KPMG

Preliminary Site Investgation

754-770 & 784-786 Mamre Road, Kemps Creek, NSW

23 March 2021

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KPMG Quality Assurance Auditing			
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Table 1 NSW EPA Consultants Reporting on Contaminated Land – Preliminary Site Investigation Checklist

Report Section	Required Information	Included	Section
Document Control	Date, version number, author and reviewer (including certification details) and who commissioned the report	✓	Title document
Executive Summary	Background	✓	Section 1
	Objectives of the investigation	✓	
	Scope of work	✓	
	A summary of key findings, observations and sapling results (if available)	✓	
	Summary of conclusions and recommendations	✓	
Objectives	The objectives of the investigation/report and the broader objectives for the site/investigation	✓	Section 2
Scope of work	Scope of work performed (and work not undertaken where relevant)	✓	Section 2.1
Site identification	Site identification and detail items from ASC NEPM Field Checklist 'Site information' sheet	✓	Section 3.1
Site history	Site history items from ASC NEPM Field Checklist 'Site information' sheet	✓	Section 3.4
Site condition and surrounding environment	Site condition and surrounding environment items from ASC NEPM Field Checklist 'Site information' sheet	✓	Section 3
Conceptual site model	See Table 2(a)	✓	Appendix D
Data quality objectives (if sampling is undertaken)	See Table 2(b)	✓	Section 4
Sampling and analysis plan and sampling methodology (if sampling is undertaken)	See Table 2.2, and note and explain the rationale for any deviations from the plan	✓	Section 6

Report Section	Required Information	Included	Section
Quality assurance/quality control data evaluation (if sampling is undertaken)	See Table 2(c)	✓	Section 6.5
Field and analytical results (if sampling is undertaken)	Summary of previous results, if applicable	✓	Section 7
	A table(s) of analytical results that:	✓	Appendix C
	• shows all essential details such as sample identification numbers and sampling depth	✓	
	• shows assessment criteria	✓	
	• highlights all results exceeding any assessment criteria	✓	
	Summary/discussion of the analytical results table	✓	Section 8
	Sample descriptions for all media where applicable (e.g. soil, sediment, surface water, groundwater, soil vapour, ground gas, indoor air and biota)	✓	Appendix C
	Test pit or bore logs (well construction details where appropriate for example groundwater level expressed in Australian height datum)	✓	Appendix F
	Site plan showing all sample locations	✓	Appendix A
	Site plan(s) showing the extent of soil and groundwater contamination (if known)	✓	Appendix A
Conclusions and recommendations	Summary of all findings and discussion of results	✓	Section 8
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	Extent of uncertainties in the results (quantified where possible)	✓	Section 8
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Table 2 - Glossary of General Terms

Glossary of General Terms	
BTEX	Benzene, toluene, ethylbenzene, xylenes
COCs	Chemicals of concern
CSM	Conceptual site model
DQO	Data quality objective
DGV	Derived Guideline Value
EILs	Ecological Investigation Levels
EPA	NSW Environment Protection Authority
ESI	Environmental Site Investigation
EILs	Ecological Investigation Levels
ESLs	Ecological Screening Levels
HHRA	Human Health Risk Assessment
HILs	Health Investigation Levels
HSLs	Health Screening Levels
LOR	Limit of laboratory reporting
m	Meters
mbgl	Meters below ground level
mbTOC	Meters below top of casing
mg/kg	Milligram per kilogram
NATA	National Association of Testing Authorities
NEPM ASC	National Environment Protection Council (1999) National Environment Protection (Assessment of Site Contamination) Measure (Amended 2013)
OCPs	Organochlorine pesticides
OPPs	Organophosphorous pesticides
PAHs	Polycyclic aromatic hydrocarbons
PCBs	Polychlorinated biphenyls
PSI	Preliminary Site Investigation
QA/QC	Quality Assurance / Quality Control
RAP	Remedial Action Plan
RPD	Relative percentage difference
TEI	Targeted Environmental Investigation
TPH	Total petroleum hydrocarbons
TRH	Total recoverable hydrocarbons
µg/L	Microgram per litre
UPSS	Underground petroleum storage system
UST	Underground storage tank

1 Executive Summary

KPMG Property & Environmental Services Pty Limited (KPMG) were commissioned by GPT to undertake a Preliminary Site Investigation (PSI) at 754-770 & 784-786 Mamre Road, Kemps Creek, NSW (the site). The site comprises two (2) properties legally described as Lots 59 and 60 on DP259135. It is understood that a PSI is required to satisfy the Secretary's Environmental Assessment Requirements (SEARs) for a State Significant Development Application (SSDA). Previous investigations carried out at the site by KPMG include a Targeted Environmental Investigation (TEI), Environmental Assessments (EAs) and a Groundwater and Surface Water Sampling Event (GWSWSE). This PSI incorporates information from these investigations along with additional information to comply with the SEARs for the SSDA.

Based on the PSI, it is understood that the site was generally used for rural residential and agricultural purposes from before 1955 to the present day. Information received onsite indicated that additional buildings were constructed in the central portion of the site sometime between 1982 and 1991 for vehicle or plant/equipment storage. Aboveground storage tanks (ASTs) and underground petroleum storage systems (UPSSs) were installed at 784-786 Mamre Road circa 1995 and the north-western portion of 754-770 Mamre Road was developed for horticultural (market garden) purposes which continued until circa 2010. The primary area of environmental concern (AEC) was identified as the above ground and underground storage of chemicals associated with the vehicle workshop and refuelling area located at 784-786 Mamre Road. No offsite sources of contamination were identified during the current PSI or during past investigations.

The KPMG 2019 TEI involved the sampling of soil from 20 boreholes at the site plus from two (2) hand auger boreholes and three (3) samples of stockpiled material. The majority of the investigation locations targeted the above ground and underground storage of chemicals associated with the vehicle workshop and refuelling area located at 784-786 Mamre Road. In general, the concentrations of COCs within most soil samples analysed were below the laboratory limit of detection and the adopted guidelines for commercial/industrial use. During the investigation, areas of hydrocarbon staining were observed to surface material around the vehicle workshop and refuelling area at 784-786 Mamre Road. A surface soil sample collected from this area contained concentrations of total recoverable hydrocarbons (TRH) above guidelines for the protection of ecological receptors and Management Limits. The concentrations of heavy metals (chromium, copper, nickel and zinc) within soil samples collected from this area and one sample from 754-770 Mamre Road were also variably above guidelines for the protection of ecological receptors. In addition, the concentration of benzo(a)pyrene (BaP) in a surface soil sample collected from a storage area at 754-770 Mamre Road was above the guideline for the protection of ecological receptors.

Hydrocarbon staining was noted on the ground surface immediately around an intermediate bulk container (IBC) used to store waste oil located external to the south-western corner of the vehicle maintenance building at 754-770 Mamre Road (KPMG SGA 2019 and KPMG 2020b). No samples were collected during the KPMG 2020b Environmental Assessment however, it was anticipated that exceedances of TRH and polycyclic aromatic hydrocarbons (PAHs) would have been present in the localised surface soils. A review of aerial photographs taken on 27 December 2020 indicated that large areas of 754-770 Mamre Road have already been cleared for development, including the area of hydrocarbon impact described above. It is anticipated that any surficial hydrocarbon impacts would have been removed during these earthworks and this AEC is not considered further.

Elevated concentrations of TRH were also identified in locations adjacent to the ASTs and UPSSs, however they were below the adopted guideline levels (KPMG SGA 2019). The subsurface lithology identified around the ASTs and UPSS at 784-786 Mamre Road comprised shallow fill (<0.5 meters), overlying firm clays, overlying weathered shale to a maximum investigation depth of 5 meters below

ground level. It is considered likely that this lithology has limited the migration of COCs, however it is expected that localised COC impact would be present within the material immediately surrounding the UPSSs (i.e. within the tank pits) and possibly on the western side of the UPSSs where investigation was not undertaken due to access constraints.

The KPMG 2020c GWSWSE investigation involved the sampling of two (2) existing groundwater monitoring wells and the collection of two (2) surface water samples from a dam. The GWSWSE did not identify any significant COC impacts to groundwater or surface water samples analysed which would prevent the planned demolition and redevelopment works at the site.

Based upon the findings of the PSI and in consideration of the CSM, KPMG consider that the site is generally suitable for commercial/industrial land use subject to the following works being undertaken:

- production of a Remedial Action Plan (RAP) to document remediation works including:
  - the UPSSs, believed to include two (2) USTs located adjacent to the workshop at 784-786 Mamre Road, be decommissioned by removal with the area remediated and a Validation Report produced in accordance with the Protection of the Environment Operations (Underground Petroleum Storage Systems) Regulation 2019
  - consideration of the need to remediate heavy metal and BaP impacted soils which exceeded the guidelines for the protection of ecological receptors; this may not be required if these soils are emplaced beneath hardstand areas rather than used as landscaping material
- implementation of remediation activities documented within the above mentioned RAP.

2 Background, Objective and Scope of Works

KPMG Property & Environmental Services Pty Limited (KPMG) were commissioned by GPT to undertake a Preliminary Site Investigation (PSI) at 754-770 & 784-786 Mamre Road, Kemps Creek, NSW (the site). The site comprises two (2) properties legally described as Lots 59 and 60 on DP259135. It is understood that a PSI is required to satisfy the Secretary's Environmental Assessment Requirements (SEARs) for a State Significant Development Application (SSDA). Previous investigations carried out at the site by KPMG include a Targeted Environmental Investigation (TEI), Environmental Assessments (EAs) and a Groundwater and Surface Water Sampling Event (GWSWSE). This PSI incorporates information from these investigations along with additional information to comply with SEARs for the SSDA.

2.1 Scope of Works

The following key scope items were included in the PSI:

2.1.1 Desktop Review

- Review of site history based on historical aerial photographs, historical titles, and historical business directories.
- Submit and review response from Safework NSW requesting information held on Storage of Hazardous Chemicals.
- Review of environmental site setting including topography, soil, geology, hydrogeology, and hydrology information.
- Review relevant government databases relating to contaminated land:
  - NSW Environment Protection Authority (EPA) contaminated land record for orders, notices, voluntary management proposals and site audit statements made under the Contaminated Land Management Act 1997 (CLM Act) and actions taken by the EPA under the Environmentally Hazardous Chemicals Act 1985 (EHC Act)
  - NSW EPA public register of licences, convictions, enforceable undertakings and penalty notices made under the Protection of the Environment Operations Act 1997 (POEO Act)
  - NSW EPA public list of notified potentially contaminated sites under Section 60 of the CLM Act
  - NSW EPA PFAS investigation areas
  - Department of Defence PFAS investigation and management areas.
- Review of previous KPMG investigations.

2.1.2 Fieldwork

No specific fieldwork was carried out as part of the PSI. The PSI provides a description of the site layout and use and associated sources of chemicals of concern (COCs) based on previous site inspections and fieldwork carried out by KPMG. Past KPMG inspection and fieldwork dates are detailed below.

Table 3 – Previous KPMG site works

Date	Purpose	Project	Property
19 and 20 September 2019	Targeted Environmental Investigation	KPMG SGA 2019	754-770 Mamre Road 784-786 Mamre Road
29 July 2020	Hazardous materials inspection	KPMG 2020a	754-770 Mamre Road 784-786 Mamre Road
29 July 2020	Environmental inspection	KPMG 2020b	754-770 Mamre Road 784-786 Mamre Road
29 October 2020	Groundwater and surface water sampling	KPMG 2020c	754-770 Mamre Road 772-782 Mamre Road (offsite)

2.1.3 Reporting

- Provision of this PSI report detailing the findings of the works undertaken and relevant recommendations. The PSI findings have been considered with reference to relevant guidelines including National Environment Protection (Assessment of Site Contamination) Measure 1999 as amended in 2013 (NEPM) guidelines (Reference 5) and in accordance with NSW Environmental Protection Authority (EPA) (2020) – Consultants Reporting on Contaminated Sites Guidelines and State Environmental Planning Policy No 55 – Remediation of Land (SEPP 55) (Reference 6).

2.2 Review of Information

The following information was reviewed as part of this PSI:

Table 4 Information Reviewed

Documents Reviewed	
• Costin Roe Consulting – Preliminary Bulk Earthworks Plans, dated May 2019 (CRC 2019) • KPMG SGA Property Consultancy Pty Ltd - Targeted Environmental Investigation, 754-786 Mamre Road, Kemps Creek, NSW, dated 21 November 2019 (KPMG SGA 2019) • KPMG Property and Environmental Services Pty Ltd - Limited Asbestos Assessment, 754 & 784-786 Mamre Road, Kemps Creek, NSW, dated 27 August 2020 (KPMG 2020a) • KPMG Property and Environmental Services Pty Ltd - Environmental Assessment, 754 Mamre Road, Kemps Creek, NSW, dated 29 September 2020 (KPMG 2020b). • KPMG Property and Environmental Services Pty Ltd - Groundwater and Surface Water Sampling Event, 754 & 772-782 Mamre Road, Kemps Creek, NSW, dated 22 December 2020 (KPMG 2020c)	
Key Findings	
CRC 2019	• The plans were based upon a proposed development comprising seven (7) warehouses which would necessitate cut and fill earthworks across the site to facilitate benching of construction pads. • The plans calculated that, with the stripping of 200mm of topsoil from the site and significant cut and fill earthworks, there would be a net requirement for 21,500 m^3 of material to be imported.
KPMG SGA 2019	• KPMG SGA was engaged by GPT Pty Ltd to undertake a TEI at 754-770 and 784-786 Mamre Road, Kemps Creek, NSW.

- The objective of the TEI was to assess the presence and nature of COCs within site soils as part of due diligence considerations associated with potential acquisition of the site. KPMG SGA understood that GPT were considering acquiring the site to allow industrial redevelopment.
- Potential areas of environmental concern (AECs) which were considered to be sources of COC impact to soil/groundwater were:
  - above ground and underground fuel storage – a refuelling area containing aboveground storage tanks (ASTs), chemical drums and two (2) underground storage tanks (USTs) was identified at 784-786 Mamre Road adjacent to a vehicle workshop. Anecdotal information received on site indicated that at least one of the USTs was in poor condition and was no longer in use. This area represented a source of petroleum hydrocarbons.
  - other chemical storage – a chemical drum and equipment storage area was identified within a shed located in the south western section of the site (784-786 Mamre Road). This area was considered to represent sources of a wide variety of organic and inorganic COCs including, but not limited to, petroleum hydrocarbons, volatile organic compounds (VOCs), and heavy metals.
  - vehicle workshops – two (2) vehicle workshop areas were identified at 754-770 & 784-786 Mamre Road and include the use and storage of liquid chemicals. These areas were considered to represent sources of a wide variety of organic and inorganic COCs including, but not limited to, petroleum hydrocarbons, VOCs, and heavy metals.
  - washdown activities – vehicle/equipment washdown areas were identified at 754-770 & 784-786 Mamre Road. These areas were considered to represent a source of a wide variety of organic and inorganic COCs including, but not limited, to petroleum hydrocarbons and heavy metals.
  - former market gardens – the western section of 754-770 Mamre Road was historically used for horticultural (market garden) activities. This area was considered to represent a source of organochlorine/organophosphate pesticides (OCPs/OPPs), herbicides, and heavy metals.
- The above mentioned AECs were subjected to intrusive investigation with fieldworks undertaken by KPMG on 19 and 20 September 2019 which involved:
  - advancing 20 soil borehole locations with a drill rig on a targeted basis to at least 0.5 m into natural soil or refusal is met
  - advancing two (2) soil borehole locations with a hand auger at in a dam wall in the eastern section of the site
  - advancing three (3) locations with a hand auger within stockpiled material in the north western section of the site.
  - no soil samples were collected from 772-782 Mamre Road as no significant sources of COCs were identified at that property; it should be noted that 772-782 Mamre Road is outside of the site subject to this PSI.
- In general, the concentrations of COCs within most soil samples analysed were below the laboratory limit of detection and the adopted guidelines for commercial/industrial use.
- During the investigation, areas of hydrocarbon staining were observed to surface material around the vehicle workshop and refuelling area at 784-786 Mamre Road. A surface soil sample collected from this area contained concentrations of total recoverable hydrocarbons (TRH) above guidelines for the protection of ecological receptors and Management Limits.
- The concentrations of heavy metals (chromium, copper, nickel and zinc) within soil samples collected from around the vehicle workshop and refuelling area at 784-786 Mamre Road and one sample from 754-770 Mamre Road were also identified as being variably above guidelines for the protection of ecological receptors. In addition, the concentration of benzo(a)pyrene (BaP) in a surface soil sample collected from a storage area at 754-770 Mamre Road was above the guideline for the protection of ecological receptors.
- Elevated concentrations of TRH were also identified in locations adjacent to the ASTs and USTs, however they were below the adopted guideline levels. The subsurface lithology identified around the ASTs and UPSS at 754-770 Mamre Road comprised shallow fill (<0.5 m), overlying firm clays, overlying weathered shale to a maximum investigation depth of 5 mbgl. It was considered likely that this lithology had limited the migration of COCs, however it was expected that localised COC impact would be present within the material immediately

	surrounding the USTs (i.e. within the tank pits) and possibly on the western side of the USTs where investigation was not undertaken due to access constraints. • KPMG SGA considered that the site was generally suitable for commercial/industrial land use subject to the following works being undertaken: – production of a Remedial Action Plan (RAP) to document the below remediation works – remediation of TRH impacted surface soils be undertaken around the workshop area at 784-786 Mamre Road – the underground petroleum storage systems (UPSSs), believed to include two (2) underground fuel storage tanks (USTs) located adjacent to the workshop at 784-786 Mamre Road, be decommissioned by removal with the area remediated and a Validation Report provided in accordance with the Protection of the Environment Operations (Underground Petroleum Storage Systems) Regulation 2019 – consideration of the need to remediate heavy metal and BaP impacted soils which exceeded the guidelines for the protection of ecological receptors; this may not be required if these soils are emplaced beneath hardstand areas rather than used as landscaping material.
KPMG 2020a	• KPMG was engaged by GPT to undertake a Limited Asbestos Assessment (LAA) at 754-770 and 784-786 Mamre Road, Kemps Creek, NSW. • KPMG inspected the site on 29 July 2020. • KPMG identified asbestos containing materials (ACMs) and/or potential asbestos containing materials (PACMs) in various building onsite. These occurrences of ACMs/PACMs comprised fibre cement sheeting as either external walls, gables or eaves/soffits to buildings, and electrical backing boards, which were generally observed to be in a good condition and were considered to pose a low risk to current site users in their current condition. • In accordance with the Work Health and Safety Regulation 2017 and supporting Codes of Practice, KPMG recommended the following: – If the site is planned to continue operating as a workplace, the PCBU should engage a suitably qualified consultant to provide an Asbestos Register and Management Plan (ARMP) for all buildings considered to be workplaces. – A pre-demolition asbestos inspection, utilising destructive sampling techniques should be undertaken prior to any planned demolition or refurbishment works. – Prior to demolition or refurbishment works, all ACM/PACMs should be removed in accordance with the Code of Practice – How to Safety Remove Asbestos (Reference 8). All asbestos removal works should be undertaken by appropriately licensed asbestos removal contractors, with asbestos clearance certificates provided by an independent licensed asbestos assessor.
KPMG 2020b	• KPMG was engaged by GPT to undertake an Environmental Assessment (EA) at 754-770 Mamre Road, Kemps Creek, NSW. • KPMG had previously undertaken a Targeted Environmental Investigation (KPMG SGA 2019) for GPT at 754-770 and 784-786 Mamre Road, Kemps Creek, NSW. The EA was designed to provide an update to the previous TEI report to assess whether any changes to 754-770 Mamre Road since the time of the TEI fieldwork (19 and 20 September 2019) had the potential to have impacted site soils or groundwater with COCs. • KPMG inspected the site on 29 July 2020. • No further sampling of soils was undertaken as part of the EA. • The site appeared to have remained relatively unchanged since September 2019 to September 2020 with the following exceptions: – soil/rock stockpiled material in the south western section of 754-770 Mamre Road had been altered with the large majority of the material expected to have removed. Two (2) small stockpiles of construction waste material located in this area appeared to have been imported

	– an increased amount of hydrocarbon staining was noted on the ground surface immediately around an intermediate bulk container (IBC) used to store waste oil located external to the south-western corner of the vehicle maintenance building – a groundwater monitoring well may have been installed adjacent to the access road to the south-central residential building – the above changes were not considered to be of significance due to the small volumes of the stockpiles of construction waste material and that any hydrocarbon impacts to soil in the vicinity of the IBC were expected to be minimal due to the small volume of waste oils used and stored onsite. • KPMG considered it unlikely that site activities undertaken since the time of the TEI fieldwork (19 and 20 September 2019) had the potential to have significantly impacted site soils or groundwater with COCs. Importation of two (2) small stockpiles of construction waste in the south western section of 754-770 Mamre Road and localised hydrocarbon impacts to the soil immediately around the IBC adjacent to the vehicle maintenance building may have occurred, however the cost of removing this material and validating post-removal was not expected to be significant (i.e. <$20,000).
KPMG 2020c	• KPMG was engaged by GPT to undertake a Groundwater and Surface Water Sampling Event (GWSWSE) at 754-770 & 772-782 Mamre Road, Kemps Creek, NSW. • The sampling event was undertaken by KPMG on 29 July 2020. • The scope of work included the collection of groundwater samples from two (2) existing permanent groundwater monitoring wells, one of which was located offsite at 772-782 Mamre Road, and surface water samples from an onsite dam, laboratory analysis of water samples for COCs, and provision of a letter style report outlining the results, findings and recommendations. • The GWSWSE did not identify any significant COC impacts to groundwater or surface water samples analysed which would prevent the planned demolition and redevelopment works at the site. The surface water within the dam subject to sampling was considered to be chemically suitable to be transferred to the dam on the western section of 754-770 Mamre Road, however there was potential for the concentrations of nutrients to lead to algal blooms in the receiving water. • KPMG recommended: – unless there was an explicit reason to decommission groundwater wells (GW01 and GW02), it was recommended that they be maintained until the fuel storage at 784-786 Mamre Road was decommissioned, investigated, and remediated (if required). Further sampling of the wells could be undertaken prior to and post-decommissioning of the fuel storage to assess for any changes in concentrations of COCs – if the wells are required to be decommissioned, GPT should follow the guidance provided in Minimum Construction Requirements for Water Bores in Australia, Third Edition – assessment of the receiving water (i.e. western dam) should be undertaken prior to any future transfer of water from that dam.

3 Site Characteristics

3.1 Site Identification

The site is located at 754-770 and 784-786 Mamre Road, Kemps Creek, NSW (the site). The site comprises two (2) properties legally described as Lots 59 and 60 on DP259135.

Site and investigation areas details are summarised in Table 5.

Table 5 Site Details

Item	Details
Site Address	754-770 and 784-786 Mamre Road, Kemps Creek, NSW
Land Identifier	Lots 59 and 60 on DP259135
Site Area	Approximately 331,525m^2
Local Government Authority	Penrith City Council
Zoning	WSA - SEPP (Western Sydney Aerotropolis) 2020
Site Locality Map	Figure 1
Investigation Locations Map	Figure 2

3.2 Environmental Setting

A summary of the environmental setting of the site and surrounding area is provided in Table 6.

Table 6 Environmental Setting

Element	Description
Topography	In general, the topography of the site currently rises from Mamre Road to the north-eastern corner of the site. The western half of the site is relatively flat and has an average elevation of approximately 54 metres Australian Height Datum (mAHD). The eastern half of the site rises from approximately 56 mAHD to 74 mAHD at an average slope of 3.6% to the eastern boundary.
Hydrology	The vast majority of the site is unsealed with a number of dams located onsite with the largest one, being approximately 10,500 m^2, located in the eastern section of the site. The nearest down gradient offsite surface water feature is a dam located 75 metres (m) south of the site on an adjacent property. It is anticipated that the majority of stormwater captured onsite would drain to ground through unsealed areas and/or be captured in the dams.
Soils	The soil profile of the site and the surrounding region has been classed as Kurosols, which are defined by the CSIRO Atlas of Australian Soils as soils with a clear or abrupt textural B horizon and in which the major part of the upper 0.2 m of the B2 horizon is strongly acid. Based upon the Australian Soil Resource Information System (ASRIS) (Reference 16), the site lies within an area with an extremely low probability of acid sulfate soils. KPMG 2019 reported that "the subsurface lithology identified around the ASTs and UPSS at 754-770 Mamre Road comprised shallow fill (<0.5 m), overlying firm clays, overlying weathered shale to a maximum investigation depth of 5 mbgl (metres below ground level)."

Element	Description
Geology	The geology underlying the site, as described in the Geological Survey NSW (1958) – Sydney 1:250,000 Geological Sheet S1 56-5 (Reference 7), comprised of Triassic aged Bringelly Shale which consist of shale with some sandstone beds. Previous investigations encountered the abovementioned geology (KPMG 2019).
Hydrogeology	The hydrogeology of the area has been based on a search of the Bureau of Meteorology – Australian Groundwater Explorer. No registered groundwater wells were located within a 1km radius of the site. The nearest registered groundwater bore was located approximately 1.25km north-west of the site and was installed to a depth of 0.75 mbgl for monitoring purposes. KPMG identified one (1) existing groundwater well onsite at 754-770 Mamre Road and one (1) existing groundwater well offsite at 772-782 Mamre Road. These wells were sampled during the KPMG 2020c investigation. The depth to groundwater was reported to be approximately 3.5 to 4.5 mbgl.
Summary	Based on the soil, geological and hydrogeological review, the site is expected to be underlain by clay and shale. Previous investigations (KPMG 2020c) encountered groundwater at an approximate depth of 3.5 to 4.5 mbgl. The potential migration of COCs within this geological system is expected to be low to moderate.

3.3 Review of Government Information

3.3.1 Search of EPA Contaminated Land Registers

A search of the NSW EPA record of notices under section 58 of the Contaminated Land Management Act 1997 (CLM Act), undertaken on 4 January 2021, has identified that the site is not:

- the subject of an order made under Part 3 of the CLM Act
- the subject of an approved voluntary management proposal under Section 17 of the CLM Act that has not been fully carried out and where the approval of the EPA has not been revoked
- the subject of a site audit statement provided to EPA under section 53B of the CLM Act that relate to significantly contaminated land
- the subject of actions taken by the EPA under section 35 or 36 of the Environmentally Hazardous Chemicals Act 1985 (EHC Act).

A search of the NSW EPA List of NSW contaminated sites notified to EPA under section 60 of the CLM Act, undertaken on 4 January 2021, did not identify a listing for the site.

3.3.2 Search of Public Register of POEO Licences

A search of the public register of licenses issued under the Protection of the Environment Operations Act 1997 (POEO), undertaken on 4 January 2021, did not identify any licenses or prosecutions regarding the site.

3.3.3 NSW EPA PFAS investigation areas

A review of the NSW EPA PFAS investigation program was carried out on 4 January 2021. The site is not within a current PFAS investigation area.

3.3.4 Department of Defence PFAS investigation and management areas

A review of the Department of Defence PFAS investigation and management areas was carried out on 4 January 2021. The site is not within a current PFAS investigation and management area.

3.3.5 SafeWork Stored Chemical Inventory Database

A search for information on Storage of Hazardous Chemicals held by SafeWork NSW was requested on 11 December 2020 for 754-770 and 784-786 Mamre Road (Appendix J). A response was received on 14 January 2021 and is included in Appendix G. A summary of the search is included below:

754-770 Mamre Road

The search did not locate any records relating to the storage of hazardous chemicals at the property.

784-786 Mamre Road

Records relating to the storage of hazardous chemicals were identified at the property. The premise licensed to keep Dangerous Goods was listed as John Robar Boring Contractors Pty Ltd at 784 Mamre Road. An application for renewal of license to keep Dangerous Goods dated 16 January 2003 was included in the search; site plans included in the search results indicate that an application for a Dangerous Goods license was first made on 20 March 1995. The most recent document was dated 11 August 2016. A review of the provided documentation reported the following hazardous chemicals as having been registered at 784-786 Mamre Road:

Table 7 – Hazardous chemicals registered at 784-786 Mamre Road

Depot Number	Depot Type	Goods Stored in Depot	Quantity (L)
1	AST	Waste oil	1,000
2	UST	Petrol	4,000
3	AST	Engine oil	4,000
4	UST	Diesel	20,000
5	AST	Hydraulic oil	4,000

3.4 Historical Site Use

The following provides a summary of site use following a review of available historical aerial photos obtained from the Department of Finance, Services and Innovation, Google Earth, and Nearmap:

- 1955 – the site was mostly vacant undeveloped land possibly used for animal grazing with the exception of a residential building located on the south-western section of the site. A small dam was located in the north-western section of the site. The surrounding area generally comprised vacant land, however a dam had been excavated immediately south of the site.
- 1961 – a small area of land to the south of the residential building appeared to be used for horticultural purposes.
- 1965 – a number of moderately sized buildings (e.g. farm outbuildings) had been constructed immediately north-east of the residential building on site. An unsealed road had been constructed from Mamre Road through the site which connected the above buildings. An additional two (2) small dams had been excavated on the north-western section of the site.
- 1970 – a large dam had been excavated in the eastern section of the site.
- 1982 – the site had possibly been partially sub-divided with a separate internal road having been constructed to enable access to the outbuildings. The immediate area to the south of the outbuildings appeared to have been surfaced and a residential style building constructed immediately to the east.

- 1991 – an extension to the residential building on the western section of the side had been constructed. The outbuildings appeared to have increased in size and number with evidence of use for vehicle or plant/equipment storage. An additional residential style building had been constructed in the north eastern section of the site. A dam had been constructed in the north-western section of the site. Land immediately south of the site had been developed for horticultural (market garden) activities.
- 2002 – above ground storage tanks, presumably used to store fuel, appeared to be present at the north eastern corner of one of the outbuildings at 784-786 Mamre Road. The north-western portion of the site appeared to have been developed for horticultural (market garden) purposes and the internal site roads appeared to have been sealed.
- 2009 – part of the land which was previously used for horticultural (market garden) activities, located north of the outbuildings, had been cleared. Land south of the site previously used for horticultural (market garden) activities had also been cleared and the land appeared vacant.
- 2012 – horticultural (market garden) activities appeared to have ceased on the site.
- 2014 – horticultural (market garden) activities had resumed on the southern neighbouring property.
- 2018 – the north western section of the site had been partially sealed and appeared to be used to store vehicles and building materials.
- 22 January 2020 – an area in the south western section of 754-770 Mamre Road, where a large stockpile of soil/rock material was stored in September 2019, had changed in appearance with the large stockpile no longer visible. Approximately 14 conjoined small stockpiles, appearing to consist of different coloured soil/rock to the previous large stockpile, were present with two (2) small stockpiles of construction waste material located immediately to the south.
- 13 April 2020 – the area around the soil/rock stockpiles in the south western section of 754-770 Mamre Road had been disturbed with the soil/rock stockpiles appearing to have been largely removed; vehicle tracks in the adjacent grassed area indicated that vehicles or machinery had been used to move or process the stockpiled soil/rock. The two (2) small stockpiles of construction waste material appeared to remain unchanged.
- 6 June 2020 – no discernible changes to the site identified.
- 2 October 2020 – a large stockpile of material had been deposited in the south western section of 754-770 Mamre Road.
- 27 December 2020 - large areas of 754-770 Mamre Road, including the vehicle workshop and residential building located on the eastern section, had been cleared.

3.5 Past Site Inspection Observations

For the purposes of describing the findings of previous KPMG inspections, the site has been described on a per property basis as detailed below:

- Northern property 754-770 Mamre Road – mostly industrial and part rural residential
- Southern property 784-786 Mamre Road – mostly rural residential and part industrial.

Northern property – 754-770 Mamre Road

KPMG inspected the property on 19 September 2019 (KPMG 2019). The westernmost section of the property, alongside Mamre Road, was undeveloped and included a dam which was approximately 2,000m^2. The majority of the western section of the property had an unsealed aggregate surface and was being used for vehicle and equipment storage. Another similarly sized dam was located at the north eastern corner of the vehicle storage area.

The central section of the property had an unsealed aggregate surface and was being used as a civil plant hire depot with a number of buildings used for offices and maintenance workshops. A large stockpile of aggregate was noted in this area with waste tyres also stored in bulk. A 70,000 L diesel above ground storage tank (AST) was located on a concrete surface adjacent to a workshop building. The AST was contained within a shipping container and appeared to be relatively new. No secondary containment appeared to be provided for the AST, however no evidence of significant fuel leaks or spills was identified. The area also appeared to be used for washdown activities and it is anticipated that wastewater would flow onto the adjacent unsealed areas.

Two (2) residential buildings were located in the south-central and south-eastern sections of the property with the remainder of the eastern section undeveloped with a grassed surface.

The most recent inspection undertaken on 29 July 2020 (KPMG 2020c) did not identify any significant changes.

Southern property – 784-786 Mamre Road

KPMG inspected the property on 19 September 2019 (KPMG 2019). The majority of the southern property comprised vacant undeveloped land used for agricultural (grazing) purposes.

A residential building was located in the north-eastern section of the property and was accessed by a driveway that ran through the centre of the site from Mamre Road. A large dam (approximately 10,500 m^2) was located in the eastern section of the property.

The north western section of the property contained a number of small sized industrial style buildings used for vehicle maintenance and storage associated with a subsurface drilling contractor. The surface surrounding these buildings appeared to be unsealed with an aggregate surface. A vehicle workshop building was located in the northern portion of this area and was noted to contain various quantities of chemicals such as oils, lubricants, degreasers, and solvents. These chemicals were generally observed to be stored without secondary containment and staining was observed on the unsealed surface adjacent to the workshop area. A fuel storage and refuelling area was noted on the eastern side of the vehicle workshop building and comprised the following:

- petrol underground storage tank (UST) understood to be approximately 4,000 L in volume and no longer in use due to poor condition
- diesel UST understood to be approximately 20,000 L in volume
- three (3) ASTs ranging between approximately 1,000 Litres and 4,000 Litres in volume
- several chemical drums.

The ASTs and chemical drums were stored within a bunded area but were noted to be in poor condition. Liquid was noted within the bunded area and heavy staining was noted on the ground surface outside of the bunding. A fuel dispensing bowser was located adjacent to the ASTs and it is understood that refuelling activities had been carried out at the property for many years.

A vehicle wash down bay was located at the south-eastern corner of the area. Wastewater was noted to drain into an oil/water separator and discharge to the unsealed ground surface immediately south of the area.

An additional shed was located in the western section of the site with plant, equipment, and empty chemical drums observed within the shed.

The most recent inspection undertaken on 29 July 2020 (KPMG 2020c) did not identify any significant changes.

3.6 Potentially Contaminating Activities

Based on a review of provided information, the following potentially contaminating activities have been identified at the site:

- above ground and underground fuel storage
- other chemical storage
- vehicle workshops
- wash down activities
- former market gardens.

These activities are considered to be potential sources of COC impact at the site. Further details are presented in Table 8.

Table 8 Potentially Contaminating Activities

Potentially Contaminating Activity	Description	Potentially affected media	Potential Chemicals of Concern
Above ground and underground fuel storage	A refuelling area containing ASTs, chemical drums and two (2) USTs was identified at 784-786 Mamre Road adjacent to a vehicle workshop. Anecdotal information received on site indicated that at least one of the USTs was in poor condition and was no longer in use.	Soil and groundwater	Petroleum hydrocarbons
Other chemcial storage	A chemical drum and equipment storage area was identified within a shed located in the south western section of the site (784-786 Mamre Road).	Soil	Petroleum hydrocarbons, volatile organic compounds (VOCs), and heavy metals.
Vehicle workshops	Two (2) vehicle workshop areas were identified at 754-770 & 784-786 Mamre Road and included the use and storage of liquid chemicals.	Soil	Petroleum hydrocarbons, VOCs, and heavy metals
Washdown activities	Vehicle/equipment washdown areas were identified at 754-770 & 784-786 Mamre Road.	Soil	Petroleum hydrocarbons, VOCs, and heavy metals
Potential Pesticide Use	The western section of 754-770 Mamre Road was historically used for horticultural (market garden) activities.	Soil	OCP/OPPs, heavy metals

4 Data Quality Objectives

Development of data quality objectives (DQOs) for each project is a requirement of National Environment Protection Council (NEPC) (1999) – *National Environment Protection (Assessment of Site Contamination) Measure 1999 (Amended 2013)* (NEPM ASC) (Reference 5). This is based on a DQO process formulated by the United States Environmental Protection Agency (USEPA) 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

A Preliminary Site Investigation (PSI) is required to satisfy the Secretary's Environmental Assessment Requirements (SEARs) for the State Significant Development Application (SSDA). The purpose of the PSI is to assess potential for site soils and groundwater to be impacted by COCs.

Step 2 — Identify the Decision

The principal decisions to be made are:

- What are the potential COCs associated with the site?
- What are the potential migration pathways for these COCs?
- What are the suitable investigation criteria for the current land use?
- Are concentrations of the nominated COCs within soil above the site criteria when evaluated using the nominated decision rules?
- Do concentrations of the nominated COCs at the targeted sample locations render the investigation area unsuitable for proposed land use from the perspective of protection of human health or the environment?
- Do concentrations of the nominated COCs at the targeted sample locations indicate that significant soil and/or groundwater remediation be required in order to redevelop the site?

Step 3 — Identify the Inputs to the Decision

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

- review of documentation (Section 3.3)
- review of environmental setting (Section 3.2)

- observations made during the field investigations (Section 6.3)
- laboratory results using NATA accredited methods (Section 7 and Appendix C)
- consideration of laboratory results with reference to relevant guidelines (Section 7).

Step 4 — Define the Study Boundaries

The decision scale will be limited to the investigation locations presented on Figure 2.

The following are the primary COCs subject to investigation:

- heavy metals (arsenic, cadmium, chromium, copper, lead, mercury, nickel and zinc)
- total recoverable hydrocarbons (TRH)
- benzene, toluene, ethyl-benzene and toluene (collectively known as BTEX)
- polycyclic aromatic hydrocarbons (PAHs)
- polychlorinated biphenyls (PCBs)
- organochlorine and organophosphorous pesticides (OCPs/OPPs)
- volatile organic compounds (VOCs)
- asbestos fibre identification.

Practical constraints to the collection of data include:

- the client brief
- the financial budget consistent with the requirements of the assessment
- the limited timeframe of the investigation
- drilling techniques
- access constraints posed by existing infrastructure on site
- location and construction of existing groundwater wells
- the health and safety issues posed by sampling around underground services and infrastructure.

The physical boundaries of the investigation areas were limited to the soil sampling points depicted in Figure 2, Appendix A. The study is limited to site conditions at the time of the investigation.

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. It is recommended that at least 5 percent of 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 <50% and <150% (depending on the substance) will be allowed as the measurement data quality indicators (MDQI). 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. These are summarised as the MDQIs presented in Appendix E, which will be used to establish whether the DQOs have been met.

It should be noted that NEPM ASC references Standards Australia AS 4482.1 (Reference 5), which 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 (Reference 9) suggests that ≤50% RPD be used as a 'trigger' and values above this level of repeatability need to be noted and explained.

Table 9 Measurement Data Quality Indicators

Data Quality Indicators	Acceptance Criteria
Intralab duplicates	The RPDs will be assessed as acceptable if less than or equal to 50% - 150%. Where the results shows greater than 50% difference a review of the cause will be conducted (NEPM, 2013). It is noted that RPDs that exceed this range may be considered acceptable where: • results are less than 5 times the LOR (no limit) • results are <80-150% for low level (<10 x LOR) • results are <80-150% for medium to high level (>10 x LOR) • heterogeneous materials are encountered.
Laboratory duplicates	RPDs less than: • 20% for high level laboratory duplicates (i.e. >20 x LOR) • 50% for medium level laboratory duplicates (i.e. 10 to 20 x LOR)
Matrix spikes	Recoveries between 70-130% of the theoretical recovery or as nominated in the laboratory's QC report, based on their historical database.
Method blanks	Less than the laboratory LOR.
Laboratory control samples	Recoveries between laboratories specified range for each particular analyte / analytical suite.
Trip Blanks	Not collected during previous investigations
Rinsate blanks	Not collected during previous investigations

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):

- 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 users of the site
- 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 may pay for further investigation / remediation that is not necessary.

Step 7 — Optimise the Deign

During the DQO process the sampling deign 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 deign:

- revisions of intrusive investigation locations on site prior to drilling works taking into account access constraints, location of underground services, infrastructure and health and safety considerations
- revision of conceptual site model (CSM) at each stage of the investigation process.

The final field program and sampling pattern is 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 Appendix E.

5 Investigation Levels

5.1 Statutory Guidelines

There are a number of statutory and approved guidelines which have been made or approved by the NSW Environment Protection Authority (EPA) which are relevant to the PSI, including:

Statutory Guidelines

- NSW EPA Consultants Reporting on Contaminated Land – Contaminated Land Guidelines 2020 (Reference 10)
- State Environmental Planning Policy 55 (SEPP 55) – Remediation of Land (Reference 6)

Approved Guidelines

- Australian and New Zealand Environment Governments (ANZG) – Guidelines for Fresh and Marine Water Quality 2018 (Reference 11).
- Australian and New Zealand Environment Conservation Council (ANZECC) Australian and New Zealand Guidelines for Fresh and Marine Water Quality (ANZECC 2000) (Reference 12).
- National Environmental Protection Council (NEPC) National Environment Protection (Assessment of Site Contamination) Measure 1999 as amended in 2013 (NEPM ASC) (Reference 5).
- Australian Government National Health and Medical Research Council (NHMRC) – Guidelines for Managing Risks in Recreational Water 2008 (Reference 13).

5.2 National Environmental Protection Measure (NEPM)

The National Environment Protection (Assessment of Site Contamination) Measure 1999 (NEPM 1999) (Reference 5) 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 NEPM ASC guidelines relevant to this assessment include:

- **Health Investigation Levels (HILs)** - for a broad range of metals and organic substances in soil. The HILs are applicable for assessing human health risk via all relevant pathways of exposure – applicable.
- **Health Screening Levels (HSLs)** - for selected petroleum compounds and fractions and are applicable to assessing human health risk via the inhalation pathway – applicable.
- **Ecological Investigation Levels (EILs)** - for selected metals and organic substances and are applicable for assessing risk to terrestrial ecosystems – applicable.

- **Ecological Screening Levels (ESLs)** - for selected petroleum hydrocarbon compounds and total recoverable hydrocarbon (TRH) fractions in soil and are applicable for assessing risk to terrestrial ecosystems – applicable.
- **Petroleum Hydrocarbon Management Limits (Management Limits) -** are applicable to petroleum hydrocarbon compounds in soil only. They are applicable as screening levels following evaluation of human health and ecological risks and risks to groundwater resources – applicable.

5.3 ANZG Guidelines for Fresh and Marine Water Quality Water

The Australian and New Zealand Government (ANZG) 2018 Guidelines for Fresh and Marine Water Quality contain default guideline values (DGVs) used for assessment of fresh and marine water ecosystems. The DGVs provide various levels of protection depending on the nature of the ecosystem i.e. high ecological value to highly disturbed and low ecological value ecosystems. The nearest significant water body is an unnamed water course that extends through the eastern section of the site via two dams. The water body is considered to be a freshwater ecosystem and is slightly to moderately disturbed; therefore the 95% level of freshwater species protection DGV has been adopted.

5.4 NHMRC Guidelines for Managing Risks in Recreational Water

NHMRC guidelines are non-mandatory and are used in order to assess the physical, aesthetic, microbiological and chemical risks to recreational water users. In regard to chemical risks, the guidelines reference the Australian Drinking Water Guidelines (ADWG) which are used for tier 1 risk assessment only. Groundwater quality parameters such as dissolved oxygen, redox and pH will also form part of the risk assessment for recreational users under the NHMRC guidelines.

5.5 Derivation of Assessment Criteria

The site is currently zoned WSEA "SEPP (Western Sydney Employment Area) 2009" and is used for rural residential and commercial purposes. It is understood that GPT's "GPT Industrial Estate" SSDA proposes to rezone and redevelop the site to IN1 General Industry, with the exception of a small tract of E2 Environmental Conservation zoned riparian corridor on the eastern section of the site. As the "Proposed Master Plan" indicates that that large scale "cut and fill" earthworks would be required during redevelopment of the site, KPMG have adopted the commercial/industrial NEPM land use scenario D.

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.

5.5.1 Soil Criteria

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 commercial/industrial land use.

Health Screening Levels (HSLs)

With consideration to the proposed commercial/industrial future land use, HSL-D criteria have been adopted.

Ecological Screening Levels (ESLs)

With consideration to the proposed commercial/industrial future land use, commercial/industrial criteria have been adopted.

Ecological Investigation Levels (EILs)

With consideration to the proposed commercial/industrial future land use, commercial/industrial criteria have been adopted.

Petroleum Hydrocarbon Management Limits (Management Limits)

KPMG has adopted the management limits as additional screening levels for petroleum hydrocarbons in soil. Like HILs and HSLs, an exceedance of a management limit does not necessarily mean that there is a risk, rather further appropriate evaluation and/or investigation is required. With consideration to the proposed commercial/industrial future land use, commercial/industrial criteria have been adopted.

5.5.2 Groundwater 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 will be used.

Groundwater Investigation Levels

The ultimate point of discharge of the aquifer beneath the site is unknown. The vast majority of the site is unsealed with a number of dams located onsite with the largest one, being approximately 10,500 m^2, located in the eastern section of the site. The nearest down gradient offsite surface water feature is a dam located 75 metres south of the site on an adjacent property. A narrow unnamed riparian corridor runs through the eastern section of the site and connects the two (2) dams. Given the slightly to moderately disturbed nature of the receiving water ways, the ANZG 2018 guidelines for the protection of 95% of freshwater species were conservatively adopted.

Based on site measured electrical conductivity parameters, the groundwater is generally not considered suitable for drinking. Additionally, there are no registered abstraction bores located within a 500 m radius of the site, therefore the Australian Drinking Water Guidelines (ADWG) were not considered to be directly applicable for the purpose of assessing drinking water quality.

Recreational Water Quality and Aesthetics

NHMRC recreational guidelines will be considered in assessing the potential risks to recreational users. The NHMRC guidelines suggest that the ADWG should be adopted, however can be multiplied by 10 for the protection of the health of recreational water users.

Health Screening Levels

With consideration to the proposed commercial/industrial future land use, HSL D criteria have been conservatively adopted for groundwater at 2 to <8 mbgl in sands.

5.6 Application of Investigation Levels

Table 10 Application of investigation levels

Potential Source of COCs	Media	Applicable Investigation Level
Above ground and underground fuel storage	Soil	NEPM EILs, ESLs, HSLs, HILs, & Management Limits
Other Chemical Storage **Vehicle Workshops**	Groundwater	NEPM HSLs ANZG DGVs HHMRC / ADWGs
Washdown Activities	Soil	NEPM EILs, ESLs, HSLs, HILs, & Management Limits
Potential Pesticide Use	Soil	NEPM EILs and HILs

The levels of risk associated with these potential sources of COCs is highly dependent on-site specific information such as COC constituency and concentrations, subsurface material and the permeability of local soil and rock. These factors are assessed via a desktop study and the field investigation and considered during CSM development.

6 Field Investigation

This section of the PSI considers two (2) environmental investigations previously undertaken at the site by KPMG. Detailed below in Table 11.

Table 11 Previous environmental investigations

Media	Date	Purpose	Project	Property
Soil	19 and 20 September 2019	Targeted Environmental Investigation	KPMG 2019	754-770 Mamre Road 784-786 Mamre Road
Water	29 October 2020	Groundwater and Surface Water Sampling	KPMG 2020c	754-770 Mamre Road 772-782 Mamre Road (offsite)

6.1 Investigation Plan

The fieldwork planning for the KPMG TEI (KPMG 2019) investigation considered the project objective, desktop information and initial site inspection observations. The investigation locations targeted potential sources of COCs and were also intended to provide spatial site coverage.

The fieldwork planning for the KPMG GWSWSE (KPMG 2020c) considered the availability of existing groundwater monitoring wells and the project objective. The investigation locations assessed the presence of COCs in groundwater beneath the site and in surface water in a dam located at 754-770 Mamre Road.

The presence of site structures and underground services influenced the final investigation locations.

Previous KPMG investigations and sampling locations are shown in Figure 2.

The rationale for sampling locations is presented in Table 12. Further information on the rationale for sampling pattern selection and density is presented in Appendix E. In general, the rationale for location selection was to identify the presence of subsurface COC impact, with consideration given to the conceptual site model.

Table 12 Rationale for investigation locations

Investigation Location	Sample type	Targeting Justification
Targeted Environmental Investigation (KPMG 2019)		
BH01 to BH09	Soil	To assess the concentrations of COCs in soil in areas surrounding above ground and underground fuel storage and vehicle workshop activities
BH10 and BH12		To assess the concentrations of COCs in soil in areas surrounding washdown activities
BH11		To assess the concentrations of COCs in soils within chemical storage areas
BH13 to BH17		To assess concentrations of COCs in soil within areas of potential pesticide use
BH18 and BH19		To assess the concentrations of COCs in soil in areas surrounding washdown activities

Investigation Location	Sample type	Targeting Justification
BH20		To assess the concentrations of COCs in soil in areas surrounding above ground fuel storage and vehicle workshop activities
SP1_1 to 3		To assess the concentrations of COCs in stockpiled fill material
HA1 and HA2		To assess the concentrations of COCs in soil of a dam wall
Groundwater Sampling and Surface Water Sampling Event (KPMG 2020c)		
GW01	Groundwater	Existing offsite groundwater monitoring well in north western corner of 772-782 Mamre Road. Sampled to assess groundwater conditions in close proximity to the site.
GW02		Existing onsite groundwater monitoring well approximately midway along southern boundary of 754 Mamre Road. Sampled to assess site groundwater conditions.
SW01	Surface Water	Southern side of surface water dam in central northern section of 754 Mamre Road. Sampled to assess surface water conditions to inform the suitability to transfer water from dam.
SW02		Northern side of surface water dam in central northern section of 754 Mamre Road. Sampled to assess surface water conditions to inform the suitability to transfer water from dam.

6.2 Methodology

6.2.1 Soil Sampling Methodology

Soil sampling was undertaken by a KPMG environmental consultant on 19 and 20 September 2019 (KPMG 2019).

A total of 25 locations (BH01 to BH20, HA1 and HA2, and SP1_1 to SP1_3) were advanced across the site to depths ranging between approximately 1 mbgl and 5 mbgl utilising a combination of hand auger, push tube and solid flight auger drilling methods. An additional two (2) locations were drilled in the eastern section of the site to assist GPT in understanding depth to bedrock, however no samples were collected by KPMG as geotechnical considerations were being undertaken by others.

Soil sampling depths were determined at the discretion of the environmental consultant onsite to target depths displaying indicators of COC impact and provide vertical coverage particularly around the UPSSs. Each soil sample was collected with disposable nitrile gloves and placed into laboratory provided glass jars with Teflon lids and minimal headspace. 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.

Soil samples were screened using a photo ionisation detector (PID) which measures volatile organic compounds (VOCs) in parts per million (ppm). In general, most PID readings were below 0.3 ppm, with the exception of a reading of 2.8 ppm at BH05_1.9-2.0. The calibration certificate for the PID is provided in Appendix D.

6.2.2 Groundwater and Surface Water Sampling Methodology

Groundwater and surface water sampling was undertaken by a KPMG environmental consultant on 28 October 2020 (KPMG 2020c).

Groundwater

Prior to sampling and purging, standing water levels (SWLs) within the groundwater monitoring wells were measured using an electronic water interface probe. Wells were 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. Dedicated tubing for each sampling location was used to minimise the potential for cross contamination to occur between wells. 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 per below:

- ± 10 % for dissolved oxygen (DO)
- ± 10 % for turbidity (if tested)
- ± 3% for electrical conductivity (EC)
- ± 0.05 pH units
- 10 mV oxidation reduction potential (ORP).

Samples were placed in laboratory supplied acid washed vials/glass bottles for organic analysis and plastic Teflon sealed plastic bottles for inorganic analysis and were sealed with no headspace. Field filtering using a 0.45µm membrane filter and acid preservation was undertaken for metals analysis.

Upon collection, samples were placed immediately into ice filled coolers for storage and transport to the laboratory.

Surface Water

Surface water samples were collected by inserting laboratory supplied sample containers below the dam surface with the opening point down to avoid the collection of surface films. Surface water samples were collected from approximately 1m from the edge of the dam embankment.

Samples were collected in laboratory supplied acid washed vials/glass bottles for organic analysis and plastic Teflon sealed plastic bottles with acid preservation for inorganic analysis and were sealed with no headspace. Laboratory filtering using a 0.45µm membrane filter was undertaken.

Upon collection, samples were placed immediately into ice filled coolers for storage and transport to the laboratory.

Table 13 Water Field Parameters

ID	Date	Purge Volume (L)	SWL (mBTOC)	Temp (ºC)	ORP (mV)	pH (units)	DO (mg/L)	EC (µs/cm)	Comments
GW01	28/10/20	~5.5	4.945	19.5	60	6.32	1.79	21,690	Clear, no odour, no sheen
GW02	28/10/20	~5	4.380	16.7	67	6.61	2.56	17,510	Clear, no odour, no sheen
SW01	28/10/20	Clear, with moderate amounts of light brown particulates, no odours, no sheen, algal matter present.							
SW02	28/10/20	Clear, with moderate amounts of light brown particulates, no odours, no sheen, algal matter present.							

6.3 Field Observations

Lithology

- Undeveloped sections of the site generally comprised topsoil overlying firm natural clay, overlying weathered shale.
- Sampling locations advanced on the eastern portion of the site, at a higher elevation, encountered weathered shale at shallower depths compared to the lower central and western sections of the site.
- Central sections of the site, in the vicinity of the ASTs and UPSS at 784-786 Mamre Road, comprised shallow fill (<0.5 m), overlying firm clays, overlying weathered shale to a maximum investigation depth of 5 mbgl.
- North-western sections of the site raised to create level laydown areas at 754-770 Mamre Road comprised deep fill (1.5 to 3.7 m depth) overlying natural clays.

Visual and olfactory evidence of contamination

- Hydrocarbon staining, noted on the ground surface in the vicinity of the ASTs and UPSS at 784-786 Mamre Road, was mostly confined to the surficial clays (<0.4 m depth) and did not extend vertically throughout the soil profile.
- No visual or olfactory evidence of COCs or asbestos was noted in soil boreholes advanced within the wall of the dam located on the south-eastern section of the site.
-

6.4 Laboratory Analysis

All primary and duplicate soil samples were sent to Eurofins Environment Testing (Eurofins) laboratory in Sydney, NSW for analysis. A summary of the analytical schedules is presented in Table 14.

Laboratory results are summarised in Tables C1 and C2 (Appendix C) where they are compared to the investigation levels.

Table 14 Analytical schedule

Date	Media	Sample ID	Maximum sample depth (mbgl)	No. of samples			COCs	Locations
				Primary samples per location	Total primary samples	Intralab duplicate samples		
19 and 20 September 2019	Soil	BH01 to BH20, HA01, HA02, SP1_1, SP1_2, SP1_3	4.9-5.0	1 to 3	43	3	Heavy metals, TRH, BTEX, PAHs, phenols, PCBs, VOCs, OCP/OPP and asbestos fibres	Refer to Figure 2
29 October 2020	Water	GW01, GW02, SW02 and SW03	~3 mbgl and surface	n/a	4	1	Heavy metals, TRH, BTEX, PAHs, phenols, PCBs, VOCs and OCP/OPP	Refer to Figure 2

6.5 Quality Assurance

The quality assurance and quality control (QA/QC) procedures undertaken as part of this project are outlined in Appendix D of this report and procedures are referenced in NEPM ASC (Reference 6). Field procedures were designed to ensure the prevention/minimisation of cross-contamination, analyte loss and to ensure samples and results were representative of actual conditions.

The quality of laboratory data is enhanced by using laboratories with NATA accreditation for the analytical methods used. Eurofins was used for all laboratory analysis of soil and Envirolab was used for all laboratory analysis of water. Both laboratories are accredited by NATA for the analysis methods undertaken in this project.

During the KPMG 2019 and KPMG 2020c one (1) intra-lab soil field duplicate sample and one (1) intra-lab water field duplicate sample was collected and analysed, respectively. The results of the duplicate samples were compared to those of the primary samples as a measure of method precision. The calculated RPDs of the duplicate samples were within acceptable ranges.

A detailed discussion on quality procedures and results for this investigation is presented in Appendix E. Based on review of field and laboratory QA/QC results, KPMG conclude that the resultant soil and water data sets are considered to be of sufficient quality for the purpose of this PSI.

7 Laboratory Results

7.1 Soil

The soil analysis results are presented in Table C1 (Appendix C) where they are compared to the adopted investigation levels. Exceedances of the investigation levels for soil are illustrated in Figures 3A to 3F, Appendix A. The concentrations of COCs within most soil samples analysed were below the adopted site criteria for commercial/industrial use with the exception of the following:

- The concentrations of heavy metals (chromium, copper, nickel and zinc) were variably reported above the adopted Ecological Investigation Levels (EILs) in boreholes BH03, BH04, BH09, BH10 and BH17.
- The concentrations of TRH C_{16}-C_{34} and C_{34}-C_{40} were reported above the Management Limits and Ecological Screening Levels (ESLs) in sample BH02_0.2-0.3.
- The concentration of benzo(a)pyrene was reported above the ESLs in sample BH14_0.1-0.2.

7.2 Groundwater

The groundwater and surface water analysis results are presented in Table C2 (Appendix C) where they are compared to the adopted investigation levels. Exceedances of the investigation levels for groundwater are illustrated in Figures 4A to 4C, Appendix A.

- Concentrations of all COCs within groundwater samples analysed were reported below the relevant assessment criteria with the exception of:
  - sample GW01 (offsite): concentrations of copper (5 µg/L), nickel (13 µg/L) and zinc (63 µg/L) exceeded the relevant assessment criteria of 1.4 µg/L, 11 µg/L and 8 µg/L, respectively
  - sample GW02: concentrations of copper (6 µg/L), nickel (27 µg/L) and zinc (62 µg/L) exceeded the relevant assessment criteria of 1.4 µg/L, 11 µg/L and 8 µg/L, respectively.
- Detectable concentrations of TRH were reported in groundwater sample GW01 (offsite), albeit well below the assessment criteria.

7.3 Surface water

The groundwater and surface water analysis results are presented in Table C2 (Appendix C) where they are compared to the adopted investigation levels.

- Concentrations of all COCs within surface water samples analysed were reported below the relevant assessment criteria with the exception of:
  - samples SW01 and SW02: concentrations of copper (2 µg/L) exceeded the relevant assessment criteria of 1.4 µg/L.
- Elevated concentrations of total nitrogen and phosphorous were reported in both of the surface water samples.
- Concentrations of CaCO3 of 150 (SW01) and 160 mgCaCo3/L (SW02), classifying the water as 'hard'.
- Dissolved aluminium was reported at 190 µg/L in sample SW02.

8 Discussion

8.1 Site History

Based on the PSI, it is understood that the site was generally used for rural residential and agricultural purposes from before 1955 to the present day. Information received onsite indicated that additional buildings were constructed in the central portion of the site sometime between 1982 and 1991 for vehicle or plant/equipment storage. ASTs and UPSSs were installed at 784-786 Mamre Road circa 1995 and the north-western portion of 754-770 Mamre Road was developed for horticultural (market garden) purposes which continued until circa 2010. The primary AEC was identified as the above ground and underground storage of chemicals associated with the vehicle workshop and refuelling area located at 784-786 Mamre Road. No offsite sources of contamination were identified during the current PSI or during past investigations.

8.2 Soil

The KPMG 2019 TEI involved the sampling of soil from 20 boreholes at the site plus from two (2) hand auger boreholes and three (3) samples of stockpiled material.

In general, the concentrations of COCs within most soil samples analysed were below the laboratory limit of detection and the adopted guidelines for commercial/industrial use. During the investigation, areas of hydrocarbon staining were observed to surface material around the vehicle workshop and refuelling area at 784-786 Mamre Road. A surface soil sample collected from this area contained concentrations of TRH above guidelines for the protection of ecological receptors and Management Limits. The concentrations of heavy metals (chromium, copper, nickel and zinc) within soil samples collected from this area and one sample from 754-770 Mamre Road were also variably above guidelines for the protection of ecological receptors. In addition, the concentration of BaP in a surface soil sample collected from a storage area at 754-770 Mamre Road was above the guideline for the protection of ecological receptors.

Hydrocarbon staining was noted on the ground surface immediately around an IBC used to store waste oil located external to the south-western corner of the vehicle maintenance building at 754-770 Mamre Road (KPMG SGA 2019 and KPMG 2020b). No samples were collected during the KPMG 2020b Environmental Assessment however, it was anticipated that exceedances of TRH and PAHs would have been present in the localised surface soils. A review of aerial photographs taken on 27 December 2020 indicated that large areas of 754-770 Mamre Road have already been cleared for development, including the area of hydrocarbon impact described above. It is anticipated that any surficial hydrocarbon impacts would have been removed during these earthworks and this AEC is not considered further.

Elevated concentrations of TRH were also identified in locations adjacent to the ASTs and UPSSs, however they were below the adopted guideline levels (KPMG SGA 2019). The subsurface lithology identified around the ASTs and UPSS at 784-786 Mamre Road comprised shallow fill (<0.5 m), overlying firm clays, overlying weathered shale to a maximum investigation depth of 5 mbgl. It is considered likely that this lithology has limited the migration of COCs, however it is expected that localised COC impact would be present within the material immediately surrounding the UPSSs (i.e. within the tank pits) and possibly on the western side of the UPSSs where investigation was not undertaken due to access constraints.

Previous and current investigations have identified minor earthwork activities (stockpiled soil/rock material) in the western section of 754-770 Mamre Road (KPMG SGA 2019 and KPMG 2020b). The

previously sampled soil/rock stockpiled material (KPMG SGA 2019) in the south western section of 754-770 Mamre Road had been altered with the large majority of the material expected to have removed. Soil samples collected from the stockpile in 2019 (KPMG SGA 2019) reported concentrations of COCs below the adopted commercial/industrial guidelines.

Previous investigations KPMG 2020a identified ACM/PACM in building materials and structures located across the site. At the time of the investigations, no visual signs of asbestos impact were observed on the ground surface around the perimeter of the building/structures. Provided that all ACMs/PACMs are appropriately removed before demolition, it is unlikely that surficial soils surrounding the buildings would be significantly impacted with asbestos.

8.3 Groundwater

The KPMG GWSWSE investigation (KPMG 2020c) involved the sampling of two (2) existing groundwater monitoring wells located at 772-782 Mamre Road (GW01) (offsite) and 754-770 Mamre Road (GW02) (onsite). The wells were sampled due to their close proximity to the vehicle workshop and refuelling area located at 784-786 Mamre Road. Detectable concentrations of TRH in GW01 indicated that groundwater at the site may have been somewhat impacted by the fuel storage located at 784-786 Mamre Road, which is located upgradient and to the east of GW01. While the identified TRH impacts are considered to be minor, the concentrations of TRH may be higher closer to the fuel storage infrastructure at 784-786 Mamre Road.

KPMG 2020c reported that the elevated concentrations of dissolved nickel, zinc and coper in groundwater were considered to be attributable to background concentrations, sourced from the natural geology as opposed to an anthropogenic source. These findings were consistent with previous environmental studies undertaken in surrounding areas including the Western Sydney Airport Environmental Impact Statement, Groundwater Assessment, undertaken by GHD in October 2015 (Reference 14). KPMG 2020c did not identify any significant COC impacts to groundwater samples analysed which would prevent the planned demolition and redevelopment works at the site.

8.4 Surface Water

The KPMG 2020c also involved the collection of two (2) surface water samples from a dam located on the central section of 754-770 Mamre Road. KPMG 2020c did not identify any significant COC impacts to surface water samples analysed which would prevent the planned demolition and redevelopment works at the site.

8.5 Conceptual Site Model Analysis

The conceptual site model (CSM) is presented below and in Appendix D. The CSM has been developed based on the findings of the site investigation and desktop study. This includes a detailed summary of the CSM as well as the source-pathway-receptor analysis and application of relevant investigation levels.

9 Conclusions and Recommendations

Based upon the findings of the PSI and in consideration of the CSM, KPMG consider that the site is generally suitable for commercial/industrial land use subject to the following works being undertaken:

- production of a Remedial Action Plan (RAP) to document remediation works including:
  - the UPSSs, believed to include two (2) USTs located adjacent to the workshop at 784-786 Mamre Road, be decommissioned by removal with the area remediated and a Validation Report produced in accordance with the Protection of the Environment Operations (Underground Petroleum Storage Systems) Regulation 2019
  - consideration of the need to remediate heavy metal and BaP impacted soils which exceeded the guidelines for the protection of ecological receptors; this may not be required if these soils are emplaced beneath hardstand areas rather than used as landscaping material
- implementation of remediation activities documented within the above mentioned RAP.

10 Limitations

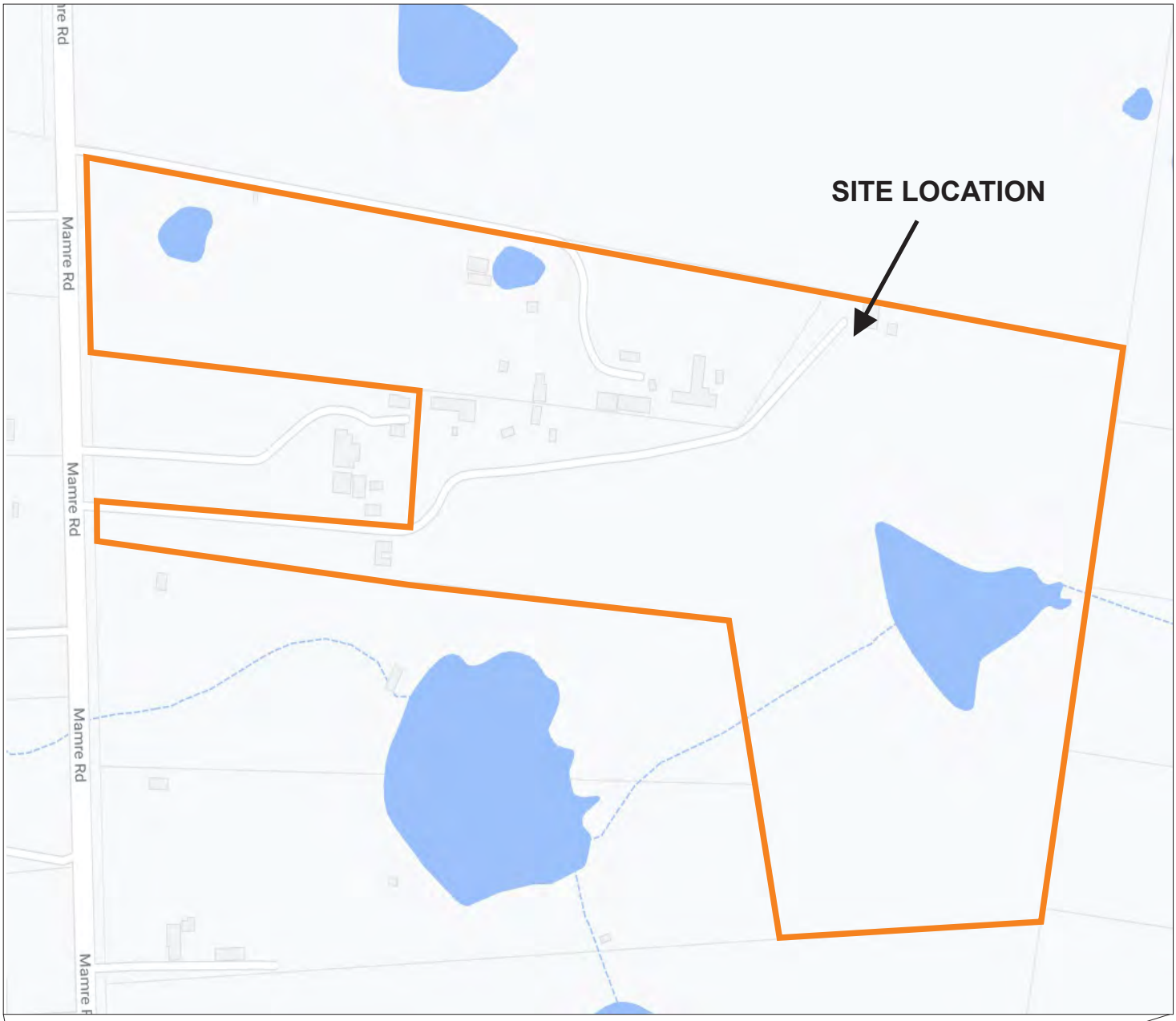
This report has been prepared by KPMG in response to and subject to the following limitations:

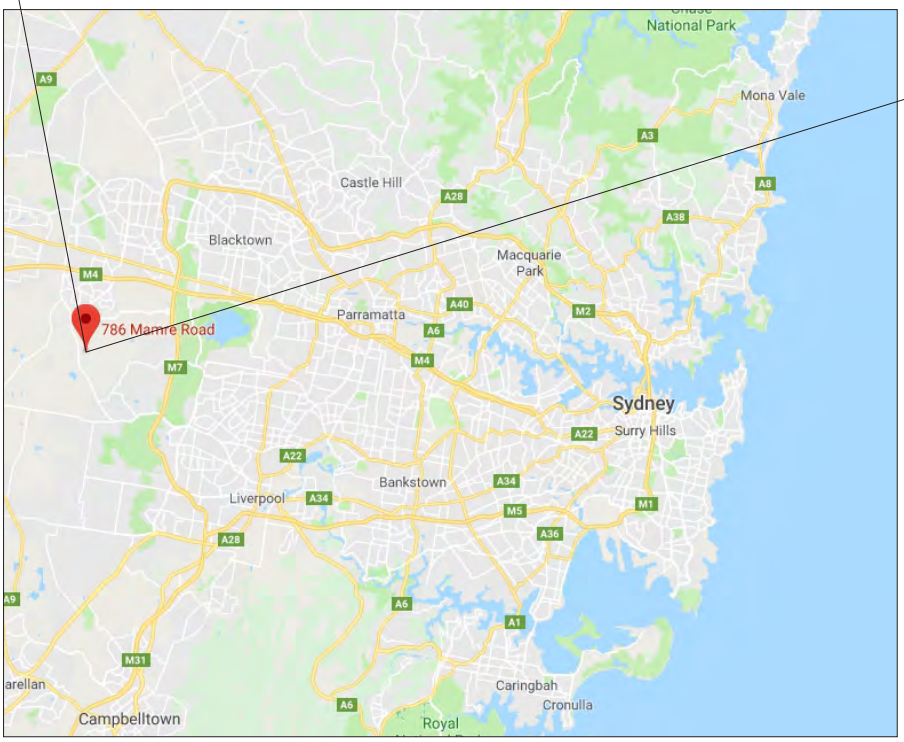
- The specific instructions received from GPT.
- The specific scope of works, Terms and Conditions and Scope Limitations set out in the Professional Services Agreement between GPT and KPMG dated 16 December 2020.
- The report has been prepared to a specific scope of works as set out in this report.
- 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 (which consent may or may not be given at the discretion of KPMG).
- 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.
- The report only relates to 754-770 and 784-786 Mamre Road, Kemps Creek, NSW (the site) as shown on Figure 2.
- The report relates to the site as at the date of the investigations as conditions may change thereafter due to natural processes and/or site activities.
- No warranty or guarantee is made in regard to any other use than as specified in the scope of works and only applies to the media, locations, samples and the depths tested as reported in this report.
- Other limitations as described under Scope Limitations.

