrogate p-Terphenyl-d14	%		Org-012	[NT]	31	93	91	2	[NT]	[NT]

QUALITY CONTROL: Organochlorine Pesticides in soil						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-8	196261-3
Date extracted	-			16/07/2018	2	16/07/2018	16/07/2018		16/07/2018	16/07/2018
Date analysed	-			16/07/2018	2	16/07/2018	16/07/2018		16/07/2018	16/07/2018
HCB	mg/kg	0.1	Org-005	<0.1	2	<0.1	<0.1	0	[NT]	[NT]
alpha-BHC	mg/kg	0.1	Org-005	<0.1	2	<0.1	<0.1	0	99	105
gamma-BHC	mg/kg	0.1	Org-005	<0.1	2	<0.1	<0.1	0	[NT]	[NT]
beta-BHC	mg/kg	0.1	Org-005	<0.1	2	<0.1	<0.1	0	79	84
Heptachlor	mg/kg	0.1	Org-005	<0.1	2	<0.1	<0.1	0	92	98
delta-BHC	mg/kg	0.1	Org-005	<0.1	2	<0.1	<0.1	0	[NT]	[NT]
Aldrin	mg/kg	0.1	Org-005	<0.1	2	<0.1	<0.1	0	95	101
Heptachlor Epoxide	mg/kg	0.1	Org-005	<0.1	2	<0.1	<0.1	0	90	102
gamma-Chlordane	mg/kg	0.1	Org-005	<0.1	2	<0.1	<0.1	0	[NT]	[NT]
alpha-chlordane	mg/kg	0.1	Org-005	<0.1	2	<0.1	<0.1	0	[NT]	[NT]
Endosulfan I	mg/kg	0.1	Org-005	<0.1	2	<0.1	<0.1	0	[NT]	[NT]
pp-DDE	mg/kg	0.1	Org-005	<0.1	2	<0.1	<0.1	0	100	108
Dieldrin	mg/kg	0.1	Org-005	<0.1	2	<0.1	<0.1	0	104	112
Endrin	mg/kg	0.1	Org-005	<0.1	2	<0.1	<0.1	0	91	102
pp-DDD	mg/kg	0.1	Org-005	<0.1	2	<0.1	<0.1	0	100	105
Endosulfan II	mg/kg	0.1	Org-005	<0.1	2	<0.1	<0.1	0	[NT]	[NT]
pp-DDT	mg/kg	0.1	Org-005	<0.1	2	<0.1	<0.1	0	[NT]	[NT]
Endrin Aldehyde	mg/kg	0.1	Org-005	<0.1	2	<0.1	<0.1	0	[NT]	[NT]
Endosulfan Sulphate	mg/kg	0.1	Org-005	<0.1	2	<0.1	<0.1	0	88	92
Methoxychlor	mg/kg	0.1	Org-005	<0.1	2	<0.1	<0.1	0	[NT]	[NT]
Surrogate TCMX	%		Org-005	126	2	121	120	1	105	115

QUALITY CONTROL: Organochlorine Pesticides in soil					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	[NT]	[NT]
Date extracted	-			[NT]	14	16/07/2018	16/07/2018		[NT]	[NT]
Date analysed	-			[NT]	14	16/07/2018	16/07/2018		[NT]	[NT]
HCB	mg/kg	0.1	Org-005	[NT]	14	<0.1	<0.1	0	[NT]	[NT]
alpha-BHC	mg/kg	0.1	Org-005	[NT]	14	<0.1	<0.1	0	[NT]	[NT]
gamma-BHC	mg/kg	0.1	Org-005	[NT]	14	<0.1	<0.1	0	[NT]	[NT]
beta-BHC	mg/kg	0.1	Org-005	[NT]	14	<0.1	<0.1	0	[NT]	[NT]
Heptachlor	mg/kg	0.1	Org-005	[NT]	14	<0.1	<0.1	0	[NT]	[NT]
delta-BHC	mg/kg	0.1	Org-005	[NT]	14	<0.1	<0.1	0	[NT]	[NT]
Aldrin	mg/kg	0.1	Org-005	[NT]	14	<0.1	<0.1	0	[NT]	[NT]
Heptachlor Epoxide	mg/kg	0.1	Org-005	[NT]	14	<0.1	<0.1	0	[NT]	[NT]
gamma-Chlordane	mg/kg	0.1	Org-005	[NT]	14	<0.1	<0.1	0	[NT]	[NT]
alpha-chlordane	mg/kg	0.1	Org-005	[NT]	14	<0.1	<0.1	0	[NT]	[NT]
Endosulfan I	mg/kg	0.1	Org-005	[NT]	14	<0.1	<0.1	0	[NT]	[NT]
pp-DDE	mg/kg	0.1	Org-005	[NT]	14	<0.1	<0.1	0	[NT]	[NT]
Dieldrin	mg/kg	0.1	Org-005	[NT]	14	<0.1	<0.1	0	[NT]	[NT]
Endrin	mg/kg	0.1	Org-005	[NT]	14	<0.1	<0.1	0	[NT]	[NT]
pp-DDD	mg/kg	0.1	Org-005	[NT]	14	<0.1	<0.1	0	[NT]	[NT]
Endosulfan II	mg/kg	0.1	Org-005	[NT]	14	<0.1	<0.1	0	[NT]	[NT]
pp-DDT	mg/kg	0.1	Org-005	[NT]	14	<0.1	<0.1	0	[NT]	[NT]
Endrin Aldehyde	mg/kg	0.1	Org-005	[NT]	14	<0.1	<0.1	0	[NT]	[NT]
Endosulfan Sulphate	mg/kg	0.1	Org-005	[NT]	14	<0.1	<0.1	0	[NT]	[NT]
Methoxychlor	mg/kg	0.1	Org-005	[NT]	14	<0.1	<0.1	0	[NT]	[NT]
Surrogate TCMX	%		Org-005	[NT]	14	118	118	0	[NT]	[NT]

QUALITY CONTROL: Organophosphorus Pesticides						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-8	196261-3
Date extracted	-			16/07/2018	2	16/07/2018	16/07/2018		16/07/2018	16/07/2018
Date analysed	-			16/07/2018	2	16/07/2018	16/07/2018		16/07/2018	16/07/2018
Azinphos-methyl (Guthion)	mg/kg	0.1	Org-008	<0.1	2	<0.1	<0.1	0	[NT]	[NT]
Bromophos-ethyl	mg/kg	0.1	Org-008	<0.1	2	<0.1	<0.1	0	[NT]	[NT]
Chlorpyriphos	mg/kg	0.1	Org-008	<0.1	2	<0.1	<0.1	0	93	81
Chlorpyriphos-methyl	mg/kg	0.1	Org-008	<0.1	2	<0.1	<0.1	0	[NT]	[NT]
Diazinon	mg/kg	0.1	Org-008	<0.1	2	<0.1	<0.1	0	[NT]	[NT]
Dichlorvos	mg/kg	0.1	Org-008	<0.1	2	<0.1	<0.1	0	94	78
Dimethoate	mg/kg	0.1	Org-008	<0.1	2	<0.1	<0.1	0	[NT]	[NT]
Ethion	mg/kg	0.1	Org-008	<0.1	2	<0.1	<0.1	0	102	110
Fenitrothion	mg/kg	0.1	Org-008	<0.1	2	<0.1	<0.1	0	89	78
Malathion	mg/kg	0.1	Org-008	<0.1	2	<0.1	<0.1	0	82	77
Parathion	mg/kg	0.1	Org-008	<0.1	2	<0.1	<0.1	0	104	81
Ronnel	mg/kg	0.1	Org-008	<0.1	2	<0.1	<0.1	0	97	81
Surrogate TCMX	%		Org-008	126	2	121	120	1	112	126

QUALITY CONTROL: Organophosphorus Pesticides						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	[NT]	[NT]
Date extracted	-			[NT]	14	16/07/2018	16/07/2018		[NT]	[NT]
Date analysed	-			[NT]	14	16/07/2018	16/07/2018		[NT]	[NT]
Azinphos-methyl (Guthion)	mg/kg	0.1	Org-008	[NT]	14	<0.1	<0.1	0	[NT]	[NT]
Bromophos-ethyl	mg/kg	0.1	Org-008	[NT]	14	<0.1	<0.1	0	[NT]	[NT]
Chlorpyriphos	mg/kg	0.1	Org-008	[NT]	14	<0.1	<0.1	0	[NT]	[NT]
Chlorpyriphos-methyl	mg/kg	0.1	Org-008	[NT]	14	<0.1	<0.1	0	[NT]	[NT]
Diazinon	mg/kg	0.1	Org-008	[NT]	14	<0.1	<0.1	0	[NT]	[NT]
Dichlorvos	mg/kg	0.1	Org-008	[NT]	14	<0.1	<0.1	0	[NT]	[NT]
Dimethoate	mg/kg	0.1	Org-008	[NT]	14	<0.1	<0.1	0	[NT]	[NT]
Ethion	mg/kg	0.1	Org-008	[NT]	14	<0.1	<0.1	0	[NT]	[NT]
Fenitrothion	mg/kg	0.1	Org-008	[NT]	14	<0.1	<0.1	0	[NT]	[NT]
Malathion	mg/kg	0.1	Org-008	[NT]	14	<0.1	<0.1	0	[NT]	[NT]
Parathion	mg/kg	0.1	Org-008	[NT]	14	<0.1	<0.1	0	[NT]	[NT]
Ronnel	mg/kg	0.1	Org-008	[NT]	14	<0.1	<0.1	0	[NT]	[NT]
Surrogate TCMX	%		Org-008	[NT]	14	118	118	0	[NT]	[NT]