11 References

1. Targeted Environmental Investigation – 754-786 Mamre Road, Kemps Creek, NSW prepared by KPMG SGA dated 21 November 2019.
2. Limited Asbestos Assessment, 754 & 784-786 Mamre Road, Kemps Creek, NSW, prepared by KPMG, dated 27 August 2020
3. Environmental Assessment, 754 Mamre Road, Kemps Creek, NSW, prepared by KPMG, dated 29 September 2020.
4. Groundwater and Surface Water Sampling Event, 754 & 772-782 Mamre Road, Kemps Creek, NSW, prepared by KPMG, dated 22 December 2020.
5. National Environment Protection Council (1999) National Environment Protection (Assessment of Site Contamination) Measure (NEPM) (Amended 2013).
6. NSW Government (2020) - State Environmental Planning Policy 55 (SEPP 55) – Remediation of Land
7. Geological Survey NSW (1991) – Sydney 1:250,000 Geological Sheet S1 56-5.
8. Code of Practice - How to Safely Remove Asbestos - prepared by Safework NSW dated August 2019.
9. 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.
10. NSW Environment Protection Authority (EPA) (2020) Contaminated Land Guidelines – Consultants Reporting on Contaminated Land Guidelines
11. Australian and New Zealand Environment Governments (ANZG)– Guidelines for Fresh and Marine Water Quality, 2018
12. Australian and New Zealand Environment Conservation Council (ANZECC) - Australian and New Zealand Guidelines for Fresh and Marine Water Quality, dated October 2000
13. Australian Government National Health and Medical Research Council (NHMRC) – Guidelines for Managing Risks in Recreation Water 2008
14. GHD Pty Ltd - Western Sydney Airport Environmental Impact Statement, Groundwater Assessment, dated October 2015.
15. AS4482.2–1999 Guide to the sampling and investigation of potentially contaminated soil, Part 2: volatile substances, Standards Australia.
16. CSIRO Australia (2006) Australian Soil Resource Information System (ASRIS). http://www.asris.csiro.au.

APPENDIX A
FIGURES





N

Source: Google Maps

CLIENT	GPT
PROJECT	Preliminary Site Investigation 754-770 & 784-786 Mamre Road, Kemps Creek, NSW
TITLE	Figure 1 - Site Location

SCALE	DATE	DRAWING No.	ISSUE
NTS	09/03/2021	390892_Figure 1	A

DRAWN	CHECKED	JOB No.
J.L.	J.W.	390892

KPMG Property & Environmental Services Pty Ltd
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Sydney NSW 2000
Phone: +61 2 9535 7000
Fax: +61 2 9535 7001
Web: www.kpmg.com.au

Site Boundary

Property Boundary

Areas of Environmental Concern

Vehicle Workshop and Vehicle Storage

Refueling Area:
- 4,000 L petrol UST
- 20,000 L diesel UST
- three (3) ASTs
- several drums

Other Chemical / Equipment Storage

Vehicle Washdown Area

Former Horticultural Area

Previous Investigation Sampling Locations

KPMG 2019 Soil Sampling Location

KPMG 2020c Groundwater Sampling Location

KPMG 2020c Surface Water Sampling Location

N

0 — 130

Approximate Scale (m)

Source: Nearmap

CLIENT
GPT

PROJECT
Preliminary Site Investigation
754-770 & 784-786 Mamre Road, Kemps Creek, NSW

TITLE
Figure 2 – Areas of Environmental Concern & Sampling Locations

SCALE	DATE	DRAWING No.	ISSUE
NTS	09/03/2021	Figure 2 - 390892	A

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Field ID	Sample Date	Concentration (mg/kg)
BH04_0.2-0.3	19/09/2019	1,600

Field ID	Sample Date	Concentration (mg/kg)
BH03_0.2-0.3	19/09/2019	1,700

Site Boundary

Property Boundary

Previous Investigation Sampling Locations

KPMG 2019 Soil Sampling Location

KPMG 2020c Groundwater Sampling Location

KPMG 2020c Surface Water Sampling Location

Guideline Criteria

310 mg/kg — NEPM 2013 Table 1B(5) Generic EIL Commercial / Industrial

Chromium Concentration Above Guideline Criteria

N

0 — 130

Approximate Scale (m)

Source: Nearmap

CLIENT
GPT

PROJECT
Preliminary Site Investigation
754-770 & 784-786 Mamre Road, Kemps Creek, NSW

TITLE
Figure 3A
Soil Exceedances - Chromium (III+VI)

SCALE	DATE	DRAWING No.	ISSUE
NTS	09/03/2021	Figure 3 - 390892	A

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Site Boundary

Property Boundary

Previous Investigation Sampling Locations

KPMG 2019 Soil Sampling Location

KPMG 2020c Groundwater Sampling Location

KPMG 2020c Surface Water Sampling Location

Guideline Criteria

140 mg/kg — NEPM 2013 Table 1B(5) Generic EIL Commercial / Industrial

Copper Concentration Above Guideline Criteria

N

0 — 130

Approximate Scale (m)

Source: Nearmap

CLIENT: GPT

PROJECT: Preliminary Site Investigation
754-770 & 784-786 Mamre Road, Kemps Creek, NSW

TITLE: Figure 3B
Soil Exceedances - Copper

SCALE	DATE	DRAWING No.	ISSUE
NTS	09/03/2021	Figure 3 - 390892	A

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Field ID	Sample Date	Concentration (mg/kg)
BH09_0.5-0.6	19/09/2019	83

Field ID	Sample Date	Concentration (mg/kg)
BH04_0.2-0.3	19/09/2019	60

Site Boundary

Property Boundary

Previous Investigation Sampling Locations

KPMG 2019 Soil Sampling Location

KPMG 2020c Groundwater Sampling Location

KPMG 2020c Surface Water Sampling Location

Guideline Criteria

55 mg/kg — NEPM 2013 Table 1B(5) Generic EIL Commercial / Industrial

Nickel Concentration Above Guideline Criteria

N

0 — 130

Approximate Scale (m)

Source: Nearmap

CLIENT: GPT

PROJECT: Preliminary Site Investigation
754-770 & 784-786 Mamre Road, Kemps Creek, NSW

TITLE: Figure 3C
Soil Exceedances - Nickel

SCALE	DATE	DRAWING No.	ISSUE
NTS	09/03/2021	Figure 3 - 390892	A

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Field ID	Sample Date	Concentration (mg/kg)
BH17_1.2-1.3	20/09/2019	450

Site Boundary

Property Boundary

Previous Investigation Sampling Locations

KPMG 2020 Soil Sampling Location

KPMG 2020c Groundwater Sampling Location

KPMG 2020c Surface Water Sampling Location

Guideline Criteria

360 mg/kg — NEPM 2013 Table 1B(5) Generic EIL Commercial / Industrial

Zinc Concentration Above Guideline Criteria

N

0 — 130

Approximate Scale (m)

Source: Nearmap

CLIENT: GPT

PROJECT: Preliminary Site Investigation
754-770 & 784-786 Mamre Road, Kemps Creek, NSW

TITLE: Figure 3D
Soil Exceedances - Zinc

SCALE	DATE	DRAWING No.	ISSUE
NTS	09/03/2021	Figure 3 - 390892	A

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J.L.	J.W.	390892

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Field ID	Sample Date	C16-34 Concentration (mg/kg)	C34-40 Concentration (mg/kg)
BH02_0.2-0.3	19/09/2019	17,000	3,800

Site Boundary

Property Boundary

Previous Investigation Sampling Locations

KPMG 2019 Soil Sampling Location

KPMG 2020c Groundwater Sampling Location

KPMG 2020c Surface Water Sampling Location

Guideline Criteria

3500 mg/kg — NEPM 2013 Table 1B(7) Management Limits Commercial / Industrial (Coarse Soil)

3300 mg/kg — NEPM 2013 Table 1B(6) ESLs for Commercial / Industrial (Coarse Soil)

TRH Concentration Above Guideline Criteria

N

0 — 130

Approximate Scale (m)

Source: Nearmap

CLIENT: GPT

PROJECT: Preliminary Site Investigation
754-770 & 784-786 Mamre Road, Kemps Creek, NSW

TITLE: Figure 3E
Soil Exceedances - TRH

SCALE	DATE	DRAWING No.	ISSUE
NTS	09/03/2021	Figure 3 - 390892	A

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Field ID	Sample Date	Concentration (mg/kg)
BH14_0.1-0.2	19/09/2019	1.7

Site Boundary

Property Boundary

Previous Investigation Sampling Locations

KPMG 2019 Soil Sampling Location

KPMG 2020c Groundwater Sampling Location

KPMG 2020c Surface Water Sampling Location

Guideline Criteria

1.4 mg/kg — NEPM 2013 Table 1B(6) ESLs for Commercial / Industrial (Coarse Soil)

Benzo(a)pyrene Concentration Above Guideline Criteria

N

0 — 130

Approximate Scale (m)

Source: Nearmap

CLIENT: GPT

PROJECT: Preliminary Site Investigation
754-770 & 784-786 Mamre Road, Kemps Creek, NSW

TITLE: Figure 3F
Soil Exceedances - Benzo(a)pyrene

SCALE	DATE	DRAWING No.	ISSUE
NTS	09/03/2021	Figure 3 - 390892	A

DRAWN	CHECKED	JOB No.
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Field ID	Sample Date	Concentration (µg/L)
SW02	29/10/2020	2

Field ID	Sample Date	Concentration (µg/L)
SW01	29/10/2020	2

Field ID	Sample Date	Concentration (µg/L)
GW02	29/10/2020	6

Field ID	Sample Date	Concentration (µg/L)
GW01	29/10/2020	5

Site Boundary

Property Boundary

Previous Investigation Sampling Locations

KPMG 2019 Soil Sampling Location

KPMG 2020c Groundwater Sampling Location

KPMG 2020c Surface Water Sampling Location

Guideline Criteria

1.4 ug/L — ANZG (2018) Freshwater 95% Toxicant DGV / Adjusted For Hardness Factor

Copper (Filtered) Concentration Above Guideline Criteria

Note: GW01 is located offsite

N

0 — 130

Approximate Scale (m)

Source: Nearmap

CLIENT: GPT

PROJECT: Preliminary Site Investigation
754-770 & 784-786 Mamre Road, Kemps Creek, NSW

TITLE: Figure 4A
Water Exceedances - Copper

SCALE	DATE	DRAWING No.	ISSUE
NTS	09/03/2021	Figure 4 - 390892	A

DRAWN	CHECKED	JOB No.
J.L.	J.W.	390892

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Field ID	Sample Date	Concentration (µg/L)
GW02	29/10/2020	27

Field ID	Sample Date	Concentration (µg/L)
GW01	29/10/2020	13

Site Boundary

Property Boundary

Previous Investigation Sampling Locations

KPMG 2019 Soil Sampling Location

KPMG 2020c Groundwater Sampling Location

KPMG 2020c Surface Water Sampling Location

Guideline Criteria

11 / 42.9 ug/L — **ANZG (2018) Freshwater 95% Toxicant DGV / Adjusted For Hardness Factor**

Nickel (Filtered) Concentration Above Guideline Criteria

Note: GW01 is located offsite

N

0 — 130

Approximate Scale (m)

Source: Nearmap

CLIENT: **GPT**

PROJECT: **Preliminary Site Investigation**
754-770 & 784-786 Mamre Road, Kemps Creek, NSW

TITLE: **Figure 4B**
Water Exceedances - Nickel

SCALE	DATE	DRAWING No.	ISSUE
NTS	09/03/2021	Figure 4 - 390892	A

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Field ID	Sample Date	Concentration (µg/L)
GW02	29/10/2020	62

Field ID	Sample Date	Concentration (µg/L)
GW01	29/10/2020	63

Site Boundary

Property Boundary

Previous Investigation Sampling Locations

KPMG 2019 Soil Sampling Location

KPMG 2020c Groundwater Sampling Location

KPMG 2020c Surface Water Sampling Location

Guideline Criteria

8 / 31.2 ug/L — ANZG (2018) Freshwater 95% Toxicant DGV / Adjusted For Hardness Factor

Zinc (Filtered) Concentration Above Guideline Criteria

Note: GW01 is located offsite

N

0 — 130

Approximate Scale (m)

Source: Nearmap

CLIENT: GPT

PROJECT: Preliminary Site Investigation
754-770 & 784-786 Mamre Road, Kemps Creek, NSW

TITLE: Figure 4C
Water Exceedances - Zinc

SCALE	DATE	DRAWING No.	ISSUE
NTS	09/03/2021	Figure 4 - 390892	A

DRAWN	CHECKED	JOB No.
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APPENDIX B
GUIDELINES

Table B1 Health Investigation Levels for Soil Contaminants

Chemical	Health-based Investigation Levels (mg/kg)			
	Residential A [1]	Residential B [1]	Recreational C [1]	Commercial / Industrial D [1]
Metals and Inorganics				
Arsenic [2]	100	500	300	3 000
Beryllium	60	90	90	500
Boron	4500	40 000	20 000	300 000
Cadmium	20	150	90	900
Chromium (VI)	100	500	300	3600
Cobalt	100	600	300	4000
Copper	6000	30 000	17 000	240 000
Lead [3]	300	1200	600	1 500
Manganese	3800	14 000	19 000	60 000
Mercury (inorganic)[5]	40	120	80	730
Methyl mercury[4]	10	30	13	180
Nickel	400	1200	1200	6 000
Selenium	200	1400	700	10 000
Zinc	7400	60 000	30 000	400 000
Cyanide (free)	250	300	240	1 500
Polycyclic Aromatic Hydrocarbons (PAHs)				
Carcinogenic PAHs (as BaP TEQ)[6]	3	4	3	40
Total PAHs[7]	300	400	300	4000

1 - 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 (e.g. ovals), secondary schools and footpaths. This does not include undeveloped public open space where the potential 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.

2 Arsenic: HIL assumes 70% oral bioavailability. Site-specific bioavailability may be important and should be considered where appropriate (refer Schedule B7).

3 Lead: HIL is based on blood lead models (IEUBK for HILs A, B and C and adult lead model for HIL D where 50% oral bioavailability has been considered. Site-specific bioavailability may be important and should be considered where appropriate.

4 Methyl mercury: assessment of methyl mercury should only occur where there is evidence of its potential source. It may be associated with inorganic mercury and anaerobic microorganism activity in aquatic environments. In addition the reliability and quality of sampling/analysis should be considered.

Table B2 Soil-specific added contaminant limits for aged zinc in soil

Zn added contaminant limits (ACL, mg added contaminant/kg)						
***pH*[4]**	***CEC*[5] *(cmol/kg)***					
Areas of ecological significance						
	5	**10**	**20**	**30**	**40**	**60**
4.0	15	20	20	20	20	20
4.5	20	25	25	25	25	25
5.0	30	40	40	40	40	40
5.5	40	60	60	60	60	60
6.0	50	90	90	90	90	90
6.5	50	90	130	130	130	130
7.0	50	90	150	190	190	190
7.5	50	90	150	210	260	280
Urban residential/public open space[1]						
	5	**10**	**20**	**30**	**40**	**60**
4.0	70	85	85	85	85	85
4.5	100	120	120	120	120	120
5.0	130	180	180	180	180	180
5.5	180	270	270	270	270	270
6.0	230	400	400	400	400	400
6.5	230	400	590	590	590	590
7.0	230	400	700	880	880	880
7.5	230	400	700	960	1200	1300
Commercial/industrial						
	5	**10**	**20**	**30**	**40**	**60**
4.0	110	130	130	130	130	130
4.5	150	190	190	190	190	190
5.0	210	290	290	290	290	290
5.5	280	420	420	420	420	420
6.0	360	620	620	620	620	620
6.5	360	620	920	920	920	920
7.0	360	620	1100	1400	1400	1400
7.5	360	620	1100	1500	1900	2000

1 Urban residential/public open space is broadly equivalent to the HIL A, HIL B and HIL C land use scenarios in Table B1.
2 Aged values apply to contamination present in soil for at least two years. For fresh contamination refer to Schedule B5c.
3 The EIL is calculated from summing the ACL and the ABC.
4 pH measure using the CaCl2 method (Raymond & Higginson 1992).
5 CEC measured using the silver thiourea method (Chabra et al. 1972).

Table B3 Soil-specific added contaminant limits for aged copper in soil

Cu added contaminant limits (ACL, mg added contaminant/kg)					
Areas of ecological significance					
CEC[5] (cmol/kg) based					
5	**10**	**20**	**30**	**40**	**60**
30	65	70	70	75	80
pH[4] based					
4.5	**5.5**	**6.0**	**6.5**	**7.5**	**8.0**
20	45	65	90	190	270
Urban residential/public open space[1]					
CEC[5] (cmol/kg) based					
5	**10**	**20**	**30**	**40**	**60**
95	190	210	220	220	230
pH[4] based					
4.5	**5.5**	**6.0**	**6.5**	**7.5**	**8.0**
60	130	190	280	560	800
Commercial/industrial					
CEC[5] (cmol/kg) based					
5	**10**	**20**	**30**	**40**	**60**
140	280	300	320	330	340
pH[4] based					
4.5	**5.5**	**6.0**	**6.5**	**7.5**	**8.0**
85	190	280	400	830	1200

1 Urban residential/public open space is broadly equivalent to the HIL A, HIL B and HIL C land use scenarios in Table B1.
2 Aged values apply to contamination present in soil for at least two years. For fresh contamination refer to Schedule B5c.
3 The EIL is calculated from summing the ACL and the ABC.
4 pH measure using the CaCl2 method (Raymond & Higginson 1992).
5 CEC measured using the silver thiourea method (Chabra et al. 1972).

Table B4 Soil-specific added contaminant limits for aged chromium III and nickel in soil

Chemical	Clay content (% clay)	Added contaminate limits (mg added contaminant/kg) for various land uses		
		Areas of ecological significance	Urban residential and public open space	Commercial and industrial
Chromium III	**1**	60	190	310
	2.5	80	250	420
	5	100	320	530
	≥10	130	400	660
Nickel	**CEC[a] (cmol/kg)**	**Areas of ecological significance**	**Urban residential and public open space[1]**	**Commercial and industrial**
	5	5	30	55
	10	30	170	290
	20	45	270	460
	30	60	350	600
	40	70	420	730
	60	95	560	960

1 Urban residential/public open space is broadly equivalent to the HIL A, HIL B and HIL C land use scenarios in Table B1.

2 Aged values apply to contamination present in soil for at least two years. For fresh contamination refer to Schedule B5c.

3 The EIL is calculated from summing the ACL and the ABC.

a = CEC measured using the silver thiourea method (Chabra et al. 1972).

Table B5 Generic added contaminant limits for lead in soils irrespective of their physiochemical properties

	Pb added contaminant limits (mg added contaminant/kg) for various land uses		
CHEMICAL	**Areas of ecological significance**	**Urban residential/public open space[1]**	**Commercial and industrial**
Lead	470	1100	1800

1 Urban residential/public open space is broadly equivalent to the HIL A, HIL B and HIL C land use scenarios in Table B1.

2 Aged values apply to contamination present in soil for at least two years. For fresh contamination refer to Schedule B5c.

3 The EIL is calculated from summing the ACL and the ABC.

Table B6 Generic EIL's for aged As, fresh DDT and fresh naphthalene in soils irrespective of their physiochemical properties

	Ecological Investigation Levels (mg total contaminant/kg)		
CHEMICAL	**Areas of ecological significance**	**Urban residential/public open space[1]**	**Commercial and industrial**
Arsenic[2 4]	40	100	160
DDT[3]	3	180	640
Naphthalene[3 4]	10	170	370

1 Urban residential/public open space is broadly equivalent to the HIL A, HIL B and HIL C land use scenarios in Table B1.

2 Aged values are applicable to arsenic contamination present in soil for at least two years. For fresh contamination refer to Schedule B5c.

3 Insufficient data was available to calculate values for DDT and naphthalene, consequently the values for fresh contamination should be used.

4 Insufficient data was available to calculate ACL's for As, DDT and naphthalene. The EIL should be taken directly from Table B7

Table B7 Soil HSLs for vapour intrusion (mg/kg)

CHEMICAL	0 m to <1 m	1 m to <2 m	2 m to <4m	4 m+	0 m to <1 m	1 m to <2 m	2 m to <4 m	4 m+	0 m to <1 m	1 m to <2 m	2 m to <4 m	4 m+	Soil saturation concentration (Csat)
SAND													
Toluene	160	220	310	540	NL	NL	NL	NL	NL	NL	NL	NL	560
Ethylbenzene	55	NL	NL	NL	NL	NL	NL	NL	NL	NL	NL	NL	64
Xylenes	40	60	95	170	NL	NL	NL	NL	230	NL	NL	NL	300
Naphthalene	3	NL	NL	NL	NL	NL	NL	NL	NL	NL	NL	NL	9
Benzene	0.5	0.5	0.5	0.5	NL	NL	NL	NL	3	3	3	3	360
F1[9]	45	70	110	200	NL	NL	NL	NL	260	370	630	NL	950
F2[10]	110	240	440	NL	NL	NL	NL	NL	NL	NL	NL	NL	560
SILT													
Toluene	390	NL	NL	NL	NL	NL	NL	NL	NL	NL	NL	NL	640
Ethylbenzene	NL	NL	NL	NL	NL	NL	NL	NL	NL	NL	NL	NL	69
Xylenes	95	210	NL	NL	NL	NL	NL	NL	NL	NL	NL	NL	330
Naphthalene	4	NL	NL	NL	NL	NL	NL	NL	NL	NL	NL	NL	10
Benzene	0.6	0.7	1	2	NL	NL	NL	NL	4	4	6	10	440
F1[9]	40	65	100	190	NL	NL	NL	NL	250	360	590	NL	910
F2[10]	230	NL	NL	NL	NL	NL	NL	NL	NL	NL	NL	NL	570
CLAY													
Toluene	480	NL	NL	NL	NL	NL	NL	NL	NL	NL	NL	NL	630
Ethylbenzene	NL	NL	NL	NL	NL	NL	NL	NL	NL	NL	NL	NL	68
Xylenes	110	310	NL	NL	NL	NL	NL	NL	NL	NL	NL	NL	330
Naphthalene	5	NL	NL	NL	NL	NL	NL	NL	NL	NL	NL	NL	10
Benzene	0.7	1	2	3	NL	NL	NL	NL	4	6	9	20	430
F1[9]	50	90	150	290	NL	NL	NL	NL	310	480	NL	NL	850
F2[10]	280	NL	NL	NL	NL	NL	NL	NL	NL	NL	NL	NL	560

1 Land use settings are equivalent to those described in Table 1A(1) Footnote 1 and Schedule B7. HSLs for vapour intrusion for high density residential assume residential occupation of the ground floor. If communal car parks or commercial properties occupy the ground floor, HSL D should be used.

2 The key limitations of the HSLs should be referred to prior to application and are presented in Friebel and Nadebaum (2011b and 2011d).

3 Detailed assumptions in the derivation of the HSLs and information on how to apply the HSLs are presented in Friebel and Nadebaum (2011a and 2011b).

4 Soil HSLs for vapour inhalation incorporate an adjustment factor of 10 applied to the vapour phase partitioning to reflect the differences observed between theoretical estimates of soil vapour partitioning and field measurements. Refer Friebel & Nadebaum (2011a) for further information.

5 The soil saturation concentration (Csat) is defined as the soil concentration at which the porewater phase cannot dissolve any more of an individual chemical. The soil vapour that is in equilibrium with the porewater will be at its maximum. If the derived soil HSL exceeds Csat, a soil vapour source concentration for a petroleum mixture could not exceed a level that would result in the maximum allowable vapour risk for the given scenario. For these scenarios, no HSL is presented for these chemicals and the HSL is shown as 'not limiting' or 'NL'.

6 The HSLs for TPH C6-C10 in sandy soil are based on a finite source that depletes in less than seven years, and therefore consideration has been given to use of sub-chronic toxicity values. The >C8-C10 aliphatic toxicity has been adjusted to

represent sub-chronic exposure, resulting in higher HSLs than if based on chronic toxicity. For further information refer to Section 8.2 and Appendix J in Friebel and Nadebaum (2011a).

7 The figures in the above table may be multiplied by a factor to account for biodegradation of vapour. A factor of 10 may apply for source depths from 2 m to <4 m or a factor of 100 for source depths of 4 m and deeper. To apply the attenuation factor for vapour degradation, a number of conditions must be satisfied. Firstly the maximum length of the shorter side of the concrete slab and surrounding pavement cannot exceed 15 m, as this would prevent oxygen penetrating to the centre of the slab. Secondly, measurement of oxygen in the subsurface is required to determine the potential for biodegradation. Oxygen must be confirmed to be present at >5% to use these factors.

8 For soil texture classification undertaken in accord with AS 1726, the classifications of sand, silt and clay may be applied as coarse, fine with liquid limit <50% and fine with liquid limit>50% respectively, as the underlying properties to develop the HSLs may reasonably be selected to be similar. Where there is uncertainty, either a conservative approach may be adopted or laboratory analysis should be carried out.

9 To obtain F1 subtract the sum of BTEX concentrations from the C6-C10 fraction.

10 To obtain F2 subtract naphthalene from the >C10-C16 fraction.

Table B8 ESLs for TPH fractions F1-F4, BTEX and benzo(a)pyrene in soil

CHEMICAL	Soil texture	ESLs (mg/kg dry soil)		
		Areas of ecological significance	Urban residential/public open space[1]	Commercial and industrial
F1 C_6 – C_{10}	*Coarse/Fine*	125*	180*	215*
F2 > C_{10} – C_{16}		25*	120*	170*
F3 > C_{16} – C_{34}	*Coarse*	-	300	1700
	Fine	-	1300	2500
F4 > C_{34} – C_{40}	*Coarse*	-	2800	3300
	Fine	-	5600	6600
Benzene	*Coarse*	10	50	75
	Fine	10	65	95
Toluene	*Coarse*	10	85	135
	Fine	65	105	135
Ethylbenzene	*Coarse*	1.5	70	165
	Fine	40	125	185
Xylenes	*Coarse*	10	105	180
	Fine	1.6	45	95
Benzo(a)pyrene	*Coarse*	0.7	0.7	1.4
	Fine	0.7	0.7	1.4

(1) ESLs are of low reliability except where indicated by * which indicates that the ESL is of moderate reliability.

(2) " – " indicates that insufficient data was available to derive a value.

(3) To obtain F1, subtract the sum of BTEX concentrations from C_6 – C_{10} fraction and subtract naphthalene >C_{10} – C_{16} to obtain F2.

Table B9 Management Limits for TPH fractions F1-F4 in soil

TPH Fraction	Soil texture	Management Limits[1] (mg/kg dry soil)	
		Residential, parkland and public open space	Commercial and industrial
F1[2] $C_6 - C_{10}$	*Coarse*	700	700
	Fine	800	800
F2[2] > $C_{10} - C_{16}$	*Coarse*	1000	1000
	Fine	1000	1000
F3 > $C_{16} - C_{34}$	*Coarse*	2500	3500
	Fine	3500	5000
F4 > $C_{34} - C_{40}$	*Coarse*	10 000	10 000
	Fine	10 000	10 000

1 Management Limits are applied after consideration of relevant ESLs and HSLs.

2 Separate management limits for BTEX and naphthalene are not available hence these should not be subtracted from the relevant fractions to obtain F1 and F2.

Table B10 ANZG 95% Toxicant Default Guideline Values (DGVs)

Chemical	Fresh Waters [1]	Marine Waters [1]	Drinking Water [2]	Non Potable Water
	µg/L			
Metals and Metalloids				
Aluminium pH>6.5	55	-	-	
Antimony	-	-	3	30
Arsenic	24 as As(III) 13 as As(V)	-	10	100
Barium	-	-	2000	20000
Beryllium	-	-	60	600
Boron	370[3]	-	4000	40000
Cadmium	0.2	5.5[3]	2	20
Chromium (III)	3.3	27	-	-
Chromium (VI)	1[3]	4.4	50	500
Cobalt	-	1	-	-
Copper	1.4	1.3	2000	20000
Iron (Total)	-	-	-	-
Lead	3.4	4.4	10	100
Manganese	1900[3]	-	500	5000
Mercury (Total)	0.6[3]	0.4[3]	1	10
Molybdenum	-	-	50	500
Nickel	11	70	20	200
Selenium (Total)	11	-	10	100
Silver	0.05	1.4	100	1000
Tributyl tin (as Sn)	-	0.006[3]	-	-
Tributyl tin oxide	-	-	1	10
Uranium	-	-	17	170
Vanadium	-	100	-	-
Zinc	8[3]	15[3]	-	-
Non-metallic Inorganics				
AmmoniaE (as NH3-N at pH 8)	900[3]	910	-	-
Bromate	-	-	20	200
Chlorine	3	-	-	-
Cyanide (as un-ionised Cn)	7	4	80	800
Fluoride	-	-	1500	15000
Hydrogen sulphide (un-ionised H2S measured as S)	1	-	-	-
Iodide	-	-	500	5000
Nitrate (as NO3)	refer to guideline	refer to guideline	50000	500000

Chemical	Fresh Waters [1]	Marine Waters [1]	Drinking Water [2]	Non Potable Water
	µg/L			
Nitrite (as NO2)	refer to guideline	refer to guideline	3000	30000
Nitrogen	refer to guideline	refer to guideline	-	-
Phosphorus	refer to guideline	refer to guideline	-	-
Sulphate (as SO4)	-	-	500000	5000000
Organic alcohols/other organics				
Ethanol	1400	-	-	-
Ethylenediamine tetra-acetic acid (EDTA)	-	-	250	2500
Formaldehyde	-	-	500	5000
Nitrilotriacetic acid	-	-	200	2000
Anilines				
Aniline	8	-	-	-
2,4-Dichloroaniline	7	-	-	-
3,4-Dichloroaniline	3	150	-	-
Chlorinated Alkanes				
Dichloromethane	-	-	4	40
Trichloromethane (chloroform)	-	-	3	30
Trihalomethanes (total)	-	-	250	2500
Tetrachloromethane (carbon tetrachloride)	-	-	3	30
1,2-Dichloroethane	-	-	3	30
1,1,2-Trichloroethane	6500	1900	-	-
Hexachloroethane	360	-	-	-
Chlorinated Alkenes				
Chloroethene (vinyl chloride)	-	-	0.3	3
1,1-Dichloroethene (DCE)	-	-	30	300
1,2-Dichoroethene(DCE)	-	-	60	600
Tetrachloroethene (PCE) (Perchloroethene)	-	-	50	500
Chlorinated Benzenes				
Chlorobenzene	-	-	300	10
1,2- Dichlorobenzene	160	-	1500	20
1,3- Dichlorobenzene	260	-	-	-
1,4- Dichlorobenzene	60	-	40	0.3
1,2,3- Trichlorobenzene	10	-	30 for individual or total trichlorobenz-enes	5
1,2,4- Trichlorobenzene	170[3]	80		

Chemical	Fresh Waters [1]	Marine Waters [1]	Drinking Water [2]	Non Potable Water
	µg/L			
1,3,5-Trichlorobenzene	13	13		
Polychlorinated Biphenyls (PCBs)				
Aroclor 1242	0.6	-	-	-
Aroclor 1254	0.03	-	-	-
Other Chlorinated Compounds				
Epichlorohydrin	-	-	100	1000
Hexachlorobutadiene	-	-	0.7	7
Monochloramine	-	-	3000	30000
Monocyclic Aromatic Hydrocarbons				
Benzene	950	700[3]	1	10
Toluene	180	180	800	25
Ethylbenzene	80	80	300	3
Xylenes	350 (as o- xylene) 200 (as p- xylene) 75 (as m-xylene)	75 (as m-xylene)	600	20
Styrene (Vinyl benzene)	-	-	30	4
Polycyclic Aromatic Hydrocarbons (PAHs)				
Naphthalene	16	70[3]	-	-
Benzo[a]pyrene	0.2	0.2	0.01	0.1
Fluoranthene	1.4	1.4	-	-
Phenanthrene	2	2	-	-
Phenols				
Phenol	320	400	-	
2-Chlorophenol	490[3]	-	300	3000
4-Chlorophenol	220	-	-	-
2,4-Dichlorophenol	160	-	200	2000
2,4,6-Trichlorophenol	20	-	20	200
2,3,4,6-Tetrachlorophenol	20	-	-	-
Pentachlorophenol	10[3]	22	10	100
2,4-Dinitrophenol	45	-	-	-
Phthalates				
Dimethylphthalate	3700	-	-	-
Diethylphthalate	1000	-	-	-
Dibutylphthalate	26	-	-	-
Di(2-ethylhexyl) phthalate	-	-	10	100
Pesticides				
Acephate	-	-	8	80
Aldicarb	-	-	4	40

Chemical	Fresh Waters [1]	Marine Waters [1]	Drinking Water [2]	Non Potable Water
	µg/L			
Aldrin plus Dieldrin	-	-	0.3	3
Ametryn	-	-	70	700
Amitraz	-	-	9	9
Amitrole	-	-	0.9	9
Asulam	-	-	70	700
Atrazine	13	-	20	200
Azinphos-methyl	0.02[3]	-	30	300
Benomyl	-	-	90	900
Bentazone	-	-	400	4000
Bioresmethrin	-	-	100	1000
Bromacil	-	-	400	4000
Bromoxynil	-	-	10	100
Captan	-	-	400	4000
Carbaryl	-	-	30	300
Carbendazim (Thiophanate-methyl)	-	-	90	900
Carbofuran	0.06	-	10	100
Carboxin	-	-	300	3000
Carfentrazone-ethyl	-	-	100	1000
Chlorantraniliprole	-	-	6000	6000
Chlordane	0.08	-	2	20
Chlorfenvinphos	-	-	2	20
Chlorothalonil	-	-	50	500
Chlorpyrifos	0.01[4]	0.009[4]	10	100
Chlorsulfuron	-	-	200	2000
Clopyralid	-	-	2000	20000
Cyfluthrin, Beta-cyfluthrin	-	-	50	500
Cypermethrin isomers	-	-	200	2000
Cyprodinil	-	-	90	900
1,3-Dichloropropene	-	-	100	1000
2,2-DPA	-	-	500	5000
2,4-D [2,4-dichlorophenoxy acetic acid]	280	-	30	300
DDT	0.01[4]	-	9	90
Deltramethrin	-	-	40	400
Diazinon	0.01	-	4	40
Dicamba	-	-	100	1000
Dichloroprop	-	-	100	1000
Dichlorvos	-	-	5	50

Chemical	Fresh Waters [1]	Marine Waters [1]	Drinking Water [2]	Non Potable Water
	µg/L			
Dicofol	-	-	4	40
Diclofop-methyl	-	-	5	50
Dieldrin plus Aldrin	-	-	0.3	3
Diflubenzuron	-	-	70	700
Dimethoate	0.15	-	7	70
Diquat	1.4	-	7	70
Disulfoton	-	-	4	40
Diuron	-	-	20	200
Endosulfan	0.02[3]	0.01	20	200
Endothal	-	-	100	1000
Endrin	0.02	0.008	-	-
EPTC	-	-	300	3000
Esfenvalerate	-	-	30	300
Ethion	-	-	4	40
Ethoprophos	-	-	1	10
Etridiazole	-	-	100	1000
Fenamiphos	-	-	0.5	5
Fenarimol	-	-	40	400
Fenitrothion	0.2	-	7	70
Fenthion	-	-	7	70
Fenvalerate	-	-	60	600
Fipronil	-	-	0.7	7
Flamprop-methyl	-	-	4	40
Fluometuron	-	-	70	700
Fluproponate	-	-	9	90
Glyphosate	370	-	1000	10000
Haloxyfop	-	-	1	10
Heptachlor	0.09	-	-	-
Heptachlor epoxide	-	-	0.3	3
Hexazinone	-	-	400	4000
Imazapyr	-	-	9000	90000
Iprodione	-	-	100	1000
Lindane (γ-HCH)	0.2	-	10	100
Malathion	0.05	-	70	700
Mancozeb (as ETU, ethylene thiourea)	-	-	9	90
MCPA	-	-	40	400
Metaldehyde	-	-	20	200

Chemical	Fresh Waters [1]	Marine Waters [1]	Drinking Water [2]	Non Potable Water
	µg/L			
Metham (as methylisothiocyanate, MITC)	-	-	1	10
Methidathion	-	-	6	60
Methiocarb	-	-	7	70
Methomyl	3.5		20	200
Methyl bromide	-	-	1	10
Metiram (as ETU, ethylene thiourea)	-	-	9	90
Metolachlor/s–Metolachlor	-	-	300	3000
Metribuzin	-	-	70	700
Metsulfuron-methyl	-	-	40	400
Mevinphos	-	-	6	60
Molinate	3.4	-	4	40
Napropamide	-	-	400	4000
Nicarbazin	-	-	1000	10000
Norflurazon	-	-	50	500
Omethoate	-	-	1	10
Oryzalin	-	-	400	4000
Oxamyl	-	-	7	70
Paraquat	-	-	20	200
Parathion	0.004[3]	-	20	200
Parathion methyl	-	-	0.7	7
Pebulate	-	-	30	300
Pendimethalin	-	-	400	4000
Pentachlorophenol	-	-	10	100
Permethrin	-	-	200	2000
Picloram	-	-	300	3000
Piperonyl butoxide	-	-	600	6000
Pirimicarb	-	-	7	70
Pirimiphos methyl	-	-	90	900
Polihexanide	-	-	700	7000
Profenofos	-	-	0.3	03
Propachlor	-	-	70	700
Propanil	-	-	700	7000
Propargite	-	-	7	70
Proparzine	-	-	50	500
Propiconazole	-	-	100	1000

Chemical	Fresh Waters [1]	Marine Waters [1]	Drinking Water [2]	Non Potable Water
	µg/L			
Propyzamide	-	-	70	700
Pyrasulfatole	-	-	40	400
Pyrazophos	-	-	20	200
Pyroxsulam	-	-	4000	40000
Quintozene	-	-	30	300
Simazine	3.2	-	20	200
Spirotetramat	-	-	200	2000
Sulprofos	-	-	10	100
2,4,5-T	36	-	100	1000
Tebuthiuron	2.2	-	-	-
Temephos	-	0.05[4]	400	4000
Terbacil	-	-	200	2000
Terbufos	-	-	0.9	9
Terbuthylazine	-	-	10	100
Terbutryn	-	-	400	4000
Thiobencarb	2.8	-	40	400
Thiometon	-	-	4	40
Thiram	0.01	-	7	70
Toltrazuril	-	-	4	40
Toxaphene	0.2	-	-	-
Triadimefon	-	-	90	900
Trichlorfon	-	-	7	70
Triclopyr	-	-	20	200
Trifluralin	2.6[4]	-	90	900
Vernolate	-	-	40	400
Surfactants				
Linear alkylbenzene sulfonates (LAS)	280	-	-	
Alcohol ethoxylated sulfate (AES)	650	-	-	
Alcohol ethoxylated surfactants (AE)	140	-	-	

1 Investigation levels apply to typical slightly-moderately disturbed systems. See ANZG (2018) Guidelines for Fresh and Marine Water Quality, 2018 for guidance on applying these levels to different ecosystem conditions.

2 Investigation levels are taken from the health values of the Australian Drinking Water Guidelines (NHMRC 2011).

3 Figure may not protect key species from chronic toxicity, refer to ANZG (2018) for further guidance.

4 Chemical for which possible bioaccumulation and secondary poisoning effects should be considered, refer to ANZG (2018) for further guidance.

5 For changes in DGV with pH refer to ANZG (2018) for further guidance

6 Values have been calculated using a hardness of 30 mg/L CaCO3 refer to ANZG (2018) for further guidance on recalculating for site-specific hardness.

Table B11 Groundwater HSLs for vapour intrusion (mg/L)

CHEMICAL	2m to <4m	4m to <8m	8m+	2m to <4m	4m to <8m	8m+	2m to <4m	4m to <8m	8m+	Solubility Limit
	Low-High density residential			Recreational/open space			Commercial/industrial			
SAND										
Toluene	NL	NL	NL	NL	NL	NL	NL	NL	NL	61
Ethylbenzene	NL	NL	NL	NL	NL	NL	NL	NL	NL	3.9
Xylenes	NL	NL	NL	NL	NL	NL	NL	NL	NL	21
Naphthalene	NL	NL	NL	NL	NL	NL	NL	NL	NL	0.17
Benzene	0.8	0.8	0.9	NL	NL	NL	5	5	5	59
F1[9]	1	1	1	NL	NL	NL	6	6	7	9.0
F2[10]	1	1	1	NL	NL	NL	NL	NL	NL	3.0
SILT										
Toluene	NL	NL	NL	NL	NL	NL	NL	NL	NL	61
Ethylbenzene	NL	NL	NL	NL	NL	NL	NL	NL	NL	3.9
Xylenes	NL	NL	NL	NL	NL	NL	NL	NL	NL	21
Naphthalene	NL	NL	NL	NL	NL	NL	NL	NL	NL	0.17
Benzene	4	5	5	NL	NL	NL	30	30	30	59
F1[9]	6	6	6	NL	NL	NL	NL	NL	NL	9.0
F2[10]	NL	NL	NL	NL	NL	NL	NL	NL	NL	3.0
CLAY										
Toluene	NL	NL	NL	NL	NL	NL	NL	NL	NL	61
Ethylbenzene	NL	NL	NL	NL	NL	NL	NL	NL	NL	3.9
Xylenes	NL	NL	NL	NL	NL	NL	NL	NL	NL	21
Naphthalene	NL	NL	NL	NL	NL	NL	NL	NL	NL	0.17
Benzene	5	5	5	NL	NL	NL	30	30	35	59
F1[9]	NL	NL	NL	NL	NL	NL	NL	NL	NL	9.0
F2[10]	NL	NL	NL	NL	NL	NL	NL	NL	NL	3.0

(1) Land use settings are equivalent to those described in Table 1A(1) Footnote 1 and Schedule B7. HSLs for vapour intrusion for high density residential assume residential occupation of the ground floor. If communal car parks or commercial properties occupy the ground floor, HSL D should be used,

(2) The key limitations of the HSLs are presented in Friebel and Nadebaum (2011d) and should be referred to prior to application.

(3) Detailed assumptions in the derivation of the HSLs and information on the application of the HSLs are presented in Friebel and Nadebaum (2011a and 2011b).

(4) The solubility limit is defined as the groundwater concentration at which the water cannot dissolve any more of an individual chemical based on a petroleum mixture. The soil vapour that is in equilibrium with the groundwater will be at its maximum. If the derived groundwater HSL exceeds the water solubility limit, a soil vapour source concentration for a petroleum mixture could not exceed a level that would result in the maximum allowable vapour risk for the given scenario. For these scenarios, no HSL is presented for these chemicals and the HSL is shown as 'not limiting' or 'NL'.

(5) The figures in the above table may be multiplied by a factor to account for biodegradation of vapour. A factor of 10 may apply for source depths from 2 m to <4 m or a factor of 100 for source depths of 4 m and deeper. To apply the attenuation

factor for vapour degradation, a number of conditions must be satisfied. Firstly, the maximum length of the shorter side of the concrete slab and surrounding pavement cannot exceed 15 m, as this would prevent oxygen penetrating to the centre of the slab. Secondly, measurement of oxygen in the subsurface is required to determine the potential for biodegradation. Oxygen must be confirmed to be present at >5% to use these factors.

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(6) For soil texture classification undertaken in accord with AS 1726, the classifications of sand, silt and clay may be applied as coarse, fine with liquid limit <50% and fine with liquid limit >50% respectively, as the underlying properties to develop the HSLs may reasonably be selected to be similar. Where there is uncertainty, either a conservative approach may be adopted or laboratory analysis should be carried out.

(7) To obtain F1 subtract the sum of BTEX concentrations from the C6-C10 fraction.

(8) To obtain F2 subtract naphthalene from the >C10-C16 fraction

APPENDIX C
LABORATORY RESULTS SUMMARY AND TRANSCRIPTS

Project number: 390892
Site: 754-786 Mamre Road, Kemps Creek, NSW
Client: GPT

Table C1 - Summary of Soil Results - Commercial/Industrial

	Metals								Asbestos	BTEX						Phenols	TRH						
	Arsenic	Cadmium	Chromium (III+VI)	Copper	Lead	Mercury	Nickel	Zinc	Presence / Absence	Benzene	Toluene	Ethylbenzene	Xylene (m & p)	Xylene (o)	Xylene Total	Total phenols	C6-C10	C10-C16 (F2 minus Naphthalene)	C6-C10 (F1 minus BTEX)	C10-C16	C16-C34	C34-C40	C10-C40 (Sum of total)
	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	Comment	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
Laboratory Limit of Detection	2	0.4	5	5	5	0.1	5	5		0.1	0.1	0.1	0.2	0.1	0.3	0.4	20	50	20	50	100	100	100
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										5.1	4,700	25		280	250								
NEPM 2013 Table 1A(3) Comm/Ind D Soil HSL for Vapour Intrusion, Sand																							
NEPM 2013 Table 1B(5) Generic EIL - Comm/Ind (KPMG)	160		310	140	1,800		55	360															
NEPM 2013 Table 1B(6) ESLs for Comm/Ind, Coarse Soil																	170				1,700	3,300	
NEPM 2013 Table 1A(1) HILs Comm/Ind D Soil	3,000	900		240,000	1,500	730	6,000	400,000															
Field ID	**Date**	**Depth**																					
BH01_0.3-0.4	**19/09/2019**	**0.3 - 0.4**	9.2	<0.4	31	29	28	<0.1	15	53	NA	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	ND	<20	<50	<20	<50	<100	<100	<100
BH01_1.0-1.1	**19/09/2019**	**1 - 1.1**	<2	<0.4	12	28	12	<0.1	8.7	45	NA	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	ND	<20	<50	<20	<50	<100	<100	<100
BH02_0.2-0.3	**19/09/2019**	**0.2 - 0.3**	7.4	0.5	190	96	45	<0.1	43	200	NA	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	ND	<20	64	<20	64	17,000	3,800	20,864
BH02_0.3-0.4	**19/09/2019**	**0.3 - 0.4**	NA	NA	NA	NA	NA	NA	NA	NA	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
BH02_1.0-1.1	**19/09/2019**	**1 - 1.1**	NA	NA	NA	NA	NA	NA	NA	NA	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
BH02_2.0-2.1	**19/09/2019**	**2 - 2.1**	NA	NA	NA	NA	NA	NA	NA	NA	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
BH02_3.0-3.1	**19/09/2019**	**3 - 3.1**	NA	NA	NA	NA	NA	NA	NA	NA	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
BH02_4.0-4.1	**19/09/2019**	**4 - 4.1**	5.4	<0.4	12	45	15	<0.1	15	88	NA	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	ND	<20	<50	<20	<50	210	<100	210
BH03_0.2-0.3	**19/09/2019**	**0.2 - 0.3**	7.3	0.5	1,700	160	39	0.2	50	350	NA	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	ND	<20	<50	<20	<50	1,600	470	2,070
BH03_0.3-0.4	**19/09/2019**	**0.3 - 0.4**	8.2	<0.4	63	29	22	<0.1	14	64	NA	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	ND	<20	<50	<20	<50	<100	<100	<100
BH04_0.2-0.3	**19/09/2019**	**0.2 - 0.3**	8.0	0.6	1,600	180	41	0.2	60	330	NA	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	ND	<20	<50	<20	<50	260	<100	260
BH04_1.0-1.1	**19/09/2019**	**1 - 1.1**	2.3	<0.4	17	60	19	<0.1	16	100	NA	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	ND	<20	<50	<20	<50	<100	<100	<100
BH05_1.9-2.0	**19/09/2019**	**1.9 - 2**	<2	<0.4	13	46	16	<0.1	17	79	NA	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	ND	<20	150	<20	150	240	<100	390
BH05_3.9-4.0	**19/09/2019**	**3.9 - 4**	5.0	<0.4	34	37	14	<0.1	16	68	NA	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	ND	<20	<50	<20	<50	190	<100	190
BH06_1.0-1.1	**19/09/2019**	**1 - 1.1**	<2	<0.4	10	22	8.6	<0.1	8.3	38	NA	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	ND	<20	<50	<20	<50	<100	<100	<100
BH06_1.2-1.3	**19/09/2019**	**1.2 - 1.3**	3.9	<0.4	16	41	14	<0.1	14	66	NA	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	ND	<20	<50	<20	<50	<100	<100	<100
BH07_1.0-1.1	**19/09/2019**	**1 - 1.1**	4.1	<0.4	15	40	14	<0.1	9.3	52	NA	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	ND	<20	<50	<20	<50	<100	<100	<100
BH07_1.4-1.5	**19/09/2019**	**1.4 - 1.5**	<2	<0.4	11	34	11	<0.1	8.3	43	NA	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	ND	<20	<50	<20	<50	<100	<100	<100
BH08_1.0-1.1	**19/09/2019**	**1 - 1.1**	<2	<0.4	8.3	24	10	<0.1	5.3	29	NA	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	ND	<20	<50	<20	<50	<100	<100	<100
BH08_4.9-5.0	**19/09/2019**	**4.9 - 5**	8.0	<0.4	16	44	18	<0.1	26	99	NA	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	ND	<20	<50	<20	<50	<100	<100	<100
BH09_0.5-0.6	**19/09/2019**	**0.5 - 0.6**	4.6	<0.4	94	42	7.0	<0.1	83	150	NA	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	ND	<20	<50	<20	<50	<100	<100	<100
BH09_1.0-1.1	**19/09/2019**	**1 - 1.1**	6.4	<0.4	14	38	13	<0.1	16	79	NA	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	ND	<20	<50	<20	<50	<100	<100	<100
BH10_0.5-0.6	**19/09/2019**	**0.5 - 0.6**	5.2	0.4	19	260	73	<0.1	17	190	NA	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	ND	<20	<50	<20	<50	1,200	370	1,570
BH10_1.0-1.1	**19/09/2019**	**1 - 1.1**	6.8	<0.4	17	20	22	<0.1	16	43	NA	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	ND	<20	<50	<20	<50	<100	<100	<100
BH11_0.2-0.3	**19/09/2019**	**0.2 - 0.3**	12	<0.4	49	30	26	<0.1	39	72	NA	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	ND	<20	<50	<20	<50	<100	<100	<100
BH11_0.6-0.7	**19/09/2019**	**0.6 - 0.7**	7.1	<0.4	19	23	15	<0.1	6.6	25	NA	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	ND	<20	<50	<20	<50	<100	<100	<100
BH12_0.1-0.2	**19/09/2019**	**0.1 - 0.2**	11	<0.4	26	54	31	<0.1	13	84	NA	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	ND	<20	<50	<20	<50	<100	<100	<100
BH12_0.8-0.9	**19/09/2019**	**0.8 - 0.9**	3.9	<0.4	13	27	13	<0.1	5.0	23	NA	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	ND	<20	<50	<20	<50	<100	<100	<100
BH13_0.2-0.3	**20/09/2019**	**0.2 - 0.3**	<2	<0.4	7.8	9.0	12	<0.1	6.2	27	ND	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	ND	<20	<50	<20	<50	<100	<100	<100
BH13_1.0-1.1	**20/09/2019**	**1 - 1.1**	6.0	<0.4	19	15	15	<0.1	8.7	26	NA	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	ND	<20	<50	<20	<50	<100	<100	<100
BH14_0.1-0.2	**20/09/2019**	**0.1 - 0.2**	<2	<0.4	31	65	6.2	<0.1	26	39	ND	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	ND	<20	<50	<20	<50	1,300	850	2,150
BH14_0.3-0.4	**20/09/2019**	**0.3 - 0.4**	39	<0.4	11	39	20	<0.1	15	76	NA	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	ND	<20	<50	<20	<50	<100	<100	<100
BH15_1.0-1.1	**20/09/2019**	**1 - 1.1**	<2	<0.4	6.0	<5	130	<0.1	<5	11	ND	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	ND	<20	<50	<20	<50	<100	<100	<100
BH15_3.7-3.8	**20/09/2019**	**3.7 - 3.8**	18	<0.4	35	30	24	<0.1	6.7	29	NA	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	ND	<20	<50	<20	<50	<100	<100	<100
BH16_0.2-0.3	**20/09/2019**	**0.2 - 0.3**	<2	<0.4	6.9	<5	9.2	<0.1	<5	18	ND	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	ND	<20	<50	<20	<50	<100	<100	<100
BH17_1.2-1.3	**20/09/2019**	**1.2 - 1.3**	14	1.2	24	270	820	<0.1	17	450	NA	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	ND	<20	<50	<20	<50	130	<100	130
BH17_3.0-3.1	**20/09/2019**	**3 - 3.1**	18	<0.4	32	42	34	<0.1	21	68	NA	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	ND	<20	<50	<20	<50	<100	<100	<100
BH18_0.4-0.5	**20/09/2019**	**0.4 - 0.5**	12	0.4	21	31	29	<0.1	9.3	56	NA	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	ND	<20	<50	<20	<50	<100	<100	<100
BH18_1.0-1.1	**20/09/2019**	**1 - 1.1**	11	<0.4	14	64	22	<0.1	15	87	NA	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	ND	<20	<50	<20	<50	<100	<100	<100
BH19_0.1-0.2	**20/09/2019**	**0.1 - 0.2**	12	<0.4	23	23	24	<0.1	9.1	52	NA	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	ND	<20	<50	<20	<50	130	<100	130
BH19_0.5-0.6	**20/09/2019**	**0.5 - 0.6**	15	<0.4	28	28	28	<0.1	8.6	49	NA	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	ND	<20	<50	<20	<50	<100	<100	<100
BH20_0.3-0.4	**20/09/2019**	**0.3 - 0.4**	6.8	<0.4	17	26	16	<0.1	6.1	32	NA	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	ND	<20	<50	<20	<50	<100	<100	<100
HA01_0.2-0.3	**19/09/2019**	**0.2 - 0.3**	6.3	<0.4	16	20	19	<0.1	8.0	28	ND	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	ND	<20	<50	<20	<50	<100	<100	<100
HA02_0.7-0.8	**19/09/2019**	**0.7 - 0.8**	7.2	<0.4	21	30	15	<0.1	13	46	ND	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	ND	<20	<50	<20	<50	<100	<100	<100
QA1 / BH09_1.0-1.1	**19/09/2019**	**1.0-1.1**	6.2	<0.4	16	34	14	<0.1	13	62	NA	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	ND	<20	<50	<20	<50	<100	<100	<100
QA2 / BH17_1.2-1.3	**20/09/2019**	**1.2-1.3**	13	0.9	59	210	350	<0.1	17	340	NA	<0.1	0.1	<0.1	<0.2	<0.1	<0.3	ND	<20	<50	<20	<50	130	<100	130
QA3 / BH20_0.3-0.4	**20/09/2019**	**0.3-0.4**	5.3	<0.4	16	28	14	<0.1	5.9	33	NA	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	ND	<20	<50	<20	<50	<100	<100	<100
SP1_1	**20/09/2019**	**0.2-0.3**	12	<0.4	23	17	55	<0.1	6.1	53	ND	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	ND	<20	<50	<20	<50	<100	<100	<100
SP1_2	**20/09/2019**	**0.2-0.3**	12	<0.4	21	16	42	<0.1	6.1	42	ND	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	ND	<20	<50	<20	<50	140	<100	140
SP1_3	**20/09/2019**	**0.2-0.3**	10	<0.4	22	16	56	<0.1	6.0	54	ND	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	ND	<20	<50	<20	<50	<100	<100	<100

Note
NA = not analysed
ND = non detect

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)

Project number: 390892
Site: 754-786 Mamre Road, Kemps Creek, NSW
Client: GPT

Table C1 - Summary of Soil Results - Commercial/Industrial

	PAH							PAH										MAH					PCBs
	Acenaphthene	Acenaphthylene	Anthracene	Benz(a)anthracene	Benzo(a) pyrene	Benzo(b+j)fluoranthene	Benzo(g,h,i)perylene	Benzo(k)fluoranthene	Chrysene	Dibenz(a,h)anthracene	Fluoranthene	Fluorene	Indeno(1,2,3-c,d)pyrene	Naphthalene	Phenanthrene	Pyrene	PAHs (Sum of total)	Total MAH	1,2,4-trimethylbenzene	1,3,5-trimethylbenzene	Isopropylbenzene	Styrene	Total PCBs
	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	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
Laboratory Limit of Detection	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
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	4,500		23,000	21	2.1			210	2,100	2.1	3,000	3,000	21	17		2,300			180	150	990	3,500	
NEPM 2013 Table 1A(3) Comm/Ind D Soil HSL for Vapour Intrusion, Sand																							
NEPM 2013 Table 1B(5) Generic EIL - Comm/Ind (KPMG)														370									
NEPM 2013 Table 1B(6) ESLs for Comm/Ind, Coarse Soil					1.4																		
NEPM 2013 Table 1A(1) HILs Comm/Ind D Soil																	4,000						
Field ID	**Date**	**Depth**																					
BH01_0.3-0.4	**19/09/2019**	**0.3 - 0.4**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	ND
BH01_1.0-1.1	**19/09/2019**	**1 - 1.1**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	NA	NA	NA	NA	NA
BH02_0.2-0.3	**19/09/2019**	**0.2 - 0.3**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	ND
BH02_0.3-0.4	**19/09/2019**	**0.3 - 0.4**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
BH02_1.0-1.1	**19/09/2019**	**1 - 1.1**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
BH02_2.0-2.1	**19/09/2019**	**2 - 2.1**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
BH02_3.0-3.1	**19/09/2019**	**3 - 3.1**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
BH02_4.0-4.1	**19/09/2019**	**4 - 4.1**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	NA	NA	NA	NA	NA
BH03_0.2-0.3	**19/09/2019**	**0.2 - 0.3**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	ND
BH03_0.3-0.4	**19/09/2019**	**0.3 - 0.4**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	NA	NA	NA	NA	NA
BH04_0.2-0.3	**19/09/2019**	**0.2 - 0.3**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	NA	NA	NA	NA	NA
BH04_1.0-1.1	**19/09/2019**	**1 - 1.1**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	ND
BH05_1.9-2.0	**19/09/2019**	**1.9 - 2**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	ND
BH05_3.9-4.0	**19/09/2019**	**3.9 - 4**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	NA	NA	NA	NA	NA
BH06_1.0-1.1	**19/09/2019**	**1 - 1.1**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	ND
BH06_1.2-1.3	**19/09/2019**	**1.2 - 1.3**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	NA	NA	NA	NA	NA
BH07_1.0-1.1	**19/09/2019**	**1 - 1.1**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	NA	NA	NA	NA	NA
BH07_1.4-1.5	**19/09/2019**	**1.4 - 1.5**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	ND
BH08_1.0-1.1	**19/09/2019**	**1 - 1.1**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	NA	NA	NA	NA	NA
BH08_4.9-5.0	**19/09/2019**	**4.9 - 5**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	ND
BH09_0.5-0.6	**19/09/2019**	**0.5 - 0.6**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	ND
BH09_1.0-1.1	**19/09/2019**	**1 - 1.1**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	NA	NA	NA	NA	NA
BH10_0.5-0.6	**19/09/2019**	**0.5 - 0.6**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	NA	NA	NA	NA	NA
BH10_1.0-1.1	**19/09/2019**	**1 - 1.1**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	ND
BH11_0.2-0.3	**19/09/2019**	**0.2 - 0.3**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	ND
BH11_0.6-0.7	**19/09/2019**	**0.6 - 0.7**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	NA	NA	NA	NA	NA
BH12_0.1-0.2	**19/09/2019**	**0.1 - 0.2**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	NA	NA	NA	NA	ND
BH12_0.8-0.9	**19/09/2019**	**0.8 - 0.9**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	NA	NA	NA	NA	NA
BH13_0.2-0.3	**20/09/2019**	**0.2 - 0.3**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	NA	NA	NA	NA	ND
BH13_1.0-1.1	**20/09/2019**	**1 - 1.1**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	NA	NA	NA	NA	NA
BH14_0.1-0.2	**20/09/2019**	**0.1 - 0.2**	<0.5	<0.5	<0.5	1.4	1.7	1.4	1.1	1.5	1.5	<0.5	3.8	<0.5	0.8	<0.5	1.6	4.2	19	NA	NA	NA	NA	NA	ND
BH14_0.3-0.4	**20/09/2019**	**0.3 - 0.4**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	NA	NA	NA	NA	NA
BH15_1.0-1.1	**20/09/2019**	**1 - 1.1**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	NA	NA	NA	NA	ND
BH15_3.7-3.8	**20/09/2019**	**3.7 - 3.8**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	NA	NA	NA	NA	NA
BH16_0.2-0.3	**20/09/2019**	**0.2 - 0.3**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	NA	NA	NA	NA	ND
BH17_1.2-1.3	**20/09/2019**	**1.2 - 1.3**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	NA	NA	NA	NA	NA
BH17_3.0-3.1	**20/09/2019**	**3 - 3.1**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
BH18_0.4-0.5	**20/09/2019**	**0.4 - 0.5**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	ND
BH18_1.0-1.1	**20/09/2019**	**1 - 1.1**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	NA	NA	NA	NA	NA
BH19_0.1-0.2	**20/09/2019**	**0.1 - 0.2**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	ND
BH19_0.5-0.6	**20/09/2019**	**0.5 - 0.6**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	NA	NA	NA	NA	NA
BH20_0.3-0.4	**20/09/2019**	**0.3 - 0.4**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	NA	NA	NA	NA	NA
HA01_0.2-0.3	**19/09/2019**	**0.2 - 0.3**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	NA	NA	NA	NA	NA
HA02_0.7-0.8	**19/09/2019**	**0.7 - 0.8**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	NA	NA	NA	NA	NA
QA1 / BH09_1.0-1.1	**19/09/2019**	**1.0-1.1**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	NA	NA	NA	NA	NA
QA2 / BH17_1.2-1.3	**20/09/2019**	**1.2-1.3**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	NA	NA	NA	NA	NA
QA3 / BH20_0.3-0.4	**20/09/2019**	**0.3-0.4**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	NA	NA	NA	NA	NA
SP1_1	**20/09/2019**	**0.2-0.3**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.5	0.5	NA	NA	NA	NA	NA	NA
SP1_2	**20/09/2019**	**0.2-0.3**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	NA	NA	NA	NA	NA
SP1_3	**20/09/2019**	**0.2-0.3**	<0.5	<0.5	<0.5	0.9	0.8	0.6	<0.5	0.7	0.8	<0.5	2.9	<0.5	<0.5	<0.5	<0.5	2.4	9.1	NA	NA	NA	NA	NA	NA

Note
NA = not analysed
ND = non detect

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)

Project number: 390892
Site: 754-786 Mamre Road, Kemps Creek, NSW
Client: GPT

Table C1 - Summary of Soil Results - Commercial/Industrial

	Chlorinated Hydrocarbons																							
	Chlorinated hydrocarbons EPAVic	Other chlorinated hydrocarbons EPAVic	1,1,1,2-tetrachloroethane	1,1,1-trichloroethane	1,1,2,2-tetrachloroethane	1,1,2-trichloroethane	1,1-dichloroethane	1,1-dichloroethene	1,2,3-trichloropropane	1,2-dichloroethane	1,2-dichloropropane	1,3-dichloropropane	Bromochloromethane	Bromodichloromethane	Bromoform	Carbon tetrachloride	Chlorodibromomethane	Chloroethane	Chloroform	Chloromethane	cis-1,2-dichloroethene	cis-1,3-dichloropropene	Dibromomethane	Dichloromethane
	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	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
Laboratory Limit of Detection	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
CRC Care HSL-D Commercial / Industrial																								
NEPM 2013 Table 1B(7) Management Limits Comm / Ind, Coarse Soil																								
USEPA RSLs Industrial Soil THQ=0.1			8.8	3,600	2.7	0.63	16	100	0.11	2	1.2	2,300	63	1.3	86	2.9	39	5,700	1.4	46	230		9.9	320
NEPM 2013 Table 1A(3) Comm/Ind D Soil HSL for Vapour Intrusion, Sand																								
NEPM 2013 Table 1B(5) Generic EIL - Comm/Ind (KPMG)																								
NEPM 2013 Table 1B(6) ESLs for Comm/Ind, Coarse Soil																								
NEPM 2013 Table 1A(1) HILs Comm/Ind D Soil																								
Field ID	**Date**	**Depth**																						
BH01_0.3-0.4	**19/09/2019**	**0.3 - 0.4**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
BH01_1.0-1.1	**19/09/2019**	**1 - 1.1**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
BH02_0.2-0.3	**19/09/2019**	**0.2 - 0.3**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
BH02_0.3-0.4	**19/09/2019**	**0.3 - 0.4**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
BH02_1.0-1.1	**19/09/2019**	**1 - 1.1**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
BH02_2.0-2.1	**19/09/2019**	**2 - 2.1**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
BH02_3.0-3.1	**19/09/2019**	**3 - 3.1**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
BH02_4.0-4.1	**19/09/2019**	**4 - 4.1**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
BH03_0.2-0.3	**19/09/2019**	**0.2 - 0.3**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
BH03_0.3-0.4	**19/09/2019**	**0.3 - 0.4**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
BH04_0.2-0.3	**19/09/2019**	**0.2 - 0.3**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
BH04_1.0-1.1	**19/09/2019**	**1 - 1.1**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
BH05_1.9-2.0	**19/09/2019**	**1.9 - 2**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
BH05_3.9-4.0	**19/09/2019**	**3.9 - 4**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
BH06_1.0-1.1	**19/09/2019**	**1 - 1.1**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
BH06_1.2-1.3	**19/09/2019**	**1.2 - 1.3**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
BH07_1.0-1.1	**19/09/2019**	**1 - 1.1**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
BH07_1.4-1.5	**19/09/2019**	**1.4 - 1.5**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.6	<0.5	<0.5	<0.5	<0.5
BH08_1.0-1.1	**19/09/2019**	**1 - 1.1**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
BH08_4.9-5.0	**19/09/2019**	**4.9 - 5**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
BH09_0.5-0.6	**19/09/2019**	**0.5 - 0.6**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
BH09_1.0-1.1	**19/09/2019**	**1 - 1.1**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
BH10_0.5-0.6	**19/09/2019**	**0.5 - 0.6**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
BH10_1.0-1.1	**19/09/2019**	**1 - 1.1**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
BH11_0.2-0.3	**19/09/2019**	**0.2 - 0.3**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
BH11_0.6-0.7	**19/09/2019**	**0.6 - 0.7**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
BH12_0.1-0.2	**19/09/2019**	**0.1 - 0.2**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
BH12_0.8-0.9	**19/09/2019**	**0.8 - 0.9**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
BH13_0.2-0.3	**20/09/2019**	**0.2 - 0.3**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
BH13_1.0-1.1	**20/09/2019**	**1 - 1.1**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
BH14_0.1-0.2	**20/09/2019**	**0.1 - 0.2**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
BH14_0.3-0.4	**20/09/2019**	**0.3 - 0.4**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
BH15_1.0-1.1	**20/09/2019**	**1 - 1.1**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
BH15_3.7-3.8	**20/09/2019**	**3.7 - 3.8**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
BH16_0.2-0.3	**20/09/2019**	**0.2 - 0.3**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
BH17_1.2-1.3	**20/09/2019**	**1.2 - 1.3**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
BH17_3.0-3.1	**20/09/2019**	**3 - 3.1**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
BH18_0.4-0.5	**20/09/2019**	**0.4 - 0.5**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
BH18_1.0-1.1	**20/09/2019**	**1 - 1.1**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
BH19_0.1-0.2	**20/09/2019**	**0.1 - 0.2**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
BH19_0.5-0.6	**20/09/2019**	**0.5 - 0.6**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
BH20_0.3-0.4	**20/09/2019**	**0.3 - 0.4**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
HA01_0.2-0.3	**19/09/2019**	**0.2 - 0.3**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
HA02_0.7-0.8	**19/09/2019**	**0.7 - 0.8**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
QA1 / BH09_1.0-1.1	**19/09/2019**	**1.0-1.1**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
QA2 / BH17_1.2-1.3	**20/09/2019**	**1.2-1.3**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
QA3 / BH20_0.3-0.4	**20/09/2019**	**0.3-0.4**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SP1_1	**20/09/2019**	**0.2-0.3**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SP1_2	**20/09/2019**	**0.2-0.3**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SP1_3	**20/09/2019**	**0.2-0.3**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