QUALITY CONTROL: PCBs in Soil						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-8	196261-3
Date extracted	-			16/07/2018	2	16/07/2018	16/07/2018		16/07/2018	16/07/2018
Date analysed	-			16/07/2018	2	16/07/2018	16/07/2018		16/07/2018	16/07/2018
Aroclor 1016	mg/kg	0.1	Org-006	<0.1	2	<0.1	<0.1	0	[NT]	[NT]
Aroclor 1221	mg/kg	0.1	Org-006	<0.1	2	<0.1	<0.1	0	[NT]	[NT]
Aroclor 1232	mg/kg	0.1	Org-006	<0.1	2	<0.1	<0.1	0	[NT]	[NT]
Aroclor 1242	mg/kg	0.1	Org-006	<0.1	2	<0.1	<0.1	0	[NT]	[NT]
Aroclor 1248	mg/kg	0.1	Org-006	<0.1	2	<0.1	<0.1	0	[NT]	[NT]
Aroclor 1254	mg/kg	0.1	Org-006	<0.1	2	<0.1	<0.1	0	113	106
Aroclor 1260	mg/kg	0.1	Org-006	<0.1	2	<0.1	<0.1	0	[NT]	[NT]
Surrogate TCLMX	%		Org-006	126	2	121	120	1	112	126

QUALITY CONTROL: PCBs in Soil						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	[NT]	[NT]
Date extracted	-			[NT]	14	16/07/2018	16/07/2018		[NT]	[NT]
Date analysed	-			[NT]	14	16/07/2018	16/07/2018		[NT]	[NT]
Aroclor 1016	mg/kg	0.1	Org-006	[NT]	14	<0.1	<0.1	0	[NT]	[NT]
Aroclor 1221	mg/kg	0.1	Org-006	[NT]	14	<0.1	<0.1	0	[NT]	[NT]
Aroclor 1232	mg/kg	0.1	Org-006	[NT]	14	<0.1	<0.1	0	[NT]	[NT]
Aroclor 1242	mg/kg	0.1	Org-006	[NT]	14	<0.1	<0.1	0	[NT]	[NT]
Aroclor 1248	mg/kg	0.1	Org-006	[NT]	14	<0.1	<0.1	0	[NT]	[NT]
Aroclor 1254	mg/kg	0.1	Org-006	[NT]	14	<0.1	<0.1	0	[NT]	[NT]
Aroclor 1260	mg/kg	0.1	Org-006	[NT]	14	<0.1	<0.1	0	[NT]	[NT]
Surrogate TCLMX	%		Org-006	[NT]	14	118	118	0	[NT]	[NT]

QUALITY CONTROL: Acid Extractable metals in soil						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-8	196261-3
Date prepared	-			16/07/2018	2	16/07/2018	16/07/2018		16/07/2018	16/07/2018
Date analysed	-			16/07/2018	2	16/07/2018	16/07/2018		16/07/2018	16/07/2018
Arsenic	mg/kg	4	Metals-020	<4	2	4	6	40	124	79
Cadmium	mg/kg	0.4	Metals-020	<0.4	2	<0.4	<0.4	0	114	81
Chromium	mg/kg	1	Metals-020	<1	2	12	12	0	120	81
Copper	mg/kg	1	Metals-020	<1	2	7	4	55	123	104
Lead	mg/kg	1	Metals-020	<1	2	16	21	27	118	80
Mercury	mg/kg	0.1	Metals-021	<0.1	2	<0.1	<0.1	0	102	110
Nickel	mg/kg	1	Metals-020	<1	2	7	4	55	121	94
Zinc	mg/kg	1	Metals-020	<1	2	15	10	40	115	86

QUALITY CONTROL: Acid Extractable metals in soil						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-9	196261-23
Date prepared	-			[NT]	14	16/07/2018	16/07/2018		16/07/2018	16/07/2018
Date analysed	-			[NT]	14	16/07/2018	16/07/2018		16/07/2018	16/07/2018
Arsenic	mg/kg	4	Metals-020	[NT]	14	5	4	22	117	81
Cadmium	mg/kg	0.4	Metals-020	[NT]	14	<0.4	<0.4	0	109	84
Chromium	mg/kg	1	Metals-020	[NT]	14	12	10	18	114	76
Copper	mg/kg	1	Metals-020	[NT]	14	22	19	15	118	98
Lead	mg/kg	1	Metals-020	[NT]	14	15	14	7	113	84
Mercury	mg/kg	0.1	Metals-021	[NT]	14	<0.1	<0.1	0	121	91
Nickel	mg/kg	1	Metals-020	[NT]	14	13	11	17	115	71
Zinc	mg/kg	1	Metals-020	[NT]	14	46	37	22	110	#

QUALITY CONTROL: Acid Extractable metals in soil						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	[NT]	[NT]
Date prepared	-			[NT]	22	16/07/2018	16/07/2018		[NT]	[NT]
Date analysed	-			[NT]	22	16/07/2018	16/07/2018		[NT]	[NT]
Arsenic	mg/kg	4	Metals-020	[NT]	22	6	5	18	[NT]	[NT]
Cadmium	mg/kg	0.4	Metals-020	[NT]	22	<0.4	<0.4	0	[NT]	[NT]
Chromium	mg/kg	1	Metals-020	[NT]	22	17	15	12	[NT]	[NT]
Copper	mg/kg	1	Metals-020	[NT]	22	18	18	0	[NT]	[NT]
Lead	mg/kg	1	Metals-020	[NT]	22	13	12	8	[NT]	[NT]
Mercury	mg/kg	0.1	Metals-021	[NT]	22	<0.1	<0.1	0	[NT]	[NT]
Nickel	mg/kg	1	Metals-020	[NT]	22	6	6	0	[NT]	[NT]
Zinc	mg/kg	1	Metals-020	[NT]	22	38	39	3	[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]	31	16/07/2018	16/07/2018		[NT]	[NT]
Date analysed	-			[NT]	31	16/07/2018	16/07/2018		[NT]	[NT]
Arsenic	mg/kg	4	Metals-020	[NT]	31	<4	<4	0	[NT]	[NT]
Cadmium	mg/kg	0.4	Metals-020	[NT]	31	<0.4	<0.4	0	[NT]	[NT]
Chromium	mg/kg	1	Metals-020	[NT]	31	12	12	0	[NT]	[NT]
Copper	mg/kg	1	Metals-020	[NT]	31	13	12	8	[NT]	[NT]
Lead	mg/kg	1	Metals-020	[NT]	31	9	8	12	[NT]	[NT]
Mercury	mg/kg	0.1	Metals-021	[NT]	31	<0.1	<0.1	0	[NT]	[NT]
Nickel	mg/kg	1	Metals-020	[NT]	31	4	3	29	[NT]	[NT]
Zinc	mg/kg	1	Metals-020	[NT]	31	12	11	9	[NT]	[NT]

QUALITY CONTROL: Misc Soil - Inorg						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-8	196261-3
Date prepared	-			16/07/2018	2	16/07/2018	16/07/2018		16/07/2018	16/07/2018
Date analysed	-			16/07/2018	2	16/07/2018	16/07/2018		16/07/2018	16/07/2018
Total Phenolics (as Phenol)	mg/kg	5	Inorg-031	<5	2	<5	<5	0	98	102

QUALITY CONTROL: Misc Soil - Inorg						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	[NT]	[NT]
Date prepared	-			[NT]	21	16/07/2018	16/07/2018		[NT]	[NT]
Date analysed	-			[NT]	21	16/07/2018	16/07/2018		[NT]	[NT]
Total Phenolics (as Phenol)	mg/kg	5	Inorg-031	[NT]	21	<5	<5	0	[NT]	[NT]

QUALITY CONTROL: Misc Inorg - Soil						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-8	[NT]
Date prepared	-			17/07/2018	[NT]	[NT]	[NT]	[NT]	17/07/2018	[NT]
Date analysed	-			17/07/2018	[NT]	[NT]	[NT]	[NT]	17/07/2018	[NT]
pH 1:5 soil:water	pH Units		Inorg-001	[NT]	[NT]	[NT]	[NT]	[NT]	102	[NT]

QUALITY CONTROL: CEC						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-8	[NT]
Date prepared	-			17/07/2018	[NT]	[NT]	[NT]	[NT]	17/07/2018	[NT]
Date analysed	-			17/07/2018	[NT]	[NT]	[NT]	[NT]	17/07/2018	[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]	101	[NT]
Exchangeable Mg	meq/100g	0.1	Metals-009	<0.1	[NT]	[NT]	[NT]	[NT]	102	[NT]
Exchangeable Na	meq/100g	0.1	Metals-009	<0.1	[NT]	[NT]	[NT]	[NT]	97	[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: <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.