Note
NA = not analysed
ND = non detect

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)

Project number: 390892
Site: 754-786 Mamre Road, Kemps Creek, NSW
Client: GPT

Table C1 - Summary of Soil Results - Commercial/Industrial

	Chlorinated Hydrocarbons					Solvents					Halogenated Benzenes	Halogenated Hydrocarbons	Organochlorine Pesticides	Organophosphorous Pesticides	Herbicides	Pesticides	
	Trichloroethene	Tetrachloroethene	trans-1,2-dichloroethene	trans-1,3-dichloropropene	Vinyl chloride	Methyl Ethyl Ketone	4-Methyl-2-pentanone	Acetone	Allyl chloride	Carbon disulfide	Total Halogenated Benzenes	Halogenated Hydrocarbons	Total OCP	Total OPP	Dinoseb	Parathion	Pirimiphos-methyl
	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
Laboratory Limit of Detection	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.1	0.2	20	0.2	0.2
CRC Care HSL-D Commercial / Industrial																	
NEPM 2013 Table 1B(7) Management Limits Comm / Ind, Coarse Soil																	
USEPA RSLs Industrial Soil THQ=0.1	1.9	39	2,300		1.7	19,000	14,000	67,000	0.69	350		0.16			82	490	5.5
NEPM 2013 Table 1A(3) Comm/Ind D Soil HSL for Vapour Intrusion, Sand																	
NEPM 2013 Table 1B(5) Generic EIL - Comm/Ind (KPMG)																	
NEPM 2013 Table 1B(6) ESLs for Comm/Ind, Coarse Soil																	
NEPM 2013 Table 1A(1) HILs Comm/Ind D Soil																	
Field ID	**Date**	**Depth**															
BH01_0.3-0.4	**19/09/2019**	**0.3 - 0.4**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	ND	ND	ND	<0.2	<20	<0.2	<0.2
BH01_1.0-1.1	**19/09/2019**	**1 - 1.1**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<20	NA	NA
BH02_0.2-0.3	**19/09/2019**	**0.2 - 0.3**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	ND	ND	ND	<0.2	<20	<0.2	<0.2
BH02_0.3-0.4	**19/09/2019**	**0.3 - 0.4**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
BH02_1.0-1.1	**19/09/2019**	**1 - 1.1**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
BH02_2.0-2.1	**19/09/2019**	**2 - 2.1**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
BH02_3.0-3.1	**19/09/2019**	**3 - 3.1**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
BH02_4.0-4.1	**19/09/2019**	**4 - 4.1**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<20	NA	NA
BH03_0.2-0.3	**19/09/2019**	**0.2 - 0.3**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	ND	ND	ND	<0.2	<20	<0.2	<0.2
BH03_0.3-0.4	**19/09/2019**	**0.3 - 0.4**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<20	NA	NA
BH04_0.2-0.3	**19/09/2019**	**0.2 - 0.3**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<20	NA	NA
BH04_1.0-1.1	**19/09/2019**	**1 - 1.1**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	ND	ND	ND	<0.2	<20	<0.2	<0.2
BH05_1.9-2.0	**19/09/2019**	**1.9 - 2**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	ND	ND	ND	<0.2	<20	<0.2	<0.2
BH05_3.9-4.0	**19/09/2019**	**3.9 - 4**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<20	NA	NA
BH06_1.0-1.1	**19/09/2019**	**1 - 1.1**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	ND	ND	ND	<0.2	<20	<0.2	<0.2
BH06_1.2-1.3	**19/09/2019**	**1.2 - 1.3**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<20	NA	NA
BH07_1.0-1.1	**19/09/2019**	**1 - 1.1**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<20	NA	NA
BH07_1.4-1.5	**19/09/2019**	**1.4 - 1.5**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	ND	ND	ND	<0.2	<20	<0.2	<0.2
BH08_1.0-1.1	**19/09/2019**	**1 - 1.1**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<20	NA	NA
BH08_4.9-5.0	**19/09/2019**	**4.9 - 5**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	ND	ND	ND	<0.2	<20	<0.2	<0.2
BH09_0.5-0.6	**19/09/2019**	**0.5 - 0.6**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	ND	ND	ND	<0.2	<20	<0.2	<0.2
BH09_1.0-1.1	**19/09/2019**	**1 - 1.1**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<20	NA	NA
BH10_0.5-0.6	**19/09/2019**	**0.5 - 0.6**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<20	NA	NA
BH10_1.0-1.1	**19/09/2019**	**1 - 1.1**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	ND	ND	ND	<0.2	<20	<0.2	<0.2
BH11_0.2-0.3	**19/09/2019**	**0.2 - 0.3**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	ND	ND	ND	<0.2	<20	<0.2	<0.2
BH11_0.6-0.7	**19/09/2019**	**0.6 - 0.7**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<20	NA	NA
BH12_0.1-0.2	**19/09/2019**	**0.1 - 0.2**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	<0.2	<20	<0.2	<0.2
BH12_0.8-0.9	**19/09/2019**	**0.8 - 0.9**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<20	NA	NA
BH13_0.2-0.3	**20/09/2019**	**0.2 - 0.3**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	<0.2	<20	<0.2	<0.2
BH13_1.0-1.1	**20/09/2019**	**1 - 1.1**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<20	NA	NA
BH14_0.1-0.2	**20/09/2019**	**0.1 - 0.2**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	<0.2	<20	<0.2	<0.2
BH14_0.3-0.4	**20/09/2019**	**0.3 - 0.4**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<20	NA	NA
BH15_1.0-1.1	**20/09/2019**	**1 - 1.1**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	<0.2	<20	<0.2	<0.2
BH15_3.7-3.8	**20/09/2019**	**3.7 - 3.8**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<20	NA	NA
BH16_0.2-0.3	**20/09/2019**	**0.2 - 0.3**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	<0.2	<20	<0.2	<0.2
BH17_1.2-1.3	**20/09/2019**	**1.2 - 1.3**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<20	NA	NA
BH17_3.0-3.1	**20/09/2019**	**3 - 3.1**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	ND	ND	NA	NA	<20	NA	NA
BH18_0.4-0.5	**20/09/2019**	**0.4 - 0.5**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	ND	ND	ND	<0.2	<20	<0.2	<0.2
BH18_1.0-1.1	**20/09/2019**	**1 - 1.1**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<20	NA	NA
BH19_0.1-0.2	**20/09/2019**	**0.1 - 0.2**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	ND	ND	ND	<0.2	<20	<0.2	<0.2
BH19_0.5-0.6	**20/09/2019**	**0.5 - 0.6**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<20	NA	NA
BH20_0.3-0.4	**20/09/2019**	**0.3 - 0.4**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<20	NA	NA
HA01_0.2-0.3	**19/09/2019**	**0.2 - 0.3**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<20	NA	NA
HA02_0.7-0.8	**19/09/2019**	**0.7 - 0.8**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<20	NA	NA
QA1 / BH09_1.0-1.1	**19/09/2019**	**1.0-1.1**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<20	NA	NA
QA2 / BH17_1.2-1.3	**20/09/2019**	**1.2-1.3**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<20	NA	NA
QA3 / BH20_0.3-0.4	**20/09/2019**	**0.3-0.4**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<20	NA	NA
SP1_1	**20/09/2019**	**0.2-0.3**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<20	NA	NA
SP1_2	**20/09/2019**	**0.2-0.3**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<20	NA	NA
SP1_3	**20/09/2019**	**0.2-0.3**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<20	NA	NA

Note
NA = not analysed
ND = non detect

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)

Project number: 388134
Site: 754 772-782 Mamre Road, Kemps Creek, NSW
Client: GPT

Table C2 – Summary of Groundwater and Surface Water Results - CommercialIndustrial

	Metals									BTEX					Phenols
	Arsenic (filtered)	Cadmium (filtered)	Chromium (III+VI) (filtered)	Copper (filtered)	Lead (filtered)	Mercury (filtered)	Nickel (filtered)	Zinc (filtered)	Aluminium	Benzene	Toluene	Ethylbenzene	Xylene (m & p)	Xylene (o)	Phenolics Total
	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
Laboratory Limit of Reporting	1	0.1	1	1	1	0.05	1	1	10	1	1	1	2	1	50
ANZG (2018) Freshwater 95% toxicant DGVs / adjusted for hardness factor	13	0.2 / 0.84	1 / 3.7	1.4	3.4 / 25.84	0.6	11 / 42.9	8 / 31.2		950				350	
NEPM 2013 Table 1A(4) Comm/Ind HSL D GW for Vapour Intrusion, Sand 2m to <8m										5,000	NL	NL			
Field ID	**Date**	**Standing Water Level (mBTOC)**													
GW01	**29/10/2020**	**5.24**	<1	0.2	<1	5	<1	<0.05	13	63	NA	<1	<1	<1	<2	<1	<50
GW02	**29/10/2020**	**4.945**	<1	0.2	<1	6	<1	<0.05	27	62	NA	<1	<1	<1	<2	<1	<50
BR01 / GW01	**29/10/2020**	**5.24**	<1	0.2	<1	4	<1	<0.05	11	39	NA	<1	<1	<1	<2	<1	<50
SW01	**29/10/2020**	**NA**	2	<0.1	<1	2	<1	<0.05	<1	2	<10	<1	<1	<1	<2	<1	<50
SW02	**29/10/2020**	**NA**	2	<0.1	<1	2	<1	<0.05	1	16	190	<1	<1	<1	<2	<1	<50

mBTOC Metres below top of case

Surface water DGVs for heavy metals adjusted to account for hardness factor as per ANZECC 2000 Vol. 1 - Table 3.4.3

Note
NA = not analysed
GW01 is located offsite

Environmental Standards
ANZG 2018 = Australian and New Zealand Environment Governments – Guidelines for Fresh and Marine Water Quality, 2018

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Project number: 388134
Site: 754 772-782 Mamre Road, Kemps Creek, NSW
Client: GPT

Table C2 – Summary of Groundwater and Surface Water Results - CommercialIndustrial

	TRH						Chlorinated Hydrocarbon											
	C6-C10	C6-C10 (F1 minus BTEX)	C10-C16 (F2 minus Naphthalene)	C10-C16	C16-C34	C34-C40	1,1,1,2-tetrachloroethane	1,1,1-trichloroethane	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
	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
Laboratory Limit of Reporting	10	10	50	50	100	100	1	1	1	1	1	1	1	1	1	1	1	1
ANZG (2018) Freshwater 95% toxicant DGVs / adjusted for hardness factor										6,500								
NEPM 2013 Table 1A(4) Comm/Ind HSL D GW for Vapour Intrusion, Sand 2m to <8m		6,000	NL															
Field ID	**Date**	**Standing Water Level (mBTOC)**																	
GW01	**29/10/2020**	**5.24**	<10	<10	92	92	<100	<100	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
GW02	**29/10/2020**	**4.945**	<10	<10	<50	<50	<100	<100	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
BR01 / GW01	**29/10/2020**	**5.24**	<10	<10	<50	<50	<100	<100	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
SW01	**29/10/2020**	**NA**	<10	<10	<50	<50	<100	<100	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
SW02	**29/10/2020**	**NA**	<10	<10	<50	<50	<100	<100	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1

mBTOC Metres below top of case

Surface water DGVs for heavy metals adjusted to account for hardness factor as per ANZECC 2000 Vol. 1 - Table 3.4.3

Note
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GW01 is located offsite

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Project number: 388134
Site: 754 772-782 Mamre Road, Kemps Creek, NSW
Client: GPT

Table C2 – Summary of Groundwater and Surface Water Results - CommercialIndustrial

	Chlorinated Hydrocarbon																	
	2,2-dichloropropane	Bromochloromethane	Bromodichloromethane	Bromoform	Carbon tetrachloride	Chlorodibromomethane	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
	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
Laboratory Limit of Reporting	1	1	1	1	1	1	10	1	10	1	1	1	1	1	1	1	1	10
ANZG (2018) Freshwater 95% toxicant DGVs / adjusted for hardness factor																		
NEPM 2013 Table 1A(4) Comm/Ind HSL D GW for Vapour Intrusion, Sand 2m to <8m																		
Field ID **Date** **Standing Water Level (mBTOC)**																		
GW01 **29/10/2020** **5.24**	<1	<1	<1	<1	<1	<1	<10	<1	<10	<1	<1	<1	<1	<1	<1	<1	<1	<10
GW02 **29/10/2020** **4.945**	<1	<1	<1	<1	<1	<1	<10	<1	<10	<1	<1	<1	<1	<1	<1	<1	<1	<10
BR01 / GW01 **29/10/2020** **5.24**	<1	<1	<1	<1	<1	<1	<10	<1	<10	<1	<1	<1	<1	<1	<1	<1	<1	<10
SW01 **29/10/2020** **NA**	<1	<1	<1	<1	<1	<1	<10	<1	<10	<1	<1	<1	<1	<1	<1	<1	<1	<10
SW02 **29/10/2020** **NA**	<1	<1	<1	<1	<1	<1	<10	<1	<10	<1	<1	<1	<1	<1	<1	<1	<1	<10

mBTOC Metres below top of case

Surface water DGVs for heavy metals adjusted to account for hardness factor as per ANZECC 2000 Vol. 1 - Table 3.4.3

Note
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GW01 is located offsite

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Project number: 388134
Site: 754 772-782 Mamre Road, Kemps Creek, NSW
Client: GPT

Table C2 – Summary of Groundwater and Surface Water Results - CommercialIndustrial

	Halogenated Benzenes										Halogenated Hydrocarbons			
	1,2,3-trichlorobenzene	1,2,4-trichlorobenzene	1,2-dichlorobenzene	1,3-dichlorobenzene	1,4-dichlorobenzene	2-chlorotoluene	4-chlorotoluene	Bromobenzene	Chlorobenzene	Hexachlorobenzene	1,2-dibromoethane	Bromomethane	Dichlorodifluoromethane	Trichlorofluoromethane
	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
Laboratory Limit of Reporting	1	1	1	1	1	1	1	1	1	0.2	1	10	10	10
ANZG (2018) Freshwater 95% toxicant DGVs / adjusted for hardness factor	10	170	160	260	60									
NEPM 2013 Table 1A(4) Comm/Ind HSL D GW for Vapour Intrusion, Sand 2m to <8m														
Field ID	**Date**	**Standing Water Level (mBTOC)**													
GW01	**29/10/2020**	**5.24**	<1	<1	<1	<1	<1	<1	<1	<1	<1	<0.2	<1	<10	<10	<10
GW02	**29/10/2020**	**4.945**	<1	<1	<1	<1	<1	<1	<1	<1	<1	<0.2	<1	<10	<10	<10
BR01 / GW01	**29/10/2020**	**5.24**	<1	<1	<1	<1	<1	<1	<1	<1	<1	<0.2	<1	<10	<10	<10
SW01	**29/10/2020**	**NA**	<1	<1	<1	<1	<1	<1	<1	<1	<1	<0.2	<1	<10	<10	<10
SW02	**29/10/2020**	**NA**	<1	<1	<1	<1	<1	<1	<1	<1	<1	<0.2	<1	<10	<10	<10

mBTOC Metres below top of case

Surface water DGVs for heavy metals adjusted to account for hardness factor as per ANZECC 2000 Vol. 1 - Table 3.4.3

Note
NA = not analysed
GW01 is located offsite

Environmental Standards
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Project number: 388134
Site: 754 772-782 Mamre Road, Kemps Creek, NSW
Client: GPT

Table C2 – Summary of Groundwater and Surface Water Results - CommercialIndustrial

	MAH									Organochlorine Pesticides								
	1,2,4-trimethylbenzene	1,3,5-trimethylbenzene	Isopropylbenzene	n-butylbenzene	n-propylbenzene	p-isopropyltoluene	sec-butylbenzene	Styrene	tert-butylbenzene	4,4-DDE	a-BHC	Aldrin	b-BHC	Chlordane (cis)	Chlordane (trans)	d-BHC	DDD	DDT
	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
Laboratory Limit of Reporting	1	1	1	1	1	1	1	1	1	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
ANZG (2018) Freshwater 95% toxicant DGVs / adjusted for hardness factor																		0.01
NEPM 2013 Table 1A(4) Comm/Ind HSL D GW for Vapour Intrusion, Sand 2m to <8m																		
Field ID **Date** **Standing Water Level (mBTOC)**																		
GW01 **29/10/2020** **5.24**	<1	<1	<1	<1	<1	<1	<1	<1	<1	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
GW02 **29/10/2020** **4.945**	<1	<1	<1	<1	<1	<1	<1	<1	<1	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
BR01 / GW01 **29/10/2020** **5.24**	<1	<1	<1	<1	<1	<1	<1	<1	<1	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
SW01 **29/10/2020** **NA**	<1	<1	<1	<1	<1	<1	<1	<1	<1	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
SW02 **29/10/2020** **NA**	<1	<1	<1	<1	<1	<1	<1	<1	<1	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2

mBTOC Metres below top of case

Surface water DGVs for heavy metals adjusted to account for hardness factor as per ANZECC 2000 Vol. 1 - Table 3.4.3

Note
NA = not analysed
GW01 is located offsite

Environmental Standards
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Project number: 388134
Site: 754 772-782 Mamre Road, Kemps Creek, NSW
Client: GPT

Table C2 – Summary of Groundwater and Surface Water Results - CommercialIndustrial

	Organochlorine Pesticides										Organophosphorous Pesticides										
	Dieldrin	Endosulfan I	Endosulfan II	Endosulfan sulphate	Endrin	Endrin aldehyde	g-BHC (Lindane)	Heptachlor	Heptachlor epoxide	Methoxychlor	Azinophos methyl	Bromophos-ethyl	Chlorpyrifos	Chlorpyrifos-methyl	Diazinon	Dichlorvos	Dimethoate	Ethion	Fenitrothion	Malathion	Ronnel
	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	mg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
Laboratory Limit of Reporting	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.0002	0.2	0.2	0.2	0.2	0.2	0.2	0.2
ANZG (2018) Freshwater 95% toxicant DGVs / adjusted for hardness factor					0.02		0.2	0.09			0.02		0.01		0.01		0.15		0.2	0.05	
NEPM 2013 Table 1A(4) Comm/Ind HSL D GW for Vapour Intrusion, Sand 2m to <8m																					
Field ID	**Date**	**Standing Water Level (mBTOC)**																				
GW01	**29/10/2020**	**5.24**	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.0002	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
GW02	**29/10/2020**	**4.945**	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.0002	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
BR01 / GW01	**29/10/2020**	**5.24**	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.0002	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
SW01	**29/10/2020**	**NA**	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.0002	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
SW02	**29/10/2020**	**NA**	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.0002	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2

mBTOC Metres below top of case

Surface water DGVs for heavy metals adjusted to account for hardness factor as per ANZECC 2000 Vol. 1 - Table 3.4.3

Note
NA = not analysed
GW01 is located offsite

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Project number: 388134
Site: 754 772-782 Mamre Road, Kemps Creek, NSW
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Table C2 – Summary of Groundwater and Surface Water Results - CommercialIndustrial

					PAH													
	Benzo(b+j+k)fluoranthene	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	Benzo(a)pyrene TEQ	PAHs (Sum of positives)
	mg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	mg/L	mg/L
Laboratory Limit of Reporting	0.002	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0.005	0.001
ANZG (2018) Freshwater 95% toxicant DGVs / adjusted for hardness factor													16				
NEPM 2013 Table 1A(4) Comm/Ind HSL D GW for Vapour Intrusion, Sand 2m to <8m													NL				
Field ID	**Date**	**Standing Water Level (mBTOC)**																
GW01	**29/10/2020**	**5.24**	<0.002	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<0.005	0
GW02	**29/10/2020**	**4.945**	<0.002	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<0.005	0
BR01 / GW01	**29/10/2020**	**5.24**	<0.002	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<0.005	0
SW01	**29/10/2020**	**NA**	<0.002	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<0.005	0
SW02	**29/10/2020**	**NA**	<0.002	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<0.005	0

mBTOC Metres below top of case

Surface water DGVs for heavy metals adjusted to account for hardness factor as per ANZECC 2000 Vol. 1 - Table 3.4.3

Note
NA = not analysed
GW01 is located offsite

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Project number: 388134
Site: 754 772-782 Mamre Road, Kemps Creek, NSW
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Table C2 – Summary of Groundwater and Surface Water Results - CommercialIndustrial

	PCBs							Pesticides	Solvents	Nutrients		Inorganics	Turbidity	Hardness
	Arochlor 1016	Arochlor 1221	Arochlor 1232	Arochlor 1242	Arochlor 1248	Arochlor 1254	Arochlor 1260	Parathion	Cyclohexane	Nitrogen (Total)	Phosphorus	pH (Lab)	Turbidity	Hardness
	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	mg/L	mg/L	mg/L	-	NTU	mgCaCO3/L
Laboratory Limit of Reporting	2	2	2	2	2	2	2	0.2	0.001	0.1	0.05		0.1	
ANZG (2018) Freshwater 95% toxicant DGVs / adjusted for hardness factor				0.6		0.03		0.004						
NEPM 2013 Table 1A(4) Comm/Ind HSL D GW for Vapour Intrusion, Sand 2m to <8m														
Field ID	**Date**	**Standing Water Level (mBTOC)**												
GW01	**29/10/2020**	**5.24**	<2	<2	<2	<2	<2	<2	<2	<0.2	<0.001	NA	NA	6.6	NA	NA
GW02	**29/10/2020**	**4.945**	<2	<2	<2	<2	<2	<2	<2	<0.2	<0.001	NA	NA	6.6	NA	NA
BR01 / GW01	**29/10/2020**	**5.24**	<2	<2	<2	<2	<2	<2	<2	<0.2	<0.001	NA	NA	6.6	NA	NA
SW01	**29/10/2020**	**NA**	<2	<2	<2	<2	<2	<2	<2	<0.2	<0.001	1	0.6	8.6	4.6	150
SW02	**29/10/2020**	**NA**	<2	<2	<2	<2	<2	<2	<2	<0.2	<0.001	1	0.7	8.9	4.9	160

mBTOC Metres below top of case

Surface water DGVs for heavy metals adjusted to account for hardness factor as per ANZECC 2000 Vol. 1 - Table 3.4.3

Note
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GW01 is located offsite

Environmental Standards
ANZG 2018 = Australian and New Zealand Environment Governments – Guidelines for Fresh and Marine Water Quality, 2018

NEPM 2013 = National Environment Protection Council 1999 National Environment Protection (Assessment of Site Contamination) Measure (NEPM) (Amended 2013)

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CERTIFICATE OF ANALYSIS 254574

Client Details

Client	KPMG Property & Environmental Services PTY LTD
Attention	Dylan Jones
Address	Tower 3, International Towers Sydney, 300 Barangaroo Ave, Sydney, NSW, 2000

Sample Details

Your Reference	**388134**
Number of Samples	5 Water
Date samples received	29/10/2020
Date completed instructions received	29/10/2020

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	05/11/2020
Date of Issue	05/11/2020

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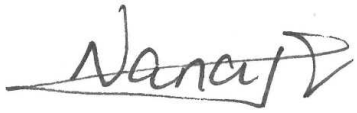
Priya Samarawickrama, Senior Chemist

Authorised By



Nancy Zhang, Laboratory Manager

VOCs in water						
Our Reference		254574-1	254574-2	254574-3	254574-4	254574-5
Your Reference	UNITS	GW01	GW02	SW01	SW02	BR01
Date Sampled		29/10/2020	29/10/2020	29/10/2020	29/10/2020	29/10/2020
Type of sample		Water	Water	Water	Water	Water
Date extracted	-	30/10/2020	30/10/2020	30/10/2020	30/10/2020	30/10/2020
Date analysed	-	02/11/2020	02/11/2020	02/11/2020	02/11/2020	02/11/2020
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	<1	<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	<1	<1
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	<1	<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	<1	<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	<1	<1	<1	<1	<1
Ethylbenzene	µg/L	<1	<1	<1	<1	<1

VOCs in water						
Our Reference		254574-1	254574-2	254574-3	254574-4	254574-5
Your Reference	UNITS	GW01	GW02	SW01	SW02	BR01
Date Sampled		29/10/2020	29/10/2020	29/10/2020	29/10/2020	29/10/2020
Type of sample		Water	Water	Water	Water	Water
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
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	<1	<1	<1	<1	<1
Sec-butyl benzene	µg/L	<1	<1	<1	<1	<1
1,4-dichlorobenzene	µg/L	<1	<1	<1	<1	<1
4-isopropyl toluene	µg/L	<1	<1	<1	<1	<1
1,2-dichlorobenzene	µg/L	<1	<1	<1	<1	<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	%	107	103	105	103	107
Surrogate toluene-d8	%	100	99	101	98	101
Surrogate 4-BFB	%	100	102	100	102	101

vTRH(C6-C10)/BTEXN in Water						
Our Reference	UNITS	254574-1	254574-2	254574-3	254574-4	254574-5
Your Reference		GW01	GW02	SW01	SW02	BR01
Date Sampled		29/10/2020	29/10/2020	29/10/2020	29/10/2020	29/10/2020
Type of sample		Water	Water	Water	Water	Water
Date extracted	-	30/10/2020	30/10/2020	30/10/2020	30/10/2020	30/10/2020
Date analysed	-	02/11/2020	02/11/2020	02/11/2020	02/11/2020	02/11/2020
TRH C_6 - C_9	µg/L	<10	<10	<10	<10	<10
TRH C_6 - C_{10}	µg/L	<10	<10	<10	<10	<10
TRH C_6 - C_{10} less BTEX (F1)	µg/L	<10	<10	<10	<10	<10
Benzene	µg/L	<1	<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	%	107	103	105	103	107
Surrogate toluene-d8	%	100	99	101	98	101
Surrogate 4-BFB	%	100	102	100	102	101

svTRH (C10-C40) in Water						
Our Reference		254574-1	254574-2	254574-3	254574-4	254574-5
Your Reference	UNITS	GW01	GW02	SW01	SW02	BR01
Date Sampled		29/10/2020	29/10/2020	29/10/2020	29/10/2020	29/10/2020
Type of sample		Water	Water	Water	Water	Water
Date extracted	-	30/10/2020	30/10/2020	30/10/2020	30/10/2020	30/10/2020
Date analysed	-	31/10/2020	31/10/2020	31/10/2020	31/10/2020	31/10/2020
TRH C_{10} - C_{14}	µg/L	<50	<50	<50	<50	<50
TRH C_{15} - C_{28}	µg/L	120	<100	<100	<100	<100
TRH C_{29} - C_{36}	µg/L	<100	<100	<100	<100	<100
TRH >C_{10} - C_{16}	µg/L	92	<50	<50	<50	<50
TRH >C_{10} - C_{16} less Naphthalene (F2)	µg/L	92	<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	%	79	68	74	73	80

PAHs in Water						
Our Reference		254574-1	254574-2	254574-3	254574-4	254574-5
Your Reference	UNITS	GW01	GW02	SW01	SW02	BR01
Date Sampled		29/10/2020	29/10/2020	29/10/2020	29/10/2020	29/10/2020
Type of sample		Water	Water	Water	Water	Water
Date extracted	-	30/10/2020	30/10/2020	30/10/2020	30/10/2020	30/10/2020
Date analysed	-	02/11/2020	02/11/2020	02/11/2020	02/11/2020	02/11/2020
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	%	107	92	101	96	104

Organochlorine Pesticides in Water						
Our Reference		254574-1	254574-2	254574-3	254574-4	254574-5
Your Reference	UNITS	GW01	GW02	SW01	SW02	BR01
Date Sampled		29/10/2020	29/10/2020	29/10/2020	29/10/2020	29/10/2020
Type of sample		Water	Water	Water	Water	Water
Date extracted	-	30/10/2020	30/10/2020	30/10/2020	30/10/2020	30/10/2020
Date analysed	-	02/11/2020	02/11/2020	02/11/2020	02/11/2020	02/11/2020
alpha-BHC	µg/L	<0.2	<0.2	<0.2	<0.2	<0.2
HCB	µg/L	<0.2	<0.2	<0.2	<0.2	<0.2
beta-BHC	µg/L	<0.2	<0.2	<0.2	<0.2	<0.2
gamma-BHC	µg/L	<0.2	<0.2	<0.2	<0.2	<0.2
Heptachlor	µg/L	<0.2	<0.2	<0.2	<0.2	<0.2
delta-BHC	µg/L	<0.2	<0.2	<0.2	<0.2	<0.2
Aldrin	µg/L	<0.2	<0.2	<0.2	<0.2	<0.2
Heptachlor Epoxide	µg/L	<0.2	<0.2	<0.2	<0.2	<0.2
gamma-Chlordane	µg/L	<0.2	<0.2	<0.2	<0.2	<0.2
alpha-Chlordane	µg/L	<0.2	<0.2	<0.2	<0.2	<0.2
Endosulfan I	µg/L	<0.2	<0.2	<0.2	<0.2	<0.2
pp-DDE	µg/L	<0.2	<0.2	<0.2	<0.2	<0.2
Dieldrin	µg/L	<0.2	<0.2	<0.2	<0.2	<0.2
Endrin	µg/L	<0.2	<0.2	<0.2	<0.2	<0.2
Endosulfan II	µg/L	<0.2	<0.2	<0.2	<0.2	<0.2
pp-DDD	µg/L	<0.2	<0.2	<0.2	<0.2	<0.2
Endrin Aldehyde	µg/L	<0.2	<0.2	<0.2	<0.2	<0.2
pp-DDT	µg/L	<0.2	<0.2	<0.2	<0.2	<0.2
Endosulfan Sulphate	µg/L	<0.2	<0.2	<0.2	<0.2	<0.2
Methoxychlor	µg/L	<0.2	<0.2	<0.2	<0.2	<0.2
Surrogate TCMX	%	118	102	110	119	112

OP Pesticides in Water						
Our Reference		254574-1	254574-2	254574-3	254574-4	254574-5
Your Reference	UNITS	GW01	GW02	SW01	SW02	BR01
Date Sampled		29/10/2020	29/10/2020	29/10/2020	29/10/2020	29/10/2020
Type of sample		Water	Water	Water	Water	Water
Date extracted	-	30/10/2020	30/10/2020	30/10/2020	30/10/2020	30/10/2020
Date analysed	-	02/11/2020	02/11/2020	02/11/2020	02/11/2020	02/11/2020
Dichlorvos	µg/L	<0.2	<0.2	<0.2	<0.2	<0.2
Dimethoate	µg/L	<0.2	<0.2	<0.2	<0.2	<0.2
Diazinon	µg/L	<0.2	<0.2	<0.2	<0.2	<0.2
Chlorpyriphos-methyl	µg/L	<0.2	<0.2	<0.2	<0.2	<0.2
Ronnel	µg/L	<0.2	<0.2	<0.2	<0.2	<0.2
Fenitrothion	µg/L	<0.2	<0.2	<0.2	<0.2	<0.2
Malathion	µg/L	<0.2	<0.2	<0.2	<0.2	<0.2
Chlorpyriphos	µg/L	<0.2	<0.2	<0.2	<0.2	<0.2
Parathion	µg/L	<0.2	<0.2	<0.2	<0.2	<0.2
Bromophos ethyl	µg/L	<0.2	<0.2	<0.2	<0.2	<0.2
Ethion	µg/L	<0.2	<0.2	<0.2	<0.2	<0.2
Azinphos-methyl (Guthion)	µg/L	<0.2	<0.2	<0.2	<0.2	<0.2
Surrogate TCMX	%	118	102	110	119	112

PCBs in Water						
Our Reference		254574-1	254574-2	254574-3	254574-4	254574-5
Your Reference	UNITS	GW01	GW02	SW01	SW02	BR01
Date Sampled		29/10/2020	29/10/2020	29/10/2020	29/10/2020	29/10/2020
Type of sample		Water	Water	Water	Water	Water
Date extracted	-	30/10/2020	30/10/2020	30/10/2020	30/10/2020	30/10/2020
Date analysed	-	02/11/2020	02/11/2020	02/11/2020	02/11/2020	02/11/2020
Aroclor 1016	µg/L	<2	<2	<2	<2	<2
Aroclor 1221	µg/L	<2	<2	<2	<2	<2
Aroclor 1232	µg/L	<2	<2	<2	<2	<2
Aroclor 1242	µg/L	<2	<2	<2	<2	<2
Aroclor 1248	µg/L	<2	<2	<2	<2	<2
Aroclor 1254	µg/L	<2	<2	<2	<2	<2
Aroclor 1260	µg/L	<2	<2	<2	<2	<2
Surrogate TCMX	%	118	102	110	119	112

Total Phenolics in Water						
Our Reference		254574-1	254574-2	254574-3	254574-4	254574-5
Your Reference	UNITS	GW01	GW02	SW01	SW02	BR01
Date Sampled		29/10/2020	29/10/2020	29/10/2020	29/10/2020	29/10/2020
Type of sample		Water	Water	Water	Water	Water
Date extracted	-	30/10/2020	30/10/2020	30/10/2020	30/10/2020	30/10/2020
Date analysed	-	30/10/2020	30/10/2020	30/10/2020	30/10/2020	30/10/2020
Total Phenolics (as Phenol)	mg/L	<0.05	<0.05	<0.05	<0.05	<0.05

HM in water - dissolved				
Our Reference	UNITS	254574-1	254574-2	254574-5
Your Reference		GW01	GW02	BR01
Date Sampled		29/10/2020	29/10/2020	29/10/2020
Type of sample		Water	Water	Water
Date prepared	-	30/10/2020	30/10/2020	30/10/2020
Date analysed	-	30/10/2020	30/10/2020	30/10/2020
Arsenic-Dissolved	µg/L	<1	<1	<1
Cadmium-Dissolved	µg/L	0.2	0.2	0.2
Chromium-Dissolved	µg/L	<1	<1	<1
Copper-Dissolved	µg/L	5	6	4
Lead-Dissolved	µg/L	<1	<1	<1
Mercury-Dissolved	µg/L	<0.05	<0.05	<0.05
Nickel-Dissolved	µg/L	13	27	11
Zinc-Dissolved	µg/L	63	62	39

HM in water - total			
Our Reference	UNITS	254574-3	254574-4
Your Reference		SW01	SW02
Date Sampled		29/10/2020	29/10/2020
Type of sample		Water	Water
Date prepared	-	03/11/2020	03/11/2020
Date analysed	-	03/11/2020	03/11/2020
Arsenic-Total	µg/L	3	3
Cadmium-Total	µg/L	<0.1	<0.1
Chromium-Total	µg/L	<1	<1
Copper-Total	µg/L	180	40
Lead-Total	µg/L	<1	<1
Mercury-Total	µg/L	<0.05	<0.05
Nickel-Total	µg/L	1	1
Zinc-Total	µg/L	2	4

Metals in Waters - Total			
Our Reference		254574-3	254574-4
Your Reference	UNITS	SW01	SW02
Date Sampled		29/10/2020	29/10/2020
Type of sample		Water	Water
Date prepared	-	30/10/2020	30/10/2020
Date analysed	-	30/10/2020	30/10/2020
Phosphorus - Total	mg/L	0.6	0.7

Miscellaneous Inorganics						
Our Reference	UNITS	254574-1	254574-2	254574-3	254574-4	254574-5
Your Reference		GW01	GW02	SW01	SW02	BR01
Date Sampled		29/10/2020	29/10/2020	29/10/2020	29/10/2020	29/10/2020
Type of sample		Water	Water	Water	Water	Water
Date prepared	-	29/10/2020	29/10/2020	29/10/2020	29/10/2020	29/10/2020
Date analysed	-	29/10/2020	29/10/2020	29/10/2020	29/10/2020	29/10/2020
pH	pH Units	6.6	6.6	8.6	8.9	6.6
Turbidity	NTU	[NA]	[NA]	4.6	4.9	[NA]
Total Nitrogen in water	mg/L	[NA]	[NA]	1	1.0	[NA]

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-022	Turbidity - measured nephelometrically using a turbidimeter, in accordance with APHA latest edition, 2130-B.
Inorg-031	Total Phenolics by segmented flow analyser (in line distillation with colourimetric finish). Solids are extracted in a caustic media prior to analysis.
Inorg-055/062/127	Total Nitrogen - Calculation sum of TKN and oxidised Nitrogen. Alternatively analysed by combustion and chemiluminescence.
Metals-020	Determination of various metals by ICP-AES.
Metals-021	Determination of Mercury by Cold Vapour AAS.
Metals-022	Determination of various metals by ICP-MS.
Org-020	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-021	Soil samples are extracted with dichloromethane/acetone and waters with dichloromethane and analysed by GC-ECD.
Org-022/025	Soil samples are extracted with Dichloromethane/Acetone and waters with Dichloromethane and analysed by GC-MS/GC-MSMS.
Org-022/025	Soil samples are extracted with Dichloromethane/Acetone and waters with Dichloromethane and analysed by GC-MS/GC-MSMS. Benzo(a)pyrene TEQ as per NEPM B1 Guideline on Investigation Levels for Soil and Groundwater - 2013.
Org-023	Water samples are analysed directly by purge and trap GC-MS.
Org-023	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.

QUALITY CONTROL: VOCs in water						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W2	[NT]
Date extracted	-			30/10/2020	[NT]	[NT]	[NT]	[NT]	30/10/2020	[NT]
Date analysed	-			02/11/2020	[NT]	[NT]	[NT]	[NT]	02/11/2020	[NT]
Dichlorodifluoromethane	µg/L	10	Org-023	<10	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Chloromethane	µg/L	10	Org-023	<10	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Vinyl Chloride	µg/L	10	Org-023	<10	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Bromomethane	µg/L	10	Org-023	<10	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Chloroethane	µg/L	10	Org-023	<10	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Trichlorofluoromethane	µg/L	10	Org-023	<10	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
1,1-Dichloroethene	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Trans-1,2-dichloroethene	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
1,1-dichloroethane	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	83	[NT]
Cis-1,2-dichloroethene	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Bromochloromethane	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Chloroform	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	83	[NT]
2,2-dichloropropane	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
1,2-dichloroethane	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	84	[NT]
1,1,1-trichloroethane	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	84	[NT]
1,1-dichloropropene	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Cyclohexane	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Carbon tetrachloride	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Benzene	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Dibromomethane	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
1,2-dichloropropane	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Trichloroethene	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	85	[NT]
Bromodichloromethane	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	85	[NT]
trans-1,3-dichloropropene	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
cis-1,3-dichloropropene	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
1,1,2-trichloroethane	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Toluene	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
1,3-dichloropropane	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Dibromochloromethane	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	86	[NT]
1,2-dibromoethane	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Tetrachloroethene	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	90	[NT]
1,1,1,2-tetrachloroethane	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Chlorobenzene	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Ethylbenzene	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Bromoform	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
m+p-xylene	µg/L	2	Org-023	<2	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Styrene	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
1,1,2,2-tetrachloroethane	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]

QUALITY CONTROL: VOCs in water						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W2	[NT]
o-xylene	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
1,2,3-trichloropropane	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Isopropylbenzene	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Bromobenzene	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
n-propyl benzene	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
2-chlorotoluene	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
4-chlorotoluene	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
1,3,5-trimethyl benzene	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Tert-butyl benzene	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
1,2,4-trimethyl benzene	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
1,3-dichlorobenzene	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Sec-butyl benzene	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
1,4-dichlorobenzene	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
4-isopropyl toluene	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
1,2-dichlorobenzene	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
n-butyl benzene	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
1,2-dibromo-3-chloropropane	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
1,2,4-trichlorobenzene	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Hexachlorobutadiene	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
1,2,3-trichlorobenzene	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Surrogate Dibromofluoromethane	%		Org-023	100	[NT]	[NT]	[NT]	[NT]	102	[NT]
Surrogate toluene-d8	%		Org-023	98	[NT]	[NT]	[NT]	[NT]	100	[NT]
Surrogate 4-BFB	%		Org-023	100	[NT]	[NT]	[NT]	[NT]	103	[NT]

QUALITY CONTROL: vTRH(C6-C10)/BTEXN in Water					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W2	[NT]
Date extracted	-			30/10/2020	[NT]	[NT]	[NT]	[NT]	30/10/2020	[NT]
Date analysed	-			02/11/2020	[NT]	[NT]	[NT]	[NT]	02/11/2020	[NT]
TRH C_6 - C_9	µg/L	10	Org-023	<10	[NT]	[NT]	[NT]	[NT]	84	[NT]
TRH C_6 - C_{10}	µg/L	10	Org-023	<10	[NT]	[NT]	[NT]	[NT]	84	[NT]
Benzene	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	83	[NT]
Toluene	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	83	[NT]
Ethylbenzene	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	84	[NT]
m+p-xylene	µg/L	2	Org-023	<2	[NT]	[NT]	[NT]	[NT]	85	[NT]
o-xylene	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	84	[NT]
Naphthalene	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Surrogate Dibromofluoromethane	%		Org-023	100	[NT]	[NT]	[NT]	[NT]	102	[NT]
Surrogate toluene-d8	%		Org-023	98	[NT]	[NT]	[NT]	[NT]	100	[NT]
Surrogate 4-BFB	%		Org-023	100	[NT]	[NT]	[NT]	[NT]	103	[NT]

QUALITY CONTROL: svTRH (C10-C40) in Water						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W2	[NT]
Date extracted	-			30/10/2020	[NT]	[NT]	[NT]	[NT]	30/10/2020	[NT]
Date analysed	-			31/10/2020	[NT]	[NT]	[NT]	[NT]	31/10/2020	[NT]
TRH C_{10} - C_{14}	µg/L	50	Org-020	<50	[NT]	[NT]	[NT]	[NT]	81	[NT]
TRH C_{15} - C_{28}	µg/L	100	Org-020	<100	[NT]	[NT]	[NT]	[NT]	73	[NT]
TRH C_{29} - C_{36}	µg/L	100	Org-020	<100	[NT]	[NT]	[NT]	[NT]	72	[NT]
TRH >C_{10} - C_{16}	µg/L	50	Org-020	<50	[NT]	[NT]	[NT]	[NT]	81	[NT]
TRH >C_{16} - C_{34}	µg/L	100	Org-020	<100	[NT]	[NT]	[NT]	[NT]	73	[NT]
TRH >C_{34} - C_{40}	µg/L	100	Org-020	<100	[NT]	[NT]	[NT]	[NT]	72	[NT]
Surrogate o-Terphenyl	%		Org-020	93	[NT]	[NT]	[NT]	[NT]	120	[NT]

QUALITY CONTROL: PAHs in Water						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W2	[NT]
Date extracted	-			30/10/2020	[NT]	[NT]	[NT]	[NT]	30/10/2020	[NT]
Date analysed	-			02/11/2020	[NT]	[NT]	[NT]	[NT]	02/11/2020	[NT]
Naphthalene	µg/L	1	Org-022/025	<1	[NT]	[NT]	[NT]	[NT]	87	[NT]
Acenaphthylene	µg/L	1	Org-022/025	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Acenaphthene	µg/L	1	Org-022/025	<1	[NT]	[NT]	[NT]	[NT]	92	[NT]
Fluorene	µg/L	1	Org-022/025	<1	[NT]	[NT]	[NT]	[NT]	98	[NT]
Phenanthrene	µg/L	1	Org-022/025	<1	[NT]	[NT]	[NT]	[NT]	110	[NT]
Anthracene	µg/L	1	Org-022/025	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Fluoranthene	µg/L	1	Org-022/025	<1	[NT]	[NT]	[NT]	[NT]	95	[NT]
Pyrene	µg/L	1	Org-022/025	<1	[NT]	[NT]	[NT]	[NT]	93	[NT]
Benzo(a)anthracene	µg/L	1	Org-022/025	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Chrysene	µg/L	1	Org-022/025	<1	[NT]	[NT]	[NT]	[NT]	100	[NT]
Benzo(b,j+k)fluoranthene	µg/L	2	Org-022/025	<2	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Benzo(a)pyrene	µg/L	1	Org-022/025	<1	[NT]	[NT]	[NT]	[NT]	88	[NT]
Indeno(1,2,3-c,d)pyrene	µg/L	1	Org-022/025	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Dibenzo(a,h)anthracene	µg/L	1	Org-022/025	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Benzo(g,h,i)perylene	µg/L	1	Org-022/025	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Surrogate p-Terphenyl-d14	%		Org-022/025	100	[NT]	[NT]	[NT]	[NT]	90	[NT]

QUALITY CONTROL: Organochlorine Pesticides in Water					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W2	[NT]
Date extracted	-			30/10/2020	[NT]	[NT]	[NT]	[NT]	30/10/2020	[NT]
Date analysed	-			02/11/2020	[NT]	[NT]	[NT]	[NT]	02/11/2020	[NT]
alpha-BHC	µg/L	0.2	Org-022/025	<0.2	[NT]	[NT]	[NT]	[NT]	90	[NT]
HCB	µg/L	0.2	Org-022/025	<0.2	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
beta-BHC	µg/L	0.2	Org-022/025	<0.2	[NT]	[NT]	[NT]	[NT]	96	[NT]
gamma-BHC	µg/L	0.2	Org-022/025	<0.2	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Heptachlor	µg/L	0.2	Org-022/025	<0.2	[NT]	[NT]	[NT]	[NT]	88	[NT]
delta-BHC	µg/L	0.2	Org-022/025	<0.2	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Aldrin	µg/L	0.2	Org-022/025	<0.2	[NT]	[NT]	[NT]	[NT]	93	[NT]
Heptachlor Epoxide	µg/L	0.2	Org-022/025	<0.2	[NT]	[NT]	[NT]	[NT]	90	[NT]
gamma-Chlordane	µg/L	0.2	Org-022/025	<0.2	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
alpha-Chlordane	µg/L	0.2	Org-022/025	<0.2	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Endosulfan I	µg/L	0.2	Org-022/025	<0.2	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
pp-DDE	µg/L	0.2	Org-022/025	<0.2	[NT]	[NT]	[NT]	[NT]	93	[NT]
Dieldrin	µg/L	0.2	Org-022/025	<0.2	[NT]	[NT]	[NT]	[NT]	92	[NT]
Endrin	µg/L	0.2	Org-022/025	<0.2	[NT]	[NT]	[NT]	[NT]	89	[NT]
Endosulfan II	µg/L	0.2	Org-022/025	<0.2	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
pp-DDD	µg/L	0.2	Org-022/025	<0.2	[NT]	[NT]	[NT]	[NT]	84	[NT]
Endrin Aldehyde	µg/L	0.2	Org-022/025	<0.2	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
pp-DDT	µg/L	0.2	Org-022/025	<0.2	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Endosulfan Sulphate	µg/L	0.2	Org-022/025	<0.2	[NT]	[NT]	[NT]	[NT]	81	[NT]
Methoxychlor	µg/L	0.2	Org-022/025	<0.2	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Surrogate TCMX	%		Org-022/025	100	[NT]	[NT]	[NT]	[NT]	88	[NT]

QUALITY CONTROL: OP Pesticides in Water						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W2	[NT]
Date extracted	-			30/10/2020	[NT]	[NT]	[NT]	[NT]	30/10/2020	[NT]
Date analysed	-			02/11/2020	[NT]	[NT]	[NT]	[NT]	02/11/2020	[NT]
Dichlorvos	µg/L	0.2	Org-022/025	<0.2	[NT]	[NT]	[NT]	[NT]	86	[NT]
Dimethoate	µg/L	0.2	Org-022/025	<0.2	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Diazinon	µg/L	0.2	Org-022/025	<0.2	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Chlorpyriphos-methyl	µg/L	0.2	Org-022/025	<0.2	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Ronnel	µg/L	0.2	Org-022/025	<0.2	[NT]	[NT]	[NT]	[NT]	93	[NT]
Fenitrothion	µg/L	0.2	Org-022/025	<0.2	[NT]	[NT]	[NT]	[NT]	90	[NT]
Malathion	µg/L	0.2	Org-022/025	<0.2	[NT]	[NT]	[NT]	[NT]	113	[NT]
Chlorpyriphos	µg/L	0.2	Org-022/025	<0.2	[NT]	[NT]	[NT]	[NT]	92	[NT]
Parathion	µg/L	0.2	Org-022/025	<0.2	[NT]	[NT]	[NT]	[NT]	96	[NT]
Bromophos ethyl	µg/L	0.2	Org-022/025	<0.2	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Ethion	µg/L	0.2	Org-022/025	<0.2	[NT]	[NT]	[NT]	[NT]	110	[NT]
Azinphos-methyl (Guthion)	µg/L	0.2	Org-022/025	<0.2	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Surrogate TCMX	%		Org-022/025	100	[NT]	[NT]	[NT]	[NT]	88	[NT]

QUALITY CONTROL: PCBs in Water						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W2	[NT]
Date extracted	-			30/10/2020	[NT]	[NT]	[NT]	[NT]	30/10/2020	[NT]
Date analysed	-			02/11/2020	[NT]	[NT]	[NT]	[NT]	02/11/2020	[NT]
Aroclor 1016	µg/L	2	Org-021	<2	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Aroclor 1221	µg/L	2	Org-021	<2	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Aroclor 1232	µg/L	2	Org-021	<2	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Aroclor 1242	µg/L	2	Org-021	<2	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Aroclor 1248	µg/L	2	Org-021	<2	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Aroclor 1254	µg/L	2	Org-021	<2	[NT]	[NT]	[NT]	[NT]	100	[NT]
Aroclor 1260	µg/L	2	Org-021	<2	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Surrogate TCMX	%		Org-021	100	[NT]	[NT]	[NT]	[NT]	88	[NT]

QUALITY CONTROL: Total Phenolics in Water						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W1	254574-4
Date extracted	-			30/10/2020	3	30/10/2020	30/10/2020		30/10/2020	30/10/2020
Date analysed	-			30/10/2020	3	30/10/2020	30/10/2020		30/10/2020	30/10/2020
Total Phenolics (as Phenol)	mg/L	0.05	Inorg-031	<0.05	3	<0.05	<0.05	0	103	100

QUALITY CONTROL: HM in water - dissolved						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W4	[NT]
Date prepared	-			30/10/2020	1	30/10/2020	30/10/2020		30/10/2020	[NT]
Date analysed	-			30/10/2020	1	30/10/2020	30/10/2020		30/10/2020	[NT]
Arsenic-Dissolved	µg/L	1	Metals-022	<1	1	<1	<1	0	94	[NT]
Cadmium-Dissolved	µg/L	0.1	Metals-022	<0.1	1	0.2	0.2	0	85	[NT]
Chromium-Dissolved	µg/L	1	Metals-022	<1	1	<1	<1	0	97	[NT]
Copper-Dissolved	µg/L	1	Metals-022	<1	1	5	5	0	93	[NT]
Lead-Dissolved	µg/L	1	Metals-022	<1	1	<1	<1	0	102	[NT]
Mercury-Dissolved	µg/L	0.05	Metals-021	<0.05	1	<0.05	<0.05	0	115	[NT]
Nickel-Dissolved	µg/L	1	Metals-022	<1	1	13	13	0	93	[NT]
Zinc-Dissolved	µg/L	1	Metals-022	<1	1	63	63	0	97	[NT]

QUALITY CONTROL: HM in water - total						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W2	[NT]
Date prepared	-			03/11/2020	[NT]	[NT]	[NT]	[NT]	03/11/2020	[NT]
Date analysed	-			03/11/2020	[NT]	[NT]	[NT]	[NT]	03/11/2020	[NT]
Arsenic-Total	µg/L	1	Metals-022	<1	[NT]	[NT]	[NT]	[NT]	100	[NT]
Cadmium-Total	µg/L	0.1	Metals-022	<0.1	[NT]	[NT]	[NT]	[NT]	97	[NT]
Chromium-Total	µg/L	1	Metals-022	<1	[NT]	[NT]	[NT]	[NT]	107	[NT]
Copper-Total	µg/L	1	Metals-022	<1	[NT]	[NT]	[NT]	[NT]	104	[NT]
Lead-Total	µg/L	1	Metals-022	<1	[NT]	[NT]	[NT]	[NT]	112	[NT]
Mercury-Total	µg/L	0.05	Metals-021	<0.05	[NT]	[NT]	[NT]	[NT]	104	[NT]
Nickel-Total	µg/L	1	Metals-022	<1	[NT]	[NT]	[NT]	[NT]	104	[NT]
Zinc-Total	µg/L	1	Metals-022	<1	[NT]	[NT]	[NT]	[NT]	109	[NT]

QUALITY CONTROL: Metals in Waters - Total						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W1	[NT]
Date prepared	-			30/10/2020	[NT]	[NT]	[NT]	[NT]	30/10/2020	[NT]
Date analysed	-			30/10/2020	[NT]	[NT]	[NT]	[NT]	30/10/2020	[NT]
Phosphorus - Total	mg/L	0.05	Metals-020	<0.05	[NT]	[NT]	[NT]	[NT]	89	[NT]

QUALITY CONTROL: Miscellaneous Inorganics						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W1	[NT]
Date prepared	-			29/10/2020	3	29/10/2020	29/10/2020		29/10/2020	[NT]
Date analysed	-			29/10/2020	3	29/10/2020	29/10/2020		29/10/2020	[NT]
pH	pH Units		Inorg-001	[NT]	3	8.6	[NT]		100	[NT]
Turbidity	NTU	0.1	Inorg-022	<0.1	3	4.6	4.1	11	98	[NT]
Total Nitrogen in water	mg/L	0.1	Inorg-055/062/127	<0.1	3	1	[NT]		114	[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.

The recommended maximums for analytes in urine are taken from “2018 TLVs and BEIs”, as published by ACGIH (where available). Limit provided for Nickel is a precautionary guideline as per Position Paper prepared by AIOH Exposure Standards Committee, 2016.

Guideline limits for Rinse Water Quality reported as per analytical requirements and specifications of AS 4187, Amdt 2 2019, Table 7.2

Laboratory Acceptance Criteria

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

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

Spikes for Physical and Aggregate Tests are not applicable.

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

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

Matrix Spikes, LCS and Surrogate recoveries: Generally 70-130% for inorganics/metals (not SPOCAS); 60-140% for organics/SPOCAS (+/-50% surrogates) and 10-140% for labile SVOCs (including labile surrogates), ultra trace organics and speciated phenols is acceptable.

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

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

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

Measurement Uncertainty estimates are available for most tests upon request.

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

Samples for Microbiological analysis (not Amoeba forms) received outside of the 2-8°C temperature range do not meet the ideal cooling conditions as stated in AS2031-2012.

Report Comments

TRH_W:
The positive result in the rinsate sample is due to a single peak with no hydrocarbon profile that is consistent with the use of plastic containers.

Andrew (Fitzy) Fitzsimons

From: Jones, Dylan <djones6@kpmg.com.au>
Sent: Friday, 6 November 2020 11:35 AM
To: Nancy Zhang
Cc: Samplereceipt
Subject: RE: Results for Registration 254574 388134

Importance: High

Follow Up Flag: Follow up
Flag Status: Flagged

254574-A
Due: 9/11/20

Hi Nancy,

Thanks for this.

Can I please request the following additional analysis on 24hr TAT: 3 & 4

- Lab filter samples SW01 and SW02 using 0.45 micron filter
- Analyse filtered samples for 8 metals
- Analyse filtered samples for hardness CaCo3.

If this is possible please confirm expected date to receive results and the cost.

Thanks so much.

Dylan Jones
Associate Director
Property & Environmental Services
Deals, Tax & Legal

KPMG
Tower 3, International Towers Sydney
300 Barangaroo Avenue, Sydney NSW 2000 Australia
Phone: +61 2 9455 9076 | Mob: +61 421 026 746
djones6@kpmg.com.au

kpmg.com.au
KPMG Property & Environmental Services

From: Nancy Zhang <NZhang@envirolab.com.au>
Sent: Thursday, 5 November 2020 4:16 PM

Andrew (Fitzy) Fitzsimons

From: Jones, Dylan <djones6@kpmg.com.au>
Sent: Friday, 6 November 2020 11:39 AM
To: Nancy Zhang
Cc: Samplereceipt
Subject: RE: Results for Registration 254574 388134

254574-A

Follow Up Flag: Follow up
Flag Status: Flagged

Sorry Nancy, Can you also please analyse SW01 and SW02 for dissolved aluminium?

And please use the smallest filter you have – (0.25 micron)? As opposed to 0.45 micron.

Cheers

Dylan Jones
Associate Director
Property & Environmental Services
Deals, Tax & Legal

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Tower 3, International Towers Sydney
300 Barangaroo Avenue, Sydney NSW 2000 Australia
Phone: +61 2 9455 9076 | Mob: +61 421 026 746
djones6@kpmg.com.au

kpmg.com.au
KPMG Property & Environmental Services

From: Jones, Dylan
Sent: Friday, 6 November 2020 11:35 AM
To: 'Nancy Zhang' <NZhang@envirolab.com.au>
Cc: Samplereceipt <Samplereceipt@envirolabservices.com.au>
Subject: RE: Results for Registration 254574 388134
Importance: High

Hi Nancy,

Thanks for this.

Andrew (Fitzy) Fitzsimons

From: Jones, Dylan <djones6@kpmg.com.au>
Sent: Friday, 6 November 2020 1:05 PM
To: Nancy Zhang; Andrew (Fitzy) Fitzsimons
Cc: Samplereceipt
Subject: Re: Results for Registration 254574 388134

254574-A

Please use standard 0.45 as to confirm with NATA.

Cheers

Dylan Jones
Associate Director - Property and Environmental Services
KPMG
0421 026 746
djones6@kpmg.com.au

From: Andrew (Fitzy) Fitzsimons <AFitzsimons@envirolab.com.au>
Sent: Friday, November 6, 2020 1:00:35 PM
To: Jones, Dylan <djones6@kpmg.com.au>; Nancy Zhang <NZhang@envirolab.com.au>
Cc: Samplereceipt <Samplereceipt@envirolabservices.com.au>
Subject: RE: Results for Registration 254574 388134

Hi Dylan

We have 0.2µm RC (Regenerated Cellulose) membrane filters. Our analysts assume there shouldn't be any issues however we recommend running a blank and spiked sample to make sure there is no interference.
We will also have to report as non-NATA as it does not adhere to the approved method.
So did you want us to go ahead with the 0.2 or the standard 0.45?

Kind Regards,

Andrew (Fitzy) Fitzsimons | Customer Service | Envirolab Services

Celebrating 15 years of **Great Science. Great Service.**

12 Ashley Street Chatswood NSW 2067
T 612 9910 6200
E AFitzsimons@envirolab.com.au | W www.envirolab.com.au

Follow us on: LinkedIn | Facebook | Twitter

From: Jones, Dylan <djones6@kpmg.com.au>
Sent: Friday, 6 November 2020 12:22 PM
To: Andrew (Fitzy) Fitzsimons <AFitzsimons@envirolab.com.au>; Nancy Zhang <NZhang@envirolab.com.au>
Cc: Samplereceipt <Samplereceipt@envirolabservices.com.au>
Subject: RE: Results for Registration 254574 388134

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 Property & Environmental Services PTY LTD
Attention	Dylan Jones

Sample Login Details

Your reference	388134
Envirolab Reference	254574-A
Date Sample Received	29/10/2020
Date Instructions Received	06/11/2020
Date Results Expected to be Reported	09/11/2020

Sample Condition

Samples received in appropriate condition for analysis	Yes
No. of Samples Provided	5 Water
Turnaround Time Requested	1 day
Temperature on Receipt (°C)	8.1
Cooling Method	Ice
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
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 ID	HM in water - dissolved	Cations in water Dissolved	On Hold
GW01			✓
GW02			✓
SW01	✓	✓	
SW02	✓	✓	
BR01			✓

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

Additional Info

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

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
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

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 Property and Environmental Services	Client Project Name / Number / Site etc (ie report title): 388134
Contact Person: Dylan Jones	
Project Mgr: Dylan Jones	PO No.:
Sampler: Dylan Jones	Envirolab Quote No. : 2016-R00C3
Address: Tower 3, Intl Towers 300 Barangaroo Avenue, Sydney NSW 2000	Date results required: STANDARD TAT Or choose: standard /1 day/2 day/3 day *Note: Inform lab in advance if urgent turnaround is required - surcharges apply*
Phone: Mob: 450S11523	Report format: excel
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 8	VOCs	pH	turbidity	Total N & P									Provide as much information about the sample as you can
1	GW01		29/10/2020	Water	X	X	X											
2	GW02		29/10/2020	Water	X	X	X											
3	SW01		29/10/2020	Water	X	X	X	X	X									
4	SW02		29/10/2020	Water	X	X	X	X	X									
5	BR01		29/10/2020	Water	X	X	X											

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

Job No: 254574

Date Received: 29/10/2020

Time Received: 7.55

Received By: RL

Temp: Cool/Ambient

Cooling: Ice/Icepack

Security: Intact/Broken/None

Relinquished by (Company):		Received by (Company): GLS Syd	
Print Name:	Dylan Jones	Print Name: K. Chareen	
Date & Time:	29/10/20 15:30	Date & Time: 29/10/2020	7.55
Signature:	Dylan Jones	Signature:	

Lab use only:
Samples Received: Cool or Ambient (circle one)
Temperature Received at: 8.1 (if applicable)
Transported by: Hand delivered / courier

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 Property & Environmental Services PTY LTD
Attention	Dylan Jones

Sample Login Details

Your reference	388134
Envirolab Reference	254574
Date Sample Received	29/10/2020
Date Instructions Received	29/10/2020
Date Results Expected to be Reported	05/11/2020

Sample Condition

Samples received in appropriate condition for analysis	Yes
No. of Samples Provided	5 Water
Turnaround Time Requested	Standard
Temperature on Receipt (°C)	8.1
Cooling Method	Ice
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
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 ID	VOCs in water	vTRH(C6-C10)/BTEXN in Water	svTRH (C10-C40) in Water	PAHsin Water	Organochlorine Pesticides in Water	OP Pesticides in Water	PCBs in Water	Total Phenolicsin Water	HM in water - dissolved	HM in water - total	Metals in Waters -Total	pH	Turbidity	Total Nitrogen in water
GW01	✓	✓	✓	✓	✓	✓	✓	✓	✓			✓		
GW02	✓	✓	✓	✓	✓	✓	✓	✓	✓			✓		
SW01	✓	✓	✓	✓	✓	✓	✓	✓		✓	✓	✓	✓	✓
SW02	✓	✓	✓	✓	✓	✓	✓	✓		✓	✓	✓	✓	✓
BR01	✓	✓	✓	✓	✓	✓	✓	✓	✓			✓		

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

Additional Info

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

CHAIN OF CUSTODY RECORD

☑ Sydney Laboratory — Unit F3 Bld.F, 15 Mars Rd Lane Cove West, NSW 2066 — 02 9900 8400
☐ Brisbane Laboratory — Unit 1, 21 Smallwood Pl, Murarrie, QLD 4172 — 07 3902 4600 EnviroSampleQLD@eurofins.com
☐ Perth Laboratory — Unit 2, 91 Leach Highway, Kewdale WA 6105 — 08 9251 9600 EnviroSampleWA@eurofins.com
☐ Melbourne Laboratory — 2 Kingston Town Close, Oakleigh, VIC 3166 — 03 8564 5000 EnviroSampleVic@eurofins.com

Company	KPMG SGA
Address	KPMG SGA Tower 3 International Towers Sydney 300 Barangaroo Avenue Sydney NSW 2000
Contact Name	James Lean
Phone №	61407116536
Special Directions	
Purchase Order	
Quote ID №	#190227KPMN
Project №	367109
Project Name	Kemps Creek
Project Manager	James Lean
EDD Format (ESdat, EQuIS, Custom)	Esdat, excel
Sampler(s)	James Lean
Handed over by	James Lean
Email for Invoice	jlean1@kpmg.com.au
Email for Results	jlean1@kpmg.com.au; jcwalker@kpmg.com.au

Turnaround Time (TAT) Requirements: ☐ Overnight (9am)* ☐ 1 Day* ☑ 2 Day* ☐ 3 Day* ☐ 5 Day ☐ Other ( ) — * Surcharges apply

Analyses (Note: Where metals are requested, please specify "Total" or "Filtered". SUITE code must be used to attract SUITE pricing.)

Containers: 1L Plastic, 250mL Plastic, 125mL Plastic, 200mL Amber Glass, 40mL VOA vial, 500mL PFAS Bottle, Jar (Glass or HDPE), Asbestos AS4964, WA Guidelines

№	Client Sample ID	Sampled Date/Time (dd/mm/yy hh:mm)	Matrix (Solid (S) Water (W))	Suite B7A (TRH, BTEX, PAH, metals (8), phenols)	VOCs	Suite B15 (OCPs/OPPs/PCBs)	Asbestos ID	Hold	Sample Comments / Dangerous Goods Hazard Warning
1	HA01_0.2-0.3	19/09/19	s	X			X		
2	HA01_0.7-0.8	19/9/19	s					X	
3	HA02_0.2-0.3	19/9/19	s					X	
4	HA02_0.7-0.8	19/9/19	s	X			X		
5	BH01_0.3-0.4	19/9/19	s	X	X	X			
6	BH01_1.0-1.1	19/9/19	s	X					
7	BH02_0.2-0.3	19/9/19	s	X	X	X			
8	BH02_0.3-0.4	19/9/19	s				X		
9	BH02_1.0-1.1	19/9/19	s				X		
10	BH02_2.0-2.1	19/9/19	s				X		
11	BH02_3.0-3.1	19/9/19	s				X		
12	BH02_4.0-4.1	19/9/19	s	X					
13	BH03_0.2-0.3	19/9/19	s	X	X	X			
14	BH03_0.3-0.4	19/9/19	s	X					
15	BH04_0.2-0.3	19/9/19	s	X					
16	BH04_1.0-1.1	19/9/19	s	X	X	X			
			Total Counts	10	#	#	#	#	

Method of Shipment: ☐ Courier (#) ☑ Hand Delivered ☐ Postal — Name — Signature — Date __/__/__ — Time __:__

Eurofins | mgt Laboratory Use Only						
Received By	Rupan	SYD | BNE | MEL | PER | ADL | NTL | DRW	Signature	Date 20/09	Time 2:20PM	Temperature 9.4°C
Received By		SYD | BNE | MEL | PER | ADL | NTL | DRW	Signature	Date __/__/__	Time __:__	Report № 678247

Submission of samples to the laboratory will be deemed as acceptance of Eurofins | mgt Standard Terms and Conditions unless agreed otherwise. A copy of Eurofins | mgt Standard Terms and Conditions is available on request.

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CHAIN OF CUSTODY RECORD

☑ Sydney Laboratory — Unit F3 Bld F, 16 Mars Rd, Lane Cove West, NSW 2066 — EnviroSampleNSW@eurofins.com
☐ Brisbane Laboratory — Unit 1, 21 Smallwood Pl, Murarrie, QLD 4172 — EnviroSampleQLD@eurofins.com
☐ Perth Laboratory — Unit 2, 51 Leach Highway, Kewdale WA 6105 — EnviroSampleWA@eurofins.com
☐ Melbourne Laboratory — 2 Kingston Town Close, Oakleigh, VIC 3166 — EnviroSampleVic@eurofins.com

Company	KPMG SGA	Project №	367109	Project Manager	James Lean
Address	KPMG SGA Tower 3 International Towers Sydney 300 Barangaroo Avenue Sydney NSW 2000	Project Name	Kemps Creek	EDD Format (I.Sdat, LQuIS, Custom)	Esdat, excel
Contact Name	James Lean				
Phone №	61407116536				
Special Directions					
Purchase Order					
Quote ID №	#190227KPMN				

Sampler(s)	James Lean		
Handed over by	James Lean		
Email for Invoice	jlean1@kpmg.com.au		
Email for Results	jlean1@kpmg.com.au; jcwalker@kpmg.com.au		

Turnaround Time (TAT) Requirements (Default will be 5 days if not stated)
☐ Overnight (9am)*
☐ 1 Day* ☑ 2 Day*
☐ 3 Day* ☐ 5 Day
* Surcharges apply
☐ Other ( )

№	Client Sample ID	Sampled Date/Time (dd/mm/yy hh:mm)	Matrix (Solid (S) Water (W))	Analyses (Note: three metals are requested, please specify "other" in "Other" Suite; codes must be listed to attract SUITE pricing)					Containers							Sample Comments / Dangerous Goods Hazard Warning
				Suite B7A (TRH, BTEX, PAH, metals (8), phenols)	VOCs	Suite B15 (OCP&OPP&PCBs)	Asbestos ID	Hold	1L Plastic	250mL Plastic	125mL Plastic	200mL Amber Glass	40mL VOA vial	500mL PFAS Bottle	Jar (Glass or HDPE)	Asbestos AS4964, WA Guidelines	
1	BH05_0.2-0.3	19/09/19	s					X									
2	BH05_0.5-0.6	19/9/19	s					X									
3	BH05_1.9-2.0	19/9/19	s	X	X	X											
4	BH05_3.0-3.1	19/9/19	s					X									
5	BH05_3.9-4.0	19/9/19	s	X													
6	BH06_1.0-1.1	19/9/19	s	X	X	X											
7	BH06_1.2-1.3	19/9/19	s	X													
8	BH07_1.0-1.1	19/9/19	s	X													
9	BH07_1.4-1.5	19/9/19	s	X	X	X											
10	BH08_1.0-1.1	19/9/19	s	X													
11	BH08_2.0-2.1	19/9/19	s					X									
12	BH08_3.0-3.1	19/9/19	s					X									
13	BH08_4.0-4.1	19/9/19	s					X									
14	BH08_4.9-5.0	19/9/19	s	X	X	X											
15	BH09_0.5-0.6	19/9/19	s	X	X	X											
16	BH09_1.0-1.1	19/9/19	s	X													
		Total Counts		10	#	#		#									

Method of Shipment	☐ Courier (#)	☑ Hand Delivered	☐ Postal	Name		Signature		Date	__/__/__	Time	__:__
Eurofins | mgt Laboratory Use Only	Received By		SYD | BNE | MEL | PER | ADL | NTL | DRW	Signature		Date	20/09	Time	___:___	Temperature	
	Received By		SYD | BNE | MEL | PER | ADL | NTL | DRW	Signature		Date	__/__/__	Time	___:___	Report №	

Submission of samples to the laboratory will be deemed as acceptance of Eurofins | mgt Standard Terms and Conditions unless agreed otherwise. A copy of Eurofins | mgt Standard Terms and Conditions is available on request.