Report Comments

Acid Extractable Metals in Soil:
Percent recovery is not possible to report due to the inhomogeneous nature of the element/s in the sample/s. However an acceptable recovery was obtained for the LCS.

Acid Extractable Metals in Soil: The laboratory RPD acceptance criteria has been exceeded for 196261-2 for Cu and Ni. Therefore a triplicate result has been issued as laboratory sample number 196261-32.

CHAIN OF CUSTODY - Client

ENVIROLAB GROUP - National phone number 1300 42 43 4

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Adelaide Office - Envirolab Services
7 Palmerston Road Windsor Gardens, SA 5087
Ph 0406 350 706 / adelaide@envirolab.com.au

Client: KPMG SGA Property Consultancy	Client Project Name / Number / Site etc: 338588
Contact Person: Dylan Jones	
Project Mgr: Dylan Jones	PO No.: 2016_C3
Sampler: Dylan Jones	Envirolab Qt: R00C3
Address: Tower 3, International Towers Sydney, 300 Barangaroo Ave, Sydney NSW 2000	Date results Or choose: standard / same day / 1 *Note: Inform lab in advance if urgent turnaround is required - surcharges*
Phone: 02 9438 2333 Mob: 0419 801 515	Report format: esdat / equis /
Email: djones6@kpmg.com.au	Lab Comments:

Sample information					Tests Required											Comments
Envirolab Sample ID	Client Sample ID or information	Depth	Date sampled	Type of sample	Combo 3	Combo 8	VOCs	CEC	pH	On Hold						Additional Information Regarding Samples or Lab Analysis
1	BH01	0.5-0.6	11/07/2018	Soil	X											
2		1.8-1.9	11/07/2018	Soil		X	X									
3	BH02	0.3-0.4	11/07/2018	Soil		X	X									
4		1.3-1.4	11/07/2018	Soil	X											
5	BH03	1.5-1.6	11/07/2018	Soil		X	X									
6		2.3-2.4	11/07/2018	Soil						X						
7		3.1-3.2	11/07/2018	Soil	X											
8	BH04	0.4-0.5	11/07/2018	Soil		X	X									
9		1.5-1.6	11/07/2018	Soil	X											
10	BH05	0.6-0.7	11/07/2018	Soil	X											
11		2.8-2.9	11/07/2018	Soil		X	X									
12	BH06	1.8-1.9	11/07/2018	Soil	X											
13		0.4-0.5	11/07/2018	Soil		X	X									
14	BH07	0.6-0.7	12/07/2018	Soil		X	X									
15		1.7-1.8	12/07/2018	Soil	X			X	X							
16	BH08	0.5-0.6	12/07/2018	Soil		X	X									
17		1.8-1.9	12/07/2018	Soil	X											
18		2.7-2.8	12/07/2018	Soil						X						
19	BH09	0.8-0.9	12/07/2018	Soil		X	X									
20		2.8-2.9	12/07/2018	Soil	X											
21	BH10	0.4-0.9	12/07/2018	Soil		X	X									
22		1.6-1.7	12/07/2018	Soil	X											
23	BH11	0.4-0.5	12/07/2018	Soil	X											
24		0.9-1.0	12/07/2018	Soil		X	X									
25	BH12	1.1-1.2	12/07/2018	Soil		X	X									
26		1.7-1.8	12/07/2018	Soil	X											
27	BH13	0.2-0.3	12/07/2018	Soil		X	X									
28		0.8-0.9	12/07/2018	Soil	X											
29	BH14	0.6-0.7	12/07/2018	Soil		X	X									
30		1.7-1.8	12/07/2018	Soil	X											
31	BH-QA	1.7-1.8	12/07/2018	Soil	X											

Relinquished by (Company):	KPMG SGA Property Consultancy	Received by (Company):	*Lab use only:*
Print Name:	Dylan Jones	Print Name: KH	Samples Received: Cool / Ambient (circle one)
Date & Time:	11/07/2018 15:00	Date & Time: 12/7 1430	Temperature Received at: 19.0 (if applicable)
Signature:	DJones	Signature:	Transported by: Hand delivered / courier

White - Lab copy / Blue - Client copy / Pink - Retain in Book Page No:

KH

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

Job No: 196261
Date Received: 12/7/18
Time Received: 1430 COC recd 13/7/18 KH
Received By: KH
Temp: Cool/Ambient
Cooling: Ice/Icepack
Security: Intact/Broken

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	KPMG SGA
Attention	Dylan Jones

Sample Login Details

Your reference	338588
Envirolab Reference	196261
Date Sample Received	12/07/2018
Date Instructions Received	13/07/2018
Date Results Expected to be Reported	20/07/2018

Sample Condition

Samples received in appropriate condition for analysis	YES
No. of Samples Provided	31 Soil
Turnaround Time Requested	Standard
Temperature on Receipt (°C)	14.0
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:

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

Sample ID	VOCs in soil	vTRH(C6-C10)/BTEXN in Soil	svTRH (C10-C40) in Soil	PAHs in Soil	Organochlorine Pesticidesin soil	Organophosphorus Pesticides	PCBsin Soil	Acid Extractable metalsin soil	Misc Soil - Inorg	Misc Inorg - Soil	CEC	On Hold
BH01-0.5-0.6		✓	✓	✓				✓				
BH01-1.8-1.9	✓	✓	✓	✓	✓	✓	✓	✓	✓			
BH02-0.3-0.4	✓	✓	✓	✓	✓	✓	✓	✓	✓			
BH02-1.3-1.4		✓	✓	✓				✓				
BH03-1.5-1.6	✓	✓	✓	✓	✓	✓	✓	✓	✓			
BH03-2.3-2.4												✓
BH03-3.1-3.2		✓	✓	✓				✓				
BH04-0.4-0.5	✓	✓	✓	✓	✓	✓	✓	✓	✓			
BH04-1.5-1.6		✓	✓	✓				✓				
BH05-0.6-0.7		✓	✓	✓				✓				
BH05-2.8-2.9	✓	✓	✓	✓	✓	✓	✓	✓	✓			
BH06-1.8-1.9		✓	✓	✓				✓				
BH06-0.4-0.5	✓	✓	✓	✓	✓	✓	✓	✓	✓			
BH07-0.6-0.7	✓	✓	✓	✓	✓	✓	✓	✓	✓			
BH07-1.7-1.8		✓	✓	✓				✓		✓	✓	
BH08-0.5-0.6	✓	✓	✓	✓	✓	✓	✓	✓	✓			
BH08-1.18-1.9		✓	✓	✓				✓				
BH08-2.7-2.8												✓
BH09-0.8-0.9	✓	✓	✓	✓	✓	✓	✓	✓	✓			
BH09-2.8-2.9		✓	✓	✓				✓				
BH10-0.4-0.9	✓	✓	✓	✓	✓	✓	✓	✓	✓			
BH10-1.6-1.7		✓	✓	✓				✓				
BH11-0.4-0.5		✓	✓	✓				✓				
BH11-0.9-1.0	✓	✓	✓	✓	✓	✓	✓	✓	✓			
BH12-1.1-1.2	✓	✓	✓	✓	✓	✓	✓	✓	✓			
BH12-1.7-1.8		✓	✓	✓				✓				
BH13-0.2-0.3	✓	✓	✓	✓	✓	✓	✓	✓	✓			
BH13-0.8-0.9		✓	✓	✓				✓				
BH14-0.6-0.7	✓	✓	✓	✓	✓	✓	✓	✓	✓			
BH14-1.7-1.8		✓	✓	✓				✓				
BH-QA-1.7-1.8		✓	✓	✓				✓				

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

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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.

APPENDIX E

DATA QUALITY ASSESSMENT

Contents Page E

1 Introduction

The quality assurance and quality control (QA/QC) program is undertaken to ensure the data delivered is precise, accurate and representative.

The QA/QC process should be considered both in the field and within the laboratory. The objective is to enable evaluation and identification of the data quality objectives (DQOs), the method data quality objectives (MDQOs) and the data quality indicators (DQIs) which we use to assess whether the DQOs have been met.

Development of data quality objectives (DQOs) for each project is a requirement of the National Environment Protection Council (NEPC) (1999) *National Environment Protection (Assessment of Site Contamination) Measure 1999* (Amended 2013). This is based on a DQO process formulated by the USEPA for contaminated land assessment and remediation.

Data quality is typically discussed in terms of precision, accuracy, representativeness, comparability and completeness. These are referred to as the PARCC parameters.

2 Sampling and Analysis Plan

2.1 Rationale for Sampling Pattern Selection

A sampling and analysis plan was developed based on the KPMG SGA, May 2017, Preliminary Site Investigation, 54 – 68 Ferndell Street South Grandville, NSW (PSI) and through the DQO process. The positions of the sampling locations are shown on Figure 2 and Figure 3 and the justification is summarised in the table below.

Table E1 Rational for Sample Pattern Selection

Sample ID	Location	Justification
BH01 to BH04	Dock 5 finished goods warehouse & distribution centre	Previously not investigated due to concerns with services and concrete slab thickness. Potential contamination from historical site use and proximity to the former loading dock USTs and Dangerous Goods warehouse. The four boreholes and collection of samples has characterised the potential COC under the building.
BH05 and BH06	Former USTs in the loading dock between Dock 2 and Dock 5	USTs removed in 1988. There are no historical reports discussing the condition of the soil. Previously not investigated due to concerns with services and concrete slab thickness. Potential COC associated with historical USTs has been characterised by the two boreholes.
BH07, BH08, BH10	Former depot 5 & 6 Dangerous Goods warehouse	Previously investigated had not adequately characterised the potential COC. The three boreholes and collection of samples has characterised the potential COC under the building.
BH09 and BH11	The Former AST south of the medical building	Previously investigated had not adequately characterised the potential contamination. The two boreholes and collection of samples has characterised the potential COC associated with AST building.
BH12 to BH16	The Lan-O-Leen Building with former solvent USTs	USTs have been removed. There are no historical reports discussing the condition of the soil post removal. Only one previous borehole location has been identified for this area from a Dames & Moore 2014, Preliminary Contamination Assessment. The drilling of the four additional boreholes and collection of samples has characterised the potential COC associated with former USTs.
BRW2, BRW3, BRW4, BRW5, BRW7, BRW9 and PH12	Central area of the site and north east of the site	An additional groundwater monitoring event was undertake to assess if there were any changes to the concentration of COC at historically high concentration wells in the deeper aquifer and if COC were going offsite.
VS1- VS-7	Central area of the site	KPMG in 2016 had conducted a preliminary soil vapour screening with three soil vapour wells. The soil vapour concentrations were below the adopted criteria. The concentrations of chlorinated benenze in the groundwater

		warranted additional investigation with increase sample location and under a second time frame to observe temporal effects (if any).
BH01b – BH09b	Solomon's Hill	Area where remediated material from the former landfill area was placed. Investigated as part of additional due diligence.
BH10b – BH14b	Western area of the site	Site areas that were previously inaccessible due to site structures being present. Investigated as part of additional due diligence.

2.2 Sampling Methods

Sample methods are discussed in Section 6 of the report.

2.3 Rationale for Laboratory Analysis Schedule

The rational for the laboratory analysis schedule is based on the PSI and defined in DQOs in Section 4 of the report.

3 Quality Control and Quality Assurance

3.1 Measurement Data Quality Objectives

Step 5 of the DQO process is a focus on the quality of the information by measurement, commonly referred to as the measurement data quality objectives (MDQOs).

All soil, soil vapour and/or water sampling procedures need to be undertaken according to a standard procedure, in particular those procedures set out in:

- Standards Australia AS4482.1 (2005) Guide to the investigation and sampling of sites with potentially contaminated soil. Part 1 Non-volatile and semi volatile compounds
- NSW Department of Environment Climate Change & Water (2010) Vapour Intrusion Technical Practice Note
- CRC CARE 2013, Petroleum hydrocarbon vapour intrusion assessment: Australian guidance, CRC CARE Technical Report no. 23, CRC for Contamination Assessment and Remediation of the Environment, Adelaide, Australia
- Standards Australia AS 4482.2 (1999) Guide to the sampling and investigation of potentially contaminated soil. Part 2: Volatile substances; and
- National Environment Protection Council (NEPC) (1999) National Environment Protection (Assessment of Site Contamination) Measure (Amended 2013).

Measurement data quality is typically discussed in terms of Measured Parameters and Assessed Parameters. Methods of assessing measured parameters include duplicate samples for repeatability (comparability) and internal laboratory tests on accuracy and precision. Methods of analysing assessed parameters include sample documentation (completeness), representation of site conditions undertaken by development of a conceptual site model, and the comparison of results/investigation criteria to the sensitivity of analytical methods.

Vapour was generally collected in accordance with CRC Care and NSW EPA guidance documents listed above and as described in Section 6 of the report.

The laboratories used should be NATA accredited for the analytical methods undertaken. Containers, sample preservation (if necessary) and holding times should be consistent with industry practices as set out in the NEPM and as defined by ASTM.

3.1.1 Repeatability (Field Collected Intra-laboratory Duplicates)

These samples provide a check on the analytical performance of the laboratory. It is recommended that at least 5 percent of soil samples (1 in 20) from a site should be collected in duplicate. For split samples, because of error associated with field splitting, a relative percentage difference (RPD) of between <30% and <150% (depending on the substance) will be allowed as the MDQI. Soil heterogeneity due to the "nugget effect" could result in significantly greater difference, particularly for metals. Consequently, samples with the most observable field homogeneity are selected. Any value >50% RPD will be noted and discussed, as per Standards Australia requirements, with respect to its acceptability for inclusion in the data-set.

Three soil, one soil vapour and one water duplicate samples were analysed as part of this investigation.

3.1.2 Precision

Precision is a measure of the reproducibility of results, and is assessed on the basis of agreement between a set of replicate results obtained from duplicate analyses. The precision of a duplicate determination can be measured as relative percentage difference (RPD), and is calculated from the following equation:

$$\mathrm{RPD} = \left[\frac{\mathrm{X1 - X2}}{\left(\frac{X1 + X2}{2} \right)} \right] \times 100$$

where: X1 is the first duplicate value

X2 is the second duplicate value

The blind duplicate results and calculated RPDs for soil, groundwater and soil vapour are presented in Tables E2, E3 and E4.

Table E2 Soil RPDs

Analyte	MDL	BH02_1.9	DUP01	RPD	BH07_0.3	DUP02	RPD	BH07_1.7-1.8	BH-QA	RPD
TRH C6 - C9	25	<25	<25	NC	<25	<25	NC	<25	<25	NC
TRH C6 - C10	25	<25	<25	NC	<25	<25	NC	<25	<25	NC
vTPH C6 - C10 less BTEX (F1)	25	<25	<25	NC	<25	<25	NC	<25	<25	NC
Benzene	0.2	<0.2	<0.2	NC	<0.2	<0.2	NC	<0.2	<0.2	NC
Toluene	0.5	<0.5	<0.5	NC	<0.5	<0.5	NC	<0.5	<0.5	NC
Ethylbenzene	1	<1	<1	NC	<1	<1	NC	<1	<1	NC
m+p-xylene	2	<2	<2	NC	<2	<2	NC	<2	<2	NC
o-Xylene	1	<1	<1	NC	<1	<1	NC	<1	<1	NC
Total +ve Xylenes	1	<1	<1	NC	<1	<1	NC	<1	<1	NC
naphthalene	1	<1	<1	NC	<1	<1	NC	<1	<1	NC
TRH C10 - C14	50	<50	<50	NC	<50	<50	NC	<50	<50	NC
TRH C15 - C28	100	<100	<100	NC	<100	<100	NC	<100	<100	NC
TRH C29 - C36	100	<100	<100	NC	<100	<100	NC	<100	<100	NC
TRH >C10-C16	50	<50	<50	NC	<50	<50	NC	<50	<50	NC
TRH >C10 - C16 less Naphthalene (F2)	50	<50	<50	NC	<50	<50	NC	<50	<50	NC
TRH >C16-C34	100	<100	<100	NC	<100	<100	NC	<100	<100	NC
TRH >C34-C40	100	<100	<100	NC	<100	<100	NC	<100	<100	NC
Total +ve TRH (>C10-C40)	50	<50	<50	NC	<50	<50	NC	<50	<50	NC
Naphthalene	0.1	<0.1	<0.1	NC	0.1	<0.1	NC	<0.1	<0.1	NC

Acenaphthylene	0.1	<0.1	<0.1	NC	<0.1	<0.1	NC	<0.1	<0.1	NC
Acenaphthene	0.1	<0.1	<0.1	NC	<0.1	<0.1	NC	<0.1	<0.1	NC
Fluorene	0.1	<0.1	<0.1	NC	<0.1	<0.1	NC	<0.1	<0.1	NC
Phenanthrene	0.1	<0.1	<0.1	NC	0.4	0.2	66.7	<0.1	<0.1	NC
Anthracene	0.1	<0.1	<0.1	NC	<0.1	<0.1	NC	<0.1	<0.1	NC
Fluoranthene	0.1	<0.1	<0.1	NC	0.4	0.4	0.0	<0.1	<0.1	NC
Pyrene	0.1	<0.1	<0.1	NC	0.4	0.4	0.0	<0.1	<0.1	NC
Benzo(a)anthracene	0.1	<0.1	<0.1	NC	<0.1	0.1	NC	<0.1	<0.1	NC
Chrysene	0.1	<0.1	<0.1	NC	0.2	0.2	0.0	<0.1	<0.1	NC
Benzo(b,j+k)fluoranthene	0.2	<0.2	<0.2	NC	0.3	0.3	0.0	<0.2	<0.2	NC
Benzo(a)pyrene	0.05	<0.05	<0.05	NC	0.1	0.1	0.0	<0.05	<0.05	NC
Indeno(1,2,3-c,d)pyrene	0.1	<0.1	<0.1	NC	<0.1	<0.1	NC	<0.1	<0.1	NC
Dibenzo(a,h)anthracene	0.1	<0.1	<0.1	NC	<0.1	<0.1	NC	<0.1	<0.1	NC
Benzo(g,h,i)perylene	0.1	<0.1	<0.1	NC	<0.1	0.1	NC	<0.1	<0.1	NC
Benzo(a)pyrene TEQ calc (zero)	0.5	<0.5	<0.5	NC	<0.5	<0.5	NC	<0.5	<0.5	NC
Benzo(a)pyrene TEQ calc(half)	0.5	<0.5	<0.5	NC	<0.5	<0.5	NC	<0.5	<0.5	NC
Benzo(a)pyrene TEQ calc(PQL)	0.5	<0.5	<0.5	NC	<0.5	<0.5	NC	<0.5	<0.5	NC
Total +ve PAH's	0.05	<0.05	<0.05	NC	2.2	0.98	76.7	<0.05	<0.05	NC
Arsenic	4	7	5	33.3	5	15	100.0	4	<4	NC
Cadmium	0.4	<0.4	<0.4	NC	<0.4	<0.4	NC	<0.4	<0.4	NC
Chromium	1	10	9	10.5	31	32	3.2	13	12	8