Eurofins Environment Testing Australia Pty Ltd trading as Eurofins | mgt

QS3009_R7 Modified by: Dr. R Symons Approved by: T. Lakeland Approved on: 17 August 2017

CHAIN OF CUSTODY RECORD

☑ Sydney Laboratory
Unit F3 Bld.F, 16 Mars Rd, Lane Cove West, NSW 2066
02 9900 8400 EnviroSampleNSW@eurofins.com

☐ Brisbane Laboratory
Unit 1, 21 Smallwood Pl., Murarrie, QLD 4172
07 3902 4600 EnviroSampleQLD@eurofins.com

☐ Perth Laboratory
Unit 2, 91 Leach Highway, Kewdale WA 6105
08 9251 9600 EnviroSampleWA@eurofins.com

☐ Melbourne Laboratory
2 Kingston Town Close, Oakleigh, VIC 3166
03 8564 5000 EnviroSampleVic@eurofins.com

Company	KPMG SGA	Project №	367109	Project Manager	James Lean
Address	KPMG SGA Tower 3 International Towers Sydney 300 Barangaroo Avenue Sydney NSW 2000	Project Name	Kemps Creek	EDD Format (ESdat, EQuIS, Custom)	Esdat, excel
Contact Name	James Lean				
Phone №	61407116536				
Special Directions					
Purchase Order					
Quote ID №	#190227KPMN				

Sampler(s)	James Lean				
Handed over by	James Lean				
Email for Invoice	jlean1@kpmg.com.au				
Email for Results	jlean1@kpmg.com.au; jcwalker@kpmg.com.au				

Analysis (Note: Where metals are requested, please specify "Total" or "Filtered". If SUITE code must be used to a Pre-set SUITE pricing)

№	Client Sample ID	Sampled Date/Time (dd/mm/yy hh:mm)	Matrix (Solid (S) Water (W))	Suite B7A (TRH, BTEX, PAH, metals (8), phenols)	VOCs	Suite B15 (OCPs#OPPs/PCBs)	Asbestos ID	Hold	Containers: 1L Plastic	250mL Plastic	125mL Plastic	200mL Amber Glass	40mL VOA vial	500mL PFAS Bottle	Jar (Glass or HDPE)	Asbestos AS4964, WA Guidelines	Sample Comments / Dangerous Goods Hazard Warning
1	QA1	19/09/19	s	X													
2	BH10_0.5-0.6	19/9/19	s	X													
3	BH10_1.0-1.1	19/9/19	s	X	X	X											
4	BH10_1.6-1.7	19/9/19	s					X									
5	BH11_0.2-0.3	19/9/19	s	X	X	X											
6	BH11_0.6-0.7	19/9/19	s	X													
7	BH12_0.1-0.2	19/9/19	s	X		X											
8	BH12_0.8-0.9	19/9/19	s	X													
9	BH13_0.2-.3	20.9.19	s	X		X	X										
10	BH13_1.0-1.1	20.9.19	s	X													
11	BH14_0.1-0.2	20.9.19	s	X		X	X										
12	BH14_0.3-0.4	20.9.19	s	X													
13	SP1_1	20.9.19	s	X			X										
14	SP1_2	20.9.19	s	X			X										
15	SP1_3	20.9.19	s	X			X										
	Total Counts			14	#	#	#	#									

Turnaround Time (TAT) Requirements (Default will be 5 days if not ticked)

☐ Overnight (9am)*
☐ 1 Day* ☑ 2 Day*
☐ 3 Day* ☐ 5 Day
* Surcharges apply
☐ Other ( )

Method of Shipment	☐ Courier (#)	☑ Hand Delivered	☐ Postal	Name		Signature		Date		Time		Time					
Eurofins | mgt Laboratory Use Only	Received By	Rupan	SYD | BNE | MEL | PER | ADL | NTL | DRW		Signature		Date	20/09	Time		Temperature					
	Received By		SYD | BNE | MEL | PER | ADL | NTL | DRW		Signature		Date	__/__/__	Time		Report №					

CHAIN OF CUSTODY RECORD

☑ Sydney Laboratory
Unit F3 Bld F, 16 Mars Rd Lane Cove West, NSW 2066

☐ Brisbane Laboratory
Unit 1 21 Smallwood Pl, Murarrie, QLD 4172

☐ Perth Laboratory
Unit 2, 91 Leach Highway, Kewdale WA 6105
EnviroSampleWA@eurofins.com

☐ Melbourne Laboratory
2 Kingston Town Close, Oakleigh, VIC 3166
03 8564 5000 EnviroSampleVic@eurofins.com

Company	KPMG SGA	Project №	367109	Project Manager	James Lean
Address	KPMG SGA Tower 3 International Towers Sydney 300 Barangaroo Avenue Sydney NSW 2000	Project Name	Kemps Creek	EDD Format (ESdat, EQuIS, Custom)	Esdat, excel
Contact Name	James Lean				
Phone №	61407116536				
Special Directions					
Purchase Order					
Quote ID №	#190227KPMN				

Sampler(s)	James Lean	
Handed over by	James Lean	
Email for Invoice	jlean1@kpmg.com.au	
Email for Results	jlean1@kpmg.com.au; jcwalker@kpmg.com.au	

Turnaround Time (TAT) Requirements (Default will be 5 days if not ticked)
☐ Overnight (9am)*
☐ 1 Day* ☑ 2 Day*
☐ 3 Day* ☐ 5 Day
* Surcharges apply
☐ Other ( )

№	Client Sample ID	Sampled Date/Time (dd/mm/yy hh:mm)	Matrix (Solid (S) Water (W))	Analytes: Suite B7A (TRH, BTEX, PAH, metals (6), phenols)	VOCs	Suite B15 (OCPs/OPPs/PCBs)	Asbestos ID	Hold	Containers: 1L Plastic	250mL Plastic	125mL Plastic	200mL Amber Glass	40mL VOA vial	500mL PFAS Bottle	Jar (Glass or HDPE)	Asbestos AS4964; WA Guidelines	Sample Comments / Dangerous Goods Hazard Warning
1	BH15_0.2-0.3	20.9.19	s					X									
2	BH15_1.0-1.1	20.9.19	s	X		X	X										
3	BH15_3.7-3.8	20.9.19	s	X													
4	BH16_0.2-0.3	20.9.19	s	X		X	X										
5	BH16_0.4-0.5	20.9.19	s					X									
6	BH17_0.4-0.5	20.9.19	s					X									
7	BH17_1.2-1.3	20.9.19	s	X													
8	QA2	20.9.19	s	X													
9	BH17_3.0-3.1	20.9.19	s	X	X												
10	BH18_0.4-0.5	20.9.19	s	X	X	X											
11	BH18_1.0-1.1	20.9.19	s	X													
12	BH19_0.1-0.2	20.9.19	s	X	X	X											
13	BH19-0.5-0.6	20.9.19	s	X													
14	BH20_0.3-0.4	20.9.19	s	X													
15	QA3	20.9.19	s	X													
16	BH20_1.0-1.1	20.9.19	s					X									
	Total Counts			12	#	#	#	#									

Method of Shipment	☐ Courier (#)	☑ Hand Delivered	☐ Postal	Name		Signature		Date	___/___/___	Time	___:___
Eurofins | mgt Laboratory Use Only	Received By		SYD | BNE | MEL | PER | ADL | NTL | DRW	Signature		Date	20/9	Time	___:___	Temperature	
	Received By		SYD | BNE | MEL | PER | ADL | NTL | DRW	Signature		Date	___/___/___	Time	___:___	Report №	

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NATA # 1261 Site # 20794

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Kewdale WA 6105
Phone : +61 8 9251 9600
NATA # 1261
Site # 23736

Company Name: KPMG SGA
Address: Tower Three, International Towers Sydney, 300 Sydney NSW 2000

Project Name: KEMPS CREEK
Project ID: 367109

Order No.:
Report #: 678247
Phone: 02 9335 7535
Fax:

Received: Sep 20, 2019 2:20 PM
Due: Sep 24, 2019
Priority: 2 Day
Contact Name: James Lean

Eurofins Analytical Services Manager : Alena Bounkeua

Sample Detail						Asbestos - AS4964	CANCELLED	HOLD	Eurofins | mgt Suite B15	Volatile Organics	Moisture Set	Eurofins | mgt Suite B7A
Melbourne Laboratory - NATA Site # 1254 & 14271												
Sydney Laboratory - NATA Site # 18217						X	X	X	X	X	X	X
Brisbane Laboratory - NATA Site # 20794												
Perth Laboratory - NATA Site # 23736												
External Laboratory												
No	**Sample ID**	**Sample Date**	**Sampling Time**	**Matrix**	**LAB ID**							
1	HA01_0.2-0.3	Sep 19, 2019		Soil	S19-Se32500	X					X	X
2	HA02_0.7-0.8	Sep 19, 2019		Soil	S19-Se32501	X					X	X
3	BH01_0.3-0.4	Sep 19, 2019		Soil	S19-Se32502				X	X	X	X
4	BH01_1.0-1.1	Sep 19, 2019		Soil	S19-Se32503						X	X
5	BH02_0.2-0.3	Sep 19, 2019		Soil	S19-Se32504				X	X	X	X
6	BH02_0.3-0.4	Sep 19, 2019		Soil	S19-Se32505	X						
7	BH02_1.0-1.1	Sep 19, 2019		Soil	S19-Se32506	X						
8	BH02_2.0-2.1	Sep 19, 2019		Soil	S19-Se32507	X						
9	BH02_3.0-3.1	Sep 19, 2019		Soil	S19-Se32508	X						

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Sample Detail						Asbestos - AS4964	CANCELLED	HOLD	Eurofins | mgt Suite B15	Volatile Organics	Moisture Set	Eurofins | mgt Suite B7A
Melbourne Laboratory - NATA Site # 1254 & 14271												
Sydney Laboratory - NATA Site # 18217						X	X	X	X	X	X	X
Brisbane Laboratory - NATA Site # 20794												
Perth Laboratory - NATA Site # 23736												
10	BH02_4.0-4.1	Sep 19, 2019		Soil	S19-Se32509						X	X
11	BH03_0.2-0.3	Sep 19, 2019		Soil	S19-Se32510				X	X	X	X
12	BH03_0.3-0.4	Sep 19, 2019		Soil	S19-Se32511						X	X
13	BH04_0.2-0.3	Sep 19, 2019		Soil	S19-Se32512						X	X
14	BH04_1.0-1.1	Sep 19, 2019		Soil	S19-Se32513				X	X	X	X
15	BH05_1.9-2.0	Sep 19, 2019		Soil	S19-Se32514				X	X	X	X
16	BH05_3.9-4.0	Sep 19, 2019		Soil	S19-Se32515						X	X
17	BH06_1.0-1.1	Sep 19, 2019		Soil	S19-Se32516				X	X	X	X
18	BH06_1.2-1.3	Sep 19, 2019		Soil	S19-Se32517						X	X
19	BH07_1.0-1.1	Sep 19, 2019		Soil	S19-Se32518						X	X
20	BH07_1.4-1.5	Sep 19, 2019		Soil	S19-Se32519				X	X	X	X
21	BH08_1.0-1.1	Sep 19, 2019		Soil	S19-Se32520						X	X

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Sample Detail						Asbestos - AS4964	CANCELLED	HOLD	Eurofins | mgt Suite B15	Volatile Organics	Moisture Set	Eurofins | mgt Suite B7A
Melbourne Laboratory - NATA Site # 1254 & 14271												
Sydney Laboratory - NATA Site # 18217						X	X	X	X	X	X	X
Brisbane Laboratory - NATA Site # 20794												
Perth Laboratory - NATA Site # 23736												
22	BH08_4.9-5.0	Sep 19, 2019		Soil	S19-Se32521				X	X	X	X
23	BH09_0.5-0.6	Sep 19, 2019		Soil	S19-Se32522				X	X	X	X
24	BH09_1.0-1.1	Sep 19, 2019		Soil	S19-Se32523						X	X
25	QA1	Sep 19, 2019		Soil	S19-Se32524						X	X
26	BH10_0.5-0.6	Sep 19, 2019		Soil	S19-Se32525						X	X
27	BH10_1.0-1.1	Sep 19, 2019		Soil	S19-Se32526				X	X	X	X
28	BH11_0.2-0.3	Sep 19, 2019		Soil	S19-Se32527				X	X	X	X
29	BH11_0.6-0.7	Sep 19, 2019		Soil	S19-Se32528						X	X
30	BH12_0.1-0.2	Sep 19, 2019		Soil	S19-Se32529				X		X	X
31	BH12_0.8-0.9	Sep 19, 2019		Soil	S19-Se32530						X	X
32	BH13_0.2-0.3	Sep 20, 2019		Soil	S19-Se32531	X			X		X	X
33	BH13_1.0-1.1	Sep 20, 2019		Soil	S19-Se32532						X	X

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Contact Name: James Lean

Eurofins Analytical Services Manager : Alena Bounkeua

Sample Detail						Asbestos - AS4964	CANCELLED	HOLD	Eurofins | mgt Suite B15	Volatile Organics	Moisture Set	Eurofins | mgt Suite B7A
Melbourne Laboratory - NATA Site # 1254 & 14271												
Sydney Laboratory - NATA Site # 18217						X	X	X	X	X	X	X
Brisbane Laboratory - NATA Site # 20794												
Perth Laboratory - NATA Site # 23736												
34	BH14_0.1-0.2	Sep 20, 2019		Soil	S19-Se32533	X			X		X	X
35	BH14_0.3-0.4	Sep 20, 2019		Soil	S19-Se32534						X	X
36	SP1_1	Sep 20, 2019		Soil	S19-Se32535	X					X	X
37	SP1_2	Sep 20, 2019		Soil	S19-Se32536	X					X	X
38	SP1_3	Sep 20, 2019		Soil	S19-Se32537	X					X	X
39	BH15_1.0-1.1	Sep 20, 2019		Soil	S19-Se32538	X			X		X	X
40	BH15_3.7-3.8	Sep 20, 2019		Soil	S19-Se32539						X	X
41	BH16_0.2-0.3	Sep 20, 2019		Soil	S19-Se32540	X			X		X	X
42	BH17_1.2-1.3	Sep 20, 2019		Soil	S19-Se32541						X	X
43	QA2	Sep 20, 2019		Soil	S19-Se32542						X	X
44	BH17_3.0-3.1	Sep 20, 2019		Soil	S19-Se32543					X	X	X
45	BH18_0.4-0.5	Sep 20, 2019		Soil	S19-Se32544				X	X	X	X

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Eurofins Analytical Services Manager : Alena Bounkeua

Sample Detail						Asbestos - AS4964	CANCELLED	HOLD	Eurofins | mgt Suite B15	Volatile Organics	Moisture Set	Eurofins | mgt Suite B7A
Melbourne Laboratory - NATA Site # 1254 & 14271												
Sydney Laboratory - NATA Site # 18217						X	X	X	X	X	X	X
Brisbane Laboratory - NATA Site # 20794												
Perth Laboratory - NATA Site # 23736												
46	BH18_1.0-1.1	Sep 20, 2019		Soil	S19-Se32545						X	X
47	BH19_0.1-0.2	Sep 20, 2019		Soil	S19-Se32546				X	X	X	X
48	BH19_0.5-0.6	Sep 20, 2019		Soil	S19-Se32547						X	X
49	BH20_0.3-0.4	Sep 20, 2019		Soil	S19-Se32548						X	X
50	QA3	Sep 20, 2019		Soil	S19-Se32549						X	X
51	HA01_0.7-0.8	Sep 19, 2019		Soil	S19-Se32550			X				
52	HA02_0.2-0.3	Sep 19, 2019		Soil	S19-Se32551			X				
53	BH05_0.2-0.3	Sep 19, 2019		Soil	S19-Se32552			X				
54	BH05_0.5-0.6	Sep 19, 2019		Soil	S19-Se32553			X				
55	BH05_3.0-3.1	Sep 19, 2019		Soil	S19-Se32554		X					
56	BH08_2.0-2.1	Sep 19, 2019		Soil	S19-Se32555			X				
57	BH08_3.0-3.1	Sep 19, 2019		Soil	S19-Se32556			X				

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Site # 23736

Company Name: KPMG SGA
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Sydney
NSW 2000

Project Name: KEMPS CREEK
Project ID: 367109

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Phone: 02 9335 7535
Fax:

Received: Sep 20, 2019 2:20 PM
Due: Sep 24, 2019
Priority: 2 Day
Contact Name: James Lean

Eurofins Analytical Services Manager : Alena Bounkeua

Sample Detail						Asbestos - AS4964	CANCELLED	HOLD	Eurofins | mgt Suite B15	Volatile Organics	Moisture Set	Eurofins | mgt Suite B7A
Melbourne Laboratory - NATA Site # 1254 & 14271												
Sydney Laboratory - NATA Site # 18217						X	X	X	X	X	X	X
Brisbane Laboratory - NATA Site # 20794												
Perth Laboratory - NATA Site # 23736												
58	BH08_4.0-4.1	Sep 19, 2019		Soil	S19-Se32557			X				
59	BH10_1.6-1.7	Sep 19, 2019		Soil	S19-Se32558		X					
60	BH15_0.2-0.3	Sep 20, 2019		Soil	S19-Se32559			X				
61	BH16_0.4-0.5	Sep 20, 2019		Soil	S19-Se32560			X				
62	BH17_0.4-0.5	Sep 20, 2019		Soil	S19-Se32561			X				
63	BH20_1.0-1.1	Sep 20, 2019		Soil	S19-Se32562			X				
Test Counts						13	2	11	18	14	46	46

Certificate of Analysis

KPMG SGA
Tower Three, International Towers Sydney, 300 Bara
Sydney
NSW 2000

NATA Accredited
Accreditation Number 1261
Site Number 18217

Accredited for compliance with ISO/IEC 17025–Testing
The results of the tests, calibrations and/or measurements included in this document are traceable to Australian/national standards.

Attention:	James Lean
Report	678247-AID
Project Name	KEMPS CREEK
Project ID	367109
Received Date	Sep 20, 2019
Date Reported	Sep 24, 2019

Methodology:

Asbestos Fibre Identification	Conducted in accordance with the Australian Standard AS 4964 – 2004: Method for the Qualitative Identification of Asbestos in Bulk Samples and in-house Method LTM-ASB-8020 by polarised light microscopy (PLM) and dispersion staining (DS) techniques. *NOTE: Positive Trace Analysis results indicate the sample contains detectable respirable fibres.*
Unknown Mineral Fibres	Mineral fibres of unknown type, as determined by PLM with DS, may require another analytical technique, such as Electron Microscopy, to confirm unequivocal identity. *NOTE: While Actinolite, Anthophyllite and Tremolite asbestos may be detected by PLM with DS, due to variability in the optical properties of these materials, AS4964 requires that these are reported as UMF unless confirmed by an independent technique.*
Subsampling Soil Samples	The whole sample submitted is first dried and then passed through a 10mm sieve followed by a 2mm sieve. All fibrous matter greater than 10mm, greater than 2mm as well as the material passing through the 2mm sieve are retained and analysed for the presence of asbestos. If the sub 2mm fraction is greater than approximately 30 to 60g then a sub-sampling routine based on ISO 3082:2009(E) is employed. *NOTE: Depending on the nature and size of the soil sample, the sub-2 mm residue material may need to be sub-sampled for trace analysis, in accordance with AS 4964-2004.*
Bonded asbestos-containing material (ACM)	The material is first examined and any fibres isolated for identification by PLM and DS. Where required, interfering matrices may be removed by disintegration using a range of heat, chemical or physical treatments, possibly in combination.The resultant material is then further examined in accordance with AS 4964 - 2004. *NOTE: Even after disintegration it may be difficult to detect the presence of asbestos in some asbestos-containing bulk materials using PLM and DS. This is due to the low grade or small length or diameter of the asbestos fibres present in the material, or to the fact that very fine fibres have been distributed intimately throughout the materials. Vinyl/asbestos floor tiles, some asbestos-containing sealants and mastics, asbestos-containing epoxy resins and some ore samples are examples of these types of material, which are difficult to analyse.*
Limit of Reporting	The performance limitation of the AS 4964 (2004) method for non-homogeneous samples is around 0.1 g/kg (equivalent to 0.01% (w/w)). Where no asbestos is found by PLM and DS, including Trace Analysis, this is considered to be at the nominal reporting limit of 0.01% (w/w). The NEPM screening level of 0.001% (w/w) is intended as an on-site determination, not a laboratory Limit of Reporting (LOR), per se. Examination of a large sample size (e.g. 500 mL) may improve the likelihood of detecting asbestos, particularly AF, to aid assessment against the NEPM criteria. Gravimetric determinations to this level of accuracy are outside of AS 4964 and hence NATA Accreditation does not cover the performance of this service (non-NATA results shown with an asterisk). *NOTE: NATA News March 2014, p.7, states in relation to AS 4964: "This is a qualitative method with a nominal reporting limit of 0.01 % " and that currently in Australia "there is no validated method available for the quantification of asbestos".This report is consistent with the analytical procedures and reporting recommendations in the NEPM and the WA DoH.*

Project Name KEMPS CREEK
Project ID 367109
Date Sampled Sep 19, 2019 to Sep 20, 2019
Report 678247-AID

Client Sample ID	Eurofins Sample No.	Date Sampled	Sample Description	Result
HA01_0.2-0.3	19-Se32500	Sep 19, 2019	Approximate Sample 59g Sample consisted of: Brown coarse-grained sandy soil and rocks	No asbestos detected at the reporting limit of 0.01% w/w. Organic fibre detected. No trace asbestos detected.
HA02_0.7-0.8	19-Se32501	Sep 19, 2019	Approximate Sample 65g Sample consisted of: Brown coarse-grained sandy soil and rocks	No asbestos detected at the reporting limit of 0.01% w/w. Organic fibre detected. No trace asbestos detected.
BH02_0.3-0.4	19-Se32505	Sep 19, 2019	Approximate Sample 69g Sample consisted of: Brown coarse-grained sandy soil and rocks	No asbestos detected at the reporting limit of 0.01% w/w. Organic fibre detected. No trace asbestos detected.
BH02_1.0-1.1	19-Se32506	Sep 19, 2019	Approximate Sample 76g Sample consisted of: Brown coarse-grained sandy soil and rocks	No asbestos detected at the reporting limit of 0.01% w/w. Organic fibre detected. No trace asbestos detected.
BH02_2.0-2.1	19-Se32507	Sep 19, 2019	Approximate Sample 68g Sample consisted of: Brown coarse-grained sandy soil and rocks	No asbestos detected at the reporting limit of 0.01% w/w. Organic fibre detected. No trace asbestos detected.
BH02_3.0-3.1	19-Se32508	Sep 19, 2019	Approximate Sample 70g Sample consisted of: Brown coarse-grained sandy soil and rocks	No asbestos detected at the reporting limit of 0.01% w/w. Organic fibre detected. No trace asbestos detected.
BH13_0.2-0.3	19-Se32531	Sep 20, 2019	Approximate Sample 75g Sample consisted of: Light-brown coarse-grained sandy soil and rocks	No asbestos detected at the reporting limit of 0.01% w/w. Organic fibre detected. No trace asbestos detected.
BH14_0.1-0.2	19-Se32533	Sep 20, 2019	Approximate Sample 75g Sample consisted of: Dark-brown coarse-grained sandy soil, bituminous material and rocks	No asbestos detected at the reporting limit of 0.01% w/w. Organic fibre detected. No trace asbestos detected.

Client Sample ID	Eurofins Sample No.	Date Sampled	Sample Description	Result
SP1_1	19-Se32535	Sep 20, 2019	Approximate Sample 68g Sample consisted of: Brown coarse-grained sandy soil and rocks	No asbestos detected at the reporting limit of 0.01% w/w. Organic fibre detected. No trace asbestos detected.
SP1_2	19-Se32536	Sep 20, 2019	Approximate Sample 64g Sample consisted of: Brown coarse-grained sandy soil and rocks	No asbestos detected at the reporting limit of 0.01% w/w. Organic fibre detected. No trace asbestos detected.
SP1_3	19-Se32537	Sep 20, 2019	Approximate Sample 67g Sample consisted of: Brown coarse-grained sandy soil and rocks	No asbestos detected at the reporting limit of 0.01% w/w. Organic fibre detected. No trace asbestos detected.
BH15_1.0-1.1	19-Se32538	Sep 20, 2019	Approximate Sample 74g Sample consisted of: Light-brown coarse-grained sandy soil and rocks	No asbestos detected at the reporting limit of 0.01% w/w. Organic fibre detected. No trace asbestos detected.
BH16_0.2-0.3	19-Se32540	Sep 20, 2019	Approximate Sample 75g Sample consisted of: Light-brown coarse-grained sandy soil and rocks	No asbestos detected at the reporting limit of 0.01% w/w. Organic fibre detected. No trace asbestos detected.

Sample History

Where samples are submitted/analysed over several days, the last date of extraction and analysis is reported.
A recent review of our LIMS has resulted in the correction or clarification of some method identifications. Due to this, some of the method reference information on reports has changed. However, no substantive change has been made to our laboratory methods, and as such there is no change in the validity of current or previous results.

If the date and time of sampling are not provided, the Laboratory will not be responsible for compromised results should testing be performed outside the recommended holding time.

Description	Testing Site	Extracted	Holding Time
Asbestos - LTM-ASB-8020	Sydney	Sep 22, 2019	Indefinite

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NATA # 1261
Site # 23736

Company Name: KPMG SGA
Address: Tower Three, International Towers Sydney, 300 Sydney NSW 2000

Project Name: KEMPS CREEK
Project ID: 367109

Order No.:
Report #: 678247
Phone: 02 9335 7535
Fax:

Received: Sep 20, 2019 2:20 PM
Due: Sep 24, 2019
Priority: 2 Day
Contact Name: James Lean

Eurofins Analytical Services Manager : Alena Bounkeua

Sample Detail						Asbestos - AS4964	CANCELLED	HOLD	Eurofins | mgt Suite B15	Volatile Organics	Moisture Set	Eurofins | mgt Suite B7A
Melbourne Laboratory - NATA Site # 1254 & 14271												
Sydney Laboratory - NATA Site # 18217						X	X	X	X	X	X	X
Brisbane Laboratory - NATA Site # 20794												
Perth Laboratory - NATA Site # 23736												
External Laboratory												
No	**Sample ID**	**Sample Date**	**Sampling Time**	**Matrix**	**LAB ID**							
1	HA01_0.2-0.3	Sep 19, 2019		Soil	S19-Se32500	X					X	X
2	HA02_0.7-0.8	Sep 19, 2019		Soil	S19-Se32501	X					X	X
3	BH01_0.3-0.4	Sep 19, 2019		Soil	S19-Se32502				X	X	X	X
4	BH01_1.0-1.1	Sep 19, 2019		Soil	S19-Se32503						X	X
5	BH02_0.2-0.3	Sep 19, 2019		Soil	S19-Se32504				X	X	X	X
6	BH02_0.3-0.4	Sep 19, 2019		Soil	S19-Se32505	X						
7	BH02_1.0-1.1	Sep 19, 2019		Soil	S19-Se32506	X						
8	BH02_2.0-2.1	Sep 19, 2019		Soil	S19-Se32507	X						
9	BH02_3.0-3.1	Sep 19, 2019		Soil	S19-Se32508	X						

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Melbourne Laboratory - NATA Site # 1254 & 14271												
Sydney Laboratory - NATA Site # 18217						X	X	X	X	X	X	X
Brisbane Laboratory - NATA Site # 20794												
Perth Laboratory - NATA Site # 23736												
10	BH02_4.0-4.1	Sep 19, 2019		Soil	S19-Se32509						X	X
11	BH03_0.2-0.3	Sep 19, 2019		Soil	S19-Se32510				X	X	X	X
12	BH03_0.3-0.4	Sep 19, 2019		Soil	S19-Se32511						X	X
13	BH04_0.2-0.3	Sep 19, 2019		Soil	S19-Se32512						X	X
14	BH04_1.0-1.1	Sep 19, 2019		Soil	S19-Se32513				X	X	X	X
15	BH05_1.9-2.0	Sep 19, 2019		Soil	S19-Se32514				X	X	X	X
16	BH05_3.9-4.0	Sep 19, 2019		Soil	S19-Se32515						X	X
17	BH06_1.0-1.1	Sep 19, 2019		Soil	S19-Se32516				X	X	X	X
18	BH06_1.2-1.3	Sep 19, 2019		Soil	S19-Se32517						X	X
19	BH07_1.0-1.1	Sep 19, 2019		Soil	S19-Se32518						X	X
20	BH07_1.4-1.5	Sep 19, 2019		Soil	S19-Se32519				X	X	X	X
21	BH08_1.0-1.1	Sep 19, 2019		Soil	S19-Se32520						X	X

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Sample Detail						Asbestos - AS4964	CANCELLED	HOLD	Eurofins | mgt Suite B15	Volatile Organics	Moisture Set	Eurofins | mgt Suite B7A
Melbourne Laboratory - NATA Site # 1254 & 14271												
Sydney Laboratory - NATA Site # 18217						X	X	X	X	X	X	X
Brisbane Laboratory - NATA Site # 20794												
Perth Laboratory - NATA Site # 23736												
22	BH08_4.9-5.0	Sep 19, 2019		Soil	S19-Se32521				X	X	X	X
23	BH09_0.5-0.6	Sep 19, 2019		Soil	S19-Se32522				X	X	X	X
24	BH09_1.0-1.1	Sep 19, 2019		Soil	S19-Se32523						X	X
25	QA1	Sep 19, 2019		Soil	S19-Se32524						X	X
26	BH10_0.5-0.6	Sep 19, 2019		Soil	S19-Se32525						X	X
27	BH10_1.0-1.1	Sep 19, 2019		Soil	S19-Se32526				X	X	X	X
28	BH11_0.2-0.3	Sep 19, 2019		Soil	S19-Se32527				X	X	X	X
29	BH11_0.6-0.7	Sep 19, 2019		Soil	S19-Se32528						X	X
30	BH12_0.1-0.2	Sep 19, 2019		Soil	S19-Se32529				X		X	X
31	BH12_0.8-0.9	Sep 19, 2019		Soil	S19-Se32530						X	X
32	BH13_0.2-0.3	Sep 20, 2019		Soil	S19-Se32531	X			X		X	X
33	BH13_1.0-1.1	Sep 20, 2019		Soil	S19-Se32532						X	X

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Sample Detail						Asbestos - AS4964	CANCELLED	HOLD	Eurofins | mgt Suite B15	Volatile Organics	Moisture Set	Eurofins | mgt Suite B7A
Melbourne Laboratory - NATA Site # 1254 & 14271												
Sydney Laboratory - NATA Site # 18217						X	X	X	X	X	X	X
Brisbane Laboratory - NATA Site # 20794												
Perth Laboratory - NATA Site # 23736												
34	BH14_0.1-0.2	Sep 20, 2019		Soil	S19-Se32533	X			X		X	X
35	BH14_0.3-0.4	Sep 20, 2019		Soil	S19-Se32534						X	X
36	SP1_1	Sep 20, 2019		Soil	S19-Se32535	X					X	X
37	SP1_2	Sep 20, 2019		Soil	S19-Se32536	X					X	X
38	SP1_3	Sep 20, 2019		Soil	S19-Se32537	X					X	X
39	BH15_1.0-1.1	Sep 20, 2019		Soil	S19-Se32538	X			X		X	X
40	BH15_3.7-3.8	Sep 20, 2019		Soil	S19-Se32539						X	X
41	BH16_0.2-0.3	Sep 20, 2019		Soil	S19-Se32540	X			X		X	X
42	BH17_1.2-1.3	Sep 20, 2019		Soil	S19-Se32541						X	X
43	QA2	Sep 20, 2019		Soil	S19-Se32542						X	X
44	BH17_3.0-3.1	Sep 20, 2019		Soil	S19-Se32543					X	X	X
45	BH18_0.4-0.5	Sep 20, 2019		Soil	S19-Se32544				X	X	X	X

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Sample Detail						Asbestos - AS4964	CANCELLED	HOLD	Eurofins | mgt Suite B15	Volatile Organics	Moisture Set	Eurofins | mgt Suite B7A
Melbourne Laboratory - NATA Site # 1254 & 14271												
Sydney Laboratory - NATA Site # 18217						X	X	X	X	X	X	X
Brisbane Laboratory - NATA Site # 20794												
Perth Laboratory - NATA Site # 23736												
46	BH18_1.0-1.1	Sep 20, 2019		Soil	S19-Se32545						X	X
47	BH19_0.1-0.2	Sep 20, 2019		Soil	S19-Se32546				X	X	X	X
48	BH19_0.5-0.6	Sep 20, 2019		Soil	S19-Se32547						X	X
49	BH20_0.3-0.4	Sep 20, 2019		Soil	S19-Se32548						X	X
50	QA3	Sep 20, 2019		Soil	S19-Se32549						X	X
51	HA01_0.7-0.8	Sep 19, 2019		Soil	S19-Se32550			X				
52	HA02_0.2-0.3	Sep 19, 2019		Soil	S19-Se32551			X				
53	BH05_0.2-0.3	Sep 19, 2019		Soil	S19-Se32552			X				
54	BH05_0.5-0.6	Sep 19, 2019		Soil	S19-Se32553			X				
55	BH05_3.0-3.1	Sep 19, 2019		Soil	S19-Se32554		X					
56	BH08_2.0-2.1	Sep 19, 2019		Soil	S19-Se32555			X				
57	BH08_3.0-3.1	Sep 19, 2019		Soil	S19-Se32556			X				

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Contact Name: James Lean

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Sample Detail						Asbestos - AS4964	CANCELLED	HOLD	Eurofins | mgt Suite B15	Volatile Organics	Moisture Set	Eurofins | mgt Suite B7A
Melbourne Laboratory - NATA Site # 1254 & 14271												
Sydney Laboratory - NATA Site # 18217						X	X	X	X	X	X	X
Brisbane Laboratory - NATA Site # 20794												
Perth Laboratory - NATA Site # 23736												
58	BH08_4.0-4.1	Sep 19, 2019		Soil	S19-Se32557			X				
59	BH10_1.6-1.7	Sep 19, 2019		Soil	S19-Se32558		X					
60	BH15_0.2-0.3	Sep 20, 2019		Soil	S19-Se32559			X				
61	BH16_0.4-0.5	Sep 20, 2019		Soil	S19-Se32560			X				
62	BH17_0.4-0.5	Sep 20, 2019		Soil	S19-Se32561			X				
63	BH20_1.0-1.1	Sep 20, 2019		Soil	S19-Se32562			X				
Test Counts						13	2	11	18	14	46	46

Internal Quality Control Review and Glossary

General

1. QC data may be available on request.
2. All soil results are reported on a dry basis, unless otherwise stated.
3. Samples were analysed on an 'as received' basis.
4. Information identified on this report with blue colour, indicates data provided by customer, that may have an impact on the results.
5. This report replaces any interim results previously issued.

Holding Times

Please refer to 'Sample Preservation and Container Guide' for holding times (QS3001).

For samples received on the last day of holding time, notification of testing requirements should have been received at least 6 hours prior to sample receipt deadlines as stated on the Sample Receipt Advice.

If the Laboratory did not receive the information in the required timeframe, and regardless of any other integrity issues, suitably qualified results may still be reported.

Holding times apply from the date of sampling, therefore compliance to these may be outside the laboratory's control.

Units

% w/w: weight for weight basis	grams per kilogram
Filter loading:	fibres/100 graticule areas
Reported Concentration:	fibres/mL
Flowrate:	L/min

Terms

Dry	Sample is dried by heating prior to analysis
LOR	Limit of Reporting
COC	Chain of Custody
SRA	Sample Receipt Advice
ISO	International Standards Organisation
AS	Australian Standards
WA DOH	Reference document for the NEPM. Government of Western Australia, Guidelines for the Assessment, Remediation and Management of Asbestos-Contaminated Sites in Western Australia (2009), including supporting document Recommended Procedures for Laboratory Analysis of Asbestos in Soil (2011)
NEPM	National Environment Protection (Assessment of Site Contamination) Measure, 2013 (as amended)
ACM	Asbestos Containing Materials. Asbestos contained within a non-asbestos matrix, typically presented in bonded and/or sound condition. For the purposes of the NEPM, ACM is generally restricted to those materials that do not pass a 7mm x 7mm sieve.
AF	Asbestos Fines. Asbestos containing materials, including friable, weathered and bonded materials, able to pass a 7mm x 7mm sieve. Considered under the NEPM as equivalent to “non-bonded / friable”.
FA	Fibrous Asbestos. Asbestos containing materials in a friable and/or severely weathered condition. For the purposes of the NEPM, FA is generally restricted to those materials that do not pass a 7mm x 7mm sieve.
Friable	Asbestos-containing materials of any size that may be broken or crumbled by hand pressure. For the purposes of the NEPM, this includes both AF and FA. It is outside of the laboratory’s remit to assess degree of friability.
Trace Analysis	Analytical procedure used to detect the presence of respirable fibres in the matrix.

Comments

The samples received were not collected in an approved asbestos bag and was therefore sub-sampled from the 250mL glass jar. Valid sub-sampling procedures were applied so as to ensure that the sub-samples to be analysed accurately represented the samples received.

Sample Integrity

Custody Seals Intact (if used)	N/A
Attempt to Chill was evident	Yes
Sample correctly preserved	Yes
Appropriate sample containers have been used	Yes
Sample containers for volatile analysis received with minimal headspace	Yes
Samples received within HoldingTime	Yes
Some samples have been subcontracted	No

Qualifier Codes/Comments

Code	Description
N/A	Not applicable

Asbestos Counter/Identifier:

Chamath JHM Annakkage	Senior Analyst-Asbestos (NSW)

Authorised by:

Sayeed Abu	Senior Analyst-Asbestos (NSW)

Glenn Jackson
General Manager

Final Report – this report replaces any previously issued Report

- Indicates Not Requested

* Indicates NATA accreditation does not cover the performance of this service

Measurement uncertainty of test data is available on request or please click here.

KPMG SGA
Tower Three, International Towers Sydney, 300
Sydney
NSW 2000

NATA Accredited
Accreditation Number 1261
Site Number 18217

Accredited for compliance with ISO/IEC 17025 – Testing
The results of the tests, calibrations and/or measurements included in this document are traceable to Australian/national standards.

Attention: **James Lean**

Report **678247-S**
Project name KEMPS CREEK
Project ID 367109
Received Date Sep 20, 2019

Client Sample ID			**HA01_0.2-0.3**	**HA02_0.7-0.8**	**BH01_0.3-0.4**	**BH01_1.0-1.1**
Sample Matrix			**Soil**	**Soil**	**Soil**	**Soil**
Eurofins Sample No.			**S19-Se32500**	**S19-Se32501**	**S19-Se32502**	**S19-Se32503**
Date Sampled			**Sep 19, 2019**	**Sep 19, 2019**	**Sep 19, 2019**	**Sep 19, 2019**
Test/Reference	LOR	Unit				
Total Recoverable Hydrocarbons - 1999 NEPM Fractions						
TRH C6-C9	20	mg/kg	< 20	< 20	< 20	< 20
TRH C10-C14	20	mg/kg	< 20	< 20	< 20	< 20
TRH C15-C28	50	mg/kg	< 50	< 50	< 50	< 50
TRH C29-C36	50	mg/kg	< 50	< 50	< 50	< 50
TRH C10-C36 (Total)	50	mg/kg	< 50	< 50	< 50	< 50
BTEX						
Benzene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Toluene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Ethylbenzene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
m&p-Xylenes	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
o-Xylene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Xylenes - Total	0.3	mg/kg	< 0.3	< 0.3	< 0.3	< 0.3
4-Bromofluorobenzene (surr.)	1	%	98	100	92	141
Volatile Organics						
1.1-Dichloroethane	0.5	mg/kg	-	-	< 0.5	-
1.1-Dichloroethene	0.5	mg/kg	-	-	< 0.5	-
1.1.1-Trichloroethane	0.5	mg/kg	-	-	< 0.5	-
1.1.1.2-Tetrachloroethane	0.5	mg/kg	-	-	< 0.5	-
1.1.2-Trichloroethane	0.5	mg/kg	-	-	< 0.5	-
1.1.2.2-Tetrachloroethane	0.5	mg/kg	-	-	< 0.5	-
1.2-Dibromoethane	0.5	mg/kg	-	-	< 0.5	-
1.2-Dichlorobenzene	0.5	mg/kg	-	-	< 0.5	-
1.2-Dichloroethane	0.5	mg/kg	-	-	< 0.5	-
1.2-Dichloropropane	0.5	mg/kg	-	-	< 0.5	-
1.2.3-Trichloropropane	0.5	mg/kg	-	-	< 0.5	-
1.2.4-Trimethylbenzene	0.5	mg/kg	-	-	< 0.5	-
1.3-Dichlorobenzene	0.5	mg/kg	-	-	< 0.5	-
1.3-Dichloropropane	0.5	mg/kg	-	-	< 0.5	-
1.3.5-Trimethylbenzene	0.5	mg/kg	-	-	< 0.5	-
1.4-Dichlorobenzene	0.5	mg/kg	-	-	< 0.5	-
2-Butanone (MEK)	0.5	mg/kg	-	-	< 0.5	-
2-Propanone (Acetone)	0.5	mg/kg	-	-	< 0.5	-
4-Chlorotoluene	0.5	mg/kg	-	-	< 0.5	-
4-Methyl-2-pentanone (MIBK)	0.5	mg/kg	-	-	< 0.5	-
Allyl chloride	0.5	mg/kg	-	-	< 0.5	-

Client Sample ID			HA01_0.2-0.3	HA02_0.7-0.8	BH01_0.3-0.4	BH01_1.0-1.1
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			S19-Se32500	S19-Se32501	S19-Se32502	S19-Se32503
Date Sampled			Sep 19, 2019	Sep 19, 2019	Sep 19, 2019	Sep 19, 2019
Test/Reference	LOR	Unit				
Volatile Organics						
Benzene	0.1	mg/kg	-	-	< 0.1	-
Bromobenzene	0.5	mg/kg	-	-	< 0.5	-
Bromochloromethane	0.5	mg/kg	-	-	< 0.5	-
Bromodichloromethane	0.5	mg/kg	-	-	< 0.5	-
Bromoform	0.5	mg/kg	-	-	< 0.5	-
Bromomethane	0.5	mg/kg	-	-	< 0.5	-
Carbon disulfide	0.5	mg/kg	-	-	< 0.5	-
Carbon Tetrachloride	0.5	mg/kg	-	-	< 0.5	-
Chlorobenzene	0.5	mg/kg	-	-	< 0.5	-
Chloroethane	0.5	mg/kg	-	-	< 0.5	-
Chloroform	0.5	mg/kg	-	-	< 0.5	-
Chloromethane	0.5	mg/kg	-	-	< 0.5	-
cis-1.2-Dichloroethene	0.5	mg/kg	-	-	< 0.5	-
cis-1.3-Dichloropropene	0.5	mg/kg	-	-	< 0.5	-
Dibromochloromethane	0.5	mg/kg	-	-	< 0.5	-
Dibromomethane	0.5	mg/kg	-	-	< 0.5	-
Dichlorodifluoromethane	0.5	mg/kg	-	-	< 0.5	-
Ethylbenzene	0.1	mg/kg	-	-	< 0.1	-
Iodomethane	0.5	mg/kg	-	-	< 0.5	-
Isopropyl benzene (Cumene)	0.5	mg/kg	-	-	< 0.5	-
m&p-Xylenes	0.2	mg/kg	-	-	< 0.2	-
Methylene Chloride	0.5	mg/kg	-	-	< 0.5	-
o-Xylene	0.1	mg/kg	-	-	< 0.1	-
Styrene	0.5	mg/kg	-	-	< 0.5	-
Tetrachloroethene	0.5	mg/kg	-	-	< 0.5	-
Toluene	0.1	mg/kg	-	-	< 0.1	-
trans-1.2-Dichloroethene	0.5	mg/kg	-	-	< 0.5	-
trans-1.3-Dichloropropene	0.5	mg/kg	-	-	< 0.5	-
Trichloroethene	0.5	mg/kg	-	-	< 0.5	-
Trichlorofluoromethane	0.5	mg/kg	-	-	< 0.5	-
Vinyl chloride	0.5	mg/kg	-	-	< 0.5	-
Xylenes - Total	0.3	mg/kg	-	-	< 0.3	-
Total MAH*	0.5	mg/kg	-	-	< 0.5	-
Vic EPA IWRG 621 CHC (Total)*	0.5	mg/kg	-	-	< 0.5	-
Vic EPA IWRG 621 Other CHC (Total)*	0.5	mg/kg	-	-	< 0.5	-
4-Bromofluorobenzene (surr.)	1	%	-	-	92	-
Toluene-d8 (surr.)	1	%	-	-	104	-
Total Recoverable Hydrocarbons - 2013 NEPM Fractions						
Naphthalene[N02]	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
TRH C6-C10	20	mg/kg	< 20	< 20	< 20	< 20
TRH C6-C10 less BTEX (F1)[N04]	20	mg/kg	< 20	< 20	< 20	< 20
TRH >C10-C16	50	mg/kg	< 50	< 50	< 50	< 50
TRH >C10-C16 less Naphthalene (F2)[N01]	50	mg/kg	< 50	< 50	< 50	< 50
TRH >C16-C34	100	mg/kg	< 100	< 100	< 100	< 100
TRH >C34-C40	100	mg/kg	< 100	< 100	< 100	< 100
TRH >C10-C40 (total)*	100	mg/kg	< 100	< 100	< 100	< 100

Client Sample ID			HA01_0.2-0.3	HA02_0.7-0.8	BH01_0.3-0.4	BH01_1.0-1.1
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			S19-Se32500	S19-Se32501	S19-Se32502	S19-Se32503
Date Sampled			Sep 19, 2019	Sep 19, 2019	Sep 19, 2019	Sep 19, 2019
Test/Reference	LOR	Unit				
Polycyclic Aromatic Hydrocarbons						
Benzo(a)pyrene TEQ (lower bound) *	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Benzo(a)pyrene TEQ (medium bound) *	0.5	mg/kg	0.6	0.6	0.6	0.6
Benzo(a)pyrene TEQ (upper bound) *	0.5	mg/kg	1.2	1.2	1.2	1.2
Acenaphthene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Acenaphthylene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Anthracene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Benz(a)anthracene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Benzo(a)pyrene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Benzo(b&j)fluoranthene[N07]	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Benzo(g.h.i)perylene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Benzo(k)fluoranthene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Chrysene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Dibenz(a.h)anthracene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Fluoranthene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Fluorene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Indeno(1.2.3-cd)pyrene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Naphthalene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Phenanthrene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Pyrene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Total PAH*	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
2-Fluorobiphenyl (surr.)	1	%	92	95	87	93
p-Terphenyl-d14 (surr.)	1	%	88	93	94	112
Organochlorine Pesticides						
Chlordanes - Total	0.1	mg/kg	-	-	< 0.1	-
4.4'-DDD	0.05	mg/kg	-	-	< 0.05	-
4.4'-DDE	0.05	mg/kg	-	-	< 0.05	-
4.4'-DDT	0.05	mg/kg	-	-	< 0.05	-
a-BHC	0.05	mg/kg	-	-	< 0.05	-
Aldrin	0.05	mg/kg	-	-	< 0.05	-
b-BHC	0.05	mg/kg	-	-	< 0.05	-
d-BHC	0.05	mg/kg	-	-	< 0.05	-
Dieldrin	0.05	mg/kg	-	-	< 0.05	-
Endosulfan I	0.05	mg/kg	-	-	< 0.05	-
Endosulfan II	0.05	mg/kg	-	-	< 0.05	-
Endosulfan sulphate	0.05	mg/kg	-	-	< 0.05	-
Endrin	0.05	mg/kg	-	-	< 0.05	-
Endrin aldehyde	0.05	mg/kg	-	-	< 0.05	-
Endrin ketone	0.05	mg/kg	-	-	< 0.05	-
g-BHC (Lindane)	0.05	mg/kg	-	-	< 0.05	-
Heptachlor	0.05	mg/kg	-	-	< 0.05	-
Heptachlor epoxide	0.05	mg/kg	-	-	< 0.05	-
Hexachlorobenzene	0.05	mg/kg	-	-	< 0.05	-
Methoxychlor	0.2	mg/kg	-	-	< 0.2	-
Toxaphene	1	mg/kg	-	-	< 1	-
Aldrin and Dieldrin (Total)*	0.05	mg/kg	-	-	< 0.05	-
DDT + DDE + DDD (Total)*	0.05	mg/kg	-	-	< 0.05	-
Vic EPA IWRG 621 OCP (Total)*	0.1	mg/kg	-	-	< 0.2	-
Vic EPA IWRG 621 Other OCP (Total)*	0.1	mg/kg	-	-	< 0.2	-
Dibutylchlorendate (surr.)	1	%	-	-	83	-
Tetrachloro-m-xylene (surr.)	1	%	-	-	92	-

Client Sample ID			HA01_0.2-0.3	HA02_0.7-0.8	BH01_0.3-0.4	BH01_1.0-1.1
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			S19-Se32500	S19-Se32501	S19-Se32502	S19-Se32503
Date Sampled			Sep 19, 2019	Sep 19, 2019	Sep 19, 2019	Sep 19, 2019
Test/Reference	LOR	Unit				
Organophosphorus Pesticides						
Azinphos-methyl	0.2	mg/kg	-	-	< 0.2	-
Bolstar	0.2	mg/kg	-	-	< 0.2	-
Chlorfenvinphos	0.2	mg/kg	-	-	< 0.2	-
Chlorpyrifos	0.2	mg/kg	-	-	< 0.2	-
Chlorpyrifos-methyl	0.2	mg/kg	-	-	< 0.2	-
Coumaphos	2	mg/kg	-	-	< 2	-
Demeton-S	0.2	mg/kg	-	-	< 0.2	-
Demeton-O	0.2	mg/kg	-	-	< 0.2	-
Diazinon	0.2	mg/kg	-	-	< 0.2	-
Dichlorvos	0.2	mg/kg	-	-	< 0.2	-
Dimethoate	0.2	mg/kg	-	-	< 0.2	-
Disulfoton	0.2	mg/kg	-	-	< 0.2	-
EPN	0.2	mg/kg	-	-	< 0.2	-
Ethion	0.2	mg/kg	-	-	< 0.2	-
Ethoprop	0.2	mg/kg	-	-	< 0.2	-
Ethyl parathion	0.2	mg/kg	-	-	< 0.2	-
Fenitrothion	0.2	mg/kg	-	-	< 0.2	-
Fensulfothion	0.2	mg/kg	-	-	< 0.2	-
Fenthion	0.2	mg/kg	-	-	< 0.2	-
Malathion	0.2	mg/kg	-	-	< 0.2	-
Merphos	0.2	mg/kg	-	-	< 0.5	-
Methyl parathion	0.2	mg/kg	-	-	< 0.2	-
Mevinphos	0.2	mg/kg	-	-	< 0.2	-
Monocrotophos	2	mg/kg	-	-	< 2	-
Naled	0.2	mg/kg	-	-	< 0.2	-
Omethoate	2	mg/kg	-	-	< 2	-
Phorate	0.2	mg/kg	-	-	< 0.2	-
Pirimiphos-methyl	0.2	mg/kg	-	-	< 0.2	-
Pyrazophos	0.2	mg/kg	-	-	< 0.2	-
Ronnel	0.2	mg/kg	-	-	< 0.2	-
Terbufos	0.2	mg/kg	-	-	< 0.2	-
Tetrachlorvinphos	0.2	mg/kg	-	-	< 0.2	-
Tokuthion	0.2	mg/kg	-	-	< 0.2	-
Trichloronate	0.2	mg/kg	-	-	< 0.2	-
Triphenylphosphate (surr.)	1	%	-	-	89	-
Polychlorinated Biphenyls						
Aroclor-1016	0.5	mg/kg	-	-	< 0.5	-
Aroclor-1221	0.1	mg/kg	-	-	< 0.1	-
Aroclor-1232	0.5	mg/kg	-	-	< 0.5	-
Aroclor-1242	0.5	mg/kg	-	-	< 0.5	-
Aroclor-1248	0.5	mg/kg	-	-	< 0.5	-
Aroclor-1254	0.5	mg/kg	-	-	< 0.5	-
Aroclor-1260	0.5	mg/kg	-	-	< 0.5	-
Total PCB*	0.5	mg/kg	-	-	< 0.5	-
Dibutylchlorendate (surr.)	1	%	-	-	83	-
Tetrachloro-m-xylene (surr.)	1	%	-	-	92	-

Client Sample ID			HA01_0.2-0.3	HA02_0.7-0.8	BH01_0.3-0.4	BH01_1.0-1.1
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			S19-Se32500	S19-Se32501	S19-Se32502	S19-Se32503
Date Sampled			Sep 19, 2019	Sep 19, 2019	Sep 19, 2019	Sep 19, 2019
Test/Reference	LOR	Unit				
Phenols (Halogenated)						
2-Chlorophenol	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
2.4-Dichlorophenol	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
2.4.5-Trichlorophenol	1	mg/kg	< 1	< 1	< 1	< 1
2.4.6-Trichlorophenol	1	mg/kg	< 1	< 1	< 1	< 1
2.6-Dichlorophenol	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
4-Chloro-3-methylphenol	1	mg/kg	< 1	< 1	< 1	< 1
Pentachlorophenol	1	mg/kg	< 1	< 1	< 1	< 1
Tetrachlorophenols - Total	10	mg/kg	< 10	< 10	< 10	< 10
Total Halogenated Phenol*	1	mg/kg	< 1	< 1	< 1	< 1
Phenols (non-Halogenated)						
2-Cyclohexyl-4.6-dinitrophenol	20	mg/kg	< 20	< 20	< 20	< 20
2-Methyl-4.6-dinitrophenol	5	mg/kg	< 5	< 5	< 5	< 5
2-Methylphenol (o-Cresol)	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
2-Nitrophenol	1	mg/kg	< 1	< 1	< 1	< 1
2.4-Dimethylphenol	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
2.4-Dinitrophenol	5	mg/kg	< 5	< 5	< 5	< 5
3&4-Methylphenol (m&p-Cresol)	0.4	mg/kg	< 0.4	< 0.4	< 0.4	< 0.4
4-Nitrophenol	5	mg/kg	< 5	< 5	< 5	< 5
Dinoseb	20	mg/kg	< 20	< 20	< 20	< 20
Phenol	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Total Non-Halogenated Phenol*	20	mg/kg	< 20	< 20	< 20	< 20
Phenol-d6 (surr.)	1	%	83	89	81	86
Heavy Metals						
Arsenic	2	mg/kg	6.3	7.2	9.2	< 2
Cadmium	0.4	mg/kg	< 0.4	< 0.4	< 0.4	< 0.4
Chromium	5	mg/kg	16	21	31	12
Copper	5	mg/kg	20	30	29	28
Lead	5	mg/kg	19	15	28	12
Mercury	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Nickel	5	mg/kg	8.0	13	15	8.7
Zinc	5	mg/kg	28	46	53	45
% Moisture	1	%	25	21	16	14

Client Sample ID			BH02_0.2-0.3	BH02_4.0-4.1	BH03_0.2-0.3	BH03_0.3-0.4
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			S19-Se32504	S19-Se32509	S19-Se32510	S19-Se32511
Date Sampled			Sep 19, 2019	Sep 19, 2019	Sep 19, 2019	Sep 19, 2019
Test/Reference	LOR	Unit				
Total Recoverable Hydrocarbons - 1999 NEPM Fractions						
TRH C6-C9	20	mg/kg	< 20	< 20	< 20	< 20
TRH C10-C14	20	mg/kg	21	< 20	< 20	< 20
TRH C15-C28	50	mg/kg	7200	100	660	< 50
TRH C29-C36	50	mg/kg	12000	140	1200	< 50
TRH C10-C36 (Total)	50	mg/kg	19221	240	1860	< 50

Client Sample ID			BH02_0.2-0.3	BH02_4.0-4.1	BH03_0.2-0.3	BH03_0.3-0.4
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			S19-Se32504	S19-Se32509	S19-Se32510	S19-Se32511
Date Sampled			Sep 19, 2019	Sep 19, 2019	Sep 19, 2019	Sep 19, 2019
Test/Reference	LOR	Unit				
BTEX						
Benzene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Toluene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Ethylbenzene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
m&p-Xylenes	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
o-Xylene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Xylenes - Total	0.3	mg/kg	< 0.3	< 0.3	< 0.3	< 0.3
4-Bromofluorobenzene (surr.)	1	%	97	110	99	123
Volatile Organics						
1.1-Dichloroethane	0.5	mg/kg	< 0.5	-	< 0.5	-
1.1-Dichloroethene	0.5	mg/kg	< 0.5	-	< 0.5	-
1.1.1-Trichloroethane	0.5	mg/kg	< 0.5	-	< 0.5	-
1.1.1.2-Tetrachloroethane	0.5	mg/kg	< 0.5	-	< 0.5	-
1.1.2-Trichloroethane	0.5	mg/kg	< 0.5	-	< 0.5	-
1.1.2.2-Tetrachloroethane	0.5	mg/kg	< 0.5	-	< 0.5	-
1.2-Dibromoethane	0.5	mg/kg	< 0.5	-	< 0.5	-
1.2-Dichlorobenzene	0.5	mg/kg	< 0.5	-	< 0.5	-
1.2-Dichloroethane	0.5	mg/kg	< 0.5	-	< 0.5	-
1.2-Dichloropropane	0.5	mg/kg	< 0.5	-	< 0.5	-
1.2.3-Trichloropropane	0.5	mg/kg	< 0.5	-	< 0.5	-
1.2.4-Trimethylbenzene	0.5	mg/kg	< 0.5	-	< 0.5	-
1.3-Dichlorobenzene	0.5	mg/kg	< 0.5	-	< 0.5	-
1.3-Dichloropropane	0.5	mg/kg	< 0.5	-	< 0.5	-
1.3.5-Trimethylbenzene	0.5	mg/kg	< 0.5	-	< 0.5	-
1.4-Dichlorobenzene	0.5	mg/kg	< 0.5	-	< 0.5	-
2-Butanone (MEK)	0.5	mg/kg	< 0.5	-	< 0.5	-
2-Propanone (Acetone)	0.5	mg/kg	< 0.5	-	< 0.5	-
4-Chlorotoluene	0.5	mg/kg	< 0.5	-	< 0.5	-
4-Methyl-2-pentanone (MIBK)	0.5	mg/kg	< 0.5	-	< 0.5	-
Allyl chloride	0.5	mg/kg	< 0.5	-	< 0.5	-
Benzene	0.1	mg/kg	< 0.1	-	< 0.1	-
Bromobenzene	0.5	mg/kg	< 0.5	-	< 0.5	-
Bromochloromethane	0.5	mg/kg	< 0.5	-	< 0.5	-
Bromodichloromethane	0.5	mg/kg	< 0.5	-	< 0.5	-
Bromoform	0.5	mg/kg	< 0.5	-	< 0.5	-
Bromomethane	0.5	mg/kg	< 0.5	-	< 0.5	-
Carbon disulfide	0.5	mg/kg	< 0.5	-	< 0.5	-
Carbon Tetrachloride	0.5	mg/kg	< 0.5	-	< 0.5	-
Chlorobenzene	0.5	mg/kg	< 0.5	-	< 0.5	-
Chloroethane	0.5	mg/kg	< 0.5	-	< 0.5	-
Chloroform	0.5	mg/kg	< 0.5	-	< 0.5	-
Chloromethane	0.5	mg/kg	< 0.5	-	< 0.5	-
cis-1.2-Dichloroethene	0.5	mg/kg	< 0.5	-	< 0.5	-
cis-1.3-Dichloropropene	0.5	mg/kg	< 0.5	-	< 0.5	-
Dibromochloromethane	0.5	mg/kg	< 0.5	-	< 0.5	-
Dibromomethane	0.5	mg/kg	< 0.5	-	< 0.5	-
Dichlorodifluoromethane	0.5	mg/kg	< 0.5	-	< 0.5	-
Ethylbenzene	0.1	mg/kg	< 0.1	-	< 0.1	-
Iodomethane	0.5	mg/kg	< 0.5	-	< 0.5	-
Isopropyl benzene (Cumene)	0.5	mg/kg	< 0.5	-	< 0.5	-

Client Sample ID			BH02_0.2-0.3	BH02_4.0-4.1	BH03_0.2-0.3	BH03_0.3-0.4
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			S19-Se32504	S19-Se32509	S19-Se32510	S19-Se32511
Date Sampled			Sep 19, 2019	Sep 19, 2019	Sep 19, 2019	Sep 19, 2019
Test/Reference	LOR	Unit				
Volatile Organics						
m&p-Xylenes	0.2	mg/kg	< 0.2	-	< 0.2	-
Methylene Chloride	0.5	mg/kg	< 0.5	-	< 0.5	-
o-Xylene	0.1	mg/kg	< 0.1	-	< 0.1	-
Styrene	0.5	mg/kg	< 0.5	-	< 0.5	-
Tetrachloroethene	0.5	mg/kg	< 0.5	-	< 0.5	-
Toluene	0.1	mg/kg	< 0.1	-	< 0.1	-
trans-1.2-Dichloroethene	0.5	mg/kg	< 0.5	-	< 0.5	-
trans-1.3-Dichloropropene	0.5	mg/kg	< 0.5	-	< 0.5	-
Trichloroethene	0.5	mg/kg	< 0.5	-	< 0.5	-
Trichlorofluoromethane	0.5	mg/kg	< 0.5	-	< 0.5	-
Vinyl chloride	0.5	mg/kg	< 0.5	-	< 0.5	-
Xylenes - Total	0.3	mg/kg	< 0.3	-	< 0.3	-
Total MAH*	0.5	mg/kg	< 0.5	-	< 0.5	-
Vic EPA IWRG 621 CHC (Total)*	0.5	mg/kg	< 0.5	-	< 0.5	-
Vic EPA IWRG 621 Other CHC (Total)*	0.5	mg/kg	< 0.5	-	< 0.5	-
4-Bromofluorobenzene (surr.)	1	%	97	-	99	-
Toluene-d8 (surr.)	1	%	122	-	122	-
Total Recoverable Hydrocarbons - 2013 NEPM Fractions						
Naphthalene[N02]	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
TRH C6-C10	20	mg/kg	< 20	< 20	< 20	< 20
TRH C6-C10 less BTEX (F1)[N04]	20	mg/kg	< 20	< 20	< 20	< 20
TRH >C10-C16	50	mg/kg	64	< 50	< 50	< 50
TRH >C10-C16 less Naphthalene (F2)[N01]	50	mg/kg	64	< 50	< 50	< 50
TRH >C16-C34	100	mg/kg	17000	210	1600	< 100
TRH >C34-C40	100	mg/kg	3800	< 100	470	< 100
TRH >C10-C40 (total)*	100	mg/kg	20864	210	2070	< 100
Polycyclic Aromatic Hydrocarbons						
Benzo(a)pyrene TEQ (lower bound) *	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Benzo(a)pyrene TEQ (medium bound) *	0.5	mg/kg	0.6	0.6	0.6	0.6
Benzo(a)pyrene TEQ (upper bound) *	0.5	mg/kg	1.2	1.2	1.2	1.2
Acenaphthene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Acenaphthylene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Anthracene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Benz(a)anthracene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Benzo(a)pyrene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Benzo(b&j)fluoranthene[N07]	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Benzo(g.h.i)perylene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Benzo(k)fluoranthene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Chrysene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Dibenz(a.h)anthracene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Fluoranthene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Fluorene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Indeno(1.2.3-cd)pyrene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Naphthalene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Phenanthrene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Pyrene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Total PAH*	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
2-Fluorobiphenyl (surr.)	1	%	94	93	87	88
p-Terphenyl-d14 (surr.)	1	%	75	95	86	92

Client Sample ID			BH02_0.2-0.3	BH02_4.0-4.1	BH03_0.2-0.3	BH03_0.3-0.4
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			S19-Se32504	S19-Se32509	S19-Se32510	S19-Se32511
Date Sampled			Sep 19, 2019	Sep 19, 2019	Sep 19, 2019	Sep 19, 2019
Test/Reference	LOR	Unit				
Organochlorine Pesticides						
Chlordanes - Total	0.1	mg/kg	< 0.1	-	< 0.1	-
4.4'-DDD	0.05	mg/kg	< 0.05	-	< 0.05	-
4.4'-DDE	0.05	mg/kg	< 0.05	-	< 0.05	-
4.4'-DDT	0.05	mg/kg	< 0.05	-	< 0.05	-
a-BHC	0.05	mg/kg	< 0.05	-	< 0.05	-
Aldrin	0.05	mg/kg	< 0.05	-	< 0.05	-
b-BHC	0.05	mg/kg	< 0.05	-	< 0.05	-
d-BHC	0.05	mg/kg	< 0.05	-	< 0.05	-
Dieldrin	0.05	mg/kg	< 0.05	-	< 0.05	-
Endosulfan I	0.05	mg/kg	< 0.05	-	< 0.05	-
Endosulfan II	0.05	mg/kg	< 0.05	-	< 0.05	-
Endosulfan sulphate	0.05	mg/kg	< 0.05	-	< 0.05	-
Endrin	0.05	mg/kg	< 0.05	-	< 0.05	-
Endrin aldehyde	0.05	mg/kg	< 0.05	-	< 0.05	-
Endrin ketone	0.05	mg/kg	< 0.05	-	< 0.05	-
g-BHC (Lindane)	0.05	mg/kg	< 0.05	-	< 0.05	-
Heptachlor	0.05	mg/kg	< 0.05	-	< 0.05	-
Heptachlor epoxide	0.05	mg/kg	< 0.05	-	< 0.05	-
Hexachlorobenzene	0.05	mg/kg	< 0.05	-	< 0.05	-
Methoxychlor	0.2	mg/kg	< 0.2	-	< 0.2	-
Toxaphene	1	mg/kg	< 1	-	< 1	-
Aldrin and Dieldrin (Total)*	0.05	mg/kg	< 0.05	-	< 0.05	-
DDT + DDE + DDD (Total)*	0.05	mg/kg	< 0.05	-	< 0.05	-
Vic EPA IWRG 621 OCP (Total)*	0.1	mg/kg	< 0.2	-	< 0.2	-
Vic EPA IWRG 621 Other OCP (Total)*	0.1	mg/kg	< 0.2	-	< 0.2	-
Dibutylchlorendate (surr.)	1	%	74	-	66	-
Tetrachloro-m-xylene (surr.)	1	%	74	-	80	-
Organophosphorus Pesticides						
Azinphos-methyl	0.2	mg/kg	< 0.2	-	< 0.2	-
Bolstar	0.2	mg/kg	< 0.2	-	< 0.2	-
Chlorfenvinphos	0.2	mg/kg	< 0.2	-	< 0.2	-
Chlorpyrifos	0.2	mg/kg	< 0.2	-	< 0.2	-
Chlorpyrifos-methyl	0.2	mg/kg	< 0.2	-	< 0.2	-
Coumaphos	2	mg/kg	< 2	-	< 2	-
Demeton-S	0.2	mg/kg	< 0.2	-	< 0.2	-
Demeton-O	0.2	mg/kg	< 0.2	-	< 0.2	-
Diazinon	0.2	mg/kg	< 0.2	-	< 0.2	-
Dichlorvos	0.2	mg/kg	< 0.2	-	< 0.2	-
Dimethoate	0.2	mg/kg	< 0.2	-	< 0.2	-
Disulfoton	0.2	mg/kg	< 0.2	-	< 0.2	-
EPN	0.2	mg/kg	< 0.2	-	< 0.2	-
Ethion	0.2	mg/kg	< 0.2	-	< 0.2	-
Ethoprop	0.2	mg/kg	< 0.2	-	< 0.2	-
Ethyl parathion	0.2	mg/kg	< 0.2	-	< 0.2	-
Fenitrothion	0.2	mg/kg	< 0.2	-	< 0.2	-
Fensulfothion	0.2	mg/kg	< 0.2	-	< 0.2	-
Fenthion	0.2	mg/kg	< 0.2	-	< 0.2	-
Malathion	0.2	mg/kg	< 0.2	-	< 0.2	-
Merphos	0.2	mg/kg	< 0.2	-	< 0.5	-