Copper	1	23	22	4.4	29	27	7.1	16	13	20.7
Lead	1	17	13	26.7	34	35	2.9	9	9	0
Mercury	0.1	<0.1	<0.1	NC	0.1	<0.1	NC	<0.1	<0.1	NC
Nickel	1	20	13	42.4	33	31	6.3	4	4	0
Zinc	1	75	44	52.1	130	54	82.6	13	12	8

Table E3 Groundwater RPDs

Analyte	MDL	BRW9	FD01	RPD
TRH C6 - C9	10	<10	<10	NC
TRH C6 - C10	10	<10	<10	NC
TRH C6 - C10 less BTEX (F1)	10	<10	<10	NC
Benzene	1	<1	<1	NC
Toluene	1	<1	<1	NC
Ethylbenzene	1	<1	<1	NC
m+p-xylene	2	<2	<2	NC
o-xylene	1	<1	<1	NC
Naphthalene	1	<1	<1	NC
TRH C10 - C14	50	<50	<50	NC
TRH C15 - C28	100	<100	<100	NC
TRH C29 - C36	100	<100	<100	NC
TRH >C10 - C16	50	<50	<50	NC
TRH >C10 - C16 less Naphthalene (F2)	50	<50	<50	NC
TRH >C16 - C34	100	<100	<100	NC
TRH >C34 - C40	100	<100	<100	NC
Surrogate o-Terphenyl		114	103	10.1
Arsenic-Dissolved	1	24	25	4.1
Cadmium-Dissolved	0.1	<0.1	<0.1	NC
Chromium-Dissolved	1	<1	<1	NC
Copper-Dissolved	1	<1	<1	NC
Lead-Dissolved	1	<1	<1	NC
Mercury-Dissolved	0.05	<0.05	<0.05	NC
Nickel-Dissolved	1	11	11	0.0
Zinc-Dissolved	1	<1	<1	NC

Table E4 Soil Vapour RPDs

Analyte	MDL	VS-7	BR-1	RPD
TPH C5 - C8 Aliphatic	200	300	300	0.0
TPH C9 - C12 Aliphatic	50	76	110	36.6
TPH C9 - C10 Aromatic	100	<100	<100	NC
TPH C6 - C10 - BTEX (F1)	200	270	290	7.1
TPH >C10 - C12 - Naphthalene (F2)	40	50	80	46.2
Isopropyl Alcohol	1.2	10	91	160.4

1,1-Dichloroethene	2	<2.0	<2.0	NC
trans-1,2-dichloroethene	2	<2.0	<2.0	NC
1,1- Dichloroethane	2	<2.0	<2.0	NC
cis-1,2-Dichloroethene	2	<2.0	<2.0	NC
1,2-Dichloroethane	2	<2.0	<2.0	NC
Benzene	1.6	2	2	0.0
Trichloroethene	2.7	<2.7	<2.7	NC
Toluene	1.9	7	8	13.3
Tetrachloroethene	3.4	<3.4	<3.4	NC
Chlorobenzene	2.3	<2.3	<2.3	NC
Ethylbenzene	2.2	23	20	14.0
m-& p-Xylene	4.3	30	20	40.0
o-Xylene	2.2	<2.2	2	NC
1,3-Dichlorobenzene	3	<3.0	<3.0	NC
1,4-Dichlorobenzene	3	<3.0	<3.0	NC
1,2-Dichlorobenzene	3	<3.0	<3.0	NC
1,2,4-Trichlorobenzene	3.7	<3.7	<3.7	NC
Naphthalene	2.6	<2.6	<2.6	NC

Notes:
1 MDL method detection limit
2 RPD relative percentage difference
3 N/A not analysed
4 ND non detect
5 NC RPD not calculable
6 all units in mg/L
7 Acceptance Criteria - no limit applies to < 10x MDL
8 Acceptance Criteria - 80-150% for low level (<10 x MDL)
9 Acceptance Criteria - 50-130% for medium to high level (>10 x MDL)

3.1.3 Accuracy

Accuracy is a measure of the agreement between an experimental determination and the true value of the parameter being measured. The determination of accuracy can be achieved through the analysis of known reference materials or assessed by the analysis of matrix spikes. Accuracy is measured in terms of percentage recovery as defined by the following equation:

$$\%R = \frac{SSR - SR}{SA} X\ 100$$

where: %R = percentage recovery of the spike

SSR = spiked sample result

SR = sample result (native)

SA = spike added

Laboratory personnel calculate percentage recoveries of spiked compounds, which are evaluated against control or acceptance limits taken from the appropriate method or the Contract Laboratory Program Statement of Work. If the spike recovery for a sample does not fall within the prescribed control limits, laboratory based corrective action is required.

Surrogate spikes consist of spiking non-target compounds into the sample prior to analysis. The spiked compounds are expected to behave during analysis in the same way as the target compounds. Every sample is spiked prior to extraction or analysis with surrogate compounds that are representative of the analysis. If surrogate spike recovery does not meet the prescribed control limits, samples should be reanalysed.

3.1.4 Representativeness

Data Point Evaluation

Representativeness expresses the degree to which sample data accurately and precisely represents a characteristic of a population, parameter variations at a sampling point, or an environmental condition.

Representativeness is primarily dependent on the design and implementation of the sampling program. Representativeness of the data is partially ensured by the avoidance of cross-contamination, adherence to sample handling and analysis protocols, and use of proper chain-of-custody and documentation procedures. Blanks, holding times and field duplicates are all QA parameters that can assist in the analysis of representativeness for data point evaluation and will need to be analysed as part of the measurement data quality assessment.

Data Set Evaluation

Whether the data is representative of the site is checked in part by undertaking an evaluation of the whole data set to establish the data is compatible. Data compatibility is authenticated by confirming that the laws of chemistry are upheld (i.e. nitrate is not present when Eh is -250 mV), that intra-laboratory analysis relationships are consistent (i.e. BTEX is a subset of the TPH C_6-C_9 fraction), that observations and field measurements are in agreement with other field data and the laboratory data, and that results are consistent with the geology, history etc.

3.1.5 Completeness

The following information is required to check for completeness of data sets:

- chain-of-custody forms (completed by KPMG SGA and the laboratory)
- sample receipt forms
- all requested sample results reported
- all blank data reported
- all laboratory duplicates reported and relative percent differences (RPDs) calculated
- all surrogate spike data reported
- all matrix spike data reported
- NATA stamp on reports

3.1.6 Comparability

Comparability is the evaluation of the similarity of conditions (e.g. sample depth, sample homogeneity, sampling procedures) under which separate sets of data are produced to ensure minimal common error. Data comparability should be demonstrated by the use of standardised sampling and analysis procedures. Data comparability was maintained by undertaking the investigations as follows:

- the soil, water and vapour samples were collected during the investigation by a trained scientist using standard operating procedures

- laboratories used for organic and inorganic analysis for all relevant samples used NATA accredited analytical methods

3.1.7 Sensitivity

When interferences are present in the sample, a loss of sensitivity can occur resulting in an increase in the method detection limit. In some instances (e.g. where one or more compounds have particularly high concentrations) the sample must be diluted for analysis. This increases the method detection limit by the dilution factor.

The detection limits achieved by the laboratory, when adjusted for dry weight and interferences from the presence of other chemicals within the sampled matrix, must be less than half the site criteria for all analytes tested (i.e. 2 x LOR <Site criteria).

3.1.8 Blanks

To meet the QC acceptance criteria, laboratory blanks should have no detectable concentrations of the target compounds.

3.1.9 Holding Times

Sample holding times are based on a number of considerations including: the integrity of the data will be required, taking into account such factors as field storage, laboratory storage and sample jar characteristics. All samples were analysed within the required holding times.

3.1.10 Procedures for Anomalous Samples and Confirmation Checking

All results should be checked for discrepancies by the project manager, against the anticipated results and all other results, within 8 hours of receipt of the results from the laboratory.

Any result that is considered by the supervising scientist to be unusually high or at variance with other results is automatically re-analysed. A significantly different result requires immediate remedial action on the whole sample batch (retesting or using an alternative analytical method).

After appropriate checking by laboratories, all sample analysis results work-sheets, including those of duplicates and replicate analyses, should be checked by the project manager.

Once confirmation checking is completed the final laboratory report is issued.

For blind duplicates, if one sample has more than two analytes exceeding the data quality objectives, the sample is carefully checked. If the error is not apparent, the sample is rejected. If more than three samples are rejected all the samples collected at that time are rejected. These samples are then re-sampled and re-analysed.