Client Sample ID			BH02_0.2-0.3	BH02_4.0-4.1	BH03_0.2-0.3	BH03_0.3-0.4
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			S19-Se32504	S19-Se32509	S19-Se32510	S19-Se32511
Date Sampled			Sep 19, 2019	Sep 19, 2019	Sep 19, 2019	Sep 19, 2019
Test/Reference	LOR	Unit				
Organophosphorus Pesticides						
Methyl parathion	0.2	mg/kg	< 0.2	-	< 0.2	-
Mevinphos	0.2	mg/kg	< 0.2	-	< 0.2	-
Monocrotophos	2	mg/kg	< 2	-	< 2	-
Naled	0.2	mg/kg	< 0.2	-	< 0.2	-
Omethoate	2	mg/kg	< 2	-	< 2	-
Phorate	0.2	mg/kg	< 0.2	-	< 0.2	-
Pirimiphos-methyl	0.2	mg/kg	< 0.2	-	< 0.2	-
Pyrazophos	0.2	mg/kg	< 0.2	-	< 0.2	-
Ronnel	0.2	mg/kg	< 0.2	-	< 0.2	-
Terbufos	0.2	mg/kg	< 0.2	-	< 0.2	-
Tetrachlorvinphos	0.2	mg/kg	< 0.2	-	< 0.2	-
Tokuthion	0.2	mg/kg	< 0.2	-	< 0.2	-
Trichloronate	0.2	mg/kg	< 0.2	-	< 0.2	-
Triphenylphosphate (surr.)	1	%	79	-	75	-
Polychlorinated Biphenyls						
Aroclor-1016	0.5	mg/kg	< 0.5	-	< 0.5	-
Aroclor-1221	0.1	mg/kg	< 0.1	-	< 0.1	-
Aroclor-1232	0.5	mg/kg	< 0.5	-	< 0.5	-
Aroclor-1242	0.5	mg/kg	< 0.5	-	< 0.5	-
Aroclor-1248	0.5	mg/kg	< 0.5	-	< 0.5	-
Aroclor-1254	0.5	mg/kg	< 0.5	-	< 0.5	-
Aroclor-1260	0.5	mg/kg	< 0.5	-	< 0.5	-
Total PCB*	0.5	mg/kg	< 0.5	-	< 0.5	-
Dibutylchlorendate (surr.)	1	%	74	-	66	-
Tetrachloro-m-xylene (surr.)	1	%	74	-	80	-
Phenols (Halogenated)						
2-Chlorophenol	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
2.4-Dichlorophenol	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
2.4.5-Trichlorophenol	1	mg/kg	< 1	< 1	< 1	< 1
2.4.6-Trichlorophenol	1	mg/kg	< 1	< 1	< 1	< 1
2.6-Dichlorophenol	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
4-Chloro-3-methylphenol	1	mg/kg	< 1	< 1	< 1	< 1
Pentachlorophenol	1	mg/kg	< 1	< 1	< 1	< 1
Tetrachlorophenols - Total	10	mg/kg	< 10	< 10	< 10	< 10
Total Halogenated Phenol*	1	mg/kg	< 1	< 1	< 1	< 1
Phenols (non-Halogenated)						
2-Cyclohexyl-4.6-dinitrophenol	20	mg/kg	< 20	< 20	< 20	< 20
2-Methyl-4.6-dinitrophenol	5	mg/kg	< 5	< 5	< 5	< 5
2-Methylphenol (o-Cresol)	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
2-Nitrophenol	1	mg/kg	< 1	< 1	< 1	< 1
2.4-Dimethylphenol	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
2.4-Dinitrophenol	5	mg/kg	< 5	< 5	< 5	< 5
3&4-Methylphenol (m&p-Cresol)	0.4	mg/kg	< 0.4	< 0.4	< 0.4	< 0.4
4-Nitrophenol	5	mg/kg	< 5	< 5	< 5	< 5
Dinoseb	20	mg/kg	< 20	< 20	< 20	< 20
Phenol	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Total Non-Halogenated Phenol*	20	mg/kg	< 20	< 20	< 20	< 20
Phenol-d6 (surr.)	1	%	62	91	85	81

Client Sample ID			BH02_0.2-0.3	BH02_4.0-4.1	BH03_0.2-0.3	BH03_0.3-0.4
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			S19-Se32504	S19-Se32509	S19-Se32510	S19-Se32511
Date Sampled			Sep 19, 2019	Sep 19, 2019	Sep 19, 2019	Sep 19, 2019
Test/Reference	LOR	Unit				
Heavy Metals						
Arsenic	2	mg/kg	7.4	5.4	7.3	8.2
Cadmium	0.4	mg/kg	0.5	< 0.4	0.5	< 0.4
Chromium	5	mg/kg	190	12	1700	63
Copper	5	mg/kg	96	45	160	29
Lead	5	mg/kg	45	15	39	22
Mercury	0.1	mg/kg	< 0.1	< 0.1	0.2	< 0.1
Nickel	5	mg/kg	43	15	50	14
Zinc	5	mg/kg	200	88	350	64
% Moisture	1	%	18	14	6.4	19

Client Sample ID			BH04_0.2-0.3	BH04_1.0-1.1	BH05_1.9-2.0	BH05_3.9-4.0
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			S19-Se32512	S19-Se32513	S19-Se32514	S19-Se32515
Date Sampled			Sep 19, 2019	Sep 19, 2019	Sep 19, 2019	Sep 19, 2019
Test/Reference	LOR	Unit				
Total Recoverable Hydrocarbons - 1999 NEPM Fractions						
TRH C6-C9	20	mg/kg	< 20	< 20	< 20	< 20
TRH C10-C14	20	mg/kg	< 20	< 20	56	< 20
TRH C15-C28	50	mg/kg	160	< 50	330	150
TRH C29-C36	50	mg/kg	130	< 50	< 50	77
TRH C10-C36 (Total)	50	mg/kg	290	< 50	386	227
BTEX						
Benzene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Toluene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Ethylbenzene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
m&p-Xylenes	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
o-Xylene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Xylenes - Total	0.3	mg/kg	< 0.3	< 0.3	< 0.3	< 0.3
4-Bromofluorobenzene (surr.)	1	%	121	85	99	128
Volatile Organics						
1.1-Dichloroethane	0.5	mg/kg	-	< 0.5	< 0.5	-
1.1-Dichloroethene	0.5	mg/kg	-	< 0.5	< 0.5	-
1.1.1-Trichloroethane	0.5	mg/kg	-	< 0.5	< 0.5	-
1.1.1.2-Tetrachloroethane	0.5	mg/kg	-	< 0.5	< 0.5	-
1.1.2-Trichloroethane	0.5	mg/kg	-	< 0.5	< 0.5	-
1.1.2.2-Tetrachloroethane	0.5	mg/kg	-	< 0.5	< 0.5	-
1.2-Dibromoethane	0.5	mg/kg	-	< 0.5	< 0.5	-
1.2-Dichlorobenzene	0.5	mg/kg	-	< 0.5	< 0.5	-
1.2-Dichloroethane	0.5	mg/kg	-	< 0.5	< 0.5	-
1.2-Dichloropropane	0.5	mg/kg	-	< 0.5	< 0.5	-
1.2.3-Trichloropropane	0.5	mg/kg	-	< 0.5	< 0.5	-
1.2.4-Trimethylbenzene	0.5	mg/kg	-	< 0.5	< 0.5	-
1.3-Dichlorobenzene	0.5	mg/kg	-	< 0.5	< 0.5	-
1.3-Dichloropropane	0.5	mg/kg	-	< 0.5	< 0.5	-
1.3.5-Trimethylbenzene	0.5	mg/kg	-	< 0.5	< 0.5	-
1.4-Dichlorobenzene	0.5	mg/kg	-	< 0.5	< 0.5	-
2-Butanone (MEK)	0.5	mg/kg	-	< 0.5	< 0.5	-

Client Sample ID			BH04_0.2-0.3	BH04_1.0-1.1	BH05_1.9-2.0	BH05_3.9-4.0
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			S19-Se32512	S19-Se32513	S19-Se32514	S19-Se32515
Date Sampled			Sep 19, 2019	Sep 19, 2019	Sep 19, 2019	Sep 19, 2019
Test/Reference	LOR	Unit				
Volatile Organics						
2-Propanone (Acetone)	0.5	mg/kg	-	< 0.5	< 0.5	-
4-Chlorotoluene	0.5	mg/kg	-	< 0.5	< 0.5	-
4-Methyl-2-pentanone (MIBK)	0.5	mg/kg	-	< 0.5	< 0.5	-
Allyl chloride	0.5	mg/kg	-	< 0.5	< 0.5	-
Benzene	0.1	mg/kg	-	< 0.1	< 0.1	-
Bromobenzene	0.5	mg/kg	-	< 0.5	< 0.5	-
Bromochloromethane	0.5	mg/kg	-	< 0.5	< 0.5	-
Bromodichloromethane	0.5	mg/kg	-	< 0.5	< 0.5	-
Bromoform	0.5	mg/kg	-	< 0.5	< 0.5	-
Bromomethane	0.5	mg/kg	-	< 0.5	< 0.5	-
Carbon disulfide	0.5	mg/kg	-	< 0.5	< 0.5	-
Carbon Tetrachloride	0.5	mg/kg	-	< 0.5	< 0.5	-
Chlorobenzene	0.5	mg/kg	-	< 0.5	< 0.5	-
Chloroethane	0.5	mg/kg	-	< 0.5	< 0.5	-
Chloroform	0.5	mg/kg	-	< 0.5	< 0.5	-
Chloromethane	0.5	mg/kg	-	< 0.5	< 0.5	-
cis-1.2-Dichloroethene	0.5	mg/kg	-	< 0.5	< 0.5	-
cis-1.3-Dichloropropene	0.5	mg/kg	-	< 0.5	< 0.5	-
Dibromochloromethane	0.5	mg/kg	-	< 0.5	< 0.5	-
Dibromomethane	0.5	mg/kg	-	< 0.5	< 0.5	-
Dichlorodifluoromethane	0.5	mg/kg	-	< 0.5	< 0.5	-
Ethylbenzene	0.1	mg/kg	-	< 0.1	< 0.1	-
Iodomethane	0.5	mg/kg	-	< 0.5	< 0.5	-
Isopropyl benzene (Cumene)	0.5	mg/kg	-	< 0.5	< 0.5	-
m&p-Xylenes	0.2	mg/kg	-	< 0.2	< 0.2	-
Methylene Chloride	0.5	mg/kg	-	< 0.5	< 0.5	-
o-Xylene	0.1	mg/kg	-	< 0.1	< 0.1	-
Styrene	0.5	mg/kg	-	< 0.5	< 0.5	-
Tetrachloroethene	0.5	mg/kg	-	< 0.5	< 0.5	-
Toluene	0.1	mg/kg	-	< 0.1	< 0.1	-
trans-1.2-Dichloroethene	0.5	mg/kg	-	< 0.5	< 0.5	-
trans-1.3-Dichloropropene	0.5	mg/kg	-	< 0.5	< 0.5	-
Trichloroethene	0.5	mg/kg	-	< 0.5	< 0.5	-
Trichlorofluoromethane	0.5	mg/kg	-	< 0.5	< 0.5	-
Vinyl chloride	0.5	mg/kg	-	< 0.5	< 0.5	-
Xylenes - Total	0.3	mg/kg	-	< 0.3	< 0.3	-
Total MAH*	0.5	mg/kg	-	< 0.5	< 0.5	-
Vic EPA IWRG 621 CHC (Total)*	0.5	mg/kg	-	< 0.5	< 0.5	-
Vic EPA IWRG 621 Other CHC (Total)*	0.5	mg/kg	-	< 0.5	< 0.5	-
4-Bromofluorobenzene (surr.)	1	%	-	85	99	-
Toluene-d8 (surr.)	1	%	-	116	127	-
Total Recoverable Hydrocarbons - 2013 NEPM Fractions						
Naphthalene[N02]	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
TRH C6-C10	20	mg/kg	< 20	< 20	< 20	< 20
TRH C6-C10 less BTEX (F1)[N04]	20	mg/kg	< 20	< 20	< 20	< 20
TRH >C10-C16	50	mg/kg	< 50	< 50	150	< 50
TRH >C10-C16 less Naphthalene (F2)[N01]	50	mg/kg	< 50	< 50	150	< 50
TRH >C16-C34	100	mg/kg	260	< 100	240	190
TRH >C34-C40	100	mg/kg	< 100	< 100	< 100	< 100
TRH >C10-C40 (total)*	100	mg/kg	260	< 100	390	190

Client Sample ID			BH04_0.2-0.3	BH04_1.0-1.1	BH05_1.9-2.0	BH05_3.9-4.0
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			S19-Se32512	S19-Se32513	S19-Se32514	S19-Se32515
Date Sampled			Sep 19, 2019	Sep 19, 2019	Sep 19, 2019	Sep 19, 2019
Test/Reference	LOR	Unit				
Polycyclic Aromatic Hydrocarbons						
Benzo(a)pyrene TEQ (lower bound) *	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Benzo(a)pyrene TEQ (medium bound) *	0.5	mg/kg	0.6	0.6	0.6	0.6
Benzo(a)pyrene TEQ (upper bound) *	0.5	mg/kg	1.2	1.2	1.2	1.2
Acenaphthene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Acenaphthylene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Anthracene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Benz(a)anthracene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Benzo(a)pyrene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Benzo(b&j)fluoranthene[N07]	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Benzo(g.h.i)perylene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Benzo(k)fluoranthene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Chrysene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Dibenz(a.h)anthracene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Fluoranthene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Fluorene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Indeno(1.2.3-cd)pyrene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Naphthalene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Phenanthrene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Pyrene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Total PAH*	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
2-Fluorobiphenyl (surr.)	1	%	109	100	99	99
p-Terphenyl-d14 (surr.)	1	%	119	82	105	101
Organochlorine Pesticides						
Chlordanes - Total	0.1	mg/kg	-	< 0.1	< 0.1	-
4.4'-DDD	0.05	mg/kg	-	< 0.05	< 0.05	-
4.4'-DDE	0.05	mg/kg	-	< 0.05	< 0.05	-
4.4'-DDT	0.05	mg/kg	-	< 0.05	< 0.05	-
a-BHC	0.05	mg/kg	-	< 0.05	< 0.05	-
Aldrin	0.05	mg/kg	-	< 0.05	< 0.05	-
b-BHC	0.05	mg/kg	-	< 0.05	< 0.05	-
d-BHC	0.05	mg/kg	-	< 0.05	< 0.05	-
Dieldrin	0.05	mg/kg	-	< 0.05	< 0.05	-
Endosulfan I	0.05	mg/kg	-	< 0.05	< 0.05	-
Endosulfan II	0.05	mg/kg	-	< 0.05	< 0.05	-
Endosulfan sulphate	0.05	mg/kg	-	< 0.05	< 0.05	-
Endrin	0.05	mg/kg	-	< 0.05	< 0.05	-
Endrin aldehyde	0.05	mg/kg	-	< 0.05	< 0.05	-
Endrin ketone	0.05	mg/kg	-	< 0.05	< 0.05	-
g-BHC (Lindane)	0.05	mg/kg	-	< 0.05	< 0.05	-
Heptachlor	0.05	mg/kg	-	< 0.05	< 0.05	-
Heptachlor epoxide	0.05	mg/kg	-	< 0.05	< 0.05	-
Hexachlorobenzene	0.05	mg/kg	-	< 0.05	< 0.05	-
Methoxychlor	0.2	mg/kg	-	< 0.2	< 0.2	-
Toxaphene	1	mg/kg	-	< 1	< 1	-
Aldrin and Dieldrin (Total)*	0.05	mg/kg	-	< 0.05	< 0.05	-
DDT + DDE + DDD (Total)*	0.05	mg/kg	-	< 0.05	< 0.05	-
Vic EPA IWRG 621 OCP (Total)*	0.1	mg/kg	-	< 0.2	< 0.2	-
Vic EPA IWRG 621 Other OCP (Total)*	0.1	mg/kg	-	< 0.2	< 0.2	-
Dibutylchlorendate (surr.)	1	%	-	72	86	-
Tetrachloro-m-xylene (surr.)	1	%	-	108	99	-

Client Sample ID			BH04_0.2-0.3	BH04_1.0-1.1	BH05_1.9-2.0	BH05_3.9-4.0
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			S19-Se32512	S19-Se32513	S19-Se32514	S19-Se32515
Date Sampled			Sep 19, 2019	Sep 19, 2019	Sep 19, 2019	Sep 19, 2019
Test/Reference	LOR	Unit				
Organophosphorus Pesticides						
Azinphos-methyl	0.2	mg/kg	-	< 0.2	< 0.2	-
Bolstar	0.2	mg/kg	-	< 0.2	< 0.2	-
Chlorfenvinphos	0.2	mg/kg	-	< 0.2	< 0.2	-
Chlorpyrifos	0.2	mg/kg	-	< 0.2	< 0.2	-
Chlorpyrifos-methyl	0.2	mg/kg	-	< 0.2	< 0.2	-
Coumaphos	2	mg/kg	-	< 2	< 2	-
Demeton-S	0.2	mg/kg	-	< 0.2	< 0.2	-
Demeton-O	0.2	mg/kg	-	< 0.2	< 0.2	-
Diazinon	0.2	mg/kg	-	< 0.2	< 0.2	-
Dichlorvos	0.2	mg/kg	-	< 0.2	< 0.2	-
Dimethoate	0.2	mg/kg	-	< 0.2	< 0.2	-
Disulfoton	0.2	mg/kg	-	< 0.2	< 0.2	-
EPN	0.2	mg/kg	-	< 0.2	< 0.2	-
Ethion	0.2	mg/kg	-	< 0.2	< 0.2	-
Ethoprop	0.2	mg/kg	-	< 0.2	< 0.2	-
Ethyl parathion	0.2	mg/kg	-	< 0.2	< 0.2	-
Fenitrothion	0.2	mg/kg	-	< 0.2	< 0.2	-
Fensulfothion	0.2	mg/kg	-	< 0.2	< 0.2	-
Fenthion	0.2	mg/kg	-	< 0.2	< 0.2	-
Malathion	0.2	mg/kg	-	< 0.2	< 0.2	-
Merphos	0.2	mg/kg	-	< 0.2	< 0.2	-
Methyl parathion	0.2	mg/kg	-	< 0.2	< 0.2	-
Mevinphos	0.2	mg/kg	-	< 0.2	< 0.2	-
Monocrotophos	2	mg/kg	-	< 2	< 2	-
Naled	0.2	mg/kg	-	< 0.2	< 0.2	-
Omethoate	2	mg/kg	-	< 2	< 2	-
Phorate	0.2	mg/kg	-	< 0.2	< 0.2	-
Pirimiphos-methyl	0.2	mg/kg	-	< 0.2	< 0.2	-
Pyrazophos	0.2	mg/kg	-	< 0.2	< 0.2	-
Ronnel	0.2	mg/kg	-	< 0.2	< 0.2	-
Terbufos	0.2	mg/kg	-	< 0.2	< 0.2	-
Tetrachlorvinphos	0.2	mg/kg	-	< 0.2	< 0.2	-
Tokuthion	0.2	mg/kg	-	< 0.2	< 0.2	-
Trichloronate	0.2	mg/kg	-	< 0.2	< 0.2	-
Triphenylphosphate (surr.)	1	%	-	116	109	-
Polychlorinated Biphenyls						
Aroclor-1016	0.5	mg/kg	-	< 0.5	< 0.5	-
Aroclor-1221	0.1	mg/kg	-	< 0.1	< 0.1	-
Aroclor-1232	0.5	mg/kg	-	< 0.5	< 0.5	-
Aroclor-1242	0.5	mg/kg	-	< 0.5	< 0.5	-
Aroclor-1248	0.5	mg/kg	-	< 0.5	< 0.5	-
Aroclor-1254	0.5	mg/kg	-	< 0.5	< 0.5	-
Aroclor-1260	0.5	mg/kg	-	< 0.5	< 0.5	-
Total PCB*	0.5	mg/kg	-	< 0.5	< 0.5	-
Dibutylchlorendate (surr.)	1	%	-	72	86	-
Tetrachloro-m-xylene (surr.)	1	%	-	108	99	-

Client Sample ID			BH04_0.2-0.3	BH04_1.0-1.1	BH05_1.9-2.0	BH05_3.9-4.0
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			S19-Se32512	S19-Se32513	S19-Se32514	S19-Se32515
Date Sampled			Sep 19, 2019	Sep 19, 2019	Sep 19, 2019	Sep 19, 2019
Test/Reference	LOR	Unit				
Phenols (Halogenated)						
2-Chlorophenol	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
2.4-Dichlorophenol	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
2.4.5-Trichlorophenol	1	mg/kg	< 1	< 1	< 1	< 1
2.4.6-Trichlorophenol	1	mg/kg	< 1	< 1	< 1	< 1
2.6-Dichlorophenol	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
4-Chloro-3-methylphenol	1	mg/kg	< 1	< 1	< 1	< 1
Pentachlorophenol	1	mg/kg	< 1	< 1	< 1	< 1
Tetrachlorophenols - Total	10	mg/kg	< 10	< 10	< 10	< 10
Total Halogenated Phenol*	1	mg/kg	< 1	< 1	< 1	< 1
Phenols (non-Halogenated)						
2-Cyclohexyl-4.6-dinitrophenol	20	mg/kg	< 20	< 20	< 20	< 20
2-Methyl-4.6-dinitrophenol	5	mg/kg	< 5	< 5	< 5	< 5
2-Methylphenol (o-Cresol)	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
2-Nitrophenol	1	mg/kg	< 1	< 1	< 1	< 1
2.4-Dimethylphenol	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
2.4-Dinitrophenol	5	mg/kg	< 5	< 5	< 5	< 5
3&4-Methylphenol (m&p-Cresol)	0.4	mg/kg	< 0.4	< 0.4	< 0.4	< 0.4
4-Nitrophenol	5	mg/kg	< 5	< 5	< 5	< 5
Dinoseb	20	mg/kg	< 20	< 20	< 20	< 20
Phenol	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Total Non-Halogenated Phenol*	20	mg/kg	< 20	< 20	< 20	< 20
Phenol-d6 (surr.)	1	%	94	90	85	88
Heavy Metals						
Arsenic	2	mg/kg	8.0	2.3	< 2	5.0
Cadmium	0.4	mg/kg	0.6	< 0.4	< 0.4	< 0.4
Chromium	5	mg/kg	1600	17	13	34
Copper	5	mg/kg	180	60	46	37
Lead	5	mg/kg	41	19	16	14
Mercury	0.1	mg/kg	0.2	< 0.1	< 0.1	< 0.1
Nickel	5	mg/kg	60	16	17	16
Zinc	5	mg/kg	330	100	79	68
% Moisture	1	%	8.4	15	11	9.4

Client Sample ID			BH06_1.0-1.1	BH06_1.2-1.3	BH07_1.0-1.1	BH07_1.4-1.5
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			S19-Se32516	S19-Se32517	S19-Se32518	S19-Se32519
Date Sampled			Sep 19, 2019	Sep 19, 2019	Sep 19, 2019	Sep 19, 2019
Test/Reference	LOR	Unit				
Total Recoverable Hydrocarbons - 1999 NEPM Fractions						
TRH C6-C9	20	mg/kg	< 20	< 20	< 20	< 20
TRH C10-C14	20	mg/kg	< 20	< 20	< 20	< 20
TRH C15-C28	50	mg/kg	< 50	< 50	< 50	< 50
TRH C29-C36	50	mg/kg	< 50	< 50	< 50	< 50
TRH C10-C36 (Total)	50	mg/kg	< 50	< 50	< 50	< 50

Client Sample ID			BH06_1.0-1.1	BH06_1.2-1.3	BH07_1.0-1.1	BH07_1.4-1.5
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			S19-Se32516	S19-Se32517	S19-Se32518	S19-Se32519
Date Sampled			Sep 19, 2019	Sep 19, 2019	Sep 19, 2019	Sep 19, 2019
Test/Reference	LOR	Unit				
BTEX						
Benzene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Toluene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Ethylbenzene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
m&p-Xylenes	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
o-Xylene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Xylenes - Total	0.3	mg/kg	< 0.3	< 0.3	< 0.3	< 0.3
4-Bromofluorobenzene (surr.)	1	%	95	122	148	66
Volatile Organics						
1.1-Dichloroethane	0.5	mg/kg	< 0.5	-	-	< 0.5
1.1-Dichloroethene	0.5	mg/kg	< 0.5	-	-	< 0.5
1.1.1-Trichloroethane	0.5	mg/kg	< 0.5	-	-	< 0.5
1.1.1.2-Tetrachloroethane	0.5	mg/kg	< 0.5	-	-	< 0.5
1.1.2-Trichloroethane	0.5	mg/kg	< 0.5	-	-	< 0.5
1.1.2.2-Tetrachloroethane	0.5	mg/kg	< 0.5	-	-	< 0.5
1.2-Dibromoethane	0.5	mg/kg	< 0.5	-	-	< 0.5
1.2-Dichlorobenzene	0.5	mg/kg	< 0.5	-	-	< 0.5
1.2-Dichloroethane	0.5	mg/kg	< 0.5	-	-	< 0.5
1.2-Dichloropropane	0.5	mg/kg	< 0.5	-	-	< 0.5
1.2.3-Trichloropropane	0.5	mg/kg	< 0.5	-	-	< 0.5
1.2.4-Trimethylbenzene	0.5	mg/kg	< 0.5	-	-	< 0.5
1.3-Dichlorobenzene	0.5	mg/kg	< 0.5	-	-	< 0.5
1.3-Dichloropropane	0.5	mg/kg	< 0.5	-	-	< 0.5
1.3.5-Trimethylbenzene	0.5	mg/kg	< 0.5	-	-	< 0.5
1.4-Dichlorobenzene	0.5	mg/kg	< 0.5	-	-	< 0.5
2-Butanone (MEK)	0.5	mg/kg	< 0.5	-	-	< 0.5
2-Propanone (Acetone)	0.5	mg/kg	< 0.5	-	-	< 0.5
4-Chlorotoluene	0.5	mg/kg	< 0.5	-	-	< 0.5
4-Methyl-2-pentanone (MIBK)	0.5	mg/kg	< 0.5	-	-	< 0.5
Allyl chloride	0.5	mg/kg	< 0.5	-	-	< 0.5
Benzene	0.1	mg/kg	< 0.1	-	-	< 0.1
Bromobenzene	0.5	mg/kg	< 0.5	-	-	< 0.5
Bromochloromethane	0.5	mg/kg	< 0.5	-	-	< 0.5
Bromodichloromethane	0.5	mg/kg	< 0.5	-	-	< 0.5
Bromoform	0.5	mg/kg	< 0.5	-	-	< 0.5
Bromomethane	0.5	mg/kg	< 0.5	-	-	< 0.5
Carbon disulfide	0.5	mg/kg	< 0.5	-	-	< 0.5
Carbon Tetrachloride	0.5	mg/kg	< 0.5	-	-	< 0.5
Chlorobenzene	0.5	mg/kg	< 0.5	-	-	< 0.5
Chloroethane	0.5	mg/kg	< 0.5	-	-	< 0.5
Chloroform	0.5	mg/kg	< 0.5	-	-	< 0.5
Chloromethane	0.5	mg/kg	< 0.5	-	-	0.6
cis-1.2-Dichloroethene	0.5	mg/kg	< 0.5	-	-	< 0.5
cis-1.3-Dichloropropene	0.5	mg/kg	< 0.5	-	-	< 0.5
Dibromochloromethane	0.5	mg/kg	< 0.5	-	-	< 0.5
Dibromomethane	0.5	mg/kg	< 0.5	-	-	< 0.5
Dichlorodifluoromethane	0.5	mg/kg	< 0.5	-	-	< 0.5
Ethylbenzene	0.1	mg/kg	< 0.1	-	-	< 0.1
Iodomethane	0.5	mg/kg	< 0.5	-	-	< 0.5
Isopropyl benzene (Cumene)	0.5	mg/kg	< 0.5	-	-	< 0.5

Client Sample ID			BH06_1.0-1.1	BH06_1.2-1.3	BH07_1.0-1.1	BH07_1.4-1.5
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			S19-Se32516	S19-Se32517	S19-Se32518	S19-Se32519
Date Sampled			Sep 19, 2019	Sep 19, 2019	Sep 19, 2019	Sep 19, 2019
Test/Reference	LOR	Unit				
Volatile Organics						
m&p-Xylenes	0.2	mg/kg	< 0.2	-	-	< 0.2
Methylene Chloride	0.5	mg/kg	< 0.5	-	-	< 0.5
o-Xylene	0.1	mg/kg	< 0.1	-	-	< 0.1
Styrene	0.5	mg/kg	< 0.5	-	-	< 0.5
Tetrachloroethene	0.5	mg/kg	< 0.5	-	-	< 0.5
Toluene	0.1	mg/kg	< 0.1	-	-	< 0.1
trans-1.2-Dichloroethene	0.5	mg/kg	< 0.5	-	-	< 0.5
trans-1.3-Dichloropropene	0.5	mg/kg	< 0.5	-	-	< 0.5
Trichloroethene	0.5	mg/kg	< 0.5	-	-	< 0.5
Trichlorofluoromethane	0.5	mg/kg	< 0.5	-	-	< 0.5
Vinyl chloride	0.5	mg/kg	< 0.5	-	-	< 0.5
Xylenes - Total	0.3	mg/kg	< 0.3	-	-	< 0.3
Total MAH*	0.5	mg/kg	< 0.5	-	-	< 0.5
Vic EPA IWRG 621 CHC (Total)*	0.5	mg/kg	< 0.5	-	-	< 0.5
Vic EPA IWRG 621 Other CHC (Total)*	0.5	mg/kg	< 0.5	-	-	< 0.5
4-Bromofluorobenzene (surr.)	1	%	95	-	-	66
Toluene-d8 (surr.)	1	%	118	-	-	78
Total Recoverable Hydrocarbons - 2013 NEPM Fractions						
Naphthalene[N02]	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
TRH C6-C10	20	mg/kg	< 20	< 20	< 20	< 20
TRH C6-C10 less BTEX (F1)[N04]	20	mg/kg	< 20	< 20	< 20	< 20
TRH >C10-C16	50	mg/kg	< 50	< 50	< 50	< 50
TRH >C10-C16 less Naphthalene (F2)[N01]	50	mg/kg	< 50	< 50	< 50	< 50
TRH >C16-C34	100	mg/kg	< 100	< 100	< 100	< 100
TRH >C34-C40	100	mg/kg	< 100	< 100	< 100	< 100
TRH >C10-C40 (total)*	100	mg/kg	< 100	< 100	< 100	< 100
Polycyclic Aromatic Hydrocarbons						
Benzo(a)pyrene TEQ (lower bound) *	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Benzo(a)pyrene TEQ (medium bound) *	0.5	mg/kg	0.6	0.6	0.6	0.6
Benzo(a)pyrene TEQ (upper bound) *	0.5	mg/kg	1.2	1.2	1.2	1.2
Acenaphthene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Acenaphthylene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Anthracene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Benz(a)anthracene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Benzo(a)pyrene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Benzo(b&j)fluoranthene[N07]	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Benzo(g.h.i)perylene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Benzo(k)fluoranthene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Chrysene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Dibenz(a.h)anthracene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Fluoranthene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Fluorene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Indeno(1.2.3-cd)pyrene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Naphthalene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Phenanthrene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Pyrene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Total PAH*	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
2-Fluorobiphenyl (surr.)	1	%	99	99	95	99
p-Terphenyl-d14 (surr.)	1	%	84	103	102	97

Client Sample ID			BH06_1.0-1.1	BH06_1.2-1.3	BH07_1.0-1.1	BH07_1.4-1.5
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			S19-Se32516	S19-Se32517	S19-Se32518	S19-Se32519
Date Sampled			Sep 19, 2019	Sep 19, 2019	Sep 19, 2019	Sep 19, 2019
Test/Reference	LOR	Unit				
Organochlorine Pesticides						
Chlordanes - Total	0.1	mg/kg	< 0.1	-	-	< 0.1
4.4'-DDD	0.05	mg/kg	< 0.05	-	-	< 0.05
4.4'-DDE	0.05	mg/kg	< 0.05	-	-	< 0.05
4.4'-DDT	0.05	mg/kg	< 0.05	-	-	< 0.05
a-BHC	0.05	mg/kg	< 0.05	-	-	< 0.05
Aldrin	0.05	mg/kg	< 0.05	-	-	< 0.05
b-BHC	0.05	mg/kg	< 0.05	-	-	< 0.05
d-BHC	0.05	mg/kg	< 0.05	-	-	< 0.05
Dieldrin	0.05	mg/kg	< 0.05	-	-	< 0.05
Endosulfan I	0.05	mg/kg	< 0.05	-	-	< 0.05
Endosulfan II	0.05	mg/kg	< 0.05	-	-	< 0.05
Endosulfan sulphate	0.05	mg/kg	< 0.05	-	-	< 0.05
Endrin	0.05	mg/kg	< 0.05	-	-	< 0.05
Endrin aldehyde	0.05	mg/kg	< 0.05	-	-	< 0.05
Endrin ketone	0.05	mg/kg	< 0.05	-	-	< 0.05
g-BHC (Lindane)	0.05	mg/kg	< 0.05	-	-	< 0.05
Heptachlor	0.05	mg/kg	< 0.05	-	-	< 0.05
Heptachlor epoxide	0.05	mg/kg	< 0.05	-	-	< 0.05
Hexachlorobenzene	0.05	mg/kg	< 0.05	-	-	< 0.05
Methoxychlor	0.2	mg/kg	< 0.2	-	-	< 0.2
Toxaphene	1	mg/kg	< 1	-	-	< 1
Aldrin and Dieldrin (Total)*	0.05	mg/kg	< 0.05	-	-	< 0.05
DDT + DDE + DDD (Total)*	0.05	mg/kg	< 0.05	-	-	< 0.05
Vic EPA IWRG 621 OCP (Total)*	0.1	mg/kg	< 0.2	-	-	< 0.2
Vic EPA IWRG 621 Other OCP (Total)*	0.1	mg/kg	< 0.2	-	-	< 0.2
Dibutylchlorendate (surr.)	1	%	76	-	-	83
Tetrachloro-m-xylene (surr.)	1	%	111	-	-	117
Organophosphorus Pesticides						
Azinphos-methyl	0.2	mg/kg	< 0.2	-	-	< 0.2
Bolstar	0.2	mg/kg	< 0.2	-	-	< 0.2
Chlorfenvinphos	0.2	mg/kg	< 0.2	-	-	< 0.2
Chlorpyrifos	0.2	mg/kg	< 0.2	-	-	< 0.2
Chlorpyrifos-methyl	0.2	mg/kg	< 0.2	-	-	< 0.2
Coumaphos	2	mg/kg	< 2	-	-	< 2
Demeton-S	0.2	mg/kg	< 0.2	-	-	< 0.2
Demeton-O	0.2	mg/kg	< 0.2	-	-	< 0.2
Diazinon	0.2	mg/kg	< 0.2	-	-	< 0.2
Dichlorvos	0.2	mg/kg	< 0.2	-	-	< 0.2
Dimethoate	0.2	mg/kg	< 0.2	-	-	< 0.2
Disulfoton	0.2	mg/kg	< 0.2	-	-	< 0.2
EPN	0.2	mg/kg	< 0.2	-	-	< 0.2
Ethion	0.2	mg/kg	< 0.2	-	-	< 0.2
Ethoprop	0.2	mg/kg	< 0.2	-	-	< 0.2
Ethyl parathion	0.2	mg/kg	< 0.2	-	-	< 0.2
Fenitrothion	0.2	mg/kg	< 0.2	-	-	< 0.2
Fensulfothion	0.2	mg/kg	< 0.2	-	-	< 0.2
Fenthion	0.2	mg/kg	< 0.2	-	-	< 0.2
Malathion	0.2	mg/kg	< 0.2	-	-	< 0.2
Merphos	0.2	mg/kg	< 0.2	-	-	< 0.2

Client Sample ID			BH06_1.0-1.1	BH06_1.2-1.3	BH07_1.0-1.1	BH07_1.4-1.5
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			S19-Se32516	S19-Se32517	S19-Se32518	S19-Se32519
Date Sampled			Sep 19, 2019	Sep 19, 2019	Sep 19, 2019	Sep 19, 2019
Test/Reference	LOR	Unit				
Organophosphorus Pesticides						
Methyl parathion	0.2	mg/kg	< 0.2	-	-	< 0.2
Mevinphos	0.2	mg/kg	< 0.2	-	-	< 0.2
Monocrotophos	2	mg/kg	< 2	-	-	< 2
Naled	0.2	mg/kg	< 0.2	-	-	< 0.2
Omethoate	2	mg/kg	< 2	-	-	< 2
Phorate	0.2	mg/kg	< 0.2	-	-	< 0.2
Pirimiphos-methyl	0.2	mg/kg	< 0.2	-	-	< 0.2
Pyrazophos	0.2	mg/kg	< 0.2	-	-	< 0.2
Ronnel	0.2	mg/kg	< 0.2	-	-	< 0.2
Terbufos	0.2	mg/kg	< 0.2	-	-	< 0.2
Tetrachlorvinphos	0.2	mg/kg	< 0.2	-	-	< 0.2
Tokuthion	0.2	mg/kg	< 0.2	-	-	< 0.2
Trichloronate	0.2	mg/kg	< 0.2	-	-	< 0.2
Triphenylphosphate (surr.)	1	%	110	-	-	116
Polychlorinated Biphenyls						
Aroclor-1016	0.5	mg/kg	< 0.5	-	-	< 0.5
Aroclor-1221	0.1	mg/kg	< 0.1	-	-	< 0.1
Aroclor-1232	0.5	mg/kg	< 0.5	-	-	< 0.5
Aroclor-1242	0.5	mg/kg	< 0.5	-	-	< 0.5
Aroclor-1248	0.5	mg/kg	< 0.5	-	-	< 0.5
Aroclor-1254	0.5	mg/kg	< 0.5	-	-	< 0.5
Aroclor-1260	0.5	mg/kg	< 0.5	-	-	< 0.5
Total PCB*	0.5	mg/kg	< 0.5	-	-	< 0.5
Dibutylchlorendate (surr.)	1	%	76	-	-	83
Tetrachloro-m-xylene (surr.)	1	%	111	-	-	117
Phenols (Halogenated)						
2-Chlorophenol	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
2.4-Dichlorophenol	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
2.4.5-Trichlorophenol	1	mg/kg	< 1	< 1	< 1	< 1
2.4.6-Trichlorophenol	1	mg/kg	< 1	< 1	< 1	< 1
2.6-Dichlorophenol	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
4-Chloro-3-methylphenol	1	mg/kg	< 1	< 1	< 1	< 1
Pentachlorophenol	1	mg/kg	< 1	< 1	< 1	< 1
Tetrachlorophenols - Total	10	mg/kg	< 10	< 10	< 10	< 10
Total Halogenated Phenol*	1	mg/kg	< 1	< 1	< 1	< 1
Phenols (non-Halogenated)						
2-Cyclohexyl-4.6-dinitrophenol	20	mg/kg	< 20	< 20	< 20	< 20
2-Methyl-4.6-dinitrophenol	5	mg/kg	< 5	< 5	< 5	< 5
2-Methylphenol (o-Cresol)	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
2-Nitrophenol	1	mg/kg	< 1	< 1	< 1	< 1
2.4-Dimethylphenol	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
2.4-Dinitrophenol	5	mg/kg	< 5	< 5	< 5	< 5
3&4-Methylphenol (m&p-Cresol)	0.4	mg/kg	< 0.4	< 0.4	< 0.4	< 0.4
4-Nitrophenol	5	mg/kg	< 5	< 5	< 5	< 5
Dinoseb	20	mg/kg	< 20	< 20	< 20	< 20
Phenol	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Total Non-Halogenated Phenol*	20	mg/kg	< 20	< 20	< 20	< 20
Phenol-d6 (surr.)	1	%	88	86	91	88

Client Sample ID			BH06_1.0-1.1	BH06_1.2-1.3	BH07_1.0-1.1	BH07_1.4-1.5
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			S19-Se32516	S19-Se32517	S19-Se32518	S19-Se32519
Date Sampled			Sep 19, 2019	Sep 19, 2019	Sep 19, 2019	Sep 19, 2019
Test/Reference	LOR	Unit				
Heavy Metals						
Arsenic	2	mg/kg	< 2	3.9	4.1	< 2
Cadmium	0.4	mg/kg	< 0.4	< 0.4	< 0.4	< 0.4
Chromium	5	mg/kg	10	16	15	11
Copper	5	mg/kg	22	41	40	34
Lead	5	mg/kg	8.6	14	14	11
Mercury	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Nickel	5	mg/kg	8.3	14	9.3	8.3
Zinc	5	mg/kg	38	66	52	43
% Moisture	1	%	14	14	16	15

Client Sample ID			BH08_1.0-1.1	BH08_4.9-5.0	BH09_0.5-0.6	BH09_1.0-1.1
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			S19-Se32520	S19-Se32521	S19-Se32522	S19-Se32523
Date Sampled			Sep 19, 2019	Sep 19, 2019	Sep 19, 2019	Sep 19, 2019
Test/Reference	LOR	Unit				
Total Recoverable Hydrocarbons - 1999 NEPM Fractions						
TRH C6-C9	20	mg/kg	< 20	< 20	< 20	< 20
TRH C10-C14	20	mg/kg	< 20	< 20	< 20	< 20
TRH C15-C28	50	mg/kg	< 50	< 50	< 50	< 50
TRH C29-C36	50	mg/kg	< 50	< 50	55	< 50
TRH C10-C36 (Total)	50	mg/kg	< 50	< 50	55	< 50
BTEX						
Benzene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Toluene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Ethylbenzene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
m&p-Xylenes	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
o-Xylene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Xylenes - Total	0.3	mg/kg	< 0.3	< 0.3	< 0.3	< 0.3
4-Bromofluorobenzene (surr.)	1	%	141	79	88	98
Volatile Organics						
1.1-Dichloroethane	0.5	mg/kg	-	< 0.5	< 0.5	-
1.1-Dichloroethene	0.5	mg/kg	-	< 0.5	< 0.5	-
1.1.1-Trichloroethane	0.5	mg/kg	-	< 0.5	< 0.5	-
1.1.1.2-Tetrachloroethane	0.5	mg/kg	-	< 0.5	< 0.5	-
1.1.2-Trichloroethane	0.5	mg/kg	-	< 0.5	< 0.5	-
1.1.2.2-Tetrachloroethane	0.5	mg/kg	-	< 0.5	< 0.5	-
1.2-Dibromoethane	0.5	mg/kg	-	< 0.5	< 0.5	-
1.2-Dichlorobenzene	0.5	mg/kg	-	< 0.5	< 0.5	-
1.2-Dichloroethane	0.5	mg/kg	-	< 0.5	< 0.5	-
1.2-Dichloropropane	0.5	mg/kg	-	< 0.5	< 0.5	-
1.2.3-Trichloropropane	0.5	mg/kg	-	< 0.5	< 0.5	-
1.2.4-Trimethylbenzene	0.5	mg/kg	-	< 0.5	< 0.5	-
1.3-Dichlorobenzene	0.5	mg/kg	-	< 0.5	< 0.5	-
1.3-Dichloropropane	0.5	mg/kg	-	< 0.5	< 0.5	-
1.3.5-Trimethylbenzene	0.5	mg/kg	-	< 0.5	< 0.5	-
1.4-Dichlorobenzene	0.5	mg/kg	-	< 0.5	< 0.5	-
2-Butanone (MEK)	0.5	mg/kg	-	< 0.5	< 0.5	-

Client Sample ID			BH08_1.0-1.1	BH08_4.9-5.0	BH09_0.5-0.6	BH09_1.0-1.1
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			S19-Se32520	S19-Se32521	S19-Se32522	S19-Se32523
Date Sampled			Sep 19, 2019	Sep 19, 2019	Sep 19, 2019	Sep 19, 2019
Test/Reference	LOR	Unit				
Volatile Organics						
2-Propanone (Acetone)	0.5	mg/kg	-	< 0.5	< 0.5	-
4-Chlorotoluene	0.5	mg/kg	-	< 0.5	< 0.5	-
4-Methyl-2-pentanone (MIBK)	0.5	mg/kg	-	< 0.5	< 0.5	-
Allyl chloride	0.5	mg/kg	-	< 0.5	< 0.5	-
Benzene	0.1	mg/kg	-	< 0.1	< 0.1	-
Bromobenzene	0.5	mg/kg	-	< 0.5	< 0.5	-
Bromochloromethane	0.5	mg/kg	-	< 0.5	< 0.5	-
Bromodichloromethane	0.5	mg/kg	-	< 0.5	< 0.5	-
Bromoform	0.5	mg/kg	-	< 0.5	< 0.5	-
Bromomethane	0.5	mg/kg	-	< 0.5	< 0.5	-
Carbon disulfide	0.5	mg/kg	-	< 0.5	< 0.5	-
Carbon Tetrachloride	0.5	mg/kg	-	< 0.5	< 0.5	-
Chlorobenzene	0.5	mg/kg	-	< 0.5	< 0.5	-
Chloroethane	0.5	mg/kg	-	< 0.5	< 0.5	-
Chloroform	0.5	mg/kg	-	< 0.5	< 0.5	-
Chloromethane	0.5	mg/kg	-	< 0.5	< 0.5	-
cis-1.2-Dichloroethene	0.5	mg/kg	-	< 0.5	< 0.5	-
cis-1.3-Dichloropropene	0.5	mg/kg	-	< 0.5	< 0.5	-
Dibromochloromethane	0.5	mg/kg	-	< 0.5	< 0.5	-
Dibromomethane	0.5	mg/kg	-	< 0.5	< 0.5	-
Dichlorodifluoromethane	0.5	mg/kg	-	< 0.5	< 0.5	-
Ethylbenzene	0.1	mg/kg	-	< 0.1	< 0.1	-
Iodomethane	0.5	mg/kg	-	< 0.5	< 0.5	-
Isopropyl benzene (Cumene)	0.5	mg/kg	-	< 0.5	< 0.5	-
m&p-Xylenes	0.2	mg/kg	-	< 0.2	< 0.2	-
Methylene Chloride	0.5	mg/kg	-	< 0.5	< 0.5	-
o-Xylene	0.1	mg/kg	-	< 0.1	< 0.1	-
Styrene	0.5	mg/kg	-	< 0.5	< 0.5	-
Tetrachloroethene	0.5	mg/kg	-	< 0.5	< 0.5	-
Toluene	0.1	mg/kg	-	< 0.1	< 0.1	-
trans-1.2-Dichloroethene	0.5	mg/kg	-	< 0.5	< 0.5	-
trans-1.3-Dichloropropene	0.5	mg/kg	-	< 0.5	< 0.5	-
Trichloroethene	0.5	mg/kg	-	< 0.5	< 0.5	-
Trichlorofluoromethane	0.5	mg/kg	-	< 0.5	< 0.5	-
Vinyl chloride	0.5	mg/kg	-	< 0.5	< 0.5	-
Xylenes - Total	0.3	mg/kg	-	< 0.3	< 0.3	-
Total MAH*	0.5	mg/kg	-	< 0.5	< 0.5	-
Vic EPA IWRG 621 CHC (Total)*	0.5	mg/kg	-	< 0.5	< 0.5	-
Vic EPA IWRG 621 Other CHC (Total)*	0.5	mg/kg	-	< 0.5	< 0.5	-
4-Bromofluorobenzene (surr.)	1	%	-	79	88	-
Toluene-d8 (surr.)	1	%	-	92	107	-
Total Recoverable Hydrocarbons - 2013 NEPM Fractions						
Naphthalene[N02]	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
TRH C6-C10	20	mg/kg	< 20	< 20	< 20	< 20
TRH C6-C10 less BTEX (F1)[N04]	20	mg/kg	< 20	< 20	< 20	< 20
TRH >C10-C16	50	mg/kg	< 50	< 50	< 50	< 50
TRH >C10-C16 less Naphthalene (F2)[N01]	50	mg/kg	< 50	< 50	< 50	< 50
TRH >C16-C34	100	mg/kg	< 100	< 100	< 100	< 100
TRH >C34-C40	100	mg/kg	< 100	< 100	< 100	< 100
TRH >C10-C40 (total)*	100	mg/kg	< 100	< 100	< 100	< 100

Client Sample ID			BH08_1.0-1.1	BH08_4.9-5.0	BH09_0.5-0.6	BH09_1.0-1.1
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			S19-Se32520	S19-Se32521	S19-Se32522	S19-Se32523
Date Sampled			Sep 19, 2019	Sep 19, 2019	Sep 19, 2019	Sep 19, 2019
Test/Reference	LOR	Unit				
Polycyclic Aromatic Hydrocarbons						
Benzo(a)pyrene TEQ (lower bound) *	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Benzo(a)pyrene TEQ (medium bound) *	0.5	mg/kg	0.6	0.6	0.6	0.6
Benzo(a)pyrene TEQ (upper bound) *	0.5	mg/kg	1.2	1.2	1.2	1.2
Acenaphthene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Acenaphthylene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Anthracene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Benz(a)anthracene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Benzo(a)pyrene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Benzo(b&j)fluoranthene[N07]	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Benzo(g.h.i)perylene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Benzo(k)fluoranthene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Chrysene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Dibenz(a.h)anthracene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Fluoranthene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Fluorene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Indeno(1.2.3-cd)pyrene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Naphthalene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Phenanthrene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Pyrene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Total PAH*	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
2-Fluorobiphenyl (surr.)	1	%	94	97	99	93
p-Terphenyl-d14 (surr.)	1	%	107	109	112	99
Organochlorine Pesticides						
Chlordanes - Total	0.1	mg/kg	-	< 0.1	< 0.1	-
4.4'-DDD	0.05	mg/kg	-	< 0.05	< 0.05	-
4.4'-DDE	0.05	mg/kg	-	< 0.05	< 0.05	-
4.4'-DDT	0.05	mg/kg	-	< 0.05	< 0.05	-
a-BHC	0.05	mg/kg	-	< 0.05	< 0.05	-
Aldrin	0.05	mg/kg	-	< 0.05	< 0.05	-
b-BHC	0.05	mg/kg	-	< 0.05	< 0.05	-
d-BHC	0.05	mg/kg	-	< 0.05	< 0.05	-
Dieldrin	0.05	mg/kg	-	< 0.05	< 0.05	-
Endosulfan I	0.05	mg/kg	-	< 0.05	< 0.05	-
Endosulfan II	0.05	mg/kg	-	< 0.05	< 0.05	-
Endosulfan sulphate	0.05	mg/kg	-	< 0.05	< 0.05	-
Endrin	0.05	mg/kg	-	< 0.05	< 0.05	-
Endrin aldehyde	0.05	mg/kg	-	< 0.05	< 0.05	-
Endrin ketone	0.05	mg/kg	-	< 0.05	< 0.05	-
g-BHC (Lindane)	0.05	mg/kg	-	< 0.05	< 0.05	-
Heptachlor	0.05	mg/kg	-	< 0.05	< 0.05	-
Heptachlor epoxide	0.05	mg/kg	-	< 0.05	< 0.05	-
Hexachlorobenzene	0.05	mg/kg	-	< 0.05	< 0.05	-
Methoxychlor	0.2	mg/kg	-	< 0.2	< 0.2	-
Toxaphene	1	mg/kg	-	< 1	< 1	-
Aldrin and Dieldrin (Total)*	0.05	mg/kg	-	< 0.05	< 0.05	-
DDT + DDE + DDD (Total)*	0.05	mg/kg	-	< 0.05	< 0.05	-
Vic EPA IWRG 621 OCP (Total)*	0.1	mg/kg	-	< 0.2	< 0.2	-
Vic EPA IWRG 621 Other OCP (Total)*	0.1	mg/kg	-	< 0.2	< 0.2	-
Dibutylchlorendate (surr.)	1	%	-	83	86	-
Tetrachloro-m-xylene (surr.)	1	%	-	112	108	-

Client Sample ID			BH08_1.0-1.1	BH08_4.9-5.0	BH09_0.5-0.6	BH09_1.0-1.1
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			S19-Se32520	S19-Se32521	S19-Se32522	S19-Se32523
Date Sampled			Sep 19, 2019	Sep 19, 2019	Sep 19, 2019	Sep 19, 2019
Test/Reference	LOR	Unit				
Organophosphorus Pesticides						
Azinphos-methyl	0.2	mg/kg	-	< 0.2	< 0.2	-
Bolstar	0.2	mg/kg	-	< 0.2	< 0.2	-
Chlorfenvinphos	0.2	mg/kg	-	< 0.2	< 0.2	-
Chlorpyrifos	0.2	mg/kg	-	< 0.2	< 0.2	-
Chlorpyrifos-methyl	0.2	mg/kg	-	< 0.2	< 0.2	-
Coumaphos	2	mg/kg	-	< 2	< 2	-
Demeton-S	0.2	mg/kg	-	< 0.2	< 0.2	-
Demeton-O	0.2	mg/kg	-	< 0.2	< 0.2	-
Diazinon	0.2	mg/kg	-	< 0.2	< 0.2	-
Dichlorvos	0.2	mg/kg	-	< 0.2	< 0.2	-
Dimethoate	0.2	mg/kg	-	< 0.2	< 0.2	-
Disulfoton	0.2	mg/kg	-	< 0.2	< 0.2	-
EPN	0.2	mg/kg	-	< 0.2	< 0.2	-
Ethion	0.2	mg/kg	-	< 0.2	< 0.2	-
Ethoprop	0.2	mg/kg	-	< 0.2	< 0.2	-
Ethyl parathion	0.2	mg/kg	-	< 0.2	< 0.2	-
Fenitrothion	0.2	mg/kg	-	< 0.2	< 0.2	-
Fensulfothion	0.2	mg/kg	-	< 0.2	< 0.2	-
Fenthion	0.2	mg/kg	-	< 0.2	< 0.2	-
Malathion	0.2	mg/kg	-	< 0.2	< 0.2	-
Merphos	0.2	mg/kg	-	< 0.2	< 0.2	-
Methyl parathion	0.2	mg/kg	-	< 0.2	< 0.2	-
Mevinphos	0.2	mg/kg	-	< 0.2	< 0.2	-
Monocrotophos	2	mg/kg	-	< 2	< 2	-
Naled	0.2	mg/kg	-	< 0.2	< 0.2	-
Omethoate	2	mg/kg	-	< 2	< 2	-
Phorate	0.2	mg/kg	-	< 0.2	< 0.2	-
Pirimiphos-methyl	0.2	mg/kg	-	< 0.2	< 0.2	-
Pyrazophos	0.2	mg/kg	-	< 0.2	< 0.2	-
Ronnel	0.2	mg/kg	-	< 0.2	< 0.2	-
Terbufos	0.2	mg/kg	-	< 0.2	< 0.2	-
Tetrachlorvinphos	0.2	mg/kg	-	< 0.2	< 0.2	-
Tokuthion	0.2	mg/kg	-	< 0.2	< 0.2	-
Trichloronate	0.2	mg/kg	-	< 0.2	< 0.2	-
Triphenylphosphate (surr.)	1	%	-	121	124	-
Polychlorinated Biphenyls						
Aroclor-1016	0.5	mg/kg	-	< 0.5	< 0.5	-
Aroclor-1221	0.1	mg/kg	-	< 0.1	< 0.1	-
Aroclor-1232	0.5	mg/kg	-	< 0.5	< 0.5	-
Aroclor-1242	0.5	mg/kg	-	< 0.5	< 0.5	-
Aroclor-1248	0.5	mg/kg	-	< 0.5	< 0.5	-
Aroclor-1254	0.5	mg/kg	-	< 0.5	< 0.5	-
Aroclor-1260	0.5	mg/kg	-	< 0.5	< 0.5	-
Total PCB*	0.5	mg/kg	-	< 0.5	< 0.5	-
Dibutylchlorendate (surr.)	1	%	-	83	86	-
Tetrachloro-m-xylene (surr.)	1	%	-	112	108	-

Client Sample ID			BH08_1.0-1.1	BH08_4.9-5.0	BH09_0.5-0.6	BH09_1.0-1.1
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			S19-Se32520	S19-Se32521	S19-Se32522	S19-Se32523
Date Sampled			Sep 19, 2019	Sep 19, 2019	Sep 19, 2019	Sep 19, 2019
Test/Reference	LOR	Unit				
Phenols (Halogenated)						
2-Chlorophenol	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
2.4-Dichlorophenol	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
2.4.5-Trichlorophenol	1	mg/kg	< 1	< 1	< 1	< 1
2.4.6-Trichlorophenol	1	mg/kg	< 1	< 1	< 1	< 1
2.6-Dichlorophenol	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
4-Chloro-3-methylphenol	1	mg/kg	< 1	< 1	< 1	< 1
Pentachlorophenol	1	mg/kg	< 1	< 1	< 1	< 1
Tetrachlorophenols - Total	10	mg/kg	< 10	< 10	< 10	< 10
Total Halogenated Phenol*	1	mg/kg	< 1	< 1	< 1	< 1
Phenols (non-Halogenated)						
2-Cyclohexyl-4.6-dinitrophenol	20	mg/kg	< 20	< 20	< 20	< 20
2-Methyl-4.6-dinitrophenol	5	mg/kg	< 5	< 5	< 5	< 5
2-Methylphenol (o-Cresol)	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
2-Nitrophenol	1	mg/kg	< 1	< 1	< 1	< 1
2.4-Dimethylphenol	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
2.4-Dinitrophenol	5	mg/kg	< 5	< 5	< 5	< 5
3&4-Methylphenol (m&p-Cresol)	0.4	mg/kg	< 0.4	< 0.4	< 0.4	< 0.4
4-Nitrophenol	5	mg/kg	< 5	< 5	< 5	< 5
Dinoseb	20	mg/kg	< 20	< 20	< 20	< 20
Phenol	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Total Non-Halogenated Phenol*	20	mg/kg	< 20	< 20	< 20	< 20
Phenol-d6 (surr.)	1	%	84	89	97	92
Heavy Metals						
Arsenic	2	mg/kg	< 2	8.0	4.6	6.4
Cadmium	0.4	mg/kg	< 0.4	< 0.4	< 0.4	< 0.4
Chromium	5	mg/kg	8.3	16	94	14
Copper	5	mg/kg	24	44	42	38
Lead	5	mg/kg	10	18	7.0	13
Mercury	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Nickel	5	mg/kg	5.3	26	83	16
Zinc	5	mg/kg	29	99	150	79
% Moisture	1	%	20	9.0	12	18

Client Sample ID			QA1	BH10_0.5-0.6	BH10_1.0-1.1	BH11_0.2-0.3
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			S19-Se32524	S19-Se32525	S19-Se32526	S19-Se32527
Date Sampled			Sep 19, 2019	Sep 19, 2019	Sep 19, 2019	Sep 19, 2019
Test/Reference	LOR	Unit				
Total Recoverable Hydrocarbons - 1999 NEPM Fractions						
TRH C6-C9	20	mg/kg	< 20	< 20	< 20	< 20
TRH C10-C14	20	mg/kg	< 20	< 20	< 20	< 20
TRH C15-C28	50	mg/kg	< 50	580	< 50	< 50
TRH C29-C36	50	mg/kg	< 50	810	< 50	< 50
TRH C10-C36 (Total)	50	mg/kg	< 50	1390	< 50	< 50

Client Sample ID			QA1	BH10_0.5-0.6	BH10_1.0-1.1	BH11_0.2-0.3
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			S19-Se32524	S19-Se32525	S19-Se32526	S19-Se32527
Date Sampled			Sep 19, 2019	Sep 19, 2019	Sep 19, 2019	Sep 19, 2019
Test/Reference	LOR	Unit				
BTEX						
Benzene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Toluene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Ethylbenzene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
m&p-Xylenes	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
o-Xylene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Xylenes - Total	0.3	mg/kg	< 0.3	< 0.3	< 0.3	< 0.3
4-Bromofluorobenzene (surr.)	1	%	139	124	92	79
Volatile Organics						
1.1-Dichloroethane	0.5	mg/kg	-	-	< 0.5	< 0.5
1.1-Dichloroethene	0.5	mg/kg	-	-	< 0.5	< 0.5
1.1.1-Trichloroethane	0.5	mg/kg	-	-	< 0.5	< 0.5
1.1.1.2-Tetrachloroethane	0.5	mg/kg	-	-	< 0.5	< 0.5
1.1.2-Trichloroethane	0.5	mg/kg	-	-	< 0.5	< 0.5
1.1.2.2-Tetrachloroethane	0.5	mg/kg	-	-	< 0.5	< 0.5
1.2-Dibromoethane	0.5	mg/kg	-	-	< 0.5	< 0.5
1.2-Dichlorobenzene	0.5	mg/kg	-	-	< 0.5	< 0.5
1.2-Dichloroethane	0.5	mg/kg	-	-	< 0.5	< 0.5
1.2-Dichloropropane	0.5	mg/kg	-	-	< 0.5	< 0.5
1.2.3-Trichloropropane	0.5	mg/kg	-	-	< 0.5	< 0.5
1.2.4-Trimethylbenzene	0.5	mg/kg	-	-	< 0.5	< 0.5
1.3-Dichlorobenzene	0.5	mg/kg	-	-	< 0.5	< 0.5
1.3-Dichloropropane	0.5	mg/kg	-	-	< 0.5	< 0.5
1.3.5-Trimethylbenzene	0.5	mg/kg	-	-	< 0.5	< 0.5
1.4-Dichlorobenzene	0.5	mg/kg	-	-	< 0.5	< 0.5
2-Butanone (MEK)	0.5	mg/kg	-	-	< 0.5	< 0.5
2-Propanone (Acetone)	0.5	mg/kg	-	-	< 0.5	< 0.5
4-Chlorotoluene	0.5	mg/kg	-	-	< 0.5	< 0.5
4-Methyl-2-pentanone (MIBK)	0.5	mg/kg	-	-	< 0.5	< 0.5
Allyl chloride	0.5	mg/kg	-	-	< 0.5	< 0.5
Benzene	0.1	mg/kg	-	-	< 0.1	< 0.1
Bromobenzene	0.5	mg/kg	-	-	< 0.5	< 0.5
Bromochloromethane	0.5	mg/kg	-	-	< 0.5	< 0.5
Bromodichloromethane	0.5	mg/kg	-	-	< 0.5	< 0.5
Bromoform	0.5	mg/kg	-	-	< 0.5	< 0.5
Bromomethane	0.5	mg/kg	-	-	< 0.5	< 0.5
Carbon disulfide	0.5	mg/kg	-	-	< 0.5	< 0.5
Carbon Tetrachloride	0.5	mg/kg	-	-	< 0.5	< 0.5
Chlorobenzene	0.5	mg/kg	-	-	< 0.5	< 0.5
Chloroethane	0.5	mg/kg	-	-	< 0.5	< 0.5
Chloroform	0.5	mg/kg	-	-	< 0.5	< 0.5
Chloromethane	0.5	mg/kg	-	-	< 0.5	< 0.5
cis-1.2-Dichloroethene	0.5	mg/kg	-	-	< 0.5	< 0.5
cis-1.3-Dichloropropene	0.5	mg/kg	-	-	< 0.5	< 0.5
Dibromochloromethane	0.5	mg/kg	-	-	< 0.5	< 0.5
Dibromomethane	0.5	mg/kg	-	-	< 0.5	< 0.5
Dichlorodifluoromethane	0.5	mg/kg	-	-	< 0.5	< 0.5
Ethylbenzene	0.1	mg/kg	-	-	< 0.1	< 0.1
Iodomethane	0.5	mg/kg	-	-	< 0.5	< 0.5
Isopropyl benzene (Cumene)	0.5	mg/kg	-	-	< 0.5	< 0.5

Client Sample ID			QA1	BH10_0.5-0.6	BH10_1.0-1.1	BH11_0.2-0.3
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			S19-Se32524	S19-Se32525	S19-Se32526	S19-Se32527
Date Sampled			Sep 19, 2019	Sep 19, 2019	Sep 19, 2019	Sep 19, 2019
Test/Reference	LOR	Unit				
Volatile Organics						
m&p-Xylenes	0.2	mg/kg	-	-	< 0.2	< 0.2
Methylene Chloride	0.5	mg/kg	-	-	< 0.5	< 0.5
o-Xylene	0.1	mg/kg	-	-	< 0.1	< 0.1
Styrene	0.5	mg/kg	-	-	< 0.5	< 0.5
Tetrachloroethene	0.5	mg/kg	-	-	< 0.5	< 0.5
Toluene	0.1	mg/kg	-	-	< 0.1	< 0.1
trans-1.2-Dichloroethene	0.5	mg/kg	-	-	< 0.5	< 0.5
trans-1.3-Dichloropropene	0.5	mg/kg	-	-	< 0.5	< 0.5
Trichloroethene	0.5	mg/kg	-	-	< 0.5	< 0.5
Trichlorofluoromethane	0.5	mg/kg	-	-	< 0.5	< 0.5
Vinyl chloride	0.5	mg/kg	-	-	< 0.5	< 0.5
Xylenes - Total	0.3	mg/kg	-	-	< 0.3	< 0.3
Total MAH*	0.5	mg/kg	-	-	< 0.5	< 0.5
Vic EPA IWRG 621 CHC (Total)*	0.5	mg/kg	-	-	< 0.5	< 0.5
Vic EPA IWRG 621 Other CHC (Total)*	0.5	mg/kg	-	-	< 0.5	< 0.5
4-Bromofluorobenzene (surr.)	1	%	-	-	92	79
Toluene-d8 (surr.)	1	%	-	-	111	99
Total Recoverable Hydrocarbons - 2013 NEPM Fractions						
Naphthalene[N02]	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
TRH C6-C10	20	mg/kg	< 20	< 20	< 20	< 20
TRH C6-C10 less BTEX (F1)[N04]	20	mg/kg	< 20	< 20	< 20	< 20
TRH >C10-C16	50	mg/kg	< 50	< 50	< 50	< 50
TRH >C10-C16 less Naphthalene (F2)[N01]	50	mg/kg	< 50	< 50	< 50	< 50
TRH >C16-C34	100	mg/kg	< 100	1200	< 100	< 100
TRH >C34-C40	100	mg/kg	< 100	370	< 100	< 100
TRH >C10-C40 (total)*	100	mg/kg	< 100	1570	< 100	< 100
Polycyclic Aromatic Hydrocarbons						
Benzo(a)pyrene TEQ (lower bound) *	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Benzo(a)pyrene TEQ (medium bound) *	0.5	mg/kg	0.6	0.6	0.6	0.6
Benzo(a)pyrene TEQ (upper bound) *	0.5	mg/kg	1.2	1.2	1.2	1.2
Acenaphthene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Acenaphthylene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Anthracene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Benz(a)anthracene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Benzo(a)pyrene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Benzo(b&j)fluoranthene[N07]	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Benzo(g.h.i)perylene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Benzo(k)fluoranthene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Chrysene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Dibenz(a.h)anthracene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Fluoranthene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Fluorene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Indeno(1.2.3-cd)pyrene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Naphthalene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Phenanthrene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Pyrene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Total PAH*	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
2-Fluorobiphenyl (surr.)	1	%	96	93	89	94
p-Terphenyl-d14 (surr.)	1	%	103	126	96	90