3.2 Field QA/QC

3.2.1 Details of Field Investigation Team

Fieldwork was conducted by suitable qualified KPMG SGA personnel on 20 to 29 June 2017 and 11 to 12 July 2018.

3.2.2 Sampling Controls

Decontamination procedures carried out between sampling events

Soil sampling equipment (sampling spatula) was washed with Decon 90 and triple rinsed between sampling events, where applicable. A new pair of nitrile gloves was used with each

sample taken. Dedicated sampling equipment was used for each groundwater monitoring well.

Sampling of soil vapour using SUMMA canisters and flow control devices which have been cleaned, certified and analysed using US EPA T015 protocols by Envirolab the primary lab.

Sample notation details

The chemical analyses to be performed on each sample are presented on the chain of custody documentation which also identify for each sample – the nature of the sample, collection date, analyses to be performed and sample preservation method (if any).

Duplicate sampling

Blind duplicate samples were collected at a minimum rate of one duplicate per 20 samples analysed (5 %) for soil. The number of duplicates collected and analysed for each analytical method is provided in Tables E2, E3 and E4.

Blanks, spikes and rinsate samples

The trip spikes are used to assess potential volatile losses during the handing and transport of the closed primary samples. The trip spikes will be collected in the field and transported with the primary samples to the laboratory. One soil trip spike was submitted for analysis. Results were within the adopted laboratory recovery limits, therefore the data is considered acceptable.

The trip blanks are used to assess potential cross contamination between samples during handling and transport of closed primary samples. The trip blanks will be collected in the field and transported with the primary samples to the laboratory. One soil trip spike was submitted for analysis. Results were non detect for volatile organic compounds, therefore the data is considered acceptable.

Rinsate samples are a measure of potential cross contamination between samples due to contamination on sampling equipment. Rinsate samples were not collected due to the field sampling procedures which used disposable sampling equipment

Soil Canister Vapour Pressure Validation

The soil canister pressure gauge should read the same as the initial lab reading and the field pressure reading to assess if any non-sample air has been inadvertently being sucked into the canister before sampling. The soil canister pressure gauge after sampling and before analysis should be the same to assess if any non-sample air has been inadvertently being sucked into the canister before sampling. KPMG considers the validation of the canisters integrity to be sufficient.

Table E5 Soil Vapour Canister Integrity Validation

Sample ID	Initial Lab Pressure (Hg)	Field Pressure (Hg)	Post Sample Pressure (Hg)	Pre Analysis Pressure (Hg)
VS-1	-30	-30.0	-8	-7
VS-2	-30	-29.5	-7	-8
VS-3	-30	-28.5	-7	-7
VS-4	-30	-30.0	-7	-7
VS-5	-30	-29.5	-6	-7
VS-6	-30	-29.5	-5	-4
VS-7	-30	-30.0	-9	-8
BR-1	-30	-29.0	-9	-9

Soil Vapour Leak Detection Test

A soil vapour leak detection test was performed using isopropanol alcohol as leak detection tracer. The detected isopropanol alcohol was within acceptable limits and is summarised in the Table E5 below.

Table E6 Soil Vapour Leak Detection Test

Sample ID	Isopropanol Alcohol (%)	DQO Criteria	Pass / Fail
VS-1	<0.001	0.001	Pass
VS-2	<0.001	0.001	Pass
VS-3	<0.001	0.001	Pass
VS-4	<0.001	0.001	Pass
VS-5	<0.001	0.001	Pass
VS-6	<0.001	0.001	Pass
VS-7	<0.001	0.001	Pass
BR-1	<0.001	0.001	Pass

3.3 Laboratory QA/QC

Analysis for this project was completed by Envirolab (Sydney) which is accredited by NATA for the methods used; details of this accreditation can be viewed at http://www.nata.asn.au/, while details of the samples sent to the laboratories and the analysis requested are contained in the chain of custody documentation. The collection date of samples and laboratory extraction date are presented on the chain of custody. All analysis was completed within the allowable holding times.

The laboratories complete laboratory control samples, laboratory blanks, sample duplicates, surrogate spikes and matrix spikes. These results are presented in the laboratory reports.

These reports include details of surrogates and spikes used, percent recoveries of surrogates and spikes used, the instrument detection limits, the method detection limits, the practical quantification limits and the reference sample results.

The laboratory reported the following comments:

- Acid Extractable Metals in Soil: The laboratory RPD acceptance criteria has been exceeded for 170012-1 for Zn. Therefore a triplicate result has been issued as laboratory sample number 170012-72.
- Acid Extractable Metals in Soil: The laboratory RPD acceptance criteria has been exceeded for 170012-41 for As. Therefore a triplicate result has been issued as laboratory sample number 170012-73.
- Acid Extractable Metals in Soil: The laboratory RPD acceptance criteria has been exceeded for 170012-62 for Ni. Therefore a triplicate result has been issued as laboratory sample number 170012-74

KPMG SGA considers the laboratory QA/QC data set from the laboratory to be complete and satisfactory. The laboratory RPD exceedances, do not compromise the data set with the primary and triplicate results below the adopted criteria.

3.4 QA/QC Data Evaluation

Field and laboratory quality procedures for this project are considered to be acceptable. Holding times for samples were also considered acceptable.

Each samples IPA results were below adopted DQO criteria of 0.001% indicating no drawdown of atmospheric air occurred, nor was the integrity of the sample train connections jeopardised, resulting in a leak. KPMG SGA considers the soil sampling vapour QA/QC to meeting the requirements of this investigation. All other calculable RPD values between the groundwater duplicate and primary sample were also considered to be acceptable. The error identified are not considered to indicate errors within the precision of the results and are not considered to impact the outcome of the investigation.

Based on information presented in Sections 3.1, 3.2 and 3.3, the data set is considered to be acceptable.

This document sets out KPMG SGA's Terms & Conditions of Business.

It sets out our respective responsibilities, rights and obligations and puts our relationship on a clear and sound commercial footing.

Contents

1. Introduction

1.1. These Terms apply to the delivery of the Services by us to you and document our respective responsibilities, rights and obligations pursuant to the Engagement Letter.

1.2. If there is any inconsistency between these Terms and the Engagement Letter, the Engagement Letter shall prevail to the extent of the inconsistency.

1.3. Our Services exclude the provision of legal advice or services.

1.4. Any work already performed in connection with the Services before the date of this Agreement shall be governed by these Terms.

1.5. You can accept this Agreement by signing the copy of the Engagement Letter where indicated and returning it to us, or by continuing to instruct us in relation to the Services.

1.6. This Agreement contains the entire understanding between you and us in relation to the delivery of the Services and supersedes any previous agreements, understandings or arrangements (whether written or oral) in respect of the Services. Any change to this Agreement shall not be effective unless it is in writing and approved by an authorised representative of both you and us.

2. Your responsibilities

2.1. You shall promptly provide us or any Assisting Party with:

a. all relevant information; and
b. access to appropriate members of your staff (including, if necessary, senior executives), records, facilities, equipment, technology, systems and premises,

as are reasonably required for the proper and timely provision of the Services. You shall notify us in writing of any changes to the information originally provided to us. On receipt of that notification, we will consider the impact of the change to the information and notify you of any changes to the proposed timeframe for the provision of the Services as set out in out Engagement Letter.

2.2. You are responsible for:

a. The management, conduct and operation of your business, interests and affairs;
b. compliance with your regulatory obligations;
c. deciding how you use, choosing to what extent you wish to rely upon, and/or the implementation of advice or recommendations in the Deliverable; and
d. the delivery, achievement or realisation of any benefits directly or indirectly related to the Services.

2.3. You warrant and represent to us that:

a. you have given all necessary notifications and obtained all necessary consents and licences to disclose the information you have provided to us or for us to use the equipment;
b. our use of any information or equipment provided by you or on your behalf in connection with the Services shall not infringe the property rights, Intellectual Property Rights or privacy rights of any third party; and
c. you have the knowledge, ability and experience to carry out the obligations assumed by you under the Agreement and that by entering into the Agreement you will not breach any express or implied obligation owed to any third party.

3. Our Services

3.1. Unless otherwise specified in the Engagement Letter, any timetable for the provision of the Services is indicative only.

3.2. Unless otherwise specified in the Engagement Letter, the Services have not been undertaken in accordance with any auditing, review or assurance standards.

3.3. The use of the terms "audit" and "review" in the Engagement Letter or any Deliverable is not intended to convey that our Services will be, or have been, conducted in accordance with any auditing, review or assurance

standards unless otherwise specified in the Engagement Letter.

3.4. Information provided by you or on your behalf to, or which is otherwise known by, our partners or staff who are not engaged in the provision of the Services shall not be deemed to have been made available to us or any Assisting Party in the provision of the Services.

3.5. We shall rely upon the truth, accuracy and completeness of any information provided or made available to us in connection with the Services without independently verifying it. This clause 3.5 may not apply where we are providing a financial statement audit to you under the *Corporations Act 2001* (Cth) or if specified in the Engagement Letter.

3.6. Any advice, recommendation, information or Deliverable provided by us to you is for your sole use and benefit. Unless required by law to do so, you shall not provide or make it available to any third party or use our name, logo or trademarks in any marketing, promotional material or other publication, without our prior written consent.