Client Sample ID			QA1	BH10_0.5-0.6	BH10_1.0-1.1	BH11_0.2-0.3
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			S19-Se32524	S19-Se32525	S19-Se32526	S19-Se32527
Date Sampled			Sep 19, 2019	Sep 19, 2019	Sep 19, 2019	Sep 19, 2019
Test/Reference	LOR	Unit				
Organochlorine Pesticides						
Chlordanes - Total	0.1	mg/kg	-	-	< 0.1	< 0.1
4.4'-DDD	0.05	mg/kg	-	-	< 0.05	< 0.05
4.4'-DDE	0.05	mg/kg	-	-	< 0.05	< 0.05
4.4'-DDT	0.05	mg/kg	-	-	< 0.05	< 0.05
a-BHC	0.05	mg/kg	-	-	< 0.05	< 0.05
Aldrin	0.05	mg/kg	-	-	< 0.05	< 0.05
b-BHC	0.05	mg/kg	-	-	< 0.05	< 0.05
d-BHC	0.05	mg/kg	-	-	< 0.05	< 0.05
Dieldrin	0.05	mg/kg	-	-	< 0.05	< 0.05
Endosulfan I	0.05	mg/kg	-	-	< 0.05	< 0.05
Endosulfan II	0.05	mg/kg	-	-	< 0.05	< 0.05
Endosulfan sulphate	0.05	mg/kg	-	-	< 0.05	< 0.05
Endrin	0.05	mg/kg	-	-	< 0.05	< 0.05
Endrin aldehyde	0.05	mg/kg	-	-	< 0.05	< 0.05
Endrin ketone	0.05	mg/kg	-	-	< 0.05	< 0.05
g-BHC (Lindane)	0.05	mg/kg	-	-	< 0.05	< 0.05
Heptachlor	0.05	mg/kg	-	-	< 0.05	< 0.05
Heptachlor epoxide	0.05	mg/kg	-	-	< 0.05	< 0.05
Hexachlorobenzene	0.05	mg/kg	-	-	< 0.05	< 0.05
Methoxychlor	0.2	mg/kg	-	-	< 0.2	< 0.2
Toxaphene	1	mg/kg	-	-	< 1	< 1
Aldrin and Dieldrin (Total)*	0.05	mg/kg	-	-	< 0.05	< 0.05
DDT + DDE + DDD (Total)*	0.05	mg/kg	-	-	< 0.05	< 0.05
Vic EPA IWRG 621 OCP (Total)*	0.1	mg/kg	-	-	< 0.2	< 0.2
Vic EPA IWRG 621 Other OCP (Total)*	0.1	mg/kg	-	-	< 0.2	< 0.2
Dibutylchlorendate (surr.)	1	%	-	-	95	96
Tetrachloro-m-xylene (surr.)	1	%	-	-	115	117
Organophosphorus Pesticides						
Azinphos-methyl	0.2	mg/kg	-	-	< 0.2	< 0.2
Bolstar	0.2	mg/kg	-	-	< 0.2	< 0.2
Chlorfenvinphos	0.2	mg/kg	-	-	< 0.2	< 0.2
Chlorpyrifos	0.2	mg/kg	-	-	< 0.2	< 0.2
Chlorpyrifos-methyl	0.2	mg/kg	-	-	< 0.2	< 0.2
Coumaphos	2	mg/kg	-	-	< 2	< 2
Demeton-S	0.2	mg/kg	-	-	< 0.2	< 0.2
Demeton-O	0.2	mg/kg	-	-	< 0.2	< 0.2
Diazinon	0.2	mg/kg	-	-	< 0.2	< 0.2
Dichlorvos	0.2	mg/kg	-	-	< 0.2	< 0.2
Dimethoate	0.2	mg/kg	-	-	< 0.2	< 0.2
Disulfoton	0.2	mg/kg	-	-	< 0.2	< 0.2
EPN	0.2	mg/kg	-	-	< 0.2	< 0.2
Ethion	0.2	mg/kg	-	-	< 0.2	< 0.2
Ethoprop	0.2	mg/kg	-	-	< 0.2	< 0.2
Ethyl parathion	0.2	mg/kg	-	-	< 0.2	< 0.2
Fenitrothion	0.2	mg/kg	-	-	< 0.2	< 0.2
Fensulfothion	0.2	mg/kg	-	-	< 0.2	< 0.2
Fenthion	0.2	mg/kg	-	-	< 0.2	< 0.2
Malathion	0.2	mg/kg	-	-	< 0.2	< 0.2
Merphos	0.2	mg/kg	-	-	< 0.2	< 0.2

Client Sample ID			QA1	BH10_0.5-0.6	BH10_1.0-1.1	BH11_0.2-0.3
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			S19-Se32524	S19-Se32525	S19-Se32526	S19-Se32527
Date Sampled			Sep 19, 2019	Sep 19, 2019	Sep 19, 2019	Sep 19, 2019
Test/Reference	LOR	Unit				
Organophosphorus Pesticides						
Methyl parathion	0.2	mg/kg	-	-	< 0.2	< 0.2
Mevinphos	0.2	mg/kg	-	-	< 0.2	< 0.2
Monocrotophos	2	mg/kg	-	-	< 2	< 2
Naled	0.2	mg/kg	-	-	< 0.2	< 0.2
Omethoate	2	mg/kg	-	-	< 2	< 2
Phorate	0.2	mg/kg	-	-	< 0.2	< 0.2
Pirimiphos-methyl	0.2	mg/kg	-	-	< 0.2	< 0.2
Pyrazophos	0.2	mg/kg	-	-	< 0.2	< 0.2
Ronnel	0.2	mg/kg	-	-	< 0.2	< 0.2
Terbufos	0.2	mg/kg	-	-	< 0.2	< 0.2
Tetrachlorvinphos	0.2	mg/kg	-	-	< 0.2	< 0.2
Tokuthion	0.2	mg/kg	-	-	< 0.2	< 0.2
Trichloronate	0.2	mg/kg	-	-	< 0.2	< 0.2
Triphenylphosphate (surr.)	1	%	-	-	111	108
Polychlorinated Biphenyls						
Aroclor-1016	0.5	mg/kg	-	-	< 0.5	< 0.5
Aroclor-1221	0.1	mg/kg	-	-	< 0.1	< 0.1
Aroclor-1232	0.5	mg/kg	-	-	< 0.5	< 0.5
Aroclor-1242	0.5	mg/kg	-	-	< 0.5	< 0.5
Aroclor-1248	0.5	mg/kg	-	-	< 0.5	< 0.5
Aroclor-1254	0.5	mg/kg	-	-	< 0.5	< 0.5
Aroclor-1260	0.5	mg/kg	-	-	< 0.5	< 0.5
Total PCB*	0.5	mg/kg	-	-	< 0.5	< 0.5
Dibutylchlorendate (surr.)	1	%	-	-	95	96
Tetrachloro-m-xylene (surr.)	1	%	-	-	115	117
Phenols (Halogenated)						
2-Chlorophenol	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
2.4-Dichlorophenol	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
2.4.5-Trichlorophenol	1	mg/kg	< 1	< 1	< 1	< 1
2.4.6-Trichlorophenol	1	mg/kg	< 1	< 1	< 1	< 1
2.6-Dichlorophenol	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
4-Chloro-3-methylphenol	1	mg/kg	< 1	< 1	< 1	< 1
Pentachlorophenol	1	mg/kg	< 1	< 1	< 1	< 1
Tetrachlorophenols - Total	10	mg/kg	< 10	< 10	< 10	< 10
Total Halogenated Phenol*	1	mg/kg	< 1	< 1	< 1	< 1
Phenols (non-Halogenated)						
2-Cyclohexyl-4.6-dinitrophenol	20	mg/kg	< 20	< 20	< 20	< 20
2-Methyl-4.6-dinitrophenol	5	mg/kg	< 5	< 5	< 5	< 5
2-Methylphenol (o-Cresol)	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
2-Nitrophenol	1	mg/kg	< 1	< 1	< 1	< 1
2.4-Dimethylphenol	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
2.4-Dinitrophenol	5	mg/kg	< 5	< 5	< 5	< 5
3&4-Methylphenol (m&p-Cresol)	0.4	mg/kg	< 0.4	< 0.4	< 0.4	< 0.4
4-Nitrophenol	5	mg/kg	< 5	< 5	< 5	< 5
Dinoseb	20	mg/kg	< 20	< 20	< 20	< 20
Phenol	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Total Non-Halogenated Phenol*	20	mg/kg	< 20	< 20	< 20	< 20
Phenol-d6 (surr.)	1	%	100	94	90	83

Client Sample ID			QA1	BH10_0.5-0.6	BH10_1.0-1.1	BH11_0.2-0.3
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			S19-Se32524	S19-Se32525	S19-Se32526	S19-Se32527
Date Sampled			Sep 19, 2019	Sep 19, 2019	Sep 19, 2019	Sep 19, 2019
Test/Reference	LOR	Unit				
Heavy Metals						
Arsenic	2	mg/kg	6.2	5.2	6.8	12
Cadmium	0.4	mg/kg	< 0.4	0.4	< 0.4	< 0.4
Chromium	5	mg/kg	16	19	17	49
Copper	5	mg/kg	34	260	20	30
Lead	5	mg/kg	14	73	22	26
Mercury	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Nickel	5	mg/kg	13	17	16	39
Zinc	5	mg/kg	62	190	43	72
% Moisture	1	%	20	12	20	19

Client Sample ID			BH11_0.6-0.7	BH12_0.1-0.2	BH12_0.8-0.9	BH13_0.2-0.3
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			S19-Se32528	S19-Se32529	S19-Se32530	S19-Se32531
Date Sampled			Sep 19, 2019	Sep 19, 2019	Sep 19, 2019	Sep 20, 2019
Test/Reference	LOR	Unit				
Total Recoverable Hydrocarbons - 1999 NEPM Fractions						
TRH C6-C9	20	mg/kg	< 20	< 20	< 20	< 20
TRH C10-C14	20	mg/kg	< 20	< 20	< 20	< 20
TRH C15-C28	50	mg/kg	< 50	< 50	< 50	61
TRH C29-C36	50	mg/kg	< 50	< 50	< 50	59
TRH C10-C36 (Total)	50	mg/kg	< 50	< 50	< 50	120
BTEX						
Benzene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Toluene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Ethylbenzene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
m&p-Xylenes	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
o-Xylene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Xylenes - Total	0.3	mg/kg	< 0.3	< 0.3	< 0.3	< 0.3
4-Bromofluorobenzene (surr.)	1	%	120	111	73	155
Total Recoverable Hydrocarbons - 2013 NEPM Fractions						
Naphthalene[N02]	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
TRH C6-C10	20	mg/kg	< 20	< 20	< 20	< 20
TRH C6-C10 less BTEX (F1)[N04]	20	mg/kg	< 20	< 20	< 20	< 20
TRH >C10-C16	50	mg/kg	< 50	< 50	< 50	< 50
TRH >C10-C16 less Naphthalene (F2)[N01]	50	mg/kg	< 50	< 50	< 50	< 50
TRH >C16-C34	100	mg/kg	< 100	< 100	< 100	< 100
TRH >C34-C40	100	mg/kg	< 100	< 100	< 100	< 100
TRH >C10-C40 (total)*	100	mg/kg	< 100	< 100	< 100	< 100
Polycyclic Aromatic Hydrocarbons						
Benzo(a)pyrene TEQ (lower bound) *	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Benzo(a)pyrene TEQ (medium bound) *	0.5	mg/kg	0.6	0.6	0.6	0.6
Benzo(a)pyrene TEQ (upper bound) *	0.5	mg/kg	1.2	1.2	1.2	1.2
Acenaphthene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Acenaphthylene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Anthracene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Benz(a)anthracene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Benzo(a)pyrene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5

Client Sample ID			BH11_0.6-0.7	BH12_0.1-0.2	BH12_0.8-0.9	BH13_0.2-0.3
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			S19-Se32528	S19-Se32529	S19-Se32530	S19-Se32531
Date Sampled			Sep 19, 2019	Sep 19, 2019	Sep 19, 2019	Sep 20, 2019
Test/Reference	LOR	Unit				
Polycyclic Aromatic Hydrocarbons						
Benzo(b&j)fluoranthene[N07]	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Benzo(g.h.i)perylene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Benzo(k)fluoranthene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Chrysene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Dibenz(a.h)anthracene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Fluoranthene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Fluorene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Indeno(1.2.3-cd)pyrene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Naphthalene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Phenanthrene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Pyrene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Total PAH*	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
2-Fluorobiphenyl (surr.)	1	%	97	97	98	97
p-Terphenyl-d14 (surr.)	1	%	87	105	94	103
Organochlorine Pesticides						
Chlordanes - Total	0.1	mg/kg	-	< 0.1	-	< 0.1
4.4'-DDD	0.05	mg/kg	-	< 0.05	-	< 0.05
4.4'-DDE	0.05	mg/kg	-	< 0.05	-	< 0.05
4.4'-DDT	0.05	mg/kg	-	< 0.05	-	< 0.05
a-BHC	0.05	mg/kg	-	< 0.05	-	< 0.05
Aldrin	0.05	mg/kg	-	< 0.05	-	< 0.05
b-BHC	0.05	mg/kg	-	< 0.05	-	< 0.05
d-BHC	0.05	mg/kg	-	< 0.05	-	< 0.05
Dieldrin	0.05	mg/kg	-	< 0.05	-	< 0.05
Endosulfan I	0.05	mg/kg	-	< 0.05	-	< 0.05
Endosulfan II	0.05	mg/kg	-	< 0.05	-	< 0.05
Endosulfan sulphate	0.05	mg/kg	-	< 0.05	-	< 0.05
Endrin	0.05	mg/kg	-	< 0.05	-	< 0.05
Endrin aldehyde	0.05	mg/kg	-	< 0.05	-	< 0.05
Endrin ketone	0.05	mg/kg	-	< 0.05	-	< 0.05
g-BHC (Lindane)	0.05	mg/kg	-	< 0.05	-	< 0.05
Heptachlor	0.05	mg/kg	-	< 0.05	-	< 0.05
Heptachlor epoxide	0.05	mg/kg	-	< 0.05	-	< 0.05
Hexachlorobenzene	0.05	mg/kg	-	< 0.05	-	< 0.05
Methoxychlor	0.2	mg/kg	-	< 0.2	-	< 0.2
Toxaphene	1	mg/kg	-	< 1	-	< 1
Aldrin and Dieldrin (Total)*	0.05	mg/kg	-	< 0.05	-	< 0.05
DDT + DDE + DDD (Total)*	0.05	mg/kg	-	< 0.05	-	< 0.05
Vic EPA IWRG 621 OCP (Total)*	0.1	mg/kg	-	< 0.2	-	< 0.2
Vic EPA IWRG 621 Other OCP (Total)*	0.1	mg/kg	-	< 0.2	-	< 0.2
Dibutylchlorendate (surr.)	1	%	-	97	-	85
Tetrachloro-m-xylene (surr.)	1	%	-	120	-	101
Organophosphorus Pesticides						
Azinphos-methyl	0.2	mg/kg	-	< 0.2	-	< 0.2
Bolstar	0.2	mg/kg	-	< 0.2	-	< 0.2
Chlorfenvinphos	0.2	mg/kg	-	< 0.2	-	< 0.2
Chlorpyrifos	0.2	mg/kg	-	< 0.2	-	< 0.2
Chlorpyrifos-methyl	0.2	mg/kg	-	< 0.2	-	< 0.2
Coumaphos	2	mg/kg	-	< 2	-	< 2

Client Sample ID			BH11_0.6-0.7	BH12_0.1-0.2	BH12_0.8-0.9	BH13_0.2-0.3
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			S19-Se32528	S19-Se32529	S19-Se32530	S19-Se32531
Date Sampled			Sep 19, 2019	Sep 19, 2019	Sep 19, 2019	Sep 20, 2019
Test/Reference	LOR	Unit				
Organophosphorus Pesticides						
Demeton-S	0.2	mg/kg	-	< 0.2	-	< 0.2
Demeton-O	0.2	mg/kg	-	< 0.2	-	< 0.2
Diazinon	0.2	mg/kg	-	< 0.2	-	< 0.2
Dichlorvos	0.2	mg/kg	-	< 0.2	-	< 0.2
Dimethoate	0.2	mg/kg	-	< 0.2	-	< 0.2
Disulfoton	0.2	mg/kg	-	< 0.2	-	< 0.2
EPN	0.2	mg/kg	-	< 0.2	-	< 0.2
Ethion	0.2	mg/kg	-	< 0.2	-	< 0.2
Ethoprop	0.2	mg/kg	-	< 0.2	-	< 0.2
Ethyl parathion	0.2	mg/kg	-	< 0.2	-	< 0.2
Fenitrothion	0.2	mg/kg	-	< 0.2	-	< 0.2
Fensulfothion	0.2	mg/kg	-	< 0.2	-	< 0.2
Fenthion	0.2	mg/kg	-	< 0.2	-	< 0.2
Malathion	0.2	mg/kg	-	< 0.2	-	< 0.2
Merphos	0.2	mg/kg	-	< 0.2	-	< 0.2
Methyl parathion	0.2	mg/kg	-	< 0.2	-	< 0.2
Mevinphos	0.2	mg/kg	-	< 0.2	-	< 0.2
Monocrotophos	2	mg/kg	-	< 2	-	< 2
Naled	0.2	mg/kg	-	< 0.2	-	< 0.2
Omethoate	2	mg/kg	-	< 2	-	< 2
Phorate	0.2	mg/kg	-	< 0.2	-	< 0.2
Pirimiphos-methyl	0.2	mg/kg	-	< 0.2	-	< 0.2
Pyrazophos	0.2	mg/kg	-	< 0.2	-	< 0.2
Ronnel	0.2	mg/kg	-	< 0.2	-	< 0.2
Terbufos	0.2	mg/kg	-	< 0.2	-	< 0.2
Tetrachlorvinphos	0.2	mg/kg	-	< 0.2	-	< 0.2
Tokuthion	0.2	mg/kg	-	< 0.2	-	< 0.2
Trichloronate	0.2	mg/kg	-	< 0.2	-	< 0.2
Triphenylphosphate (surr.)	1	%	-	112	-	118
Polychlorinated Biphenyls						
Aroclor-1016	0.5	mg/kg	-	< 0.5	-	< 0.5
Aroclor-1221	0.1	mg/kg	-	< 0.1	-	< 0.1
Aroclor-1232	0.5	mg/kg	-	< 0.5	-	< 0.5
Aroclor-1242	0.5	mg/kg	-	< 0.5	-	< 0.5
Aroclor-1248	0.5	mg/kg	-	< 0.5	-	< 0.5
Aroclor-1254	0.5	mg/kg	-	< 0.5	-	< 0.5
Aroclor-1260	0.5	mg/kg	-	< 0.5	-	< 0.5
Total PCB*	0.5	mg/kg	-	< 0.5	-	< 0.5
Dibutylchlorendate (surr.)	1	%	-	97	-	85
Tetrachloro-m-xylene (surr.)	1	%	-	120	-	101
Phenols (Halogenated)						
2-Chlorophenol	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
2.4-Dichlorophenol	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
2.4.5-Trichlorophenol	1	mg/kg	< 1	< 1	< 1	< 1
2.4.6-Trichlorophenol	1	mg/kg	< 1	< 1	< 1	< 1
2.6-Dichlorophenol	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
4-Chloro-3-methylphenol	1	mg/kg	< 1	< 1	< 1	< 1
Pentachlorophenol	1	mg/kg	< 1	< 1	< 1	< 1
Tetrachlorophenols - Total	10	mg/kg	< 10	< 10	< 10	< 10
Total Halogenated Phenol*	1	mg/kg	< 1	< 1	< 1	< 1

Client Sample ID			BH11_0.6-0.7	BH12_0.1-0.2	BH12_0.8-0.9	BH13_0.2-0.3
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			S19-Se32528	S19-Se32529	S19-Se32530	S19-Se32531
Date Sampled			Sep 19, 2019	Sep 19, 2019	Sep 19, 2019	Sep 20, 2019
Test/Reference	LOR	Unit				
Phenols (non-Halogenated)						
2-Cyclohexyl-4.6-dinitrophenol	20	mg/kg	< 20	< 20	< 20	< 20
2-Methyl-4.6-dinitrophenol	5	mg/kg	< 5	< 5	< 5	< 5
2-Methylphenol (o-Cresol)	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
2-Nitrophenol	1	mg/kg	< 1	< 1	< 1	< 1
2.4-Dimethylphenol	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
2.4-Dinitrophenol	5	mg/kg	< 5	< 5	< 5	< 5
3&4-Methylphenol (m&p-Cresol)	0.4	mg/kg	< 0.4	< 0.4	< 0.4	< 0.4
4-Nitrophenol	5	mg/kg	< 5	< 5	< 5	< 5
Dinoseb	20	mg/kg	< 20	< 20	< 20	< 20
Phenol	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Total Non-Halogenated Phenol*	20	mg/kg	< 20	< 20	< 20	< 20
Phenol-d6 (surr.)	1	%	89	88	95	90
Heavy Metals						
Arsenic	2	mg/kg	7.1	11	3.9	< 2
Cadmium	0.4	mg/kg	< 0.4	< 0.4	< 0.4	< 0.4
Chromium	5	mg/kg	19	26	13	7.8
Copper	5	mg/kg	23	54	27	9.0
Lead	5	mg/kg	15	31	13	12
Mercury	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Nickel	5	mg/kg	6.6	13	5.0	6.2
Zinc	5	mg/kg	25	84	23	27
% Moisture	1	%	21	23	20	7.8

Client Sample ID			BH13_1.0-1.1	BH14_0.1-0.2	BH14_0.3-0.4	SP1_1
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			S19-Se32532	S19-Se32533	S19-Se32534	S19-Se32535
Date Sampled			Sep 20, 2019	Sep 20, 2019	Sep 20, 2019	Sep 20, 2019
Test/Reference	LOR	Unit				
Total Recoverable Hydrocarbons - 1999 NEPM Fractions						
TRH C6-C9	20	mg/kg	< 20	< 20	< 20	< 20
TRH C10-C14	20	mg/kg	< 20	< 20	< 20	< 20
TRH C15-C28	50	mg/kg	< 50	360	< 50	< 50
TRH C29-C36	50	mg/kg	< 50	1300	< 50	52
TRH C10-C36 (Total)	50	mg/kg	< 50	1660	< 50	52
BTEX						
Benzene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Toluene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Ethylbenzene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
m&p-Xylenes	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
o-Xylene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Xylenes - Total	0.3	mg/kg	< 0.3	< 0.3	< 0.3	< 0.3
4-Bromofluorobenzene (surr.)	1	%	116	91	129	81
Total Recoverable Hydrocarbons - 2013 NEPM Fractions						
Naphthalene[N02]	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
TRH C6-C10	20	mg/kg	< 20	< 20	< 20	< 20
TRH C6-C10 less BTEX (F1)[N04]	20	mg/kg	< 20	< 20	< 20	< 20
TRH >C10-C16	50	mg/kg	< 50	< 50	< 50	< 50

Client Sample ID			BH13_1.0-1.1	BH14_0.1-0.2	BH14_0.3-0.4	SP1_1
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			S19-Se32532	S19-Se32533	S19-Se32534	S19-Se32535
Date Sampled			Sep 20, 2019	Sep 20, 2019	Sep 20, 2019	Sep 20, 2019
Test/Reference	LOR	Unit				
Total Recoverable Hydrocarbons - 2013 NEPM Fractions						
TRH >C10-C16 less Naphthalene (F2)[N01]	50	mg/kg	< 50	< 50	< 50	< 50
TRH >C16-C34	100	mg/kg	< 100	1300	< 100	< 100
TRH >C34-C40	100	mg/kg	< 100	850	< 100	< 100
TRH >C10-C40 (total)*	100	mg/kg	< 100	2150	< 100	< 100
Polycyclic Aromatic Hydrocarbons						
Benzo(a)pyrene TEQ (lower bound) *	0.5	mg/kg	< 0.5	2.2	< 0.5	< 0.5
Benzo(a)pyrene TEQ (medium bound) *	0.5	mg/kg	0.6	2.5	0.6	0.6
Benzo(a)pyrene TEQ (upper bound) *	0.5	mg/kg	1.2	2.7	1.2	1.2
Acenaphthene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Acenaphthylene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Anthracene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Benz(a)anthracene	0.5	mg/kg	< 0.5	1.4	< 0.5	< 0.5
Benzo(a)pyrene	0.5	mg/kg	< 0.5	1.7	< 0.5	< 0.5
Benzo(b&j)fluoranthene[N07]	0.5	mg/kg	< 0.5	1.4	< 0.5	< 0.5
Benzo(g.h.i)perylene	0.5	mg/kg	< 0.5	1.1	< 0.5	< 0.5
Benzo(k)fluoranthene	0.5	mg/kg	< 0.5	1.5	< 0.5	< 0.5
Chrysene	0.5	mg/kg	< 0.5	1.5	< 0.5	< 0.5
Dibenz(a.h)anthracene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Fluoranthene	0.5	mg/kg	< 0.5	3.8	< 0.5	< 0.5
Fluorene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Indeno(1.2.3-cd)pyrene	0.5	mg/kg	< 0.5	0.8	< 0.5	< 0.5
Naphthalene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Phenanthrene	0.5	mg/kg	< 0.5	1.6	< 0.5	< 0.5
Pyrene	0.5	mg/kg	< 0.5	4.2	< 0.5	0.5
Total PAH*	0.5	mg/kg	< 0.5	19	< 0.5	0.5
2-Fluorobiphenyl (surr.)	1	%	88	76	86	88
p-Terphenyl-d14 (surr.)	1	%	81	77	90	88
Organochlorine Pesticides						
Chlordanes - Total	0.1	mg/kg	-	< 1	-	-
4.4'-DDD	0.05	mg/kg	-	< 0.5	-	-
4.4'-DDE	0.05	mg/kg	-	< 0.5	-	-
4.4'-DDT	0.05	mg/kg	-	< 0.5	-	-
a-BHC	0.05	mg/kg	-	< 0.5	-	-
Aldrin	0.05	mg/kg	-	< 0.5	-	-
b-BHC	0.05	mg/kg	-	< 0.5	-	-
d-BHC	0.05	mg/kg	-	< 0.5	-	-
Dieldrin	0.05	mg/kg	-	< 0.5	-	-
Endosulfan I	0.05	mg/kg	-	< 0.5	-	-
Endosulfan II	0.05	mg/kg	-	< 0.5	-	-
Endosulfan sulphate	0.05	mg/kg	-	< 0.5	-	-
Endrin	0.05	mg/kg	-	< 0.5	-	-
Endrin aldehyde	0.05	mg/kg	-	< 0.5	-	-
Endrin ketone	0.05	mg/kg	-	< 0.5	-	-
g-BHC (Lindane)	0.05	mg/kg	-	< 0.5	-	-
Heptachlor	0.05	mg/kg	-	< 0.5	-	-
Heptachlor epoxide	0.05	mg/kg	-	< 0.5	-	-
Hexachlorobenzene	0.05	mg/kg	-	< 0.5	-	-
Methoxychlor	0.2	mg/kg	-	< 2	-	-
Toxaphene	1	mg/kg	-	< 10	-	-

Client Sample ID			BH13_1.0-1.1	BH14_0.1-0.2	BH14_0.3-0.4	SP1_1
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			S19-Se32532	S19-Se32533	S19-Se32534	S19-Se32535
Date Sampled			Sep 20, 2019	Sep 20, 2019	Sep 20, 2019	Sep 20, 2019
Test/Reference	LOR	Unit				
Organochlorine Pesticides						
Aldrin and Dieldrin (Total)*	0.05	mg/kg	-	< 0.5	-	-
DDT + DDE + DDD (Total)*	0.05	mg/kg	-	< 0.5	-	-
Vic EPA IWRG 621 OCP (Total)*	0.1	mg/kg	-	< 2	-	-
Vic EPA IWRG 621 Other OCP (Total)*	0.1	mg/kg	-	< 2	-	-
Dibutylchlorendate (surr.)	1	%	-	79	-	-
Tetrachloro-m-xylene (surr.)	1	%	-	96	-	-
Organophosphorus Pesticides						
Azinphos-methyl	0.2	mg/kg	-	< 0.2	-	-
Bolstar	0.2	mg/kg	-	< 0.2	-	-
Chlorfenvinphos	0.2	mg/kg	-	< 0.2	-	-
Chlorpyrifos	0.2	mg/kg	-	< 0.2	-	-
Chlorpyrifos-methyl	0.2	mg/kg	-	< 0.2	-	-
Coumaphos	2	mg/kg	-	< 2	-	-
Demeton-S	0.2	mg/kg	-	< 0.2	-	-
Demeton-O	0.2	mg/kg	-	< 0.2	-	-
Diazinon	0.2	mg/kg	-	< 0.2	-	-
Dichlorvos	0.2	mg/kg	-	< 0.2	-	-
Dimethoate	0.2	mg/kg	-	< 0.2	-	-
Disulfoton	0.2	mg/kg	-	< 0.2	-	-
EPN	0.2	mg/kg	-	< 0.2	-	-
Ethion	0.2	mg/kg	-	< 0.2	-	-
Ethoprop	0.2	mg/kg	-	< 0.2	-	-
Ethyl parathion	0.2	mg/kg	-	< 0.2	-	-
Fenitrothion	0.2	mg/kg	-	< 0.2	-	-
Fensulfothion	0.2	mg/kg	-	< 0.2	-	-
Fenthion	0.2	mg/kg	-	< 0.2	-	-
Malathion	0.2	mg/kg	-	< 0.2	-	-
Merphos	0.2	mg/kg	-	< 0.2	-	-
Methyl parathion	0.2	mg/kg	-	< 0.2	-	-
Mevinphos	0.2	mg/kg	-	< 0.2	-	-
Monocrotophos	2	mg/kg	-	< 2	-	-
Naled	0.2	mg/kg	-	< 0.5	-	-
Omethoate	2	mg/kg	-	< 2	-	-
Phorate	0.2	mg/kg	-	< 0.2	-	-
Pirimiphos-methyl	0.2	mg/kg	-	< 0.2	-	-
Pyrazophos	0.2	mg/kg	-	< 0.2	-	-
Ronnel	0.2	mg/kg	-	< 0.2	-	-
Terbufos	0.2	mg/kg	-	< 0.2	-	-
Tetrachlorvinphos	0.2	mg/kg	-	< 0.2	-	-
Tokuthion	0.2	mg/kg	-	< 0.2	-	-
Trichloronate	0.2	mg/kg	-	< 0.2	-	-
Triphenylphosphate (surr.)	1	%	-	65	-	-
Polychlorinated Biphenyls						
Aroclor-1016	0.5	mg/kg	-	< 5	-	-
Aroclor-1221	0.1	mg/kg	-	< 1	-	-
Aroclor-1232	0.5	mg/kg	-	< 5	-	-
Aroclor-1242	0.5	mg/kg	-	< 5	-	-
Aroclor-1248	0.5	mg/kg	-	< 5	-	-
Aroclor-1254	0.5	mg/kg	-	< 5	-	-

Client Sample ID			BH13_1.0-1.1	BH14_0.1-0.2	BH14_0.3-0.4	SP1_1
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			S19-Se32532	S19-Se32533	S19-Se32534	S19-Se32535
Date Sampled			Sep 20, 2019	Sep 20, 2019	Sep 20, 2019	Sep 20, 2019
Test/Reference	LOR	Unit				
Polychlorinated Biphenyls						
Aroclor-1260	0.5	mg/kg	-	< 5	-	-
Total PCB*	0.5	mg/kg	-	<5	-	-
Dibutylchlorendate (surr.)	1	%	-	79	-	-
Tetrachloro-m-xylene (surr.)	1	%	-	96	-	-
Phenols (Halogenated)						
2-Chlorophenol	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
2.4-Dichlorophenol	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
2.4.5-Trichlorophenol	1	mg/kg	< 1	< 1	< 1	< 1
2.4.6-Trichlorophenol	1	mg/kg	< 1	< 1	< 1	< 1
2.6-Dichlorophenol	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
4-Chloro-3-methylphenol	1	mg/kg	< 1	< 1	< 1	< 1
Pentachlorophenol	1	mg/kg	< 1	< 1	< 1	< 1
Tetrachlorophenols - Total	10	mg/kg	< 10	< 10	< 10	< 10
Total Halogenated Phenol*	1	mg/kg	< 1	< 1	< 1	< 1
Phenols (non-Halogenated)						
2-Cyclohexyl-4.6-dinitrophenol	20	mg/kg	< 20	< 20	< 20	< 20
2-Methyl-4.6-dinitrophenol	5	mg/kg	< 5	< 5	< 5	< 5
2-Methylphenol (o-Cresol)	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
2-Nitrophenol	1	mg/kg	< 1	< 1	< 1	< 1
2.4-Dimethylphenol	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
2.4-Dinitrophenol	5	mg/kg	< 5	< 5	< 5	< 5
3&4-Methylphenol (m&p-Cresol)	0.4	mg/kg	< 0.4	< 0.4	< 0.4	< 0.4
4-Nitrophenol	5	mg/kg	< 5	< 5	< 5	< 5
Dinoseb	20	mg/kg	< 20	< 20	< 20	< 20
Phenol	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Total Non-Halogenated Phenol*	20	mg/kg	< 20	< 20	< 20	< 20
Phenol-d6 (surr.)	1	%	75	65	81	85
Heavy Metals						
Arsenic	2	mg/kg	6.0	< 2	39	12
Cadmium	0.4	mg/kg	< 0.4	< 0.4	< 0.4	< 0.4
Chromium	5	mg/kg	19	31	11	23
Copper	5	mg/kg	15	65	39	17
Lead	5	mg/kg	15	6.2	20	55
Mercury	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Nickel	5	mg/kg	8.7	26	15	6.1
Zinc	5	mg/kg	26	39	76	53
% Moisture	1	%	10.0	5.8	14	20

Client Sample ID			SP1_2	SP1_3	BH15_1.0-1.1	BH15_3.7-3.8
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			S19-Se32536	S19-Se32537	S19-Se32538	S19-Se32539
Date Sampled			Sep 20, 2019	Sep 20, 2019	Sep 20, 2019	Sep 20, 2019
Test/Reference	LOR	Unit				
Total Recoverable Hydrocarbons - 1999 NEPM Fractions						
TRH C6-C9	20	mg/kg	< 20	< 20	< 20	< 20
TRH C10-C14	20	mg/kg	< 20	< 20	< 20	< 20
TRH C15-C28	50	mg/kg	90	< 50	< 50	< 50
TRH C29-C36	50	mg/kg	74	< 50	< 50	< 50
TRH C10-C36 (Total)	50	mg/kg	164	< 50	< 50	< 50
BTEX						
Benzene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Toluene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Ethylbenzene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
m&p-Xylenes	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
o-Xylene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Xylenes - Total	0.3	mg/kg	< 0.3	< 0.3	< 0.3	< 0.3
4-Bromofluorobenzene (surr.)	1	%	74	104	129	143
Total Recoverable Hydrocarbons - 2013 NEPM Fractions						
Naphthalene[N02]	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
TRH C6-C10	20	mg/kg	< 20	< 20	< 20	< 20
TRH C6-C10 less BTEX (F1)[N04]	20	mg/kg	< 20	< 20	< 20	< 20
TRH >C10-C16	50	mg/kg	< 50	< 50	< 50	< 50
TRH >C10-C16 less Naphthalene (F2)[N01]	50	mg/kg	< 50	< 50	< 50	< 50
TRH >C16-C34	100	mg/kg	140	< 100	< 100	< 100
TRH >C34-C40	100	mg/kg	< 100	< 100	< 100	< 100
TRH >C10-C40 (total)*	100	mg/kg	140	< 100	< 100	< 100
Polycyclic Aromatic Hydrocarbons						
Benzo(a)pyrene TEQ (lower bound) *	0.5	mg/kg	< 0.5	1.0	< 0.5	< 0.5
Benzo(a)pyrene TEQ (medium bound) *	0.5	mg/kg	0.6	1.3	0.6	0.6
Benzo(a)pyrene TEQ (upper bound) *	0.5	mg/kg	1.2	1.6	1.2	1.2
Acenaphthene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Acenaphthylene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Anthracene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Benz(a)anthracene	0.5	mg/kg	< 0.5	0.9	< 0.5	< 0.5
Benzo(a)pyrene	0.5	mg/kg	< 0.5	0.8	< 0.5	< 0.5
Benzo(b&j)fluoranthene[N07]	0.5	mg/kg	< 0.5	0.6	< 0.5	< 0.5
Benzo(g.h.i)perylene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Benzo(k)fluoranthene	0.5	mg/kg	< 0.5	0.7	< 0.5	< 0.5
Chrysene	0.5	mg/kg	< 0.5	0.8	< 0.5	< 0.5
Dibenz(a.h)anthracene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Fluoranthene	0.5	mg/kg	< 0.5	2.9	< 0.5	< 0.5
Fluorene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Indeno(1.2.3-cd)pyrene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Naphthalene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Phenanthrene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Pyrene	0.5	mg/kg	< 0.5	2.4	< 0.5	< 0.5
Total PAH*	0.5	mg/kg	< 0.5	9.1	< 0.5	< 0.5
2-Fluorobiphenyl (surr.)	1	%	107	93	91	88
p-Terphenyl-d14 (surr.)	1	%	107	91	97	89

Client Sample ID			SP1_2	SP1_3	BH15_1.0-1.1	BH15_3.7-3.8
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			S19-Se32536	S19-Se32537	S19-Se32538	S19-Se32539
Date Sampled			Sep 20, 2019	Sep 20, 2019	Sep 20, 2019	Sep 20, 2019
Test/Reference	LOR	Unit				
Organochlorine Pesticides						
Chlordanes - Total	0.1	mg/kg	-	-	< 0.1	-
4.4'-DDD	0.05	mg/kg	-	-	< 0.05	-
4.4'-DDE	0.05	mg/kg	-	-	< 0.05	-
4.4'-DDT	0.05	mg/kg	-	-	< 0.05	-
a-BHC	0.05	mg/kg	-	-	< 0.05	-
Aldrin	0.05	mg/kg	-	-	< 0.05	-
b-BHC	0.05	mg/kg	-	-	< 0.05	-
d-BHC	0.05	mg/kg	-	-	< 0.05	-
Dieldrin	0.05	mg/kg	-	-	< 0.05	-
Endosulfan I	0.05	mg/kg	-	-	< 0.05	-
Endosulfan II	0.05	mg/kg	-	-	< 0.05	-
Endosulfan sulphate	0.05	mg/kg	-	-	< 0.05	-
Endrin	0.05	mg/kg	-	-	< 0.05	-
Endrin aldehyde	0.05	mg/kg	-	-	< 0.05	-
Endrin ketone	0.05	mg/kg	-	-	< 0.05	-
g-BHC (Lindane)	0.05	mg/kg	-	-	< 0.05	-
Heptachlor	0.05	mg/kg	-	-	< 0.05	-
Heptachlor epoxide	0.05	mg/kg	-	-	< 0.05	-
Hexachlorobenzene	0.05	mg/kg	-	-	< 0.05	-
Methoxychlor	0.2	mg/kg	-	-	< 0.2	-
Toxaphene	1	mg/kg	-	-	< 1	-
Aldrin and Dieldrin (Total)*	0.05	mg/kg	-	-	< 0.05	-
DDT + DDE + DDD (Total)*	0.05	mg/kg	-	-	< 0.05	-
Vic EPA IWRG 621 OCP (Total)*	0.1	mg/kg	-	-	< 0.2	-
Vic EPA IWRG 621 Other OCP (Total)*	0.1	mg/kg	-	-	< 0.2	-
Dibutylchlorendate (surr.)	1	%	-	-	76	-
Tetrachloro-m-xylene (surr.)	1	%	-	-	97	-
Organophosphorus Pesticides						
Azinphos-methyl	0.2	mg/kg	-	-	< 0.2	-
Bolstar	0.2	mg/kg	-	-	< 0.2	-
Chlorfenvinphos	0.2	mg/kg	-	-	< 0.2	-
Chlorpyrifos	0.2	mg/kg	-	-	< 0.2	-
Chlorpyrifos-methyl	0.2	mg/kg	-	-	< 0.2	-
Coumaphos	2	mg/kg	-	-	< 2	-
Demeton-S	0.2	mg/kg	-	-	< 0.2	-
Demeton-O	0.2	mg/kg	-	-	< 0.2	-
Diazinon	0.2	mg/kg	-	-	< 0.2	-
Dichlorvos	0.2	mg/kg	-	-	< 0.2	-
Dimethoate	0.2	mg/kg	-	-	< 0.2	-
Disulfoton	0.2	mg/kg	-	-	< 0.2	-
EPN	0.2	mg/kg	-	-	< 0.2	-
Ethion	0.2	mg/kg	-	-	< 0.2	-
Ethoprop	0.2	mg/kg	-	-	< 0.2	-
Ethyl parathion	0.2	mg/kg	-	-	< 0.2	-
Fenitrothion	0.2	mg/kg	-	-	< 0.2	-
Fensulfothion	0.2	mg/kg	-	-	< 0.2	-
Fenthion	0.2	mg/kg	-	-	< 0.2	-
Malathion	0.2	mg/kg	-	-	< 0.2	-
Merphos	0.2	mg/kg	-	-	< 0.2	-

Client Sample ID			SP1_2	SP1_3	BH15_1.0-1.1	BH15_3.7-3.8
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			S19-Se32536	S19-Se32537	S19-Se32538	S19-Se32539
Date Sampled			Sep 20, 2019	Sep 20, 2019	Sep 20, 2019	Sep 20, 2019
Test/Reference	LOR	Unit				
Organophosphorus Pesticides						
Methyl parathion	0.2	mg/kg	-	-	< 0.2	-
Mevinphos	0.2	mg/kg	-	-	< 0.2	-
Monocrotophos	2	mg/kg	-	-	< 2	-
Naled	0.2	mg/kg	-	-	< 0.5	-
Omethoate	2	mg/kg	-	-	< 2	-
Phorate	0.2	mg/kg	-	-	< 0.2	-
Pirimiphos-methyl	0.2	mg/kg	-	-	< 0.2	-
Pyrazophos	0.2	mg/kg	-	-	< 0.2	-
Ronnel	0.2	mg/kg	-	-	< 0.2	-
Terbufos	0.2	mg/kg	-	-	< 0.2	-
Tetrachlorvinphos	0.2	mg/kg	-	-	< 0.2	-
Tokuthion	0.2	mg/kg	-	-	< 0.2	-
Trichloronate	0.2	mg/kg	-	-	< 0.2	-
Triphenylphosphate (surr.)	1	%	-	-	77	-
Polychlorinated Biphenyls						
Aroclor-1016	0.5	mg/kg	-	-	< 0.5	-
Aroclor-1221	0.1	mg/kg	-	-	< 0.1	-
Aroclor-1232	0.5	mg/kg	-	-	< 0.5	-
Aroclor-1242	0.5	mg/kg	-	-	< 0.5	-
Aroclor-1248	0.5	mg/kg	-	-	< 0.5	-
Aroclor-1254	0.5	mg/kg	-	-	< 0.5	-
Aroclor-1260	0.5	mg/kg	-	-	< 0.5	-
Total PCB*	0.5	mg/kg	-	-	< 0.5	-
Dibutylchlorendate (surr.)	1	%	-	-	76	-
Tetrachloro-m-xylene (surr.)	1	%	-	-	97	-
Phenols (Halogenated)						
2-Chlorophenol	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
2.4-Dichlorophenol	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
2.4.5-Trichlorophenol	1	mg/kg	< 1	< 1	< 1	< 1
2.4.6-Trichlorophenol	1	mg/kg	< 1	< 1	< 1	< 1
2.6-Dichlorophenol	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
4-Chloro-3-methylphenol	1	mg/kg	< 1	< 1	< 1	< 1
Pentachlorophenol	1	mg/kg	< 1	< 1	< 1	< 1
Tetrachlorophenols - Total	10	mg/kg	< 10	< 10	< 10	< 10
Total Halogenated Phenol*	1	mg/kg	< 1	< 1	< 1	< 1
Phenols (non-Halogenated)						
2-Cyclohexyl-4.6-dinitrophenol	20	mg/kg	< 20	< 20	< 20	< 20
2-Methyl-4.6-dinitrophenol	5	mg/kg	< 5	< 5	< 5	< 5
2-Methylphenol (o-Cresol)	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
2-Nitrophenol	1	mg/kg	< 1	< 1	< 1	< 1
2.4-Dimethylphenol	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
2.4-Dinitrophenol	5	mg/kg	< 5	< 5	< 5	< 5
3&4-Methylphenol (m&p-Cresol)	0.4	mg/kg	< 0.4	< 0.4	< 0.4	< 0.4
4-Nitrophenol	5	mg/kg	< 5	< 5	< 5	< 5
Dinoseb	20	mg/kg	< 20	< 20	< 20	< 20
Phenol	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Total Non-Halogenated Phenol*	20	mg/kg	< 20	< 20	< 20	< 20
Phenol-d6 (surr.)	1	%	105	85	89	88

Client Sample ID			SP1_2	SP1_3	BH15_1.0-1.1	BH15_3.7-3.8
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			S19-Se32536	S19-Se32537	S19-Se32538	S19-Se32539
Date Sampled			Sep 20, 2019	Sep 20, 2019	Sep 20, 2019	Sep 20, 2019
Test/Reference	LOR	Unit				
Heavy Metals						
Arsenic	2	mg/kg	12	10	< 2	18
Cadmium	0.4	mg/kg	< 0.4	< 0.4	< 0.4	< 0.4
Chromium	5	mg/kg	21	22	6.0	35
Copper	5	mg/kg	16	16	< 5	30
Lead	5	mg/kg	42	56	130	24
Mercury	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Nickel	5	mg/kg	6.1	6.0	< 5	6.7
Zinc	5	mg/kg	42	54	11	29
% Moisture	1	%	18	18	5.4	16

Client Sample ID			BH16_0.2-0.3	BH17_1.2-1.3	QA2	BH17_3.0-3.1
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			S19-Se32540	S19-Se32541	S19-Se32542	S19-Se32543
Date Sampled			Sep 20, 2019	Sep 20, 2019	Sep 20, 2019	Sep 20, 2019
Test/Reference	LOR	Unit				
Total Recoverable Hydrocarbons - 1999 NEPM Fractions						
TRH C6-C9	20	mg/kg	< 20	< 20	< 20	< 20
TRH C10-C14	20	mg/kg	< 20	< 20	< 20	< 20
TRH C15-C28	50	mg/kg	< 50	71	72	< 50
TRH C29-C36	50	mg/kg	< 50	82	83	< 50
TRH C10-C36 (Total)	50	mg/kg	< 50	153	155	< 50
BTEX						
Benzene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Toluene	0.1	mg/kg	< 0.1	< 0.1	0.1	< 0.1
Ethylbenzene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
m&p-Xylenes	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
o-Xylene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Xylenes - Total	0.3	mg/kg	< 0.3	< 0.3	< 0.3	< 0.3
4-Bromofluorobenzene (surr.)	1	%	138	109	119	76
Volatile Organics						
1.1-Dichloroethane	0.5	mg/kg	-	-	-	< 0.5
1.1-Dichloroethene	0.5	mg/kg	-	-	-	< 0.5
1.1.1-Trichloroethane	0.5	mg/kg	-	-	-	< 0.5
1.1.1.2-Tetrachloroethane	0.5	mg/kg	-	-	-	< 0.5
1.1.2-Trichloroethane	0.5	mg/kg	-	-	-	< 0.5
1.1.2.2-Tetrachloroethane	0.5	mg/kg	-	-	-	< 0.5
1.2-Dibromoethane	0.5	mg/kg	-	-	-	< 0.5
1.2-Dichlorobenzene	0.5	mg/kg	-	-	-	< 0.5
1.2-Dichloroethane	0.5	mg/kg	-	-	-	< 0.5
1.2-Dichloropropane	0.5	mg/kg	-	-	-	< 0.5
1.2.3-Trichloropropane	0.5	mg/kg	-	-	-	< 0.5
1.2.4-Trimethylbenzene	0.5	mg/kg	-	-	-	< 0.5
1.3-Dichlorobenzene	0.5	mg/kg	-	-	-	< 0.5
1.3-Dichloropropane	0.5	mg/kg	-	-	-	< 0.5
1.3.5-Trimethylbenzene	0.5	mg/kg	-	-	-	< 0.5
1.4-Dichlorobenzene	0.5	mg/kg	-	-	-	< 0.5
2-Butanone (MEK)	0.5	mg/kg	-	-	-	< 0.5

Client Sample ID			BH16_0.2-0.3	BH17_1.2-1.3	QA2	BH17_3.0-3.1
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			S19-Se32540	S19-Se32541	S19-Se32542	S19-Se32543
Date Sampled			Sep 20, 2019	Sep 20, 2019	Sep 20, 2019	Sep 20, 2019
Test/Reference	LOR	Unit				
Volatile Organics						
2-Propanone (Acetone)	0.5	mg/kg	-	-	-	< 0.5
4-Chlorotoluene	0.5	mg/kg	-	-	-	< 0.5
4-Methyl-2-pentanone (MIBK)	0.5	mg/kg	-	-	-	< 0.5
Allyl chloride	0.5	mg/kg	-	-	-	< 0.5
Benzene	0.1	mg/kg	-	-	-	< 0.1
Bromobenzene	0.5	mg/kg	-	-	-	< 0.5
Bromochloromethane	0.5	mg/kg	-	-	-	< 0.5
Bromodichloromethane	0.5	mg/kg	-	-	-	< 0.5
Bromoform	0.5	mg/kg	-	-	-	< 0.5
Bromomethane	0.5	mg/kg	-	-	-	< 0.5
Carbon disulfide	0.5	mg/kg	-	-	-	< 0.5
Carbon Tetrachloride	0.5	mg/kg	-	-	-	< 0.5
Chlorobenzene	0.5	mg/kg	-	-	-	< 0.5
Chloroethane	0.5	mg/kg	-	-	-	< 0.5
Chloroform	0.5	mg/kg	-	-	-	< 0.5
Chloromethane	0.5	mg/kg	-	-	-	< 0.5
cis-1.2-Dichloroethene	0.5	mg/kg	-	-	-	< 0.5
cis-1.3-Dichloropropene	0.5	mg/kg	-	-	-	< 0.5
Dibromochloromethane	0.5	mg/kg	-	-	-	< 0.5
Dibromomethane	0.5	mg/kg	-	-	-	< 0.5
Dichlorodifluoromethane	0.5	mg/kg	-	-	-	< 0.5
Ethylbenzene	0.1	mg/kg	-	-	-	< 0.1
Iodomethane	0.5	mg/kg	-	-	-	< 0.5
Isopropyl benzene (Cumene)	0.5	mg/kg	-	-	-	< 0.5
m&p-Xylenes	0.2	mg/kg	-	-	-	< 0.2
Methylene Chloride	0.5	mg/kg	-	-	-	< 0.5
o-Xylene	0.1	mg/kg	-	-	-	< 0.1
Styrene	0.5	mg/kg	-	-	-	< 0.5
Tetrachloroethene	0.5	mg/kg	-	-	-	< 0.5
Toluene	0.1	mg/kg	-	-	-	< 0.1
trans-1.2-Dichloroethene	0.5	mg/kg	-	-	-	< 0.5
trans-1.3-Dichloropropene	0.5	mg/kg	-	-	-	< 0.5
Trichloroethene	0.5	mg/kg	-	-	-	< 0.5
Trichlorofluoromethane	0.5	mg/kg	-	-	-	< 0.5
Vinyl chloride	0.5	mg/kg	-	-	-	< 0.5
Xylenes - Total	0.3	mg/kg	-	-	-	< 0.3
Total MAH*	0.5	mg/kg	-	-	-	< 0.5
Vic EPA IWRG 621 CHC (Total)*	0.5	mg/kg	-	-	-	< 0.5
Vic EPA IWRG 621 Other CHC (Total)*	0.5	mg/kg	-	-	-	< 0.5
4-Bromofluorobenzene (surr.)	1	%	-	-	-	76
Toluene-d8 (surr.)	1	%	-	-	-	94
Total Recoverable Hydrocarbons - 2013 NEPM Fractions						
Naphthalene[N02]	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
TRH C6-C10	20	mg/kg	< 20	< 20	< 20	< 20
TRH C6-C10 less BTEX (F1)[N04]	20	mg/kg	< 20	< 20	< 20	< 20
TRH >C10-C16	50	mg/kg	< 50	< 50	< 50	< 50
TRH >C10-C16 less Naphthalene (F2)[N01]	50	mg/kg	< 50	< 50	< 50	< 50
TRH >C16-C34	100	mg/kg	< 100	130	130	< 100
TRH >C34-C40	100	mg/kg	< 100	< 100	< 100	< 100
TRH >C10-C40 (total)*	100	mg/kg	< 100	130	130	< 100

Client Sample ID			BH16_0.2-0.3	BH17_1.2-1.3	QA2	BH17_3.0-3.1
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			S19-Se32540	S19-Se32541	S19-Se32542	S19-Se32543
Date Sampled			Sep 20, 2019	Sep 20, 2019	Sep 20, 2019	Sep 20, 2019
Test/Reference	LOR	Unit				
Polycyclic Aromatic Hydrocarbons						
Benzo(a)pyrene TEQ (lower bound) *	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Benzo(a)pyrene TEQ (medium bound) *	0.5	mg/kg	0.6	0.6	0.6	0.6
Benzo(a)pyrene TEQ (upper bound) *	0.5	mg/kg	1.2	1.2	1.2	1.2
Acenaphthene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Acenaphthylene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Anthracene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Benz(a)anthracene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Benzo(a)pyrene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Benzo(b&j)fluoranthene[N07]	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Benzo(g.h.i)perylene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Benzo(k)fluoranthene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Chrysene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Dibenz(a.h)anthracene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Fluoranthene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Fluorene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Indeno(1.2.3-cd)pyrene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Naphthalene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Phenanthrene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Pyrene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Total PAH*	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
2-Fluorobiphenyl (surr.)	1	%	91	85	88	87
p-Terphenyl-d14 (surr.)	1	%	94	94	93	91
Organochlorine Pesticides						
Chlordanes - Total	0.1	mg/kg	< 0.1	-	-	-
4.4'-DDD	0.05	mg/kg	< 0.05	-	-	-
4.4'-DDE	0.05	mg/kg	< 0.05	-	-	-
4.4'-DDT	0.05	mg/kg	< 0.05	-	-	-
a-BHC	0.05	mg/kg	< 0.05	-	-	-
Aldrin	0.05	mg/kg	< 0.05	-	-	-
b-BHC	0.05	mg/kg	< 0.05	-	-	-
d-BHC	0.05	mg/kg	< 0.05	-	-	-
Dieldrin	0.05	mg/kg	< 0.05	-	-	-
Endosulfan I	0.05	mg/kg	< 0.05	-	-	-
Endosulfan II	0.05	mg/kg	< 0.05	-	-	-
Endosulfan sulphate	0.05	mg/kg	< 0.05	-	-	-
Endrin	0.05	mg/kg	< 0.05	-	-	-
Endrin aldehyde	0.05	mg/kg	< 0.05	-	-	-
Endrin ketone	0.05	mg/kg	< 0.05	-	-	-
g-BHC (Lindane)	0.05	mg/kg	< 0.05	-	-	-
Heptachlor	0.05	mg/kg	< 0.05	-	-	-
Heptachlor epoxide	0.05	mg/kg	< 0.05	-	-	-
Hexachlorobenzene	0.05	mg/kg	< 0.05	-	-	-
Methoxychlor	0.2	mg/kg	< 0.2	-	-	-
Toxaphene	1	mg/kg	< 1	-	-	-
Aldrin and Dieldrin (Total)*	0.05	mg/kg	< 0.05	-	-	-
DDT + DDE + DDD (Total)*	0.05	mg/kg	< 0.05	-	-	-
Vic EPA IWRG 621 OCP (Total)*	0.1	mg/kg	< 0.2	-	-	-
Vic EPA IWRG 621 Other OCP (Total)*	0.1	mg/kg	< 0.2	-	-	-
Dibutylchlorendate (surr.)	1	%	81	-	-	-
Tetrachloro-m-xylene (surr.)	1	%	103	-	-	-

Client Sample ID			BH16_0.2-0.3	BH17_1.2-1.3	QA2	BH17_3.0-3.1
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			S19-Se32540	S19-Se32541	S19-Se32542	S19-Se32543
Date Sampled			Sep 20, 2019	Sep 20, 2019	Sep 20, 2019	Sep 20, 2019
Test/Reference	LOR	Unit				
Organophosphorus Pesticides						
Azinphos-methyl	0.2	mg/kg	< 0.2	-	-	-
Bolstar	0.2	mg/kg	< 0.2	-	-	-
Chlorfenvinphos	0.2	mg/kg	< 0.2	-	-	-
Chlorpyrifos	0.2	mg/kg	< 0.2	-	-	-
Chlorpyrifos-methyl	0.2	mg/kg	< 0.2	-	-	-
Coumaphos	2	mg/kg	< 2	-	-	-
Demeton-S	0.2	mg/kg	< 0.2	-	-	-
Demeton-O	0.2	mg/kg	< 0.2	-	-	-
Diazinon	0.2	mg/kg	< 0.2	-	-	-
Dichlorvos	0.2	mg/kg	< 0.2	-	-	-
Dimethoate	0.2	mg/kg	< 0.2	-	-	-
Disulfoton	0.2	mg/kg	< 0.2	-	-	-
EPN	0.2	mg/kg	< 0.2	-	-	-
Ethion	0.2	mg/kg	< 0.2	-	-	-
Ethoprop	0.2	mg/kg	< 0.2	-	-	-
Ethyl parathion	0.2	mg/kg	< 0.2	-	-	-
Fenitrothion	0.2	mg/kg	< 0.2	-	-	-
Fensulfothion	0.2	mg/kg	< 0.2	-	-	-
Fenthion	0.2	mg/kg	< 0.2	-	-	-
Malathion	0.2	mg/kg	< 0.2	-	-	-
Merphos	0.2	mg/kg	< 0.2	-	-	-
Methyl parathion	0.2	mg/kg	< 0.2	-	-	-
Mevinphos	0.2	mg/kg	< 0.2	-	-	-
Monocrotophos	2	mg/kg	< 2	-	-	-
Naled	0.2	mg/kg	< 0.5	-	-	-
Omethoate	2	mg/kg	< 2	-	-	-
Phorate	0.2	mg/kg	< 0.2	-	-	-
Pirimiphos-methyl	0.2	mg/kg	< 0.2	-	-	-
Pyrazophos	0.2	mg/kg	< 0.2	-	-	-
Ronnel	0.2	mg/kg	< 0.2	-	-	-
Terbufos	0.2	mg/kg	< 0.2	-	-	-
Tetrachlorvinphos	0.2	mg/kg	< 0.2	-	-	-
Tokuthion	0.2	mg/kg	< 0.2	-	-	-
Trichloronate	0.2	mg/kg	< 0.2	-	-	-
Triphenylphosphate (surr.)	1	%	83	-	-	-
Polychlorinated Biphenyls						
Aroclor-1016	0.5	mg/kg	< 0.5	-	-	-
Aroclor-1221	0.1	mg/kg	< 0.1	-	-	-
Aroclor-1232	0.5	mg/kg	< 0.5	-	-	-
Aroclor-1242	0.5	mg/kg	< 0.5	-	-	-
Aroclor-1248	0.5	mg/kg	< 0.5	-	-	-
Aroclor-1254	0.5	mg/kg	< 0.5	-	-	-
Aroclor-1260	0.5	mg/kg	< 0.5	-	-	-
Total PCB*	0.5	mg/kg	< 0.5	-	-	-
Dibutylchlorendate (surr.)	1	%	81	-	-	-
Tetrachloro-m-xylene (surr.)	1	%	103	-	-	-

Client Sample ID			BH16_0.2-0.3	BH17_1.2-1.3	QA2	BH17_3.0-3.1
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			S19-Se32540	S19-Se32541	S19-Se32542	S19-Se32543
Date Sampled			Sep 20, 2019	Sep 20, 2019	Sep 20, 2019	Sep 20, 2019
Test/Reference	LOR	Unit				
Phenols (Halogenated)						
2-Chlorophenol	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
2.4-Dichlorophenol	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
2.4.5-Trichlorophenol	1	mg/kg	< 1	< 1	< 1	< 1
2.4.6-Trichlorophenol	1	mg/kg	< 1	< 1	< 1	< 1
2.6-Dichlorophenol	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
4-Chloro-3-methylphenol	1	mg/kg	< 1	< 1	< 1	< 1
Pentachlorophenol	1	mg/kg	< 1	< 1	< 1	< 1
Tetrachlorophenols - Total	10	mg/kg	< 10	< 10	< 10	< 10
Total Halogenated Phenol*	1	mg/kg	< 1	< 1	< 1	< 1
Phenols (non-Halogenated)						
2-Cyclohexyl-4.6-dinitrophenol	20	mg/kg	< 20	< 20	< 20	< 20
2-Methyl-4.6-dinitrophenol	5	mg/kg	< 5	< 5	< 5	< 5
2-Methylphenol (o-Cresol)	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
2-Nitrophenol	1	mg/kg	< 1	< 1	< 1	< 1
2.4-Dimethylphenol	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
2.4-Dinitrophenol	5	mg/kg	< 5	< 5	< 5	< 5
3&4-Methylphenol (m&p-Cresol)	0.4	mg/kg	< 0.4	< 0.4	< 0.4	< 0.4
4-Nitrophenol	5	mg/kg	< 5	< 5	< 5	< 5
Dinoseb	20	mg/kg	< 20	< 20	< 20	< 20
Phenol	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Total Non-Halogenated Phenol*	20	mg/kg	< 20	< 20	< 20	< 20
Phenol-d6 (surr.)	1	%	79	82	83	76
Heavy Metals						
Arsenic	2	mg/kg	< 2	14	13	18
Cadmium	0.4	mg/kg	< 0.4	1.2	0.9	< 0.4
Chromium	5	mg/kg	6.9	24	59	32
Copper	5	mg/kg	< 5	270	210	42
Lead	5	mg/kg	9.2	820	350	34
Mercury	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Nickel	5	mg/kg	< 5	17	17	21
Zinc	5	mg/kg	18	450	340	68
% Moisture	1	%	4.2	25	25	13

Client Sample ID			BH18_0.4-0.5	BH18_1.0-1.1	BH19_0.1-0.2	BH19_0.5-0.6
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			S19-Se32544	S19-Se32545	S19-Se32546	S19-Se32547
Date Sampled			Sep 20, 2019	Sep 20, 2019	Sep 20, 2019	Sep 20, 2019
Test/Reference	LOR	Unit				
Total Recoverable Hydrocarbons - 1999 NEPM Fractions						
TRH C6-C9	20	mg/kg	< 20	< 20	< 20	< 20
TRH C10-C14	20	mg/kg	< 20	< 20	21	< 20
TRH C15-C28	50	mg/kg	< 50	< 50	99	< 50
TRH C29-C36	50	mg/kg	< 50	< 50	55	< 50
TRH C10-C36 (Total)	50	mg/kg	< 50	< 50	175	< 50

Client Sample ID			BH18_0.4-0.5	BH18_1.0-1.1	BH19_0.1-0.2	BH19_0.5-0.6
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			S19-Se32544	S19-Se32545	S19-Se32546	S19-Se32547
Date Sampled			Sep 20, 2019	Sep 20, 2019	Sep 20, 2019	Sep 20, 2019
Test/Reference	LOR	Unit				
BTEX						
Benzene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Toluene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Ethylbenzene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
m&p-Xylenes	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
o-Xylene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Xylenes - Total	0.3	mg/kg	< 0.3	< 0.3	< 0.3	< 0.3
4-Bromofluorobenzene (surr.)	1	%	89	107	81	78
Volatile Organics						
1.1-Dichloroethane	0.5	mg/kg	< 0.5	-	< 0.5	-
1.1-Dichloroethene	0.5	mg/kg	< 0.5	-	< 0.5	-
1.1.1-Trichloroethane	0.5	mg/kg	< 0.5	-	< 0.5	-
1.1.1.2-Tetrachloroethane	0.5	mg/kg	< 0.5	-	< 0.5	-
1.1.2-Trichloroethane	0.5	mg/kg	< 0.5	-	< 0.5	-
1.1.2.2-Tetrachloroethane	0.5	mg/kg	< 0.5	-	< 0.5	-
1.2-Dibromoethane	0.5	mg/kg	< 0.5	-	< 0.5	-
1.2-Dichlorobenzene	0.5	mg/kg	< 0.5	-	< 0.5	-
1.2-Dichloroethane	0.5	mg/kg	< 0.5	-	< 0.5	-
1.2-Dichloropropane	0.5	mg/kg	< 0.5	-	< 0.5	-
1.2.3-Trichloropropane	0.5	mg/kg	< 0.5	-	< 0.5	-
1.2.4-Trimethylbenzene	0.5	mg/kg	< 0.5	-	< 0.5	-
1.3-Dichlorobenzene	0.5	mg/kg	< 0.5	-	< 0.5	-
1.3-Dichloropropane	0.5	mg/kg	< 0.5	-	< 0.5	-
1.3.5-Trimethylbenzene	0.5	mg/kg	< 0.5	-	< 0.5	-
1.4-Dichlorobenzene	0.5	mg/kg	< 0.5	-	< 0.5	-
2-Butanone (MEK)	0.5	mg/kg	< 0.5	-	< 0.5	-
2-Propanone (Acetone)	0.5	mg/kg	< 0.5	-	< 0.5	-
4-Chlorotoluene	0.5	mg/kg	< 0.5	-	< 0.5	-
4-Methyl-2-pentanone (MIBK)	0.5	mg/kg	< 0.5	-	< 0.5	-
Allyl chloride	0.5	mg/kg	< 0.5	-	< 0.5	-
Benzene	0.1	mg/kg	< 0.1	-	< 0.1	-
Bromobenzene	0.5	mg/kg	< 0.5	-	< 0.5	-
Bromochloromethane	0.5	mg/kg	< 0.5	-	< 0.5	-
Bromodichloromethane	0.5	mg/kg	< 0.5	-	< 0.5	-
Bromoform	0.5	mg/kg	< 0.5	-	< 0.5	-
Bromomethane	0.5	mg/kg	< 0.5	-	< 0.5	-
Carbon disulfide	0.5	mg/kg	< 0.5	-	< 0.5	-
Carbon Tetrachloride	0.5	mg/kg	< 0.5	-	< 0.5	-
Chlorobenzene	0.5	mg/kg	< 0.5	-	< 0.5	-
Chloroethane	0.5	mg/kg	< 0.5	-	< 0.5	-
Chloroform	0.5	mg/kg	< 0.5	-	< 0.5	-
Chloromethane	0.5	mg/kg	< 0.5	-	< 0.5	-
cis-1.2-Dichloroethene	0.5	mg/kg	< 0.5	-	< 0.5	-
cis-1.3-Dichloropropene	0.5	mg/kg	< 0.5	-	< 0.5	-
Dibromochloromethane	0.5	mg/kg	< 0.5	-	< 0.5	-
Dibromomethane	0.5	mg/kg	< 0.5	-	< 0.5	-
Dichlorodifluoromethane	0.5	mg/kg	< 0.5	-	< 0.5	-
Ethylbenzene	0.1	mg/kg	< 0.1	-	< 0.1	-
Iodomethane	0.5	mg/kg	< 0.5	-	< 0.5	-
Isopropyl benzene (Cumene)	0.5	mg/kg	< 0.5	-	< 0.5	-

Client Sample ID			BH18_0.4-0.5	BH18_1.0-1.1	BH19_0.1-0.2	BH19_0.5-0.6
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			S19-Se32544	S19-Se32545	S19-Se32546	S19-Se32547
Date Sampled			Sep 20, 2019	Sep 20, 2019	Sep 20, 2019	Sep 20, 2019
Test/Reference	LOR	Unit				
Volatile Organics						
m&p-Xylenes	0.2	mg/kg	< 0.2	-	< 0.2	-
Methylene Chloride	0.5	mg/kg	< 0.5	-	< 0.5	-
o-Xylene	0.1	mg/kg	< 0.1	-	< 0.1	-
Styrene	0.5	mg/kg	< 0.5	-	< 0.5	-
Tetrachloroethene	0.5	mg/kg	< 0.5	-	< 0.5	-
Toluene	0.1	mg/kg	< 0.1	-	< 0.1	-
trans-1.2-Dichloroethene	0.5	mg/kg	< 0.5	-	< 0.5	-
trans-1.3-Dichloropropene	0.5	mg/kg	< 0.5	-	< 0.5	-
Trichloroethene	0.5	mg/kg	< 0.5	-	< 0.5	-
Trichlorofluoromethane	0.5	mg/kg	< 0.5	-	< 0.5	-
Vinyl chloride	0.5	mg/kg	< 0.5	-	< 0.5	-
Xylenes - Total	0.3	mg/kg	< 0.3	-	< 0.3	-
Total MAH*	0.5	mg/kg	< 0.5	-	< 0.5	-
Vic EPA IWRG 621 CHC (Total)*	0.5	mg/kg	< 0.5	-	< 0.5	-
Vic EPA IWRG 621 Other CHC (Total)*	0.5	mg/kg	< 0.5	-	< 0.5	-
4-Bromofluorobenzene (surr.)	1	%	89	-	81	-
Toluene-d8 (surr.)	1	%	112	-	96	-
Total Recoverable Hydrocarbons - 2013 NEPM Fractions						
Naphthalene[N02]	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
TRH C6-C10	20	mg/kg	< 20	< 20	< 20	< 20
TRH C6-C10 less BTEX (F1)[N04]	20	mg/kg	< 20	< 20	< 20	< 20
TRH >C10-C16	50	mg/kg	< 50	< 50	< 50	< 50
TRH >C10-C16 less Naphthalene (F2)[N01]	50	mg/kg	< 50	< 50	< 50	< 50
TRH >C16-C34	100	mg/kg	< 100	< 100	130	< 100
TRH >C34-C40	100	mg/kg	< 100	< 100	< 100	< 100
TRH >C10-C40 (total)*	100	mg/kg	< 100	< 100	130	< 100
Polycyclic Aromatic Hydrocarbons						
Benzo(a)pyrene TEQ (lower bound) *	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Benzo(a)pyrene TEQ (medium bound) *	0.5	mg/kg	0.6	0.6	0.6	0.6
Benzo(a)pyrene TEQ (upper bound) *	0.5	mg/kg	1.2	1.2	1.2	1.2
Acenaphthene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Acenaphthylene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Anthracene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Benz(a)anthracene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Benzo(a)pyrene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Benzo(b&j)fluoranthene[N07]	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Benzo(g.h.i)perylene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Benzo(k)fluoranthene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Chrysene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Dibenz(a.h)anthracene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Fluoranthene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Fluorene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Indeno(1.2.3-cd)pyrene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Naphthalene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Phenanthrene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Pyrene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Total PAH*	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
2-Fluorobiphenyl (surr.)	1	%	82	88	92	88
p-Terphenyl-d14 (surr.)	1	%	88	93	95	96