3.7. If we provide any document to you and changes are made to that document by you, we are not responsible for any loss caused by the changes unless we have approved them.

3.8. Unless otherwise agreed with you in writing, we shall not update or revise our advice or Deliverable as a result of new information, legislative change or any other event occurring after the Effective Date.

3.9. We may destroy our files, including information and documents provided by you, at any time seven years after the date of our final bill to you in relation to the Services, unless:

a. we are aware of any legal proceedings that have been or may be commenced in relation to which our file or any documents in it may be required;
b. required by law;or
c. you advise us in writing of other arrangements you require.

4. Our Fees

4.1. You agree to pay our Fees and Expenses on or before the Due Date.

4.2. Our Fees and Expenses may be payable by you in instalments and/or before we provide any Deliverable or other part of the Services to you.

4.3. If our Fees are based on the time spent by us and charged at hourly rates, we shall notify you of any change to our hourly rates which affects this Agreement.

4.4. Any Expenses incurred shall be charged to you in addition to our Fees.

4.5. We shall determine any GST payable on our supply of the Services to you.

4.6. You shall pay us an additional amount on account of any GST for which we are liable as a result of the supply of the Services to you unless the amount payable by you is stated to be inclusive of GST.

4.7. Where we have been engaged by more than one person or entity, each engaging person or entity is jointly and severally liable for the payment of our Fees and Expenses.

4.8. If we comply with an Information Request, you shall:

a. be charged Fees based on the time spent by us complying with the Information Request calculated at the then applicable hourly rates;
b. be charged any out-of-pocket expenses incurred by us in complying with the Information Request; and
c. promptly cooperate with us, including providing any consent, to the extent it is necessary for us to comply with the Information Request.

5. Handling information

5.1. In the course of delivering the Services, either party may disclose Confidential Information to the other and the recipient of such information shall keep it confidential except as provided for in these Terms.

5.2. A party is not required to keep Confidential Information confidential:

a. where disclosure is expressly permitted under this Agreement;
b. to the extent either party is bound to comply with any law; or
c. where Confidential Information has entered the public domain other than as a result of a breach of this Agreement.

5.3. We can disclose Confidential Information and Personal Information on a confidential basis:

a. to any Assisting Party;
b. to our insurers, legal or other professional advisers, financiers or auditors; or
c. for internal or external quality assurance and risk management purposes.

5.4. Our Privacy Policy is available at www.kpmg.com.au. You agree that we may collect, hold, use and disclose Personal Information as set out in our Privacy Policy.

5.5. You agree that information relating to you or that you provide to us, including Confidential Information and Personal Information, may be transferred, stored and accessed by an Assisting Party or other third party service provider located within Australia or outside Australia in one or more of the countries referred to in our Privacy Policy.

5.6. KPMG may for Business Purposes refer to, use, develop, or share within KPMG and with other Member Firms, Confidential Information and Personal Information which may include:

a. your name, contact details and logo;
b. a description of the Services; and
c. knowledge, experience and skills of general application gained through the provision of the Services.

5.7. You agree and warrant that you have provided all necessary notifications for, and obtained all necessary consents to, the disclosure and use of any Personal Information or Confidential Information

by us as contemplated by this clause 5 and our Privacy Policy.

5.8. Where we provide Personal Information to you, you agree to maintain the confidentiality and security of the Personal Information by having in place commercially appropriate security, technical and organisational measures to protect the Personal Information.

6. Work Papers and Intellectual Property Rights

6.1. We own our Work Papers and the Intellectual Property Rights in the Deliverable.

6.2. We grant to you a non-exclusive, non-transferable, royalty free licence to use our Intellectual Property Rights in the Deliverable for any use or purpose set out in the Engagement Letter or as otherwise agreed by us in writing.

6.3. This Agreement does not affect the ownership of your Intellectual Property Rights or Confidential Information.

7. Working with you and other parties

7.1. We may deliver services to a Competing Party. If we determine that the provision of services to a Competing Party gives rise to a specific and direct conflict of interest, we shall put in place appropriate ethical dividers.

7.2. We may engage Assisting Parties to assist in the provision of the Services or Support Services.

7.3. Where we engage an Assisting Party, we shall be responsible to you for maintaining the confidentiality of Confidential Information.

8. Liability

8.1. Subject to clause 8.3, you agree that, to the extent permitted by law, our liability for any Loss, including without limitation liability for any negligent act or omission by us, shall be limited to an amount equal to ten (10) times the reasonable charge for the Services, up to a maximum of AUD20 million.\

8.2. To the extent permitted by law, we exclude all liability to you for any indirect loss, loss of business, goodwill or reputation or consequential loss including without limitation loss of profits or revenue, business interruption, unauthorised access to, or loss of data. For the avoidance of doubt, this clause does not exclude liability for direct losses arising from any negligent act or omission by us which may include loss of profits or revenue, business interruption or loss of data. Such losses are governed by the operation of clause 8.1.

8.3. The ACL implies certain conditions, warranties and undertakings in relation to the quality and fitness for purpose of goods and services provided to consumers in Australia. These cannot be modified nor excluded by any contract, including this Agreement. If we are liable for a breach of any consumer guarantee applied by the ACL to the provision of the Services (except where the Services are of a kind ordinarily acquired for personal, domestic or household use or consumption), our liability shall be limited, as provided under section 64A of the ACL, to supply of the Services again or payment of the cost of having the Services supplied again. Nothing in this Agreement purports to modify or exclude the conditions, warranties and undertakings, and other legal rights that you may have available under the ACL.

8.4. Our total aggregate liability in relation to the provision of the Services is limited in accordance with this clause 8.

8.5. Where we engage a Member Firm as an Assisting Party, the limitation of liability in this clause 8 includes any liability of that Member Firm. You agree that any such Member Firm may rely on this clause as if they were a party to this Agreement.

8.6. You agree not to bring any Claim (including in negligence) against any of our employees personally in connection with the Services. You agree that each of our employees may rely on this clause as if they were a party to this Agreement.

8.7. To the extent permitted by law, commencing on the earlier of one year from:

a. the date of our completion of the Services;
b. the date of our final invoice for provision of the Service; or
c. the date of any termination of this Agreement,

you release us from, and agree that you are estopped from, commencing any Claim for any Loss in relation to:

a. the performance or non-performance of the Services; and
b. any act or omission in connection with the Services,

whether in contract or tort (including negligence), pursuant to statue or otherwise.

9. Termination of Agreement and suspension of Services

9.1. Either party may terminate this Agreement immediately in whole or in part by written notice to the other if:

a. the other commits a material breach of a provision of this Agreement and does not remedy such material breach within 14 days of the date on which it receives written notice identifying the breach and requesting that it be remedied;
b. the other becomes insolvent; or
c. the Services are suspended under clause 9.5 for more than 21 days.

9.2. We may terminate this Agreement immediately by giving you written notice if, in our reasonable

opinion, the continued provision of the Services by us would:

a. breach any applicable law, rule, regulation or professional standard;
b. bring our reputation into disrepute;
c. prejudice our ability to comply with any applicable independence requirement; or
d. expose individuals providing the Services to unreasonable physical or personal risk.

9.3. Where you have a right to terminate this Agreement and we have been engaged by more than one person or entity, termination will only be effective if all parties contracting with us have consented to the termination.

9.4. You agree to pay our Fees and Expenses incurred up to the date of termination of this Agreement.

9.5. We may suspend the provision of the Services:

a. in the event of a Dispute with you;
b. where our Fees are not paid by the Due Date; or
c. where, after a reasonable request, you do not provide or make available to us information or personnel necessary for us to perform the Services,

until the Dispute is resolved, the Fees are paid, the information is provided or the personnel are made available.

9.6. Termination of the Agreement however caused shall not affect the rights of either party under the Agreement which may have accrued up to the date of termination, in particular your obligation to make any payments due to us under the Agreement.

10. Complaint Handling

10.1. If at any time you wish to discuss the Services or if you have a complaint about them, you are invited to telephone any partner or director identified in the Engagement Letter. If your problem is not resolved, please contact our National Managing Partner, Risk & Regulation. We shall investigate any complaint promptly and do what we can to resolve the difficulties.

11. Dispute Resolution and Governing Law

11.1. If a Dispute between you and us arises, before commencing Arbitration in respect of a Dispute:

a. the person raising the Dispute shall provide the other party with a Dispute Document; and
b. the parties shall engage in confidential senior level negotiations with a view to resolving the Dispute.

Should such negotiations not be successful in resolving the Dispute within a further 14 days, you agree to participate in mediation as soon as practicable.

11.2. If, having complied with clause 11.1 the parties are unable to resolve a Dispute, either party may refer that Dispute to Arbitration to be finally resolved. Each party acknowledges and agrees that all activities and information concerned with the Arbitration shall be confidential and shall not be used for any purpose other than the conduct of the Arbitration. The parties agree that an appeal of an award may be made in accordance with the section 34A of the *Commercial Arbitration Act 2010* (NSW). Each party agrees that no other Proceeding to resolve the Dispute shall be commenced.

11.3. In making an award in the Arbitration, the tribunal must determine the rights and liabilities of the parties in the same way as if the Proportionate Liability Legislation applied to the Arbitration of the Dispute, irrespective of whether or not the tribunal is otherwise bound or entitled to apply the Proportionate Liability Legislation – in so doing, the tribunal must have regard to the comparative responsibility of the parties to the Arbitration and of any Concurrent Wrongdoer who is not a party to the Arbitration. The tribunal must give full effect to this clause notwithstanding any provisions in the Proportionate Liability Legislation which express a contrary intention or which are inconsistent with this clause and notwithstanding the inability of the parties in the Arbitration to join any concurrent wrongdoers in the Arbitration.

11.4. Nothing in this clause 11 shall prevent either party from instituting court proceedings to seek Urgent Relief only.

11.5. Subject to 11.3 above, this Agreement (including this clause 11) is governed by the law in force in New South Wales, Australia.

11.6. Without limiting the application of 11.1 to 11.3 above, each party unconditionally submits to the exclusive jurisdiction of the courts of New South Wales, Australia, and courts competent to hear appeals from those courts.

12. Regulatory

12.1. In providing the Services, we shall comply with applicable legislation, rules and regulations that prohibit bribery, public and private corruption.

13. Miscellaneous

13.1. This Agreement does not create a fiduciary relationship or a relationship of employment, agency or partnership between the parties unless such a relationship is expressly created by law.

13.2. The obligations in clauses 1, 2.2, 2.3, 3.6, 3.7, 3.9, 4, 5, 6, 7, 8, 10, 11 and 13, are continuing obligations and those clauses and the Definitions in clause 14 survive this Agreement's rescission, termination, completion or expiry.

13.3. If any provision of this Agreement is, or becomes, unenforceable, illegal or invalid for any reason, the relevant provision is to be deemed to be modified to the extent necessary to remedy such unenforceability, illegality or invalidity or if this is not possible then such provision must be severed from this Agreement, without affecting the enforceability, legality or validity of any other provision of this Agreement.

13.4. If a party's performance of this Agreement is prevented or restricted by reason of Force Majeure, then that party is, for the period in which the Force Majeure operates and only to the extent they are prevented or restricted at that time, excused from their obligation to perform the Agreement, any obligation to avoid or remove the causes of non-performance and any obligation that required performance within a previously agreed timeframe.

13.5. A power, remedy or right arising from any provision of this Agreement can only be waived, qualified, restricted, modified or amended specifically in writing by the party with that power, remedy or right.

13.6. A reference to legislation or to a provision of legislation includes a modification or re-enactment of it, a legislative provision substituted for it and a regulation or statutory instrument issued under it.

14. Definitions

The following words and phrases used in these Terms have the meanings set out in this clause:

ACL means the Australian Consumer Law that is Schedule 2 to the *Competition and Consumer Act 2010* (Cth).

Agreement means these Terms and the Engagement Letter, including any other appendices to the Engagement Letter.

Alliance Partner means any person or entity with whom we have an alliance agreement.

Arbitration means an arbitration:

a. in accordance with the ACICA Arbitration Rules;
b. with the seat of arbitration to be Sydney Australia;
c. in the English language;
d. with one appointed arbitrator if the amount in dispute is under $10 million or if the amount in dispute is $10 million or more, with three appointed arbitrators and on the basis that the third arbitrator (being the chairperson) must have industry experience of and expertise in the subject matter of the Services.

Assisting Party(ies) means any party that is engaged to assist with the provision of the Services or Support Services, including a Member Firm, other than the parties to the Engagement Letter, or an Alliance Partner.

Business Purposes means:

a. providing the Services or any other services to you or other clients of KPMG and other Member Firms;
b. communicating with you;
c. tendering, promotional, marketing and publicity purposes;
d. to enhance and facilitate the delivery of services to clients;
e. quality assurance and risk management purposes;
f. financial accounting purposes and/or the provision of other administrative support services;
g. benchmarking;
h. to enable other clients to be aware of the nature of services we have performed; and
i. in connection with thought leadership projects.

Claim includes any claim or liability of any kind (including one which is prospective or contingent and one the amount of which is not ascertained) arising from or connected with the Services and costs (whether or not the subject of a court order).

Competing Party means any person or entity including without limitation an individual, partnership, company, body corporate, joint venture, trustee, state or federal government department or any regulatory or disciplinary body or tribunal:

a. who may be in competition with you or a related body corporate (as defined in the *Corporations Act 2001* (Cth)); or
b. who may be involved as a bidder, vendor, financier, regulator, government stakeholder or other interested party in the same or related matter in which we have been retained to provide the Services to you.

Concurrent Wrongdoer means in relation to a Dispute, a person, including persons who are not parties to this Agreement, who is one of two or more persons whose acts or omissions (or act or omission) caused, independently of each other or jointly, the damage or loss that is the subject of the Dispute.

Confidential Information means any information in any form whatsoever of a technical, business, corporate or financial nature disclosed by one party to the other:

a. that has been marked as confidential;
b. whose confidential nature has been made known by the disclosing party to the recipient; or
c. which due to its character or nature, a reasonable person in the circumstances would treat as confidential, and includes the existence and contents of this Agreement.

Deliverable(s) means the advice or any or all engagement deliverables, whether in draft or final form, provided or required to be provided to you as part of the Services.

Dispute means any dispute, controversy or Claim arising out of, relating to or connected with this Agreement (including any question regarding its existence, validity or termination), or the Services.

Dispute Document means a confidential document marked "Confidential: Dispute Document" that sets out all of the issues that are, or may be, in dispute and offers to discuss them. For the avoidance of doubt a Dispute Document is not a notice of Arbitration.

Due Date means the day which is 14 days from the date of issue of any invoice for the provision of the Services.

Effective Date means:

a. where the advice or Deliverable specifies that it is based on information provided or made available to us up to a specified date, then that date; or
b. the date of the advice or Deliverable.

Engagement Letter means the letter incorporating these Terms by reference which records the details of the engagement including the scope, timing and Fees.

Expenses means the Technology and Administration Charge plus any actual and reasonable out-of-pocket costs incurred by us in the delivery of the Services or in complying with an Information Request.

Fees means the amount payable to us for performing the Services.

Force Majeure means fire, storm, flood, earthquake, war, riot, civil disturbance, labour dispute, transportation embargo, law, order, or directive of any government in matters relating to this Agreement, or any other act or condition beyond the reasonable control of a party.

GST means the goods and services tax as defined in the *A New Tax System (Goods and Services Tax) Act 1999* (Cth).

Information Request means, other than where a request is made in respect of a Claim or regulatory action against us, any request that we or a Member Firm produce documents, provide information or give evidence in relation to the Services as required by any applicable law or by reason of any judicial, regulatory, professional or administrative process.

Intellectual Property Rights means all and any patents, patent applications, trademarks, service marks, trade names, registered designs, registered design rights, copyrights, know how, trade secrets, domain names, internet addresses, rights in Confidential Information, and all and any other intellectual property rights, whether registered or unregistered, and including all applications and rights to apply for any of the same now or in the future.

KPMG means the Australian Partnership of KPMG or any of its associated entities (as defined in section 50AAA of the *Corporations Act 2001* (Cth)).

Loss means any loss including any liability, cost, expense (including legal costs on a full indemnity basis), Claim, proceeding, action, demand or damage suffered by you in connection with the Services.

Member Firm means an entity (whether or not incorporated) which is:

a. a member or an affiliate of a member of the KPMG network of independent member firms affiliated with KPMG International, a Swiss co-operative; or
b. any entity owned in whole or in part by any of entity's described in (a).

Personal Information has the meaning given to that term in the

Privacy Act 1988 (Cth).

Proceeding means any judicial, regulatory, professional or administrative proceeding instituted by a party or on behalf of a party to this Agreement, other than court proceedings to seek Urgent Relief in respect of a Dispute or an appeal under section 34A of *the Commercial Arbitration Act 2010* (NSW).

Proportionate Liability Legislation means any legislative provisions relating to proportionate liability, including without limitation:

a. sections 12GP - 12GW of the *Australian Securities and Investments Commission Act 2001* (Cth);
b. sections 1041L - 1041S of the *Corporations Act 2001* (Cth);
c. sections 87CB -87CI of the *Competition and Consumer Act 2010*;
d. sections 34-39 of *the Civil Liability Act 2002* (NSW); and analogous provisions in the laws of any other States or Territories.

Services means the services to be provided by us under the Engagement Letter including but not limited to any Deliverable.

Support Services means services incidental to the Services including, but not limited to, IT support services, financial accounting reporting and any other administrative services.

Technology and Administration Charge means an amount equivalent to 2.5% of the Fees for performing the Services to cover our costs such as information technology infrastructure and licensing costs, administrative support of our client service personnel, (which are not included in our client service personnel fee), telecommunication charges, equipment and stationery.

Terms means these Terms and Conditions of Business.

Urgent Relief means urgent injunctive, interlocutory or declaratory relief in respect of a Dispute or the enforcement of a payment due under the Agreement.

Us or we (and derivatives) means the KPMG contracting party as identified in the Engagement Letter.

Work Papers means our internal working documents produced in the performance of the Services, which may contain copies of, extracts from or references to your Confidential Information or Personal Information.

You (and derivatives) means the person and/or entity to which the Engagement Letter is addressed.