Client Sample ID			BH18_0.4-0.5	BH18_1.0-1.1	BH19_0.1-0.2	BH19_0.5-0.6
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			S19-Se32544	S19-Se32545	S19-Se32546	S19-Se32547
Date Sampled			Sep 20, 2019	Sep 20, 2019	Sep 20, 2019	Sep 20, 2019
Test/Reference	LOR	Unit				
Organochlorine Pesticides						
Chlordanes - Total	0.1	mg/kg	< 0.1	-	< 0.1	-
4.4'-DDD	0.05	mg/kg	< 0.05	-	< 0.05	-
4.4'-DDE	0.05	mg/kg	< 0.05	-	< 0.05	-
4.4'-DDT	0.05	mg/kg	< 0.05	-	< 0.05	-
a-BHC	0.05	mg/kg	< 0.05	-	< 0.05	-
Aldrin	0.05	mg/kg	< 0.05	-	< 0.05	-
b-BHC	0.05	mg/kg	< 0.05	-	< 0.05	-
d-BHC	0.05	mg/kg	< 0.05	-	< 0.05	-
Dieldrin	0.05	mg/kg	< 0.05	-	< 0.05	-
Endosulfan I	0.05	mg/kg	< 0.05	-	< 0.05	-
Endosulfan II	0.05	mg/kg	< 0.05	-	< 0.05	-
Endosulfan sulphate	0.05	mg/kg	< 0.05	-	< 0.05	-
Endrin	0.05	mg/kg	< 0.05	-	< 0.05	-
Endrin aldehyde	0.05	mg/kg	< 0.05	-	< 0.05	-
Endrin ketone	0.05	mg/kg	< 0.05	-	< 0.05	-
g-BHC (Lindane)	0.05	mg/kg	< 0.05	-	< 0.05	-
Heptachlor	0.05	mg/kg	< 0.05	-	< 0.05	-
Heptachlor epoxide	0.05	mg/kg	< 0.05	-	< 0.05	-
Hexachlorobenzene	0.05	mg/kg	< 0.05	-	< 0.05	-
Methoxychlor	0.2	mg/kg	< 0.2	-	< 0.2	-
Toxaphene	1	mg/kg	< 1	-	< 1	-
Aldrin and Dieldrin (Total)*	0.05	mg/kg	< 0.05	-	< 0.05	-
DDT + DDE + DDD (Total)*	0.05	mg/kg	< 0.05	-	< 0.05	-
Vic EPA IWRG 621 OCP (Total)*	0.1	mg/kg	< 0.2	-	< 0.2	-
Vic EPA IWRG 621 Other OCP (Total)*	0.1	mg/kg	< 0.2	-	< 0.2	-
Dibutylchlorendate (surr.)	1	%	83	-	85	-
Tetrachloro-m-xylene (surr.)	1	%	106	-	102	-
Organophosphorus Pesticides						
Azinphos-methyl	0.2	mg/kg	< 0.2	-	< 0.2	-
Bolstar	0.2	mg/kg	< 0.2	-	< 0.2	-
Chlorfenvinphos	0.2	mg/kg	< 0.2	-	< 0.2	-
Chlorpyrifos	0.2	mg/kg	< 0.2	-	< 0.2	-
Chlorpyrifos-methyl	0.2	mg/kg	< 0.2	-	< 0.2	-
Coumaphos	2	mg/kg	< 2	-	< 2	-
Demeton-S	0.2	mg/kg	< 0.2	-	< 0.2	-
Demeton-O	0.2	mg/kg	< 0.2	-	< 0.2	-
Diazinon	0.2	mg/kg	< 0.2	-	< 0.2	-
Dichlorvos	0.2	mg/kg	< 0.2	-	< 0.2	-
Dimethoate	0.2	mg/kg	< 0.2	-	< 0.2	-
Disulfoton	0.2	mg/kg	< 0.2	-	< 0.2	-
EPN	0.2	mg/kg	< 0.2	-	< 0.2	-
Ethion	0.2	mg/kg	< 0.2	-	< 0.2	-
Ethoprop	0.2	mg/kg	< 0.2	-	< 0.2	-
Ethyl parathion	0.2	mg/kg	< 0.2	-	< 0.2	-
Fenitrothion	0.2	mg/kg	< 0.2	-	< 0.2	-
Fensulfothion	0.2	mg/kg	< 0.2	-	< 0.2	-
Fenthion	0.2	mg/kg	< 0.2	-	< 0.2	-
Malathion	0.2	mg/kg	< 0.2	-	< 0.2	-
Merphos	0.2	mg/kg	< 0.2	-	< 0.2	-

Client Sample ID			BH18_0.4-0.5	BH18_1.0-1.1	BH19_0.1-0.2	BH19_0.5-0.6
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			S19-Se32544	S19-Se32545	S19-Se32546	S19-Se32547
Date Sampled			Sep 20, 2019	Sep 20, 2019	Sep 20, 2019	Sep 20, 2019
Test/Reference	LOR	Unit				
Organophosphorus Pesticides						
Methyl parathion	0.2	mg/kg	< 0.2	-	< 0.2	-
Mevinphos	0.2	mg/kg	< 0.2	-	< 0.2	-
Monocrotophos	2	mg/kg	< 2	-	< 2	-
Naled	0.2	mg/kg	< 0.5	-	< 0.5	-
Omethoate	2	mg/kg	< 2	-	< 2	-
Phorate	0.2	mg/kg	< 0.2	-	< 0.2	-
Pirimiphos-methyl	0.2	mg/kg	< 0.2	-	< 0.2	-
Pyrazophos	0.2	mg/kg	< 0.2	-	< 0.2	-
Ronnel	0.2	mg/kg	< 0.2	-	< 0.2	-
Terbufos	0.2	mg/kg	< 0.2	-	< 0.2	-
Tetrachlorvinphos	0.2	mg/kg	< 0.2	-	< 0.2	-
Tokuthion	0.2	mg/kg	< 0.2	-	< 0.2	-
Trichloronate	0.2	mg/kg	< 0.2	-	< 0.2	-
Triphenylphosphate (surr.)	1	%	73	-	79	-
Polychlorinated Biphenyls						
Aroclor-1016	0.5	mg/kg	< 0.5	-	< 0.5	-
Aroclor-1221	0.1	mg/kg	< 0.1	-	< 0.1	-
Aroclor-1232	0.5	mg/kg	< 0.5	-	< 0.5	-
Aroclor-1242	0.5	mg/kg	< 0.5	-	< 0.5	-
Aroclor-1248	0.5	mg/kg	< 0.5	-	< 0.5	-
Aroclor-1254	0.5	mg/kg	< 0.5	-	< 0.5	-
Aroclor-1260	0.5	mg/kg	< 0.5	-	< 0.5	-
Total PCB*	0.5	mg/kg	< 0.5	-	< 0.5	-
Dibutylchlorendate (surr.)	1	%	83	-	85	-
Tetrachloro-m-xylene (surr.)	1	%	106	-	102	-
Phenols (Halogenated)						
2-Chlorophenol	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
2.4-Dichlorophenol	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
2.4.5-Trichlorophenol	1	mg/kg	< 1	< 1	< 1	< 1
2.4.6-Trichlorophenol	1	mg/kg	< 1	< 1	< 1	< 1
2.6-Dichlorophenol	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
4-Chloro-3-methylphenol	1	mg/kg	< 1	< 1	< 1	< 1
Pentachlorophenol	1	mg/kg	< 1	< 1	< 1	< 1
Tetrachlorophenols - Total	10	mg/kg	< 10	< 10	< 10	< 10
Total Halogenated Phenol*	1	mg/kg	< 1	< 1	< 1	< 1
Phenols (non-Halogenated)						
2-Cyclohexyl-4.6-dinitrophenol	20	mg/kg	< 20	< 20	< 20	< 20
2-Methyl-4.6-dinitrophenol	5	mg/kg	< 5	< 5	< 5	< 5
2-Methylphenol (o-Cresol)	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
2-Nitrophenol	1	mg/kg	< 1	< 1	< 1	< 1
2.4-Dimethylphenol	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
2.4-Dinitrophenol	5	mg/kg	< 5	< 5	< 5	< 5
3&4-Methylphenol (m&p-Cresol)	0.4	mg/kg	< 0.4	< 0.4	< 0.4	< 0.4
4-Nitrophenol	5	mg/kg	< 5	< 5	< 5	< 5
Dinoseb	20	mg/kg	< 20	< 20	< 20	< 20
Phenol	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Total Non-Halogenated Phenol*	20	mg/kg	< 20	< 20	< 20	< 20
Phenol-d6 (surr.)	1	%	72	81	87	83

Client Sample ID			BH18_0.4-0.5	BH18_1.0-1.1	BH19_0.1-0.2	BH19_0.5-0.6
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			S19-Se32544	S19-Se32545	S19-Se32546	S19-Se32547
Date Sampled			Sep 20, 2019	Sep 20, 2019	Sep 20, 2019	Sep 20, 2019
Test/Reference	LOR	Unit				
Heavy Metals						
Arsenic	2	mg/kg	12	11	12	15
Cadmium	0.4	mg/kg	0.4	< 0.4	< 0.4	< 0.4
Chromium	5	mg/kg	21	14	23	28
Copper	5	mg/kg	31	64	23	28
Lead	5	mg/kg	29	22	24	28
Mercury	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Nickel	5	mg/kg	9.3	15	9.1	8.6
Zinc	5	mg/kg	56	87	52	49
% Moisture	1	%	15	16	19	20

Client Sample ID			BH20_0.3-0.4	QA3
Sample Matrix			Soil	Soil
Eurofins Sample No.			S19-Se32548	S19-Se32549
Date Sampled			Sep 20, 2019	Sep 20, 2019
Test/Reference	LOR	Unit		
Total Recoverable Hydrocarbons - 1999 NEPM Fractions				
TRH C6-C9	20	mg/kg	< 20	< 20
TRH C10-C14	20	mg/kg	< 20	< 20
TRH C15-C28	50	mg/kg	< 50	< 50
TRH C29-C36	50	mg/kg	< 50	< 50
TRH C10-C36 (Total)	50	mg/kg	< 50	< 50
BTEX				
Benzene	0.1	mg/kg	< 0.1	< 0.1
Toluene	0.1	mg/kg	< 0.1	< 0.1
Ethylbenzene	0.1	mg/kg	< 0.1	< 0.1
m&p-Xylenes	0.2	mg/kg	< 0.2	< 0.2
o-Xylene	0.1	mg/kg	< 0.1	< 0.1
Xylenes - Total	0.3	mg/kg	< 0.3	< 0.3
4-Bromofluorobenzene (surr.)	1	%	135	INT
Total Recoverable Hydrocarbons - 2013 NEPM Fractions				
Naphthalene[N02]	0.5	mg/kg	< 0.5	< 0.5
TRH C6-C10	20	mg/kg	< 20	< 20
TRH C6-C10 less BTEX (F1)[N04]	20	mg/kg	< 20	< 20
TRH >C10-C16	50	mg/kg	< 50	< 50
TRH >C10-C16 less Naphthalene (F2)[N01]	50	mg/kg	< 50	< 50
TRH >C16-C34	100	mg/kg	< 100	< 100
TRH >C34-C40	100	mg/kg	< 100	< 100
TRH >C10-C40 (total)*	100	mg/kg	< 100	< 100
Polycyclic Aromatic Hydrocarbons				
Benzo(a)pyrene TEQ (lower bound) *	0.5	mg/kg	< 0.5	< 0.5
Benzo(a)pyrene TEQ (medium bound) *	0.5	mg/kg	0.6	0.6
Benzo(a)pyrene TEQ (upper bound) *	0.5	mg/kg	1.2	1.2
Acenaphthene	0.5	mg/kg	< 0.5	< 0.5
Acenaphthylene	0.5	mg/kg	< 0.5	< 0.5
Anthracene	0.5	mg/kg	< 0.5	< 0.5
Benz(a)anthracene	0.5	mg/kg	< 0.5	< 0.5
Benzo(a)pyrene	0.5	mg/kg	< 0.5	< 0.5

Client Sample ID			BH20_0.3-0.4	QA3
Sample Matrix			Soil	Soil
Eurofins Sample No.			S19-Se32548	S19-Se32549
Date Sampled			Sep 20, 2019	Sep 20, 2019
Test/Reference	LOR	Unit		
Polycyclic Aromatic Hydrocarbons				
Benzo(b&j)fluoranthene[N07]	0.5	mg/kg	< 0.5	< 0.5
Benzo(g.h.i)perylene	0.5	mg/kg	< 0.5	< 0.5
Benzo(k)fluoranthene	0.5	mg/kg	< 0.5	< 0.5
Chrysene	0.5	mg/kg	< 0.5	< 0.5
Dibenz(a.h)anthracene	0.5	mg/kg	< 0.5	< 0.5
Fluoranthene	0.5	mg/kg	< 0.5	< 0.5
Fluorene	0.5	mg/kg	< 0.5	< 0.5
Indeno(1.2.3-cd)pyrene	0.5	mg/kg	< 0.5	< 0.5
Naphthalene	0.5	mg/kg	< 0.5	< 0.5
Phenanthrene	0.5	mg/kg	< 0.5	< 0.5
Pyrene	0.5	mg/kg	< 0.5	< 0.5
Total PAH*	0.5	mg/kg	< 0.5	< 0.5
2-Fluorobiphenyl (surr.)	1	%	84	89
p-Terphenyl-d14 (surr.)	1	%	93	97
Phenols (Halogenated)				
2-Chlorophenol	0.5	mg/kg	< 0.5	< 0.5
2.4-Dichlorophenol	0.5	mg/kg	< 0.5	< 0.5
2.4.5-Trichlorophenol	1	mg/kg	< 1	< 1
2.4.6-Trichlorophenol	1	mg/kg	< 1	< 1
2.6-Dichlorophenol	0.5	mg/kg	< 0.5	< 0.5
4-Chloro-3-methylphenol	1	mg/kg	< 1	< 1
Pentachlorophenol	1	mg/kg	< 1	< 1
Tetrachlorophenols - Total	10	mg/kg	< 10	< 10
Total Halogenated Phenol*	1	mg/kg	< 1	< 1
Phenols (non-Halogenated)				
2-Cyclohexyl-4.6-dinitrophenol	20	mg/kg	< 20	< 20
2-Methyl-4.6-dinitrophenol	5	mg/kg	< 5	< 5
2-Methylphenol (o-Cresol)	0.2	mg/kg	< 0.2	< 0.2
2-Nitrophenol	1	mg/kg	< 1	< 1
2.4-Dimethylphenol	0.5	mg/kg	< 0.5	< 0.5
2.4-Dinitrophenol	5	mg/kg	< 5	< 5
3&4-Methylphenol (m&p-Cresol)	0.4	mg/kg	< 0.4	< 0.4
4-Nitrophenol	5	mg/kg	< 5	< 5
Dinoseb	20	mg/kg	< 20	< 20
Phenol	0.5	mg/kg	< 0.5	< 0.5
Total Non-Halogenated Phenol*	20	mg/kg	< 20	< 20
Phenol-d6 (surr.)	1	%	74	80
Heavy Metals				
Arsenic	2	mg/kg	6.8	5.3
Cadmium	0.4	mg/kg	< 0.4	< 0.4
Chromium	5	mg/kg	17	16
Copper	5	mg/kg	26	28
Lead	5	mg/kg	16	14
Mercury	0.1	mg/kg	< 0.1	< 0.1
Nickel	5	mg/kg	6.1	5.9
Zinc	5	mg/kg	32	33
% Moisture	1	%	15	16

Sample History

Where samples are submitted/analysed over several days, the last date of extraction and analysis is reported.
A recent review of our LIMS has resulted in the correction or clarification of some method identifications. Due to this, some of the method reference information on reports has changed. However, no substantive change has been made to our laboratory methods, and as such there is no change in the validity of current or previous results.

If the date and time of sampling are not provided, the Laboratory will not be responsible for compromised results should testing be performed outside the recommended holding time.

Description	Testing Site	Extracted	Holding Time
Total Recoverable Hydrocarbons - 1999 NEPM Fractions	Sydney	Sep 20, 2019	14 Days
- Method: LTM-ORG-2010 TRH C6-C40			
BTEX	Sydney	Sep 20, 2019	14 Days
- Method: LTM-ORG-2010 TRH C6-C40			
Total Recoverable Hydrocarbons - 2013 NEPM Fractions	Sydney	Sep 20, 2019	14 Days
- Method: LTM-ORG-2010 TRH C6-C40			
Total Recoverable Hydrocarbons - 2013 NEPM Fractions	Sydney	Sep 20, 2019	
- Method: LTM-ORG-2010 TRH C6-C40			
Polycyclic Aromatic Hydrocarbons	Sydney	Sep 20, 2019	14 Days
- Method: LTM-ORG-2130 PAH and Phenols in Soil and Water			
Phenols (Halogenated)	Sydney	Sep 20, 2019	14 Days
- Method: LTM-ORG-2130 PAH and Phenols in Soil and Water			
Phenols (non-Halogenated)	Sydney	Sep 20, 2019	14 Days
- Method: LTM-ORG-2130 PAH and Phenols in Soil and Water			
Metals M8	Sydney	Sep 20, 2019	180 Days
- Method: LTM-MET-3040 Metals in Waters, Soils & Sediments by ICP-MS			
Volatile Organics	Sydney	Sep 20, 2019	7 Days
- Method: LTM-ORG-2150 VOCs in Soils Liquid and other Aqueous Matrices			
Organochlorine Pesticides	Sydney	Sep 20, 2019	14 Days
- Method: LTM-ORG-2220 OCP & PCB in Soil and Water			
Organophosphorus Pesticides	Sydney	Sep 20, 2019	14 Days
- Method: LTM-ORG-2200 Organophosphorus Pesticides by GC-MS			
Polychlorinated Biphenyls	Sydney	Sep 20, 2019	28 Days
- Method: LTM-ORG-2220 OCP & PCB in Soil and Water			
% Moisture	Sydney	Sep 20, 2019	14 Days
- Method: LTM-GEN-7080 Moisture			

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Company Name: KPMG SGA
Address: Tower Three, International Towers Sydney, 300 Sydney NSW 2000

Project Name: KEMPS CREEK
Project ID: 367109

Order No.:
Report #: 678247
Phone: 02 9335 7535
Fax:

Received: Sep 20, 2019 2:20 PM
Due: Sep 24, 2019
Priority: 2 Day
Contact Name: James Lean

Eurofins Analytical Services Manager : Alena Bounkeua

Sample Detail						Asbestos - AS4964	CANCELLED	HOLD	Eurofins | mgt Suite B15	Volatile Organics	Moisture Set	Eurofins | mgt Suite B7A
Melbourne Laboratory - NATA Site # 1254 & 14271												
Sydney Laboratory - NATA Site # 18217						X	X	X	X	X	X	X
Brisbane Laboratory - NATA Site # 20794												
Perth Laboratory - NATA Site # 23736												
External Laboratory												
No	**Sample ID**	**Sample Date**	**Sampling Time**	**Matrix**	**LAB ID**							
1	HA01_0.2-0.3	Sep 19, 2019		Soil	S19-Se32500	X					X	X
2	HA02_0.7-0.8	Sep 19, 2019		Soil	S19-Se32501	X					X	X
3	BH01_0.3-0.4	Sep 19, 2019		Soil	S19-Se32502				X	X	X	X
4	BH01_1.0-1.1	Sep 19, 2019		Soil	S19-Se32503						X	X
5	BH02_0.2-0.3	Sep 19, 2019		Soil	S19-Se32504				X	X	X	X
6	BH02_0.3-0.4	Sep 19, 2019		Soil	S19-Se32505	X						
7	BH02_1.0-1.1	Sep 19, 2019		Soil	S19-Se32506	X						
8	BH02_2.0-2.1	Sep 19, 2019		Soil	S19-Se32507	X						
9	BH02_3.0-3.1	Sep 19, 2019		Soil	S19-Se32508	X						

eurofins | Environment Testing

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NATA # 1261
Site # 23736

Company Name: KPMG SGA
Address: Tower Three, International Towers Sydney, 300 Sydney NSW 2000

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Report #: 678247
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Contact Name: James Lean

Eurofins Analytical Services Manager : Alena Bounkeua

Sample Detail						Asbestos - AS4964	CANCELLED	HOLD	Eurofins | mgt Suite B15	Volatile Organics	Moisture Set	Eurofins | mgt Suite B7A
Melbourne Laboratory - NATA Site # 1254 & 14271												
Sydney Laboratory - NATA Site # 18217						X	X	X	X	X	X	X
Brisbane Laboratory - NATA Site # 20794												
Perth Laboratory - NATA Site # 23736												
10	BH02_4.0-4.1	Sep 19, 2019		Soil	S19-Se32509						X	X
11	BH03_0.2-0.3	Sep 19, 2019		Soil	S19-Se32510				X	X	X	X
12	BH03_0.3-0.4	Sep 19, 2019		Soil	S19-Se32511						X	X
13	BH04_0.2-0.3	Sep 19, 2019		Soil	S19-Se32512						X	X
14	BH04_1.0-1.1	Sep 19, 2019		Soil	S19-Se32513				X	X	X	X
15	BH05_1.9-2.0	Sep 19, 2019		Soil	S19-Se32514				X	X	X	X
16	BH05_3.9-4.0	Sep 19, 2019		Soil	S19-Se32515						X	X
17	BH06_1.0-1.1	Sep 19, 2019		Soil	S19-Se32516				X	X	X	X
18	BH06_1.2-1.3	Sep 19, 2019		Soil	S19-Se32517						X	X
19	BH07_1.0-1.1	Sep 19, 2019		Soil	S19-Se32518						X	X
20	BH07_1.4-1.5	Sep 19, 2019		Soil	S19-Se32519				X	X	X	X
21	BH08_1.0-1.1	Sep 19, 2019		Soil	S19-Se32520						X	X

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Site # 23736

Company Name: KPMG SGA
Address: Tower Three, International Towers Sydney, 300 Sydney NSW 2000

Project Name: KEMPS CREEK
Project ID: 367109

Order No.:
Report #: 678247
Phone: 02 9335 7535
Fax:

Received: Sep 20, 2019 2:20 PM
Due: Sep 24, 2019
Priority: 2 Day
Contact Name: James Lean

Eurofins Analytical Services Manager : Alena Bounkeua

Sample Detail						Asbestos - AS4964	CANCELLED	HOLD	Eurofins | mgt Suite B15	Volatile Organics	Moisture Set	Eurofins | mgt Suite B7A
Melbourne Laboratory - NATA Site # 1254 & 14271												
Sydney Laboratory - NATA Site # 18217						X	X	X	X	X	X	X
Brisbane Laboratory - NATA Site # 20794												
Perth Laboratory - NATA Site # 23736												
22	BH08_4.9-5.0	Sep 19, 2019		Soil	S19-Se32521				X	X	X	X
23	BH09_0.5-0.6	Sep 19, 2019		Soil	S19-Se32522				X	X	X	X
24	BH09_1.0-1.1	Sep 19, 2019		Soil	S19-Se32523						X	X
25	QA1	Sep 19, 2019		Soil	S19-Se32524						X	X
26	BH10_0.5-0.6	Sep 19, 2019		Soil	S19-Se32525						X	X
27	BH10_1.0-1.1	Sep 19, 2019		Soil	S19-Se32526				X	X	X	X
28	BH11_0.2-0.3	Sep 19, 2019		Soil	S19-Se32527				X	X	X	X
29	BH11_0.6-0.7	Sep 19, 2019		Soil	S19-Se32528						X	X
30	BH12_0.1-0.2	Sep 19, 2019		Soil	S19-Se32529				X		X	X
31	BH12_0.8-0.9	Sep 19, 2019		Soil	S19-Se32530						X	X
32	BH13_0.2-0.3	Sep 20, 2019		Soil	S19-Se32531	X			X		X	X
33	BH13_1.0-1.1	Sep 20, 2019		Soil	S19-Se32532						X	X

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Melbourne Laboratory - NATA Site # 1254 & 14271												
Sydney Laboratory - NATA Site # 18217						X	X	X	X	X	X	X
Brisbane Laboratory - NATA Site # 20794												
Perth Laboratory - NATA Site # 23736												
34	BH14_0.1-0.2	Sep 20, 2019		Soil	S19-Se32533	X			X		X	X
35	BH14_0.3-0.4	Sep 20, 2019		Soil	S19-Se32534						X	X
36	SP1_1	Sep 20, 2019		Soil	S19-Se32535	X					X	X
37	SP1_2	Sep 20, 2019		Soil	S19-Se32536	X					X	X
38	SP1_3	Sep 20, 2019		Soil	S19-Se32537	X					X	X
39	BH15_1.0-1.1	Sep 20, 2019		Soil	S19-Se32538	X			X		X	X
40	BH15_3.7-3.8	Sep 20, 2019		Soil	S19-Se32539						X	X
41	BH16_0.2-0.3	Sep 20, 2019		Soil	S19-Se32540	X			X		X	X
42	BH17_1.2-1.3	Sep 20, 2019		Soil	S19-Se32541						X	X
43	QA2	Sep 20, 2019		Soil	S19-Se32542						X	X
44	BH17_3.0-3.1	Sep 20, 2019		Soil	S19-Se32543					X	X	X
45	BH18_0.4-0.5	Sep 20, 2019		Soil	S19-Se32544				X	X	X	X

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Melbourne Laboratory - NATA Site # 1254 & 14271												
Sydney Laboratory - NATA Site # 18217						X	X	X	X	X	X	X
Brisbane Laboratory - NATA Site # 20794												
Perth Laboratory - NATA Site # 23736												
46	BH18_1.0-1.1	Sep 20, 2019		Soil	S19-Se32545						X	X
47	BH19_0.1-0.2	Sep 20, 2019		Soil	S19-Se32546				X	X	X	X
48	BH19_0.5-0.6	Sep 20, 2019		Soil	S19-Se32547						X	X
49	BH20_0.3-0.4	Sep 20, 2019		Soil	S19-Se32548						X	X
50	QA3	Sep 20, 2019		Soil	S19-Se32549						X	X
51	HA01_0.7-0.8	Sep 19, 2019		Soil	S19-Se32550			X				
52	HA02_0.2-0.3	Sep 19, 2019		Soil	S19-Se32551			X				
53	BH05_0.2-0.3	Sep 19, 2019		Soil	S19-Se32552			X				
54	BH05_0.5-0.6	Sep 19, 2019		Soil	S19-Se32553			X				
55	BH05_3.0-3.1	Sep 19, 2019		Soil	S19-Se32554		X					
56	BH08_2.0-2.1	Sep 19, 2019		Soil	S19-Se32555			X				
57	BH08_3.0-3.1	Sep 19, 2019		Soil	S19-Se32556			X				

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Sample Detail						Asbestos - AS4964	CANCELLED	HOLD	Eurofins | mgt Suite B15	Volatile Organics	Moisture Set	Eurofins | mgt Suite B7A
Melbourne Laboratory - NATA Site # 1254 & 14271												
Sydney Laboratory - NATA Site # 18217						X	X	X	X	X	X	X
Brisbane Laboratory - NATA Site # 20794												
Perth Laboratory - NATA Site # 23736												
58	BH08_4.0-4.1	Sep 19, 2019		Soil	S19-Se32557			X				
59	BH10_1.6-1.7	Sep 19, 2019		Soil	S19-Se32558		X					
60	BH15_0.2-0.3	Sep 20, 2019		Soil	S19-Se32559			X				
61	BH16_0.4-0.5	Sep 20, 2019		Soil	S19-Se32560			X				
62	BH17_0.4-0.5	Sep 20, 2019		Soil	S19-Se32561			X				
63	BH20_1.0-1.1	Sep 20, 2019		Soil	S19-Se32562			X				
Test Counts						13	2	11	18	14	46	46

Internal Quality Control Review and Glossary

General

1. Laboratory QC results for Method Blanks, Duplicates, Matrix Spikes, and Laboratory Control Samples follows guidelines delineated in the National Environment Protection (Assessment of Site Contamination) Measure 1999, as amended May 2013 and are included in this QC report where applicable. Additional QC data may be available on request.
2. All soil/sediment/solid results are reported on a dry basis, unless otherwise stated.
3. All biota/food results are reported on a wet weight basis on the edible portion, unless otherwise stated.
4. Actual LORs are matrix dependant. Quoted LORs may be raised where sample extracts are diluted due to interferences.
5. Results are uncorrected for matrix spikes or surrogate recoveries except for PFAS compounds.
6. SVOC analysis on waters are performed on homogenised, unfiltered samples, unless noted otherwise.
7. Samples were analysed on an 'as received' basis.
8. Information identified on this report with blue colour, indicates data provided by customer, that may have an impact on the results.
9. This report replaces any interim results previously issued.

Holding Times

Please refer to 'Sample Preservation and Container Guide' for holding times (QS3001).

For samples received on the last day of holding time, notification of testing requirements should have been received at least 6 hours prior to sample receipt deadlines as stated on the SRA.

If the Laboratory did not receive the information in the required timeframe, and regardless of any other integrity issues, suitably qualified results may still be reported.

Holding times apply from the date of sampling, therefore compliance to these may be outside the laboratory's control.

For VOCs containing vinyl chloride, styrene and 2-chloroethyl vinyl ether the holding time is 7 days however for all other VOCs such as BTEX or C6-10 TRH then the holding time is 14 days.

****NOTE:** pH duplicates are reported as a range NOT as RPD

Units

mg/kg: milligrams per kilogram

mg/L: milligrams per litre

ug/L: micrograms per litre

ppm: Parts per million

ppb: Parts per billion

%: Percentage

org/100mL: Organisms per 100 millilitres

NTU: Nephelometric Turbidity Units

MPN/100mL: Most Probable Number of organisms per 100 millilitres

Terms

Dry	Where a moisture has been determined on a solid sample the result is expressed on a dry basis.
LOR	Limit of Reporting.
SPIKE	Addition of the analyte to the sample and reported as percentage recovery.
RPD	Relative Percent Difference between two Duplicate pieces of analysis.
LCS	Laboratory Control Sample - reported as percent recovery.
CRM	Certified Reference Material - reported as percent recovery.
Method Blank	In the case of solid samples these are performed on laboratory certified clean sands and in the case of water samples these are performed on de-ionised water.
Surr - Surrogate	The addition of a like compound to the analyte target and reported as percentage recovery.
Duplicate	A second piece of analysis from the same sample and reported in the same units as the result to show comparison.
USEPA	United States Environmental Protection Agency
APHA	American Public Health Association
TCLP	Toxicity Characteristic Leaching Procedure
COC	Chain of Custody
SRA	Sample Receipt Advice
QSM	US Department of Defense Quality Systems Manual Version 5.3
CP	Client Parent - QC was performed on samples pertaining to this report
NCP	Non-Client Parent - QC performed on samples not pertaining to this report, QC is representative of the sequence or batch that client samples were analysed within.
TEQ	Toxic Equivalency Quotient

QC - Acceptance Criteria

RPD Duplicates: Global RPD Duplicates Acceptance Criteria is 30% however the following acceptance guidelines are equally applicable:

Results <10 times the LOR : No Limit

Results between 10-20 times the LOR : RPD must lie between 0-50%

Results >20 times the LOR : RPD must lie between 0-30%

Surrogate Recoveries: Recoveries must lie between 20-130% Phenols & 50-150% PFASs

PFAS field samples that contain surrogate recoveries in excess of the QC limit designated in QSM 5.3 where no positive PFAS results have been reported have been reviewed and no data was affected.

WA DWER (n=10): PFBA, PFPeA, PFHxA, PFHpA, PFOA, PFBS, PFHxS, PFOS, 6:2 FTSA, 8:2 FTSA

QC Data General Comments

1. Where a result is reported as a less than (<), higher than the nominated LOR, this is due to either matrix interference, extract dilution required due to interferences or contaminant levels within the sample, high moisture content or insufficient sample provided.
2. Duplicate data shown within this report that states the word "BATCH" is a Batch Duplicate from outside of your sample batch, but within the laboratory sample batch at a 1:10 ratio. The Parent and Duplicate data shown is not data from your samples.
3. Organochlorine Pesticide analysis - where reporting LCS data, Toxaphene & Chlordane are not added to the LCS.
4. Organochlorine Pesticide analysis - where reporting Spike data, Toxaphene is not added to the Spike.
5. Total Recoverable Hydrocarbons - where reporting Spike & LCS data, a single spike of commercial Hydrocarbon products in the range of C12-C30 is added and it's Total Recovery is reported in the C10-C14 cell of the Report.
6. pH and Free Chlorine analysed in the laboratory - Analysis on this test must begin within 30 minutes of sampling.Therefore laboratory analysis is unlikely to be completed within holding time. Analysis will begin as soon as possible after sample receipt.
7. Recovery Data (Spikes & Surrogates) - where chromatographic interference does not allow the determination of Recovery the term "INT" appears against that analyte.
8. Polychlorinated Biphenyls are spiked only using Aroclor 1260 in Matrix Spikes and LCS.
9. For Matrix Spikes and LCS results a dash " -" in the report means that the specific analyte was not added to the QC sample.
10. Duplicate RPDs are calculated from raw analytical data thus it is possible to have two sets of data.

Quality Control Results

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Method Blank							
Total Recoverable Hydrocarbons - 1999 NEPM Fractions							
TRH C6-C9	mg/kg	< 20			20	Pass	
TRH C10-C14	mg/kg	< 20			20	Pass	
TRH C15-C28	mg/kg	< 50			50	Pass	
TRH C29-C36	mg/kg	< 50			50	Pass	
Method Blank							
BTEX							
Benzene	mg/kg	< 0.1			0.1	Pass	
Toluene	mg/kg	< 0.1			0.1	Pass	
Ethylbenzene	mg/kg	< 0.1			0.1	Pass	
m&p-Xylenes	mg/kg	< 0.2			0.2	Pass	
o-Xylene	mg/kg	< 0.1			0.1	Pass	
Xylenes - Total	mg/kg	< 0.3			0.3	Pass	
Method Blank							
Volatile Organics							
1.1-Dichloroethane	mg/kg	< 0.5			0.5	Pass	
1.1-Dichloroethene	mg/kg	< 0.5			0.5	Pass	
1.1.1-Trichloroethane	mg/kg	< 0.5			0.5	Pass	
1.1.1.2-Tetrachloroethane	mg/kg	< 0.5			0.5	Pass	
1.1.2-Trichloroethane	mg/kg	< 0.5			0.5	Pass	
1.1.2.2-Tetrachloroethane	mg/kg	< 0.5			0.5	Pass	
1.2-Dibromoethane	mg/kg	< 0.5			0.5	Pass	
1.2-Dichlorobenzene	mg/kg	< 0.5			0.5	Pass	
1.2-Dichloroethane	mg/kg	< 0.5			0.5	Pass	
1.2-Dichloropropane	mg/kg	< 0.5			0.5	Pass	
1.2.3-Trichloropropane	mg/kg	< 0.5			0.5	Pass	
1.2.4-Trimethylbenzene	mg/kg	< 0.5			0.5	Pass	
1.3-Dichlorobenzene	mg/kg	< 0.5			0.5	Pass	
1.3-Dichloropropane	mg/kg	< 0.5			0.5	Pass	
1.3.5-Trimethylbenzene	mg/kg	< 0.5			0.5	Pass	
1.4-Dichlorobenzene	mg/kg	< 0.5			0.5	Pass	
2-Butanone (MEK)	mg/kg	< 0.5			0.5	Pass	
2-Propanone (Acetone)	mg/kg	< 0.5			0.5	Pass	
4-Chlorotoluene	mg/kg	< 0.5			0.5	Pass	
4-Methyl-2-pentanone (MIBK)	mg/kg	< 0.5			0.5	Pass	
Allyl chloride	mg/kg	< 0.5			0.5	Pass	
Benzene	mg/kg	< 0.1			0.1	Pass	
Bromobenzene	mg/kg	< 0.5			0.5	Pass	
Bromochloromethane	mg/kg	< 0.5			0.5	Pass	
Bromodichloromethane	mg/kg	< 0.5			0.5	Pass	
Bromoform	mg/kg	< 0.5			0.5	Pass	
Bromomethane	mg/kg	< 0.5			0.5	Pass	
Carbon disulfide	mg/kg	< 0.5			0.5	Pass	
Carbon Tetrachloride	mg/kg	< 0.5			0.5	Pass	
Chlorobenzene	mg/kg	< 0.5			0.5	Pass	
Chloroethane	mg/kg	< 0.5			0.5	Pass	
Chloroform	mg/kg	< 0.5			0.5	Pass	
Chloromethane	mg/kg	< 0.5			0.5	Pass	
cis-1.2-Dichloroethene	mg/kg	< 0.5			0.5	Pass	
cis-1.3-Dichloropropene	mg/kg	< 0.5			0.5	Pass	
Dibromochloromethane	mg/kg	< 0.5			0.5	Pass	

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Dibromomethane	mg/kg	< 0.5			0.5	Pass	
Dichlorodifluoromethane	mg/kg	< 0.5			0.5	Pass	
Ethylbenzene	mg/kg	< 0.1			0.1	Pass	
Iodomethane	mg/kg	< 0.5			0.5	Pass	
Isopropyl benzene (Cumene)	mg/kg	< 0.5			0.5	Pass	
m&p-Xylenes	mg/kg	< 0.2			0.2	Pass	
Methylene Chloride	mg/kg	< 0.5			0.5	Pass	
o-Xylene	mg/kg	< 0.1			0.1	Pass	
Styrene	mg/kg	< 0.5			0.5	Pass	
Tetrachloroethene	mg/kg	< 0.5			0.5	Pass	
Toluene	mg/kg	< 0.1			0.1	Pass	
trans-1.2-Dichloroethene	mg/kg	< 0.5			0.5	Pass	
trans-1.3-Dichloropropene	mg/kg	< 0.5			0.5	Pass	
Trichloroethene	mg/kg	< 0.5			0.5	Pass	
Trichlorofluoromethane	mg/kg	< 0.5			0.5	Pass	
Vinyl chloride	mg/kg	< 0.5			0.5	Pass	
Xylenes - Total	mg/kg	< 0.3			0.3	Pass	
Method Blank							
Total Recoverable Hydrocarbons - 2013 NEPM Fractions							
Naphthalene	mg/kg	< 0.5			0.5	Pass	
TRH C6-C10	mg/kg	< 20			20	Pass	
TRH >C10-C16	mg/kg	< 50			50	Pass	
TRH >C16-C34	mg/kg	< 100			100	Pass	
TRH >C34-C40	mg/kg	< 100			100	Pass	
Method Blank							
Polycyclic Aromatic Hydrocarbons							
Acenaphthene	mg/kg	< 0.5			0.5	Pass	
Acenaphthylene	mg/kg	< 0.5			0.5	Pass	
Anthracene	mg/kg	< 0.5			0.5	Pass	
Benz(a)anthracene	mg/kg	< 0.5			0.5	Pass	
Benzo(a)pyrene	mg/kg	< 0.5			0.5	Pass	
Benzo(b&j)fluoranthene	mg/kg	< 0.5			0.5	Pass	
Benzo(g.h.i)perylene	mg/kg	< 0.5			0.5	Pass	
Benzo(k)fluoranthene	mg/kg	< 0.5			0.5	Pass	
Chrysene	mg/kg	< 0.5			0.5	Pass	
Dibenz(a.h)anthracene	mg/kg	< 0.5			0.5	Pass	
Fluoranthene	mg/kg	< 0.5			0.5	Pass	
Fluorene	mg/kg	< 0.5			0.5	Pass	
Indeno(1.2.3-cd)pyrene	mg/kg	< 0.5			0.5	Pass	
Naphthalene	mg/kg	< 0.5			0.5	Pass	
Phenanthrene	mg/kg	< 0.5			0.5	Pass	
Pyrene	mg/kg	< 0.5			0.5	Pass	
Method Blank							
Organochlorine Pesticides							
Chlordanes - Total	mg/kg	< 0.1			0.1	Pass	
4.4'-DDD	mg/kg	< 0.05			0.05	Pass	
4.4'-DDE	mg/kg	< 0.05			0.05	Pass	
4.4'-DDT	mg/kg	< 0.05			0.05	Pass	
a-BHC	mg/kg	< 0.05			0.05	Pass	
Aldrin	mg/kg	< 0.05			0.05	Pass	
b-BHC	mg/kg	< 0.05			0.05	Pass	
d-BHC	mg/kg	< 0.05			0.05	Pass	
Dieldrin	mg/kg	< 0.05			0.05	Pass	
Endosulfan I	mg/kg	< 0.05			0.05	Pass	

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Endosulfan II	mg/kg	< 0.05			0.05	Pass	
Endosulfan sulphate	mg/kg	< 0.05			0.05	Pass	
Endrin	mg/kg	< 0.05			0.05	Pass	
Endrin aldehyde	mg/kg	< 0.05			0.05	Pass	
Endrin ketone	mg/kg	< 0.05			0.05	Pass	
g-BHC (Lindane)	mg/kg	< 0.05			0.05	Pass	
Heptachlor	mg/kg	< 0.05			0.05	Pass	
Heptachlor epoxide	mg/kg	< 0.05			0.05	Pass	
Hexachlorobenzene	mg/kg	< 0.05			0.05	Pass	
Methoxychlor	mg/kg	< 0.2			0.2	Pass	
Toxaphene	mg/kg	< 1			1	Pass	
Method Blank							
Organophosphorus Pesticides							
Azinphos-methyl	mg/kg	< 0.2			0.2	Pass	
Bolstar	mg/kg	< 0.2			0.2	Pass	
Chlorfenvinphos	mg/kg	< 0.2			0.2	Pass	
Chlorpyrifos	mg/kg	< 0.2			0.2	Pass	
Chlorpyrifos-methyl	mg/kg	< 0.2			0.2	Pass	
Coumaphos	mg/kg	< 2			2	Pass	
Demeton-S	mg/kg	< 0.2			0.2	Pass	
Demeton-O	mg/kg	< 0.2			0.2	Pass	
Diazinon	mg/kg	< 0.2			0.2	Pass	
Dichlorvos	mg/kg	< 0.2			0.2	Pass	
Dimethoate	mg/kg	< 0.2			0.2	Pass	
Disulfoton	mg/kg	< 0.2			0.2	Pass	
EPN	mg/kg	< 0.2			0.2	Pass	
Ethion	mg/kg	< 0.2			0.2	Pass	
Ethoprop	mg/kg	< 0.2			0.2	Pass	
Ethyl parathion	mg/kg	< 0.2			0.2	Pass	
Fenitrothion	mg/kg	< 0.2			0.2	Pass	
Fensulfothion	mg/kg	< 0.2			0.2	Pass	
Fenthion	mg/kg	< 0.2			0.2	Pass	
Malathion	mg/kg	< 0.2			0.2	Pass	
Merphos	mg/kg	< 0.2			0.2	Pass	
Methyl parathion	mg/kg	< 0.2			0.2	Pass	
Mevinphos	mg/kg	< 0.2			0.2	Pass	
Monocrotophos	mg/kg	< 2			2	Pass	
Naled	mg/kg	< 0.2			0.2	Pass	
Omethoate	mg/kg	< 2			2	Pass	
Phorate	mg/kg	< 0.2			0.2	Pass	
Pirimiphos-methyl	mg/kg	< 0.2			0.2	Pass	
Pyrazophos	mg/kg	< 0.2			0.2	Pass	
Ronnel	mg/kg	< 0.2			0.2	Pass	
Terbufos	mg/kg	< 0.2			0.2	Pass	
Tetrachlorvinphos	mg/kg	< 0.2			0.2	Pass	
Tokuthion	mg/kg	< 0.2			0.2	Pass	
Trichloronate	mg/kg	< 0.2			0.2	Pass	
Method Blank							
Polychlorinated Biphenyls							
Aroclor-1016	mg/kg	< 0.5			0.5	Pass	
Aroclor-1221	mg/kg	< 0.1			0.1	Pass	
Aroclor-1232	mg/kg	< 0.5			0.5	Pass	
Aroclor-1242	mg/kg	< 0.5			0.5	Pass	
Aroclor-1248	mg/kg	< 0.5			0.5	Pass	

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Aroclor-1254	mg/kg	< 0.5			0.5	Pass	
Aroclor-1260	mg/kg	< 0.5			0.5	Pass	
Total PCB*	mg/kg	< 0.5			0.5	Pass	
Method Blank							
Phenols (Halogenated)							
2-Chlorophenol	mg/kg	< 0.5			0.5	Pass	
2.4-Dichlorophenol	mg/kg	< 0.5			0.5	Pass	
2.4.5-Trichlorophenol	mg/kg	< 1			1	Pass	
2.4.6-Trichlorophenol	mg/kg	< 1			1	Pass	
2.6-Dichlorophenol	mg/kg	< 0.5			0.5	Pass	
4-Chloro-3-methylphenol	mg/kg	< 1			1	Pass	
Pentachlorophenol	mg/kg	< 1			1	Pass	
Tetrachlorophenols - Total	mg/kg	< 10			10	Pass	
Method Blank							
Phenols (non-Halogenated)							
2-Cyclohexyl-4.6-dinitrophenol	mg/kg	< 20			20	Pass	
2-Methyl-4.6-dinitrophenol	mg/kg	< 5			5	Pass	
2-Methylphenol (o-Cresol)	mg/kg	< 0.2			0.2	Pass	
2-Nitrophenol	mg/kg	< 1			1	Pass	
2.4-Dimethylphenol	mg/kg	< 0.5			0.5	Pass	
2.4-Dinitrophenol	mg/kg	< 5			5	Pass	
3&4-Methylphenol (m&p-Cresol)	mg/kg	< 0.4			0.4	Pass	
4-Nitrophenol	mg/kg	< 5			5	Pass	
Dinoseb	mg/kg	< 20			20	Pass	
Phenol	mg/kg	< 0.5			0.5	Pass	
Method Blank							
Heavy Metals							
Arsenic	mg/kg	< 2			2	Pass	
Cadmium	mg/kg	< 0.4			0.4	Pass	
Chromium	mg/kg	< 5			5	Pass	
Copper	mg/kg	< 5			5	Pass	
Lead	mg/kg	< 5			5	Pass	
Mercury	mg/kg	< 0.1			0.1	Pass	
Nickel	mg/kg	< 5			5	Pass	
Zinc	mg/kg	< 5			5	Pass	
LCS - % Recovery							
Total Recoverable Hydrocarbons - 1999 NEPM Fractions							
TRH C6-C9	%	89			70-130	Pass	
TRH C10-C14	%	72			70-130	Pass	
LCS - % Recovery							
BTEX							
Benzene	%	98			70-130	Pass	
Toluene	%	91			70-130	Pass	
Ethylbenzene	%	93			70-130	Pass	
m&p-Xylenes	%	96			70-130	Pass	
o-Xylene	%	96			70-130	Pass	
Xylenes - Total	%	96			70-130	Pass	
LCS - % Recovery							
Volatile Organics							
1.1-Dichloroethene	%	92			70-130	Pass	
1.1.1-Trichloroethane	%	100			70-130	Pass	
1.2-Dichlorobenzene	%	93			70-130	Pass	
1.2-Dichloroethane	%	82			70-130	Pass	
Benzene	%	116			70-130	Pass	

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Ethylbenzene	%	102			70-130	Pass	
m&p-Xylenes	%	104			70-130	Pass	
o-Xylene	%	111			70-130	Pass	
Toluene	%	103			70-130	Pass	
Trichloroethene	%	85			70-130	Pass	
Xylenes - Total	%	106			70-130	Pass	
LCS - % Recovery							
Total Recoverable Hydrocarbons - 2013 NEPM Fractions							
Naphthalene	%	115			70-130	Pass	
TRH C6-C10	%	87			70-130	Pass	
TRH >C10-C16	%	71			70-130	Pass	
LCS - % Recovery							
Polycyclic Aromatic Hydrocarbons							
Acenaphthene	%	88			70-130	Pass	
Acenaphthylene	%	85			70-130	Pass	
Anthracene	%	92			70-130	Pass	
Benz(a)anthracene	%	82			70-130	Pass	
Benzo(a)pyrene	%	94			70-130	Pass	
Benzo(b&j)fluoranthene	%	100			70-130	Pass	
Benzo(g.h.i)perylene	%	71			70-130	Pass	
Benzo(k)fluoranthene	%	96			70-130	Pass	
Chrysene	%	85			70-130	Pass	
Dibenz(a.h)anthracene	%	71			70-130	Pass	
Fluoranthene	%	82			70-130	Pass	
Fluorene	%	89			70-130	Pass	
Indeno(1.2.3-cd)pyrene	%	71			70-130	Pass	
Naphthalene	%	88			70-130	Pass	
Phenanthrene	%	90			70-130	Pass	
Pyrene	%	92			70-130	Pass	
LCS - % Recovery							
Organochlorine Pesticides							
Chlordanes - Total	%	91			70-130	Pass	
4.4'-DDD	%	88			70-130	Pass	
4.4'-DDE	%	75			70-130	Pass	
4.4'-DDT	%	77			70-130	Pass	
a-BHC	%	84			70-130	Pass	
Aldrin	%	87			70-130	Pass	
b-BHC	%	82			70-130	Pass	
d-BHC	%	83			70-130	Pass	
Dieldrin	%	86			70-130	Pass	
Endosulfan I	%	86			70-130	Pass	
Endosulfan II	%	85			70-130	Pass	
Endosulfan sulphate	%	86			70-130	Pass	
Endrin	%	86			70-130	Pass	
Endrin aldehyde	%	73			70-130	Pass	
Endrin ketone	%	87			70-130	Pass	
g-BHC (Lindane)	%	85			70-130	Pass	
Heptachlor	%	73			70-130	Pass	
Heptachlor epoxide	%	86			70-130	Pass	
Hexachlorobenzene	%	88			70-130	Pass	
Methoxychlor	%	92			70-130	Pass	
Toxaphene	%	90			70-130	Pass	
LCS - % Recovery							
Organophosphorus Pesticides							

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Diazinon	%	95			70-130	Pass	
Dimethoate	%	89			70-130	Pass	
Ethion	%	115			70-130	Pass	
Fenitrothion	%	98			70-130	Pass	
Methyl parathion	%	79			70-130	Pass	
Mevinphos	%	98			70-130	Pass	
LCS - % Recovery							
Polychlorinated Biphenyls							
Aroclor-1260	%	71			70-130	Pass	
LCS - % Recovery							
Phenols (Halogenated)							
2-Chlorophenol	%	87			30-130	Pass	
2.4-Dichlorophenol	%	84			30-130	Pass	
2.4.5-Trichlorophenol	%	95			30-130	Pass	
2.4.6-Trichlorophenol	%	82			30-130	Pass	
2.6-Dichlorophenol	%	80			30-130	Pass	
4-Chloro-3-methylphenol	%	91			30-130	Pass	
Pentachlorophenol	%	71			30-130	Pass	
Tetrachlorophenols - Total	%	81			30-130	Pass	
LCS - % Recovery							
Phenols (non-Halogenated)							
2-Cyclohexyl-4.6-dinitrophenol	%	70			30-130	Pass	
2-Methyl-4.6-dinitrophenol	%	80			30-130	Pass	
2-Methylphenol (o-Cresol)	%	85			30-130	Pass	
2-Nitrophenol	%	86			30-130	Pass	
2.4-Dimethylphenol	%	88			30-130	Pass	
3&4-Methylphenol (m&p-Cresol)	%	95			30-130	Pass	
4-Nitrophenol	%	83			30-130	Pass	
Dinoseb	%	129			30-130	Pass	
Phenol	%	87			30-130	Pass	
LCS - % Recovery							
Heavy Metals							
Arsenic	%	107			70-130	Pass	
Cadmium	%	111			70-130	Pass	
Chromium	%	114			70-130	Pass	
Copper	%	117			70-130	Pass	
Lead	%	116			70-130	Pass	
Mercury	%	109			70-130	Pass	
Nickel	%	114			70-130	Pass	
Zinc	%	112			70-130	Pass	

Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Spike - % Recovery									
Total Recoverable Hydrocarbons - 1999 NEPM Fractions				Result 1					
TRH C10-C14	S19-Se32501	CP	%	99			70-130	Pass	
Spike - % Recovery									
Total Recoverable Hydrocarbons - 2013 NEPM Fractions				Result 1					
TRH >C10-C16	S19-Se32501	CP	%	96			70-130	Pass	
Spike - % Recovery									
Polycyclic Aromatic Hydrocarbons				Result 1					
Acenaphthene	S19-Se32501	CP	%	82			70-130	Pass	
Acenaphthylene	S19-Se32501	CP	%	86			70-130	Pass	
Anthracene	S19-Se32501	CP	%	79			70-130	Pass	
Benz(a)anthracene	S19-Se32501	CP	%	89			70-130	Pass	
Benzo(a)pyrene	S19-Se32501	CP	%	85			70-130	Pass	

Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Benzo(b&j)fluoranthene	S19-Se32501	CP	%	83			70-130	Pass	
Benzo(g.h.i)perylene	S19-Se32501	CP	%	78			70-130	Pass	
Benzo(k)fluoranthene	S19-Se32501	CP	%	95			70-130	Pass	
Chrysene	S19-Se32501	CP	%	88			70-130	Pass	
Dibenz(a.h)anthracene	S19-Se32501	CP	%	83			70-130	Pass	
Fluoranthene	S19-Se32501	CP	%	90			70-130	Pass	
Fluorene	S19-Se32501	CP	%	87			70-130	Pass	
Indeno(1.2.3-cd)pyrene	S19-Se32501	CP	%	84			70-130	Pass	
Naphthalene	S19-Se32501	CP	%	82			70-130	Pass	
Phenanthrene	S19-Se32501	CP	%	77			70-130	Pass	
Pyrene	S19-Se32501	CP	%	88			70-130	Pass	
Spike - % Recovery									
Phenols (Halogenated)				Result 1					
2-Chlorophenol	S19-Se32501	CP	%	84			30-130	Pass	
2.4-Dichlorophenol	S19-Se32501	CP	%	88			30-130	Pass	
2.4.5-Trichlorophenol	S19-Se32501	CP	%	85			30-130	Pass	
2.4.6-Trichlorophenol	S19-Se32501	CP	%	91			30-130	Pass	
2.6-Dichlorophenol	S19-Se32501	CP	%	88			30-130	Pass	
4-Chloro-3-methylphenol	S19-Se32501	CP	%	87			30-130	Pass	
Pentachlorophenol	S19-Se32501	CP	%	92			30-130	Pass	
Tetrachlorophenols - Total	S19-Se32501	CP	%	87			30-130	Pass	
Spike - % Recovery									
Phenols (non-Halogenated)				Result 1					
2-Cyclohexyl-4.6-dinitrophenol	S19-Se32501	CP	%	92			30-130	Pass	
2-Methylphenol (o-Cresol)	S19-Se32501	CP	%	78			30-130	Pass	
2-Nitrophenol	S19-Se32501	CP	%	88			30-130	Pass	
2.4-Dimethylphenol	S19-Se32501	CP	%	89			30-130	Pass	
2.4-Dinitrophenol	S19-Se32501	CP	%	124			70-130	Pass	
3&4-Methylphenol (m&p-Cresol)	S19-Se32501	CP	%	84			30-130	Pass	
4-Nitrophenol	S19-Se32501	CP	%	81			30-130	Pass	
Dinoseb	S19-Se32501	CP	%	92			30-130	Pass	
Phenol	S19-Se32501	CP	%	82			30-130	Pass	
Spike - % Recovery									
Organochlorine Pesticides				Result 1					
Chlordanes - Total	S19-Au43309	NCP	%	101			70-130	Pass	
4.4'-DDT	S19-Au43309	NCP	%	79			70-130	Pass	
Endrin	S19-Au43309	NCP	%	87			70-130	Pass	
Endrin aldehyde	S19-Au43309	NCP	%	114			70-130	Pass	
Heptachlor	S19-Au43309	NCP	%	96			70-130	Pass	
Hexachlorobenzene	S19-Au43309	NCP	%	97			70-130	Pass	
Methoxychlor	S19-Au43309	NCP	%	80			70-130	Pass	
Toxaphene	S19-Au32511	NCP	%	113			70-130	Pass	
Spike - % Recovery									
Polychlorinated Biphenyls				Result 1					
Aroclor-1260	S19-Se28031	NCP	%	71			70-130	Pass	
Spike - % Recovery									
Total Recoverable Hydrocarbons - 1999 NEPM Fractions				Result 1					
TRH C6-C9	S19-Se32504	CP	%	121			70-130	Pass	
Spike - % Recovery									
BTEX				Result 1					
Benzene	S19-Se32504	CP	%	115			70-130	Pass	
Toluene	S19-Se32504	CP	%	114			70-130	Pass	
Ethylbenzene	S19-Se32504	CP	%	127			70-130	Pass	
m&p-Xylenes	S19-Se32504	CP	%	127			70-130	Pass	

Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
o-Xylene	S19-Se32504	CP	%	116			70-130	Pass	
Xylenes - Total	S19-Se32504	CP	%	124			70-130	Pass	
Spike - % Recovery									
Volatile Organics				Result 1					
1.1-Dichloroethene	S19-Se32504	CP	%	116			70-130	Pass	
1.1.1-Trichloroethane	S19-Se32504	CP	%	97			70-130	Pass	
1.2-Dichlorobenzene	S19-Se32504	CP	%	121			70-130	Pass	
1.2-Dichloroethane	S19-Se32504	CP	%	84			70-130	Pass	
Trichloroethene	S19-Se32504	CP	%	104			70-130	Pass	
Spike - % Recovery									
Total Recoverable Hydrocarbons - 2013 NEPM Fractions				Result 1					
Naphthalene	S19-Se32504	CP	%	104			70-130	Pass	
TRH C6-C10	S19-Se32504	CP	%	126			70-130	Pass	
Spike - % Recovery									
Organochlorine Pesticides				Result 1					
4.4'-DDD	S19-Se32504	CP	%	91			70-130	Pass	
4.4'-DDE	S19-Se32504	CP	%	73			70-130	Pass	
a-BHC	S19-Se32504	CP	%	79			70-130	Pass	
Aldrin	S19-Se32504	CP	%	72			70-130	Pass	
b-BHC	S19-Se32504	CP	%	71			70-130	Pass	
d-BHC	S19-Se32504	CP	%	71			70-130	Pass	
Dieldrin	S19-Se32504	CP	%	74			70-130	Pass	
Endosulfan I	S19-Se32504	CP	%	73			70-130	Pass	
Endosulfan II	S19-Se32504	CP	%	80			70-130	Pass	
Endosulfan sulphate	S19-Se32504	CP	%	83			70-130	Pass	
Endrin ketone	S19-Se32504	CP	%	91			70-130	Pass	
g-BHC (Lindane)	S19-Se32504	CP	%	75			70-130	Pass	
Heptachlor epoxide	S19-Se32504	CP	%	74			70-130	Pass	
Spike - % Recovery									
Phenols (non-Halogenated)				Result 1					
2-Methyl-4.6-dinitrophenol	S19-Se30316	NCP	%	72			30-130	Pass	
Spike - % Recovery									
Organophosphorus Pesticides				Result 1					
Diazinon	S19-Se30316	NCP	%	124			70-130	Pass	
Dimethoate	S19-Se30316	NCP	%	84			70-130	Pass	
Ethion	S19-Se29314	NCP	%	93			70-130	Pass	
Fenitrothion	S19-Se30316	NCP	%	108			70-130	Pass	
Methyl parathion	S19-Se29314	NCP	%	82			70-130	Pass	
Mevinphos	S19-Se29314	NCP	%	117			70-130	Pass	
Spike - % Recovery									
Heavy Metals				Result 1					
Arsenic	S19-Se32515	CP	%	94			70-130	Pass	
Cadmium	S19-Se32515	CP	%	87			70-130	Pass	
Chromium	S19-Se32515	CP	%	95			70-130	Pass	
Copper	S19-Se32515	CP	%	118			70-130	Pass	
Lead	S19-Se32515	CP	%	106			70-130	Pass	
Mercury	S19-Se32515	CP	%	104			70-130	Pass	
Nickel	S19-Se32515	CP	%	105			70-130	Pass	
Zinc	S19-Se32515	CP	%	94			70-130	Pass	
Spike - % Recovery									
Total Recoverable Hydrocarbons - 1999 NEPM Fractions				Result 1					
TRH C10-C14	S19-Se32523	CP	%	96			70-130	Pass	
Spike - % Recovery									
Total Recoverable Hydrocarbons - 2013 NEPM Fractions				Result 1					

Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
TRH >C10-C16	S19-Se32523	CP	%	94			70-130	Pass	
Spike - % Recovery									
Polycyclic Aromatic Hydrocarbons				Result 1					
Acenaphthene	S19-Se32523	CP	%	93			70-130	Pass	
Acenaphthylene	S19-Se32523	CP	%	86			70-130	Pass	
Anthracene	S19-Se32523	CP	%	99			70-130	Pass	
Benz(a)anthracene	S19-Se32523	CP	%	84			70-130	Pass	
Benzo(a)pyrene	S19-Se32523	CP	%	94			70-130	Pass	
Benzo(b&j)fluoranthene	S19-Se32523	CP	%	99			70-130	Pass	
Benzo(k)fluoranthene	S19-Se32523	CP	%	97			70-130	Pass	
Chrysene	S19-Se32523	CP	%	94			70-130	Pass	
Dibenz(a.h)anthracene	S19-Se32523	CP	%	81			70-130	Pass	
Fluoranthene	S19-Se32523	CP	%	84			70-130	Pass	
Fluorene	S19-Se32523	CP	%	92			70-130	Pass	
Naphthalene	S19-Se32523	CP	%	91			70-130	Pass	
Phenanthrene	S19-Se32523	CP	%	96			70-130	Pass	
Pyrene	S19-Se32523	CP	%	94			70-130	Pass	
Spike - % Recovery									
Phenols (Halogenated)				Result 1					
2-Chlorophenol	S19-Se32523	CP	%	92			30-130	Pass	
2.4-Dichlorophenol	S19-Se32523	CP	%	98			30-130	Pass	
2.4.5-Trichlorophenol	S19-Se32523	CP	%	83			30-130	Pass	
2.4.6-Trichlorophenol	S19-Se32523	CP	%	83			30-130	Pass	
2.6-Dichlorophenol	S19-Se32523	CP	%	81			30-130	Pass	
4-Chloro-3-methylphenol	S19-Se32523	CP	%	89			30-130	Pass	
Pentachlorophenol	S19-Se32523	CP	%	92			30-130	Pass	
Tetrachlorophenols - Total	S19-Se32523	CP	%	88			30-130	Pass	
Spike - % Recovery									
Phenols (non-Halogenated)				Result 1					
2-Methylphenol (o-Cresol)	S19-Se32523	CP	%	86			30-130	Pass	
2-Nitrophenol	S19-Se32523	CP	%	89			30-130	Pass	
2.4-Dimethylphenol	S19-Se32523	CP	%	86			30-130	Pass	
3&4-Methylphenol (m&p-Cresol)	S19-Se32523	CP	%	103			30-130	Pass	
4-Nitrophenol	S19-Se32523	CP	%	82			30-130	Pass	
Dinoseb	S19-Se32523	CP	%	75			30-130	Pass	
Phenol	S19-Se32523	CP	%	86			30-130	Pass	
Spike - % Recovery									
Heavy Metals				Result 1					
Chromium	S19-Se32525	CP	%	83			70-130	Pass	
Lead	S19-Se32525	CP	%	96			70-130	Pass	
Mercury	S19-Se32525	CP	%	78			70-130	Pass	
Nickel	S19-Se32525	CP	%	77			70-130	Pass	
Spike - % Recovery									
Total Recoverable Hydrocarbons - 1999 NEPM Fractions				Result 1					
TRH C6-C9	S19-Se32533	CP	%	91			70-130	Pass	
Spike - % Recovery									
BTEX				Result 1					
Benzene	S19-Se32533	CP	%	93			70-130	Pass	
Toluene	S19-Se32533	CP	%	91			70-130	Pass	
Ethylbenzene	S19-Se32533	CP	%	89			70-130	Pass	
m&p-Xylenes	S19-Se32533	CP	%	90			70-130	Pass	
o-Xylene	S19-Se32533	CP	%	89			70-130	Pass	
Xylenes - Total	S19-Se32533	CP	%	90			70-130	Pass	
Spike - % Recovery									

Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Total Recoverable Hydrocarbons - 2013 NEPM Fractions				Result 1					
Naphthalene	S19-Se32533	CP	%	96			70-130	Pass	
TRH C6-C10	S19-Se32533	CP	%	91			70-130	Pass	
Spike - % Recovery									
Total Recoverable Hydrocarbons - 1999 NEPM Fractions				Result 1					
TRH C6-C9	S19-Se32543	CP	%	112			70-130	Pass	
Spike - % Recovery									
BTEX				Result 1					
Benzene	S19-Se32543	CP	%	117			70-130	Pass	
Toluene	S19-Se32543	CP	%	120			70-130	Pass	
Ethylbenzene	S19-Se32543	CP	%	130			70-130	Pass	
m&p-Xylenes	S19-Se32543	CP	%	128			70-130	Pass	
o-Xylene	S19-Se32543	CP	%	118			70-130	Pass	
Xylenes - Total	S19-Se32543	CP	%	125			70-130	Pass	
Spike - % Recovery									
Volatile Organics				Result 1					
1.1-Dichloroethene	S19-Se32543	CP	%	117			70-130	Pass	
1.1.1-Trichloroethane	S19-Se32543	CP	%	111			70-130	Pass	
1.2-Dichlorobenzene	S19-Se32543	CP	%	118			70-130	Pass	
1.2-Dichloroethane	S19-Se32543	CP	%	102			70-130	Pass	
Trichloroethene	S19-Se32543	CP	%	107			70-130	Pass	
Spike - % Recovery									
Total Recoverable Hydrocarbons - 2013 NEPM Fractions				Result 1					
Naphthalene	S19-Se32543	CP	%	91			70-130	Pass	
TRH C6-C10	S19-Se32543	CP	%	113			70-130	Pass	
Spike - % Recovery									
Polycyclic Aromatic Hydrocarbons				Result 1					
Acenaphthene	S19-Se32543	CP	%	79			70-130	Pass	
Acenaphthylene	S19-Se32543	CP	%	84			70-130	Pass	
Anthracene	S19-Se32543	CP	%	84			70-130	Pass	
Benz(a)anthracene	S19-Se32543	CP	%	82			70-130	Pass	
Benzo(a)pyrene	S19-Se32543	CP	%	80			70-130	Pass	
Benzo(b&j)fluoranthene	S19-Se32543	CP	%	86			70-130	Pass	
Benzo(k)fluoranthene	S19-Se32543	CP	%	89			70-130	Pass	
Chrysene	S19-Se32543	CP	%	84			70-130	Pass	
Fluoranthene	S19-Se32543	CP	%	94			70-130	Pass	
Fluorene	S19-Se32543	CP	%	86			70-130	Pass	
Naphthalene	S19-Se32543	CP	%	75			70-130	Pass	
Phenanthrene	S19-Se32543	CP	%	85			70-130	Pass	
Pyrene	S19-Se32543	CP	%	95			70-130	Pass	
Spike - % Recovery									
Phenols (Halogenated)				Result 1					
2-Chlorophenol	S19-Se32543	CP	%	82			30-130	Pass	
2.4-Dichlorophenol	S19-Se32543	CP	%	79			30-130	Pass	
2.4.5-Trichlorophenol	S19-Se32543	CP	%	83			30-130	Pass	
2.4.6-Trichlorophenol	S19-Se32543	CP	%	82			30-130	Pass	
2.6-Dichlorophenol	S19-Se32543	CP	%	88			30-130	Pass	
4-Chloro-3-methylphenol	S19-Se32543	CP	%	85			30-130	Pass	
Pentachlorophenol	S19-Se32543	CP	%	82			30-130	Pass	
Tetrachlorophenols - Total	S19-Se32543	CP	%	87			30-130	Pass	
Spike - % Recovery									
Phenols (non-Halogenated)				Result 1					
2-Methylphenol (o-Cresol)	S19-Se32543	CP	%	70			30-130	Pass	
2-Nitrophenol	S19-Se32543	CP	%	78			30-130	Pass	

Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
2.4-Dimethylphenol	S19-Se32543	CP	%	81			30-130	Pass	
3&4-Methylphenol (m&p-Cresol)	S19-Se32543	CP	%	78			30-130	Pass	
4-Nitrophenol	S19-Se32543	CP	%	73			30-130	Pass	
Phenol	S19-Se32543	CP	%	74			30-130	Pass	
Spike - % Recovery									
Heavy Metals				Result 1					
Arsenic	S19-Se32545	CP	%	92			70-130	Pass	
Cadmium	S19-Se32545	CP	%	101			70-130	Pass	
Chromium	S19-Se32545	CP	%	94			70-130	Pass	
Lead	S19-Se32545	CP	%	87			70-130	Pass	
Mercury	S19-Se32545	CP	%	109			70-130	Pass	
Nickel	S19-Se32545	CP	%	78			70-130	Pass	
Test	**Lab Sample ID**	**QA Source**	**Units**	**Result 1**			**Acceptance Limits**	**Pass Limits**	**Qualifying Code**
Duplicate									
Total Recoverable Hydrocarbons - 1999 NEPM Fractions				Result 1	Result 2	RPD			
TRH C10-C14	S19-Se32500	CP	mg/kg	< 20	< 20	<1	30%	Pass	
TRH C15-C28	S19-Se32500	CP	mg/kg	< 50	< 50	<1	30%	Pass	
TRH C29-C36	S19-Se32500	CP	mg/kg	< 50	< 50	<1	30%	Pass	
Duplicate									
Total Recoverable Hydrocarbons - 2013 NEPM Fractions				Result 1	Result 2	RPD			
TRH >C10-C16	S19-Se32500	CP	mg/kg	< 50	< 50	<1	30%	Pass	
TRH >C16-C34	S19-Se32500	CP	mg/kg	< 100	< 100	<1	30%	Pass	
TRH >C34-C40	S19-Se32500	CP	mg/kg	< 100	< 100	<1	30%	Pass	
Duplicate									
Polycyclic Aromatic Hydrocarbons				Result 1	Result 2	RPD			
Acenaphthene	S19-Se32500	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Acenaphthylene	S19-Se32500	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Anthracene	S19-Se32500	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benz(a)anthracene	S19-Se32500	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benzo(a)pyrene	S19-Se32500	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benzo(b&j)fluoranthene	S19-Se32500	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benzo(g.h.i)perylene	S19-Se32500	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benzo(k)fluoranthene	S19-Se32500	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Chrysene	S19-Se32500	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Dibenz(a.h)anthracene	S19-Se32500	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Fluoranthene	S19-Se32500	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Fluorene	S19-Se32500	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Indeno(1.2.3-cd)pyrene	S19-Se32500	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Naphthalene	S19-Se32500	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Phenanthrene	S19-Se32500	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Pyrene	S19-Se32500	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Duplicate									
Phenols (Halogenated)				Result 1	Result 2	RPD			
2-Chlorophenol	S19-Se32500	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
2.4-Dichlorophenol	S19-Se32500	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
2.4.5-Trichlorophenol	S19-Se32500	CP	mg/kg	< 1	< 1	<1	30%	Pass	
2.4.6-Trichlorophenol	S19-Se32500	CP	mg/kg	< 1	< 1	<1	30%	Pass	
2.6-Dichlorophenol	S19-Se32500	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
4-Chloro-3-methylphenol	S19-Se32500	CP	mg/kg	< 1	< 1	<1	30%	Pass	
Pentachlorophenol	S19-Se32500	CP	mg/kg	< 1	< 1	<1	30%	Pass	
Tetrachlorophenols - Total	S19-Se32500	CP	mg/kg	< 10	< 10	<1	30%	Pass	

Duplicate									
Phenols (non-Halogenated)				Result 1	Result 2	RPD			
2-Cyclohexyl-4.6-dinitrophenol	S19-Se32500	CP	mg/kg	< 20	< 20	<1	30%	Pass	
2-Methyl-4.6-dinitrophenol	S19-Se32500	CP	mg/kg	< 5	< 5	<1	30%	Pass	
2-Methylphenol (o-Cresol)	S19-Se32500	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
2-Nitrophenol	S19-Se32500	CP	mg/kg	< 1	< 1	<1	30%	Pass	
2.4-Dimethylphenol	S19-Se32500	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
2.4-Dinitrophenol	S19-Se32500	CP	mg/kg	< 5	< 5	<1	30%	Pass	
3&4-Methylphenol (m&p-Cresol)	S19-Se32500	CP	mg/kg	< 0.4	< 0.4	<1	30%	Pass	
4-Nitrophenol	S19-Se32500	CP	mg/kg	< 5	< 5	<1	30%	Pass	
Dinoseb	S19-Se32500	CP	mg/kg	< 20	< 20	<1	30%	Pass	
Phenol	S19-Se32500	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Duplicate									
				Result 1	Result 2	RPD			
% Moisture	S19-Se32500	CP	%	25	24	6.0	30%	Pass	
Duplicate									
Organochlorine Pesticides				Result 1	Result 2	RPD			
Chlordanes - Total	S19-Se32502	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
4.4'-DDD	S19-Se32502	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
4.4'-DDE	S19-Se32502	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
4.4'-DDT	S19-Se32502	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
a-BHC	S19-Se32502	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Aldrin	S19-Se32502	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
b-BHC	S19-Se32502	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
d-BHC	S19-Se32502	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Dieldrin	S19-Se32502	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Endosulfan I	S19-Se32502	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Endosulfan II	S19-Se32502	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Endosulfan sulphate	S19-Se32502	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Endrin	S19-Se32502	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Endrin aldehyde	S19-Se32502	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Endrin ketone	S19-Se32502	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
g-BHC (Lindane)	S19-Se32502	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Heptachlor	S19-Se32502	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Heptachlor epoxide	S19-Se32502	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Hexachlorobenzene	S19-Se32502	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Methoxychlor	S19-Se32502	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Toxaphene	S19-Se32502	CP	mg/kg	< 1	< 1	<1	30%	Pass	
Duplicate									
Polychlorinated Biphenyls				Result 1	Result 2	RPD			
Aroclor-1016	S19-Se32502	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Aroclor-1221	S19-Se32502	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Aroclor-1232	S19-Se32502	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Aroclor-1242	S19-Se32502	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Aroclor-1248	S19-Se32502	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Aroclor-1254	S19-Se32502	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Aroclor-1260	S19-Se32502	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Duplicate									
Total Recoverable Hydrocarbons - 1999 NEPM Fractions				Result 1	Result 2	RPD			
TRH C6-C9	S19-Se32512	CP	mg/kg	< 20	< 20	<1	30%	Pass	
Duplicate									
BTEX				Result 1	Result 2	RPD			
Benzene	S19-Se32512	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Toluene	S19-Se32512	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Ethylbenzene	S19-Se32512	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
m&p-Xylenes	S19-Se32512	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	

Duplicate									
BTEX				Result 1	Result 2	RPD			
o-Xylene	S19-Se32512	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Xylenes - Total	S19-Se32512	CP	mg/kg	< 0.3	< 0.3	<1	30%	Pass	
Duplicate									
Total Recoverable Hydrocarbons - 2013 NEPM Fractions				Result 1	Result 2	RPD			
Naphthalene	S19-Se32512	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
TRH C6-C10	S19-Se32512	CP	mg/kg	< 20	< 20	<1	30%	Pass	
Duplicate									
Polycyclic Aromatic Hydrocarbons				Result 1	Result 2	RPD			
Acenaphthene	S19-Se32512	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Acenaphthylene	S19-Se32512	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Anthracene	S19-Se32512	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benz(a)anthracene	S19-Se32512	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benzo(a)pyrene	S19-Se32512	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benzo(b&j)fluoranthene	S19-Se32512	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benzo(g.h.i)perylene	S19-Se32512	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benzo(k)fluoranthene	S19-Se32512	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Chrysene	S19-Se32512	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Dibenz(a.h)anthracene	S19-Se32512	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Fluoranthene	S19-Se32512	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Fluorene	S19-Se32512	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Indeno(1.2.3-cd)pyrene	S19-Se32512	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Naphthalene	S19-Se32512	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Phenanthrene	S19-Se32512	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Pyrene	S19-Se32512	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Duplicate									
Phenols (Halogenated)				Result 1	Result 2	RPD			
2-Chlorophenol	S19-Se32512	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
2.4-Dichlorophenol	S19-Se32512	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
2.4.5-Trichlorophenol	S19-Se32512	CP	mg/kg	< 1	< 1	<1	30%	Pass	
2.4.6-Trichlorophenol	S19-Se32512	CP	mg/kg	< 1	< 1	<1	30%	Pass	
2.6-Dichlorophenol	S19-Se32512	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
4-Chloro-3-methylphenol	S19-Se32512	CP	mg/kg	< 1	< 1	<1	30%	Pass	
Pentachlorophenol	S19-Se32512	CP	mg/kg	< 1	< 1	<1	30%	Pass	
Tetrachlorophenols - Total	S19-Se32512	CP	mg/kg	< 10	< 10	<1	30%	Pass	
Duplicate									
Phenols (non-Halogenated)				Result 1	Result 2	RPD			
2-Cyclohexyl-4.6-dinitrophenol	S19-Se32512	CP	mg/kg	< 20	< 20	<1	30%	Pass	
2-Methyl-4.6-dinitrophenol	S19-Se32512	CP	mg/kg	< 5	< 5	<1	30%	Pass	
2-Methylphenol (o-Cresol)	S19-Se32512	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
2-Nitrophenol	S19-Se32512	CP	mg/kg	< 1	< 1	<1	30%	Pass	
2.4-Dimethylphenol	S19-Se32512	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
2.4-Dinitrophenol	S19-Se32512	CP	mg/kg	< 5	< 5	<1	30%	Pass	
3&4-Methylphenol (m&p-Cresol)	S19-Se32512	CP	mg/kg	< 0.4	< 0.4	<1	30%	Pass	
4-Nitrophenol	S19-Se32512	CP	mg/kg	< 5	< 5	<1	30%	Pass	
Dinoseb	S19-Se32512	CP	mg/kg	< 20	< 20	<1	30%	Pass	
Phenol	S19-Se32512	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Duplicate									
				Result 1	Result 2	RPD			
% Moisture	S19-Se32514	CP	%	11	11	1.0	30%	Pass	
Duplicate									
Total Recoverable Hydrocarbons - 1999 NEPM Fractions				Result 1	Result 2	RPD			
TRH C6-C9	S19-Se32522	CP	mg/kg	< 20	< 20	<1	30%	Pass	
TRH C10-C14	S19-Se32522	CP	mg/kg	< 20	< 20	<1	30%	Pass	
TRH C15-C28	S19-Se32522	CP	mg/kg	< 50	< 50	<1	30%	Pass	
TRH C29-C36	S19-Se32522	CP	mg/kg	55	60	9.0	30%	Pass	

Duplicate									
BTEX				Result 1	Result 2	RPD			
Benzene	S19-Se32522	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Toluene	S19-Se32522	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Ethylbenzene	S19-Se32522	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
m&p-Xylenes	S19-Se32522	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
o-Xylene	S19-Se32522	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Xylenes - Total	S19-Se32522	CP	mg/kg	< 0.3	< 0.3	<1	30%	Pass	
Duplicate									
Volatile Organics				Result 1	Result 2	RPD			
1.1-Dichloroethane	S19-Se32522	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
1.1-Dichloroethene	S19-Se32522	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
1.1.1-Trichloroethane	S19-Se32522	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
1.1.1.2-Tetrachloroethane	S19-Se32522	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
1.1.2-Trichloroethane	S19-Se32522	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
1.1.2.2-Tetrachloroethane	S19-Se32522	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
1.2-Dibromoethane	S19-Se32522	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
1.2-Dichlorobenzene	S19-Se32522	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
1.2-Dichloroethane	S19-Se32522	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
1.2-Dichloropropane	S19-Se32522	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
1.2.3-Trichloropropane	S19-Se32522	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
1.2.4-Trimethylbenzene	S19-Se32522	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
1.3-Dichlorobenzene	S19-Se32522	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
1.3-Dichloropropane	S19-Se32522	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
1.3.5-Trimethylbenzene	S19-Se32522	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
1.4-Dichlorobenzene	S19-Se32522	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
2-Butanone (MEK)	S19-Se32522	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
2-Propanone (Acetone)	S19-Se32522	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
4-Chlorotoluene	S19-Se32522	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
4-Methyl-2-pentanone (MIBK)	S19-Se32522	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Allyl chloride	S19-Se32522	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Bromobenzene	S19-Se32522	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Bromochloromethane	S19-Se32522	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Bromodichloromethane	S19-Se32522	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Bromoform	S19-Se32522	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Bromomethane	S19-Se32522	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Carbon disulfide	S19-Se32522	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Carbon Tetrachloride	S19-Se32522	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Chlorobenzene	S19-Se32522	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Chloroethane	S19-Se32522	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Chloroform	S19-Se32522	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Chloromethane	S19-Se32522	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
cis-1.2-Dichloroethene	S19-Se32522	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
cis-1.3-Dichloropropene	S19-Se32522	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Dibromochloromethane	S19-Se32522	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Dibromomethane	S19-Se32522	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Dichlorodifluoromethane	S19-Se32522	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Iodomethane	S19-Se32522	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Isopropyl benzene (Cumene)	S19-Se32522	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Methylene Chloride	S19-Se32522	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Styrene	S19-Se32522	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Tetrachloroethene	S19-Se32522	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
trans-1.2-Dichloroethene	S19-Se32522	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
trans-1.3-Dichloropropene	S19-Se32522	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Trichloroethene	S19-Se32522	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Trichlorofluoromethane	S19-Se32522	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Vinyl chloride	S19-Se32522	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	

Duplicate									
Total Recoverable Hydrocarbons - 2013 NEPM Fractions				Result 1	Result 2	RPD			
Naphthalene	S19-Se32522	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
TRH C6-C10	S19-Se32522	CP	mg/kg	< 20	< 20	<1	30%	Pass	
TRH >C10-C16	S19-Se32522	CP	mg/kg	< 50	< 50	<1	30%	Pass	
TRH >C16-C34	S19-Se32522	CP	mg/kg	< 100	< 100	<1	30%	Pass	
TRH >C34-C40	S19-Se32522	CP	mg/kg	< 100	< 100	<1	30%	Pass	
Duplicate									
Polycyclic Aromatic Hydrocarbons				Result 1	Result 2	RPD			
Acenaphthene	S19-Se32522	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Acenaphthylene	S19-Se32522	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Anthracene	S19-Se32522	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benz(a)anthracene	S19-Se32522	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benzo(a)pyrene	S19-Se32522	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benzo(b&j)fluoranthene	S19-Se32522	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benzo(g.h.i)perylene	S19-Se32522	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benzo(k)fluoranthene	S19-Se32522	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Chrysene	S19-Se32522	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Dibenz(a.h)anthracene	S19-Se32522	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Fluoranthene	S19-Se32522	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Fluorene	S19-Se32522	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Indeno(1.2.3-cd)pyrene	S19-Se32522	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Naphthalene	S19-Se32522	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Phenanthrene	S19-Se32522	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Pyrene	S19-Se32522	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Duplicate									
Organophosphorus Pesticides				Result 1	Result 2	RPD			
Azinphos-methyl	S19-Se32522	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Bolstar	S19-Se32522	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Chlorfenvinphos	S19-Se32522	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Chlorpyrifos	S19-Se32522	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Chlorpyrifos-methyl	S19-Se32522	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Coumaphos	S19-Se32522	CP	mg/kg	< 2	< 2	<1	30%	Pass	
Demeton-S	S19-Se32522	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Demeton-O	S19-Se32522	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Diazinon	S19-Se32522	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Dichlorvos	S19-Se32522	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Dimethoate	S19-Se32522	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Disulfoton	S19-Se32522	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
EPN	S19-Se32522	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Ethion	S19-Se32522	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Ethoprop	S19-Se32522	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Ethyl parathion	S19-Se32522	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Fenitrothion	S19-Se32522	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Fensulfothion	S19-Se32522	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Fenthion	S19-Se32522	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Malathion	S19-Se32522	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Merphos	S19-Se32522	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Methyl parathion	S19-Se32522	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Mevinphos	S19-Se32522	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Monocrotophos	S19-Se32522	CP	mg/kg	< 2	< 2	<1	30%	Pass	
Naled	S19-Se32522	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Omethoate	S19-Se32522	CP	mg/kg	< 2	< 2	<1	30%	Pass	
Phorate	S19-Se32522	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Pirimiphos-methyl	S19-Se32522	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Pyrazophos	S19-Se32522	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	

Duplicate									
Organophosphorus Pesticides				Result 1	Result 2	RPD			
Ronnel	S19-Se32522	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Terbufos	S19-Se32522	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Tetrachlorvinphos	S19-Se32522	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Tokuthion	S19-Se32522	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Trichloronate	S19-Se32522	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Duplicate									
Phenols (Halogenated)				Result 1	Result 2	RPD			
2-Chlorophenol	S19-Se32522	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
2.4-Dichlorophenol	S19-Se32522	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
2.4.5-Trichlorophenol	S19-Se32522	CP	mg/kg	< 1	< 1	<1	30%	Pass	
2.4.6-Trichlorophenol	S19-Se32522	CP	mg/kg	< 1	< 1	<1	30%	Pass	
2.6-Dichlorophenol	S19-Se32522	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
4-Chloro-3-methylphenol	S19-Se32522	CP	mg/kg	< 1	< 1	<1	30%	Pass	
Pentachlorophenol	S19-Se32522	CP	mg/kg	< 1	< 1	<1	30%	Pass	
Tetrachlorophenols - Total	S19-Se32522	CP	mg/kg	< 10	< 10	<1	30%	Pass	
Duplicate									
Phenols (non-Halogenated)				Result 1	Result 2	RPD			
2-Cyclohexyl-4.6-dinitrophenol	S19-Se32522	CP	mg/kg	< 20	< 20	<1	30%	Pass	
2-Methyl-4.6-dinitrophenol	S19-Se32522	CP	mg/kg	< 5	< 5	<1	30%	Pass	
2-Methylphenol (o-Cresol)	S19-Se32522	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
2-Nitrophenol	S19-Se32522	CP	mg/kg	< 1	< 1	<1	30%	Pass	
2.4-Dimethylphenol	S19-Se32522	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
2.4-Dinitrophenol	S19-Se32522	CP	mg/kg	< 5	< 5	<1	30%	Pass	
3&4-Methylphenol (m&p-Cresol)	S19-Se32522	CP	mg/kg	< 0.4	< 0.4	<1	30%	Pass	
4-Nitrophenol	S19-Se32522	CP	mg/kg	< 5	< 5	<1	30%	Pass	
Dinoseb	S19-Se32522	CP	mg/kg	< 20	< 20	<1	30%	Pass	
Phenol	S19-Se32522	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Duplicate									
Heavy Metals				Result 1	Result 2	RPD			
Arsenic	S19-Se32524	CP	mg/kg	6.2	6.5	4.0	30%	Pass	
Cadmium	S19-Se32524	CP	mg/kg	< 0.4	< 0.4	<1	30%	Pass	
Chromium	S19-Se32524	CP	mg/kg	16	15	5.0	30%	Pass	
Copper	S19-Se32524	CP	mg/kg	34	35	3.0	30%	Pass	
Lead	S19-Se32524	CP	mg/kg	14	13	12	30%	Pass	
Mercury	S19-Se32524	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Nickel	S19-Se32524	CP	mg/kg	13	13	2.0	30%	Pass	
Zinc	S19-Se32524	CP	mg/kg	62	62	<1	30%	Pass	
Duplicate									
				Result 1	Result 2	RPD			
% Moisture	S19-Se32524	CP	%	20	19	5.0	30%	Pass	
Duplicate									
Total Recoverable Hydrocarbons - 1999 NEPM Fractions				Result 1	Result 2	RPD			
TRH C10-C14	S19-Se32527	CP	mg/kg	< 20	< 20	<1	30%	Pass	
TRH C15-C28	S19-Se32527	CP	mg/kg	< 50	< 50	<1	30%	Pass	
TRH C29-C36	S19-Se32527	CP	mg/kg	< 50	< 50	<1	30%	Pass	
Duplicate									
Total Recoverable Hydrocarbons - 2013 NEPM Fractions				Result 1	Result 2	RPD			
TRH >C10-C16	S19-Se32527	CP	mg/kg	< 50	< 50	<1	30%	Pass	
TRH >C16-C34	S19-Se32527	CP	mg/kg	< 100	< 100	<1	30%	Pass	
TRH >C34-C40	S19-Se32527	CP	mg/kg	< 100	< 100	<1	30%	Pass	

Duplicate									
Organochlorine Pesticides				Result 1	Result 2	RPD			
Chlordanes - Total	S19-Se32527	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
4.4'-DDD	S19-Se32527	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
4.4'-DDE	S19-Se32527	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
4.4'-DDT	S19-Se32527	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
a-BHC	S19-Se32527	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Aldrin	S19-Se32527	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
b-BHC	S19-Se32527	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
d-BHC	S19-Se32527	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Dieldrin	S19-Se32527	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Endosulfan I	S19-Se32527	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Endosulfan II	S19-Se32527	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Endosulfan sulphate	S19-Se32527	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Endrin	S19-Se32527	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Endrin aldehyde	S19-Se32527	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Endrin ketone	S19-Se32527	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
g-BHC (Lindane)	S19-Se32527	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Heptachlor	S19-Se32527	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Heptachlor epoxide	S19-Se32527	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Hexachlorobenzene	S19-Se32527	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Methoxychlor	S19-Se32527	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Toxaphene	S19-Se32527	CP	mg/kg	< 1	< 1	<1	30%	Pass	
Duplicate									
Polychlorinated Biphenyls				Result 1	Result 2	RPD			
Aroclor-1016	S19-Se32527	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Aroclor-1221	S19-Se32527	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Aroclor-1232	S19-Se32527	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Aroclor-1242	S19-Se32527	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Aroclor-1248	S19-Se32527	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Aroclor-1254	S19-Se32527	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Aroclor-1260	S19-Se32527	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Duplicate									
Total Recoverable Hydrocarbons - 1999 NEPM Fractions				Result 1	Result 2	RPD			
TRH C6-C9	S19-Se32532	CP	mg/kg	< 20	< 20	<1	30%	Pass	
Duplicate									
BTEX				Result 1	Result 2	RPD			
Benzene	S19-Se32532	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Toluene	S19-Se32532	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Ethylbenzene	S19-Se32532	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
m&p-Xylenes	S19-Se32532	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
o-Xylene	S19-Se32532	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Xylenes - Total	S19-Se32532	CP	mg/kg	< 0.3	< 0.3	<1	30%	Pass	
Duplicate									
Total Recoverable Hydrocarbons - 2013 NEPM Fractions				Result 1	Result 2	RPD			
Naphthalene	S19-Se32532	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
TRH C6-C10	S19-Se32532	CP	mg/kg	< 20	< 20	<1	30%	Pass	
Duplicate									
Polycyclic Aromatic Hydrocarbons				Result 1	Result 2	RPD			
Acenaphthene	S19-Se32534	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Acenaphthylene	S19-Se32534	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Anthracene	S19-Se32534	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benz(a)anthracene	S19-Se32534	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benzo(a)pyrene	S19-Se32534	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benzo(b&j)fluoranthene	S19-Se32534	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benzo(g.h.i)perylene	S19-Se32534	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	

Duplicate									
Polycyclic Aromatic Hydrocarbons				Result 1	Result 2	RPD			
Benzo(k)fluoranthene	S19-Se32534	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Chrysene	S19-Se32534	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Dibenz(a.h)anthracene	S19-Se32534	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Fluoranthene	S19-Se32534	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Fluorene	S19-Se32534	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Indeno(1.2.3-cd)pyrene	S19-Se32534	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Naphthalene	S19-Se32534	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Phenanthrene	S19-Se32534	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Pyrene	S19-Se32534	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Duplicate									
Phenols (Halogenated)				Result 1	Result 2	RPD			
2-Chlorophenol	S19-Se32534	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
2.4-Dichlorophenol	S19-Se32534	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
2.4.5-Trichlorophenol	S19-Se32534	CP	mg/kg	< 1	< 1	<1	30%	Pass	
2.4.6-Trichlorophenol	S19-Se32534	CP	mg/kg	< 1	< 1	<1	30%	Pass	
2.6-Dichlorophenol	S19-Se32534	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
4-Chloro-3-methylphenol	S19-Se32534	CP	mg/kg	< 1	< 1	<1	30%	Pass	
Pentachlorophenol	S19-Se32534	CP	mg/kg	< 1	< 1	<1	30%	Pass	
Tetrachlorophenols - Total	S19-Se32534	CP	mg/kg	< 10	< 10	<1	30%	Pass	
Duplicate									
Phenols (non-Halogenated)				Result 1	Result 2	RPD			
2-Cyclohexyl-4.6-dinitrophenol	S19-Se32534	CP	mg/kg	< 20	< 20	<1	30%	Pass	
2-Methyl-4.6-dinitrophenol	S19-Se32534	CP	mg/kg	< 5	< 5	<1	30%	Pass	
2-Methylphenol (o-Cresol)	S19-Se32534	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
2-Nitrophenol	S19-Se32534	CP	mg/kg	< 1	< 1	<1	30%	Pass	
2.4-Dimethylphenol	S19-Se32534	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
2.4-Dinitrophenol	S19-Se32534	CP	mg/kg	< 5	< 5	<1	30%	Pass	
3&4-Methylphenol (m&p-Cresol)	S19-Se32534	CP	mg/kg	< 0.4	< 0.4	<1	30%	Pass	
4-Nitrophenol	S19-Se32534	CP	mg/kg	< 5	< 5	<1	30%	Pass	
Dinoseb	S19-Se32534	CP	mg/kg	< 20	< 20	<1	30%	Pass	
Phenol	S19-Se32534	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Duplicate									
				Result 1	Result 2	RPD			
% Moisture	S19-Se32534	CP	%	14	15	8.0	30%	Pass	
Duplicate									
Total Recoverable Hydrocarbons - 1999 NEPM Fractions				Result 1	Result 2	RPD			
TRH C10-C14	S19-Se32544	CP	mg/kg	< 20	< 20	<1	30%	Pass	
TRH C15-C28	S19-Se32544	CP	mg/kg	< 50	< 50	<1	30%	Pass	
TRH C29-C36	S19-Se32544	CP	mg/kg	< 50	< 50	<1	30%	Pass	
Duplicate									
Total Recoverable Hydrocarbons - 2013 NEPM Fractions				Result 1	Result 2	RPD			
TRH >C10-C16	S19-Se32544	CP	mg/kg	< 50	< 50	<1	30%	Pass	
TRH >C16-C34	S19-Se32544	CP	mg/kg	< 100	< 100	<1	30%	Pass	
TRH >C34-C40	S19-Se32544	CP	mg/kg	< 100	< 100	<1	30%	Pass	
Duplicate									
Polycyclic Aromatic Hydrocarbons				Result 1	Result 2	RPD			
Acenaphthene	S19-Se32544	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Acenaphthylene	S19-Se32544	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Anthracene	S19-Se32544	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benz(a)anthracene	S19-Se32544	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benzo(a)pyrene	S19-Se32544	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benzo(b&j)fluoranthene	S19-Se32544	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benzo(g.h.i)perylene	S19-Se32544	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benzo(k)fluoranthene	S19-Se32544	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	

Duplicate									
Polycyclic Aromatic Hydrocarbons				Result 1	Result 2	RPD			
Chrysene	S19-Se32544	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Dibenz(a.h)anthracene	S19-Se32544	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Fluoranthene	S19-Se32544	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Fluorene	S19-Se32544	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Indeno(1.2.3-cd)pyrene	S19-Se32544	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Naphthalene	S19-Se32544	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Phenanthrene	S19-Se32544	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Pyrene	S19-Se32544	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Duplicate									
Organophosphorus Pesticides				Result 1	Result 2	RPD			
Azinphos-methyl	S19-Se32544	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Bolstar	S19-Se32544	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Chlorfenvinphos	S19-Se32544	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Chlorpyrifos	S19-Se32544	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Chlorpyrifos-methyl	S19-Se32544	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Coumaphos	S19-Se32544	CP	mg/kg	< 2	< 2	<1	30%	Pass	
Demeton-S	S19-Se32544	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Demeton-O	S19-Se32544	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Diazinon	S19-Se32544	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Dichlorvos	S19-Se32544	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Dimethoate	S19-Se32544	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Disulfoton	S19-Se32544	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
EPN	S19-Se32544	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Ethion	S19-Se32544	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Ethoprop	S19-Se32544	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Ethyl parathion	S19-Se32544	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Fenitrothion	S19-Se32544	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Fensulfothion	S19-Se32544	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Fenthion	S19-Se32544	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Malathion	S19-Se32544	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Merphos	S19-Se32544	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Methyl parathion	S19-Se32544	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Mevinphos	S19-Se32544	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Monocrotophos	S19-Se32544	CP	mg/kg	< 2	< 2	<1	30%	Pass	
Naled	S19-Se32544	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Omethoate	S19-Se32544	CP	mg/kg	< 2	< 2	<1	30%	Pass	
Phorate	S19-Se32544	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Pirimiphos-methyl	S19-Se32544	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Pyrazophos	S19-Se32544	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Ronnel	S19-Se32544	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Terbufos	S19-Se32544	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Tetrachlorvinphos	S19-Se32544	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Tokuthion	S19-Se32544	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Trichloronate	S19-Se32544	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Duplicate									
Phenols (Halogenated)				Result 1	Result 2	RPD			
2-Chlorophenol	S19-Se32544	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
2.4-Dichlorophenol	S19-Se32544	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
2.4.5-Trichlorophenol	S19-Se32544	CP	mg/kg	< 1	< 1	<1	30%	Pass	
2.4.6-Trichlorophenol	S19-Se32544	CP	mg/kg	< 1	< 1	<1	30%	Pass	
2.6-Dichlorophenol	S19-Se32544	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
4-Chloro-3-methylphenol	S19-Se32544	CP	mg/kg	< 1	< 1	<1	30%	Pass	
Pentachlorophenol	S19-Se32544	CP	mg/kg	< 1	< 1	<1	30%	Pass	
Tetrachlorophenols - Total	S19-Se32544	CP	mg/kg	< 10	< 10	<1	30%	Pass	

Duplicate									
Phenols (non-Halogenated)				Result 1	Result 2	RPD			
2-Cyclohexyl-4.6-dinitrophenol	S19-Se32544	CP	mg/kg	< 20	< 20	<1	30%	Pass	
2-Methyl-4.6-dinitrophenol	S19-Se32544	CP	mg/kg	< 5	< 5	<1	30%	Pass	
2-Methylphenol (o-Cresol)	S19-Se32544	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
2-Nitrophenol	S19-Se32544	CP	mg/kg	< 1	< 1	<1	30%	Pass	
2.4-Dimethylphenol	S19-Se32544	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
2.4-Dinitrophenol	S19-Se32544	CP	mg/kg	< 5	< 5	<1	30%	Pass	
3&4-Methylphenol (m&p-Cresol)	S19-Se32544	CP	mg/kg	< 0.4	< 0.4	<1	30%	Pass	
4-Nitrophenol	S19-Se32544	CP	mg/kg	< 5	< 5	<1	30%	Pass	
Dinoseb	S19-Se32544	CP	mg/kg	< 20	< 20	<1	30%	Pass	
Phenol	S19-Se32544	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Duplicate									
Heavy Metals				Result 1	Result 2	RPD			
Arsenic	S19-Se32544	CP	mg/kg	12	13	10	30%	Pass	
Cadmium	S19-Se32544	CP	mg/kg	0.4	< 0.4	14	30%	Pass	
Chromium	S19-Se32544	CP	mg/kg	21	21	1.0	30%	Pass	
Copper	S19-Se32544	CP	mg/kg	31	30	2.0	30%	Pass	
Lead	S19-Se32544	CP	mg/kg	29	24	17	30%	Pass	
Mercury	S19-Se32544	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Nickel	S19-Se32544	CP	mg/kg	9.3	9.3	<1	30%	Pass	
Zinc	S19-Se32544	CP	mg/kg	56	54	4.0	30%	Pass	
Duplicate									
				Result 1	Result 2	RPD			
% Moisture	S19-Se32544	CP	%	15	16	4.0	30%	Pass	

Comments

Sample Integrity

Custody Seals Intact (if used)	N/A
Attempt to Chill was evident	Yes
Sample correctly preserved	Yes
Appropriate sample containers have been used	Yes
Sample containers for volatile analysis received with minimal headspace	Yes
Samples received within HoldingTime	Yes
Some samples have been subcontracted	No

Qualifier Codes/Comments

Code	Description
N01	F2 is determined by arithmetically subtracting the "naphthalene" value from the ">C10-C16" value. The naphthalene value used in this calculation is obtained from volatiles (Purge & Trap analysis).
N02	Where we have reported both volatile (P&T GCMS) and semivolatile (GCMS) naphthalene data, results may not be identical. Provided correct sample handling protocols have been followed, any observed differences in results are likely to be due to procedural differences within each methodology. Results determined by both techniques have passed all QAQC acceptance criteria, and are entirely technically valid.
N04	F1 is determined by arithmetically subtracting the "Total BTEX" value from the "C6-C10" value. The "Total BTEX" value is obtained by summing the concentrations of BTEX analytes. The "C6-C10" value is obtained by quantitating against a standard of mixed aromatic/aliphatic analytes.
N07	Please note:- These two PAH isomers closely co-elute using the most contemporary analytical methods and both the reported concentration (and the TEQ) apply specifically to the total of the two co-eluting PAHs

Authorised By

Alena Bounkeua	Analytical Services Manager
Andrew Sullivan	Senior Analyst-Organic (NSW)
Gabriele Cordero	Senior Analyst-Metal (NSW)
Nibha Vaidya	Senior Analyst-Asbestos (NSW)

Glenn Jackson

General Manager

Final report - this Report replaces any previously issued Report

- Indicates Not Requested

* Indicates NATA accreditation does not cover the performance of this service

Measurement uncertainty of test data is available on request or please click here.

APPENDIX D
CONCEPTUAL SITE MODEL ANALYSIS

Proposed Commercial/Industrial Land Use Scenario							
Sources	**COC**	**Media**	**Receptor**	**Exposure Route**	**Comments**	**Investigation Level**	**Pathway complete**
ASTs, UPSS and Vehicle Workshop activities	Heavy metals, TRH, BTEX, PAHs, VOCs, OCP/OPP, and asbestos	Soil	Human	Direct contact, inhalation and ingestion of dust, ingestion	Concentrations of TRH were above the Management Limits for commercial/industrial land use in one sample in the vicinity of the vehicle workshop at 784-786 Mamre Road. UPSSs are present on site and are in poor condition. It is likely that petroleum hydrocarbon impacts are present within the fill sands and walls of the tank pit excavation.	**HSLs / HILs Management Limits**	**Potentially**
			Ecological species and soil microbial processes	Direct Contact and ingestion	Concentrations of heavy metals (chromium (III+VI), copper and nickel) and TRH C16-C34 and TRH C34-40 above ecological protection criteria were reported in shallow soil samples collected in the vicinity of the UPSS and ASTs located at 784-786 Mamre Road. The ecological criteria are not considered to be directly applicable to the site in its current condition considering that the identified AEC will be required to be remediated and that majority of the site will require significant earthworks as part of the proposed commercial/industrial development. Impacted soils in the vicinity of AECs may not be suitable for reuse on site for landscaping purposes.	**ESLs / EILs**	**Potentially**
		Groundwater	Human	Inhalation	Concentrations of COCs were below the laboratory LOR or below the adopted human health guidelines. Detectable concentrations of TRH in offsite well GW01 indicates that groundwater at the site has been somewhat impacted by the fuel storage located at 784-786 Mamre Road, which is located to the east of GW01. While the identified TRH impacts are minor, the concentrations of TRH may be higher closer to the fuel storage infrastructure at 784-786 Mamre Road.	**HSLs / HILs**	**Unlikely**
				Drinking	Presence of reticulated water supplied considered to preclude groundwater extraction for this purpose.	**ADWGs (drinking water)**	**No**

Proposed Commercial/Industrial Land Use Scenario							
Sources	**COC**	**Media**	**Receptor**	**Exposure Route**	**Comments**	**Investigation Level**	**Pathway complete**
Fill Material	Heavy metals PAHs	Soil	Human	Direct contact, inhalation and ingestion of dust, ingestion	Concentrations of COCs were below the laboratory LOR or below the adopted human health guidelines.	**HSLs / HILs Management Limits**	**No**
			Ecological species and soil microbial processes	Direct Contact and ingestion	Concentrations of selected heavy metals and benzo(a)pyrene (a PAH) above ecological protection criteria have been identified in samples collected in shallow fill material. The proposed development is expected to involve large scale earthworks. The above minor exceedances are not considered to preclude the future development of the site for commercial/industrial use. Impacted soils in the vicinity of AECs may not be suitable for reuse on site for landscaping purposes.	**ESLs / EILs**	**Unlikely**
	Asbestos		Human	Inhalation and ingestion of dust	No asbestos was identified in any of the soil samples analysed.	**HIL**	**No**
Buildings and structures containing ACM/PACM	Asbestos		Human	Inhalation and ingestion of dust	At the time of the KPMG 2020a investigation, no visual signs of asbestos impact were observed on the ground surface around the perimeter of the building/structures identified as containing ACM/PACM. Provided that all ACM/PACMs are appropriately removed before demolition, it is unlikely that surficial soils surrounding the buildings would be impacted with asbestos associated with current buildings and structures.	**HIL**	**Unlikely**
Pesticide use	OCPs/OPPs		Ecological species and soil microbial processes	Direct Contact and ingestion	Concentrations of OCPs/OPPs have not been detected within soil samples analysed.	**EILs**	**No**
			Human	Direct contact, inhalation and ingestion of dust		**HIL**	**No**

APPENDIX E
QUALITY CONTROL AND ASSURANCE

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 of what is sampled.

QA/QC 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. DQOs have been developed in Section 4 of the report.

Data quality is typically discussed in terms of precision, accuracy, representativeness, comparability and completeness (PARCC). These are referred to as the PARCC parameters. The PARCC and additional QA parameters are discussed within this report.

2 Quality Control and Quality Assurance

2.1 Measurement Data Quality Indicators

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 indicators (MDQIs). The MDQIs are described in Section 4 of the report.

All soil, groundwater and surface 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
- Standards Australia AS 4482.2 (1999) Guide to the sampling and investigation of potentially contaminated soil. Part 2: Volatile substances
- 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.

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.

2.1.1 Repeatability (Field Collected Intra-laboratory Duplicates)

Field collected intra-laboratory (intralab) duplicate samples provide a check on the analytical performance of the laboratory. All soil intralab duplicate samples were sent to Eurofins Environment Testing Australia (Eurofins) for analysis. All water intralab duplicate samples were sent to Envirolab Services Pty Ltd (Envirolab) for analysis.

It is recommended that at least 5 percent of 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 <50% and <150% (depending on the substance) will be allowed as the MDQI. Any values exceeding the relevant RPD limits will be noted and discussed, as per Standards Australia requirements, with respect to its acceptability for inclusion in the data-set.

Three (3) intralab soil field duplicate samples and one (1) intralab water field duplicate sample was collected and analysed.

2.1.2 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:

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

where: X1 is the first duplicate value

X2 is the second duplicate value

The field duplicate results and calculated RPDs for soil and groundwater are presented in Tables E1 and E2.

Table E1 Soil - intralab duplicate samples (mg/kg)

Analyte	LOR	BH09_1.0-1.1	QA1	RPD %	BH17_1.2-1.3	QA2	RPD %	BH20_0.3-0.4	QA3	RPD %
TRH C6 to C10	20	ND	ND	NC	ND	ND	NC	ND	ND	NC
TRH C16 to C34	100	ND	ND	NC	130	130	0	ND	ND	NC
TRH C10 to C16	100	ND	ND	NC	ND	ND	NC	ND	ND	NC
BTEX	0.2, 0.5, 1, 2	ND	ND	NC	ND	ND (except for 0.1 mg/kg toluene)	NC	ND	ND	NC
PAHs	0.5	ND	ND	NC	ND	ND	NC	ND	ND	NC
Arsenic	2	6.4	6.2	3	14	13	7	6.8	5.3	25
Cadmium	0.4	ND	ND	NC	1.2	0.9	29	ND	ND	NC
Chromium	5	14	16	13	24	59	84	17	16	6
Copper	5	38	34	11	270	210	25	26	28	7
Lead	5	13	14	7	820	350	80	16	14	13
Mercury	0.1	ND	ND	NC	ND	ND	NC	ND	ND	NC
Nickel	5	16	13	21	17	17	0	6.1	5.9	3
Zinc	5	79	62	24	450	240	28	32	33	3

Notes to tables:
1 LOR Laboratory Limit of Reporting
2 RPD relative percentage difference
3 N/A not analysed
4 ND detected concentration below the laboratory limits of reporting
5 NC RPD not calculable
6 Acceptance Criteria - no limit applies to < 5x MDL
7 Acceptance Criteria - 80-150% for low level (<10 x MDL)
8 Acceptance Criteria - 50-130% for medium to high level (>10 x MDL)

Table E2 Groundwater – intralab duplicate samples (µg/L)

Analyte	LOR	GW01	BR01	RPD %
TRH C10-C16	50	92	ND	NC
TRH (all other ranges)	10 to 100	ND	ND	NC
BTEX	1 to 2	ND	ND	NC
PAHs	0.001 to 1	ND	ND	NC
Cyclohexane	0.001	ND	ND	NC
MAHs	0.003 to 1	ND	ND	NC
Chlorinated Hydrocarbons	1, 5	ND	ND	NC
Halogenated Benzenes	1	ND	ND	NC
Halogenated Hydrocarbons	1	ND	ND	NC
Arsenic (filtered)	1	ND	ND	NC
Cadmium (filtered)	0.2	0.2	0.2	0
Chromium (III + VI) (filtered)	1	ND	ND	NC
Copper (filtered)	1	5	4	22
Lead (filtered)	1	ND	ND	NC
Mercury (filtered)	0.01	ND	ND	NC
Nickel (filtered)	1	13	11	17
Zinc (filtered)	5	63	39	47

Notes to tables:
1 LOR laboratory limit of reporting
2 RPD relative percentage difference
3 N/A not analysed
4 ND not detected above the laboratory limits of reporting
5 NC RPD not calculable
6 Acceptance Criteria - no limit applies to < 5x MDL
7 Acceptance Criteria - 80-150% for low level (<10 x MDL)
8 Acceptance Criteria - 50-130% for medium to high level (>10 x MDL)

All of the calculated RPDs were within the acceptable range.

2.1.3 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.

2.1.4 Representativeness

All media identified within the sampling plan was selectively sampled and analysed for relevant COCs.

2.1.5 Completeness

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

- chain-of-custody forms (completed by KPMG and the laboratory)
- sample receipt forms
- all requested sample results reported
- all blank data reported
- all surrogate spike data reported
- all matrix spike data reported
- NATA stamp on reports.

2.1.6 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 investigation as follows:

- the soil and water samples were collected during the investigation by a trained field consultant using standard operating procedures

- laboratories used for analysis for all samples used NATA accredited analytical methods.

2.1.7 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, were less than half the site criteria for all analytes tested (i.e. 2 x LOR <site criteria).

2.1.8 Blanks

To meet the QC acceptance criteria, laboratory blanks should have no detectable concentrations of the target compounds. Review of laboratory blanks did not reveal concentrations of COCs above the LOR.

2.1.9 Holding Times

Sample holding times are based on a number of considerations including the integrity of the data required, field storage, laboratory storage and sample container characteristics. All samples were analysed within the required holding times.

2.1.10 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 MDQIs 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.

2.2 Field QA/QC

2.2.1 Details of Field Investigation Team

Fieldwork was conducted by suitably qualified KPMG personnel on the following dates:

- Soil sampling – 19 and 20 September 2019
- Groundwater and surface water sampling – 29 October 2020.

2.2.2 Sampling Controls

Decontamination procedures carried out between sampling events

Soil samples were collected directly from the push tubes or augers using disposable nitrile gloves. The push tube sampling used individual tubing and sample collection equipment, as such, decontamination of sample collection equipment was not required. Resuable parts of the drilling equipment were brushed clean between drilling locations. The augers were thoroughly washed with Decon 90 followed by potable tap water between sampling locations.

Groundwater sampling was carried out using dedicated sampling equipment (i.e. a set per groundwater monitoring well). A low flow peristalic pump, with dedicated disposable tubing, was used for groundwater sampling. The interface probe, used to measure groundwater levels, was thoroughly washed with Decon 90 followed by deionised laboratory supplied rinsate water between sampling locations.

Surface water samples were collected by inserting laboratory supplied sample containers below the dam surface with the opening point down to avoid the collection of surface films. Surface water samples were collected from approximately 1m from the edge of the dam embankment. Surface water sampling used individual sample collection equipment, as such, decontamination of sample collection equipment was not required.

Sample notation details

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

Duplicate sampling

Intralab duplicate samples were collected at a rate of a least one field duplicate sample for each media.

2.3 Laboratory QA/QC

Laboratory analysis for this project was completed by Eurofins and Envirolab in Sydney. Eurofins and Envirolab are accredited by NATA for the methods used; details of this accreditation can be viewed at http://www.nata.asn.au/. 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 also presented on the chain of custody forms and/or laboratory transcripts. All analysis was completed within the allowable holding times.

The laboratories complete laboratory control samples, laboratory blanks, sample duplicates, surrogate spikes and matrix spikes. The laboratory transcripts 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.

2.4 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.

The results of the duplicate samples were compared to those of the primary samples as a measure of method precision. The calculated RPDs of the duplicate samples were within acceptable ranges.

Based on review of field and laboratory QA/QC results, KPMG conclude that the resultant soil, groundwater and surface water data sets are considered to be of sufficient quality for the purpose of this investigation.

PID Calibration Certificate

Instrument **PhoCheck Tiger**
Serial No. **T-107188**

Air-Met Scientific Pty Ltd
1300 137 067

Item	Test	Pass	Comments			
Battery	Charge Condition	✓				
	Fuses	✓				
	Capacity	✓				
	Recharge OK?	✓				
Switch/keypad	Operation	✓				
Display	Intensity	✓				
	Operation (segments)	✓				
Grill Filter	Condition	✓				
	Seal	✓				
Pump	Operation	✓				
	Filter	✓				
	Flow	✓				
	Valves, Diaphragm	✓				
PCB	Condition	✓				
Connectors	Condition	✓				
Sensor	PID	✓	10.6 ev			
Alarms	Beeper	✓	**Low**	**High**	**TWA**	**STEL**
	Settings	✓	50ppm	100ppm		
Software	Version	✓				
Data logger	Operation	✓				
Download	Operation	✓				
Other tests:						

Certificate of Calibration

This is to certify that the above instrument has been calibrated to the following specifications:

Diffusion mode Aspirated mode

Sensor	Serial no	Calibration gas and concentration	Certified	Gas bottle No		Instrument Reading
PID Lamp		92ppm Isobutylene	NATA	SY245		91.8ppm

Calibrated by: Sarah Li **Sarah Lian**

Calibration date: **17/09/2019**

Next calibration due: **15/03/2020**

APPENDIX F
BOREHOLE LOGS

BOREHOLE LOG HA01

PROJECT NUMBER 367109
PROJECT NAME TEI
CLIENT GPT
ADDRESS 754-786 Mamre Road, Kemps Creek, NSW

DRILLING DATE 18/9/19
METHOD Hand Auger
DRILLER JL
DRILL RIG n/a

COMMENTS

LOGGED BY DJ
CHECKED BY JW

Samples	Analysed	Sample Type	Depth (m)	Graphic Log	Moisture	Material Description	Additional Observations
			0		M	TOPSOIL: soft sandy clay with rootlets	No odour
						REWORKED NATURAL: Soft, orange/tan clay	
HA01_0.2-0.3	Y	D	0.2				
			0.4				
			0.6				
HA01_0.7-0.8	N	D	0.8				
			1				
			1.2			End of hole: 1.0 m	
			1.4				
			1.6				
			1.8				
			2				
			2.2				
			2.4				
			2.6				
			2.8				
			3				
			3.2				
			3.4				
			3.6				
			3.8				
			4				
			4.2				
			4.4				
			4.6				
			4.8				

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BOREHOLE LOG HA02

PROJECT NUMBER 367109
PROJECT NAME TEI
CLIENT GPT
ADDRESS 754-786 Mamre Road, Kemps Creek, NSW

DRILLING DATE 18/9/19
METHOD Hand Auger
DRILLER JL
DRILL RIG n/a

COMMENTS

LOGGED BY DJ
CHECKED BY JW

Samples	Analysed	Sample Type	Depth (m)	Graphic Log	Moisture	Material Description	Additional Observations
			0		M	TOPSOIL: soft sandy clay with rootlets	No odour
						REWORKED NATURAL: Soft, orange/tan clay	
HA02_0.2-0.3	N	D	0.2				
			0.4				
			0.6				
HA02_0.7-0.8	Y	D	0.8				
			1				
			1.2			End of hole: 1.0 m	
			1.4				
			1.6				
			1.8				
			2				
			2.2				
			2.4				
			2.6				
			2.8				
			3				
			3.2				
			3.4				
			3.6				
			3.8				
			4				
			4.2				
			4.4				
			4.6				
			4.8				

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BOREHOLE LOG BH01

PROJECT NUMBER 367109
PROJECT NAME TEI
CLIENT GPT
ADDRESS 754-786 Mamre Road, Kemps Creek, NSW

DRILLING DATE 19/9/19
METHOD Hand Auger
DRILLER Epoca
DRILL RIG Geoprobe

COMMENTS

LOGGED BY DJ
CHECKED BY JW

Samples	Analysed	Sample Type	Depth (m)	Graphic Log	Moisture	Material Description	Additional Observations
			0.2		M	FILL: Firm, dark brown, gravelly clay, low plasticity	No odour
BH01_0.3-0.4	Y	SM	0.4			CLAY: Stiff, dark orange and tan clay, low plasticity	All PID <0.1 ppm
			0.6				
			0.8				
BH01_1.0-1.1	Y	D	1				
			1.2			SHALE: Hard, tan shale, low plasticity	
						End of hole: 1.2 m refusal on weathered shale	
			1.4				
			1.6				
			1.8				
			2				
			2.2				
			2.4				
			2.6				
			2.8				
			3				
			3.2				
			3.4				
			3.6				
			3.8				
			4				
			4.2				
			4.4				
			4.6				
			4.8				

BOREHOLE LOG BH02

PROJECT NUMBER 367109
PROJECT NAME TEI
CLIENT GPT
ADDRESS 754-786 Mamre Road, Kemps Creek, NSW

DRILLING DATE 19/9/19
METHOD Push Tube and SFA
DRILLER Epoca
DRILL RIG Geoprobe

COMMENTS

LOGGED BY JL
CHECKED BY JW

Samples	Analysed	Sample Type	Depth (m)	Graphic Log	Moisture	Material Description	Additional Observations
			0.2		SM	FILL: Firm, dark brown, gravelly clay, low plasticity	Oil (degreaser) staining in area
BH02_0.2-0.3	Y	UD					
BH02_0.3-0.4	N	UD	0.4			CLAY: Stiff, dark orange and tan clay, low plasticity	No odours
			0.6				All PID <0.1 ppm
			0.8				
BH02_1.0-1.1	N	UD	1				
			1.2		D	SHALE: Hard, tan shale, low plasticity	
			1.4				
			1.6				
			1.8				
BH02_2.0-2.1	N	D	2				
			2.2				
			2.4				
			2.6				
			2.8				
BH02_3.0-3.1	N	D	3				
			3.2				
			3.4				
			3.6				
			3.8				
BH02_4.0-4.1	Y	D	4				
			4.2			End of hole: 4.1 m refusal on weathered shale	
			4.4				
			4.6				
			4.8				

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BOREHOLE LOG BH03

PROJECT NUMBER 367109
PROJECT NAME TEI
CLIENT GPT
ADDRESS 754-786 Mamre Road, Kemps Creek, NSW

DRILLING DATE 19/9/19
METHOD Push Tube
DRILLER Epoca
DRILL RIG Geoprobe

COMMENTS

LOGGED BY JL
CHECKED BY JW

Samples	Analysed	Sample Type	Depth (m)	Graphic Log	Moisture	Material Description	Additional Observations
			0.2		SM	FILL: Firm, dark brown, gravelly clay, low plasticity	Heavy oil staining on ground surface
BH03_0.2-0.3	Y	UD					
BH03_0.3-0.4	Y	UD	0.4			CLAY: Firm, orange / black clay, low plasticity becoming orange tan from 0.4 m	Stained natural clay No odours All PID <0.1 ppm
			0.6				
			0.8				
			1				
			1.2		D	SHALE: Hard, tan shale, low plasticity	
			1.4			End of hole: 1.3 m refusal on weathered shale	
			1.6				
			1.8				
			2				
			2.2				
			2.4				
			2.6				
			2.8				
			3				
			3.2				
			3.4				
			3.6				
			3.8				
			4				
			4.2				
			4.4				
			4.6				
			4.8				

BOREHOLE LOG BH04

PROJECT NUMBER 367109
PROJECT NAME TEI
CLIENT GPT
ADDRESS 754-786 Mamre Road, Kemps Creek, NSW

DRILLING DATE 19/9/19
METHOD Push Tube
DRILLER Epoca
DRILL RIG Geoprobe

COMMENTS

LOGGED BY JL
CHECKED BY JW

Samples	Analysed	Sample Type	Depth (m)	Graphic Log	Moisture	Material Description	Additional Observations
			0.2		SM	FILL: Firm, dark brown, gravelly clay, low plasticity	No odours
BH04_0.2-0.3	Y	UD	0.4			CLAY: Firm, tan / orange clay, medium plasticity	All PID <0.1 ppm
			0.6				
			0.8				
BH04_1.0-1.1	Y	UD	1				
			1.2				
			1.4				
			1.6		D	SHALE: Hard, tan shale, low plasticity	
			1.8			End of hole: 1.5 m refusal on weathered shale	
			2				
			2.2				
			2.4				
			2.6				
			2.8				
			3				
			3.2				
			3.4				
			3.6				
			3.8				
			4				
			4.2				
			4.4				
			4.6				
			4.8				

BOREHOLE LOG BH05

PROJECT NUMBER 367109
PROJECT NAME TEI
CLIENT GPT
ADDRESS 754-786 Mamre Road, Kemps Creek, NSW

DRILLING DATE 19/9/19
METHOD Push Tube and SFA
DRILLER Epoca
DRILL RIG Geoprobe

COMMENTS

LOGGED BY JL
CHECKED BY JW

Samples	Analysed	Sample Type	Depth (m)	Graphic Log	Moisture	Material Description	Additional Observations
			0.2		SM	FILL: Firm, dark brown, gravelly clay, low plasticity	
BH05_0.2-0.3	N	UD					All PID <0.1 ppm
			0.4			CLAY: Stiff, dark orange and tan clay, low plasticity	
BH05_0.5-0.6	N	UD	0.6				
			0.8				
			1				
			1.2		D	SHALE: Hard, tan shale, low plasticity	
			1.4				
			1.6				
			1.8				
BH05_1.9-2.0	Y	D	2				Slight hydrocarbon odour at 2 m
			2.2				
			2.4				
			2.6				
			2.8				
BH05_3.0-3.1	N	D	3				
			3.2				
			3.4				
			3.6				
			3.8				
BH05_3.9-4.0	Y	D	4			End of hole: 4 m refusal on weathered shale	
			4.2				
			4.4				
			4.6				
			4.8				

BOREHOLE LOG BH06

PROJECT NUMBER 367109
PROJECT NAME TEI
CLIENT GPT
ADDRESS 754-786 Mamre Road, Kemps Creek, NSW

DRILLING DATE 19/9/19
METHOD Push Tube
DRILLER Epoca
DRILL RIG Geoprobe

COMMENTS

LOGGED BY JL
CHECKED BY JW

Samples	Analysed	Sample Type	Depth (m)	Graphic Log	Moisture	Material Description	Additional Observations
			0.2		SM	FILL: Firm, dark brown, gravelly clay, low plasticity	No odours
BH06_0.2-0.3	N	UD					All PID <0.1 ppm
			0.4			CLAY: Firm, orange / black clay, low plasticity becoming orange tan from 0.4 m	
			0.6				
			0.8				
			1				
BH06_1.0-1.1	Y	UD					
			1.2		D	SHALE: Hard, tan shale, low plasticity	
BH06_1.2-1.3	Y	UD					
			1.4			End of hole: 1.3 m refusal on weathered shale	
			1.6				
			1.8				
			2				
			2.2				
			2.4				
			2.6				
			2.8				
			3				
			3.2				
			3.4				
			3.6				
			3.8				
			4				
			4.2				
			4.4				
			4.6				
			4.8				

BOREHOLE LOG BH07

PROJECT NUMBER 367109
PROJECT NAME TEI
CLIENT GPT
ADDRESS 754-786 Mamre Road, Kemps Creek, NSW

DRILLING DATE 19/9/19
METHOD Push Tube
DRILLER Epoca
DRILL RIG Geoprobe

COMMENTS

LOGGED BY JL
CHECKED BY JW

Samples	Analysed	Sample Type	Depth (m)	Graphic Log	Moisture	Material Description	Additional Observations
			0.2		SM	FILL: Firm, dark brown, gravelly clay, low plasticity	No odours
			0.4			CLAY: Firm, orange / tan clay, low plasticity	
			0.6				All PID <0.1 ppm
			0.8				
BH07_1.0-1.1	Y	UD	1				
			1.2				
BH07_1.4-1.5	Y	UD	1.4				
			1.6			End of hole: 1.5 m refusal on weathered shale	
			1.8				
			2				
			2.2				
			2.4				
			2.6				
			2.8				
			3				
			3.2				
			3.4				
			3.6				
			3.8				
			4				
			4.2				
			4.4				
			4.6				
			4.8				

BOREHOLE LOG BH08

PROJECT NUMBER 367109
PROJECT NAME TEI
CLIENT GPT
ADDRESS 754-786 Mamre Road, Kemps Creek, NSW

DRILLING DATE 19/9/19
METHOD Push Tube and SFA
DRILLER Epoca
DRILL RIG Geoprobe

COMMENTS

LOGGED BY JL
CHECKED BY JW

Samples	Analysed	Sample Type	Depth (m)	Graphic Log	Moisture	Material Description	Additional Observations
			0.2		SM	FILL: Firm, dark brown, gravelly clay, low plasticity	All PID <0.1 ppm
			0.4			CLAY: Stiff, dark orange and tan clay, low plasticity	
			0.6				
			0.8				
BH08_1.0-1.1	Y	UD	1				
			1.2		D	SHALE: Hard, tan shale, low plasticity	
			1.4				
			1.6				
			1.8				
BH08_2.0-2.1	N	D	2				
			2.2				
			2.4				
			2.6				
			2.8				
BH08_3.0-3.1	N	D	3				
			3.2				
			3.4				
			3.6				
			3.8				
BH08_4.0-4.1	N	D	4				
			4.2				
			4.4				
			4.6				
			4.8				
BH08_4.9-5.0	Y		5				
			5.2			End of hole: 4.1 m refusal on weathered shale	

BOREHOLE LOG BH09

PROJECT NUMBER 367109
PROJECT NAME TEI
CLIENT GPT
ADDRESS 754-786 Mamre Road, Kemps Creek, NSW

DRILLING DATE 19/9/19
METHOD Push Tube
DRILLER Epoca
DRILL RIG Geoprobe

COMMENTS

LOGGED BY JL
CHECKED BY JW

Samples	Analysed	Sample Type	Depth (m)	Graphic Log	Moisture	Material Description	Additional Observations
			0.2		SM	FILL: Firm, dark brown, gravelly clay, low plasticity	No odours
			0.4				
BH09_0.5-0.6	Y	UD	0.6				All PID <0.1 ppm
			0.8				
BH09_1.0-1.1 / QA1	Y	UD	1			CLAY: Firm, tan / orange clay, medium plasticity	
			1.2				
			1.4				
			1.6		D	SHALE: Hard, tan shale, low plasticity	
			1.8			End of hole: 1.7 m refusal on weathered shale	
			2				
			2.2				
			2.4				
			2.6				
			2.8				
			3				
			3.2				
			3.4				
			3.6				
			3.8				
			4				
			4.2				
			4.4				
			4.6				
			4.8				

BOREHOLE LOG BH10

PROJECT NUMBER 367109
PROJECT NAME TEI
CLIENT GPT
ADDRESS 754-786 Mamre Road, Kemps Creek, NSW

DRILLING DATE 19/9/19
METHOD Push Tube
DRILLER Epoca
DRILL RIG Geoprobe

COMMENTS

LOGGED BY JL
CHECKED BY JW

Samples	Analysed	Sample Type	Depth (m)	Graphic Log	Moisture	Material Description	Additional Observations
			0.2		M	FILL: Firm, dark brown, gravelly clay, low plasticity	Slight chemical odour
			0.4				All PID <0.1 ppm
BH10_0.5-0.6	Y	UD	0.6			becoming brown / black at 0.7 m	
			0.8				
BH10_1.0-1.1	Y	UD	1				
			1.2				
			1.4				
			1.6		SM	CLAY: Firm, tan / orange clay, medium plasticity	
BH10_1.6-1.7	N	UD	1.8				
			2			End of hole: 1.8 m refusal on weathered shale	
			2.2				
			2.4				
			2.6				
			2.8				
			3				
			3.2				
			3.4				
			3.6				
			3.8				
			4				
			4.2				
			4.4				
			4.6				
			4.8				

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BOREHOLE LOG BH11

PROJECT NUMBER 367109
PROJECT NAME TEI
CLIENT GPT
ADDRESS 754-786 Mamre Road, Kemps Creek, NSW

DRILLING DATE 19/9/19
METHOD Push Tube
DRILLER Epoca
DRILL RIG Geoprobe

COMMENTS

LOGGED BY JL
CHECKED BY JW

Samples	Analysed	Sample Type	Depth (m)	Graphic Log	Moisture	Material Description	Additional Observations
			0.2		SM	FILL: Firm, dark brown, gravelly clay, low plasticity	No odours
BH11_0.2-0.3	Y	UD	0.4				All PID <0.1 ppm
			0.6			CLAY: Firm, orange / tan clay, low plasticity	
BH11_0.6-0.7	Y	UD	0.8				
			1				
			1.2				
			1.4				
			1.6			End of hole: 1.5 m refusal on weathered shale	
			1.8				
			2				
			2.2				
			2.4				
			2.6				
			2.8				
			3				
			3.2				
			3.4				
			3.6				
			3.8				
			4				
			4.2				
			4.4				
			4.6				
			4.8				

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BOREHOLE LOG BH12

PROJECT NUMBER 367109
PROJECT NAME TEI
CLIENT GPT
ADDRESS 754-786 Mamre Road, Kemps Creek, NSW

DRILLING DATE 19/9/19
METHOD Push Tube
DRILLER Epoca
DRILL RIG Geoprobe

COMMENTS

LOGGED BY JL
CHECKED BY JW

Samples	Analysed	Sample Type	Depth (m)	Graphic Log	Moisture	Material Description	Additional Observations
			0		SM	FILL: Firm, dark brown, gravelly clay, low plasticity	No odours
BH12_0.1-0.2	Y	UD	0.2			CLAY: Firm, tan / orange clay, medium plasticity	All PID <0.1 ppm
			0.4				
			0.6				
			0.8				
BH12_0.8-0.9	Y	UD	1				
			1.2			SHALE: Hard, tan shale, low plasticity	
			1.4			End of hole: 1.7 m refusal on weathered shale	
			1.6				
			1.8				
			2				
			2.2				
			2.4				
			2.6				
			2.8				
			3				
			3.2				
			3.4				
			3.6				
			3.8				
			4				
			4.2				
			4.4				
			4.6				
			4.8				

BOREHOLE LOG BH13

PROJECT NUMBER 367109
PROJECT NAME TEI
CLIENT GPT
ADDRESS 754-786 Mamre Road, Kemps Creek, NSW

DRILLING DATE 19/9/19
METHOD Push Tube
DRILLER Epoca
DRILL RIG Geoprobe

COMMENTS

LOGGED BY JL
CHECKED BY JW

Samples	Analysed	Sample Type	Depth (m)	Graphic Log	Moisture	Material Description	Additional Observations
			0.2		SM	FILL: Firm, dark brown, gravelly clay, low plasticity	No odours
BH13_0.2-0.3	Y	UD	0.4				All PID <0.1 ppm
			0.6			CLAY: Firm, tan / orange clay, medium plasticity	
			0.8				
BH13_1.0-1.1	Y	UD	1				
			1.2				
			1.4			SHALE: Hard, tan shale, low plasticity	
			1.6			End of hole: 1.5 m refusal on weathered shale	
			1.8				
			2				
			2.2				
			2.4				
			2.6				
			2.8				
			3				
			3.2				
			3.4				
			3.6				
			3.8				
			4				
			4.2				
			4.4				
			4.6				
			4.8				

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BOREHOLE LOG BH14

PROJECT NUMBER 367109
PROJECT NAME TEI
CLIENT GPT
ADDRESS 754-786 Mamre Road, Kemps Creek, NSW

DRILLING DATE 20/9/19
METHOD Push Tube
DRILLER Epoca
DRILL RIG Geoprobe

COMMENTS

LOGGED BY JL
CHECKED BY JW

Samples	Analysed	Sample Type	Depth (m)	Graphic Log	Moisture	Material Description	Additional Observations
			0.2		SM	FILL: Firm, dark brown, gravelly clay, low plasticity	No odours
BH14_0.1-0.2	Y	UD					
			0.4			CLAY: Firm, tan / orange clay, medium plasticity	All PID <0.1 ppm
BH14_0.3-0.4	Y	UD					
			0.6			SHALE: Hard, tan shale, low plasticity	
			0.8				
			1				
			1.2				
			1.4				
			1.6			End of hole: 1.5 m refusal on weathered shale	
			1.8				
			2				
			2.2				
			2.4				
			2.6				
			2.8				
			3				
			3.2				
			3.4				
			3.6				
			3.8				
			4				
			4.2				
			4.4				
			4.6				
			4.8				

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BOREHOLE LOG BH15

PROJECT NUMBER 367109
PROJECT NAME TEI
CLIENT GPT
ADDRESS 754-786 Mamre Road, Kemps Creek, NSW

DRILLING DATE 19/9/19
METHOD Push Tube
DRILLER Epoca
DRILL RIG Geoprobe

COMMENTS

LOGGED BY JL
CHECKED BY JW

Samples	Analysed	Sample Type	Depth (m)	Graphic Log	Moisture	Material Description	Additional Observations
			0.2		M	FILL: Firm, dark brown, gravelly clay, low plasticity	Crushed sandstone fill
BH15_0.2-0.3	N	UD	0.4				All PID <0.1 ppm
			0.6				
			0.8				
BH15_1.0-1.1	Y	UD	1				
			1.2				
			1.4				
			1.6				
			1.8				
			2				
			2.2				
			2.4				
			2.6				
			2.8				
			3				
			3.2				
			3.4				
			3.6				
BH15_3.7-3.8	Y	UD	3.8			CLAY: Firm, tan / orange clay, medium plasticity	
			4				
			4.2				
			4.4				
			4.6				
			4.8			End of hole: 4.7 m target depth achieved	

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BOREHOLE LOG BH16

PROJECT NUMBER 367109
PROJECT NAME TEI
CLIENT GPT
ADDRESS 754-786 Mamre Road, Kemps Creek, NSW

DRILLING DATE 20/9/19
METHOD Push Tube
DRILLER Epoca
DRILL RIG Geoprobe

COMMENTS

LOGGED BY JL
CHECKED BY JW

Samples	Analysed	Sample Type	Depth (m)	Graphic Log	Moisture	Material Description	Additional Observations
			0.2		SM	FILL: Firm, white / grey, gravelly clay, low plasticity	No odours
BH16_0.2-0.3	Y	UD					Compacted sandstone fill
			0.4			CLAY: Firm, orange / tan clay, low plasticity	
BH16_0.4-0.5	Y	UD					All PID <0.1 ppm
			0.6				
			0.8				
			1				
			1.2			End of hole: 1.2 m refusal on weathered shale	
			1.4				
			1.6				
			1.8				
			2				
			2.2				
			2.4				
			2.6				
			2.8				
			3				
			3.2				
			3.4				
			3.6				
			3.8				
			4				
			4.2				
			4.4				
			4.6				
			4.8				

BOREHOLE LOG BH17

PROJECT NUMBER 367109
PROJECT NAME TEI
CLIENT GPT
ADDRESS 754-786 Mamre Road, Kemps Creek, NSW

DRILLING DATE 20/9/19
METHOD Push Tube
DRILLER Epoca
DRILL RIG Geoprobe

COMMENTS

LOGGED BY JL
CHECKED BY JW

Samples	Analysed	Sample Type	Depth (m)	Graphic Log	Moisture	Material Description	Additional Observations
			0.2		M	FILL: Firm, dark brown, gravelly clay, low plasticity	Crushed sandstone fill
BH17_0.4-0.5	N	UD	0.4				All PID <0.1 ppm
			0.6				
			0.8				
			1				
BH17_1.2-1.3 / QA2	Y	UD	1.2				
			1.4				
			1.6			CLAY: Firm, black / brown clay, medium plasticity	
			1.8			becoming maroon at 1.5 to 3.2 m	
			2				
			2.2			ironstone gravels at 3.2 m	
			2.4				
			2.6				
			2.8				
BH17_3.0-3.1	Y	UD	3				
			3.2			End of hole: 3.2 m target depth achieved	
			3.4				
			3.6				
			3.8				
			4				
			4.2				
			4.4				
			4.6				
			4.8				

BOREHOLE LOG BH18

PROJECT NUMBER 367109
PROJECT NAME TEI
CLIENT GPT
ADDRESS 754-786 Mamre Road, Kemps Creek, NSW

DRILLING DATE 20/9/19
METHOD Push Tube
DRILLER Epoca
DRILL RIG Geoprobe

COMMENTS

LOGGED BY JL
CHECKED BY JW

Samples	Analysed	Sample Type	Depth (m)	Graphic Log	Moisture	Material Description	Additional Observations
			0.2		SM	FILL: Firm, dark brown, gravelly clay, low plasticity	No odours
			0.4			CLAY: Firm, orange / tan clay, low plasticity	All PID <0.1 ppm
BH18_0.4-0.5	Y	UD	0.6				
			0.8				
BH18_1.0-1.1	Y	UD	1				
			1.2				
			1.4			End of hole: 1.3 m refusal on weathered shale	
			1.6				
			1.8				
			2				
			2.2				
			2.4				
			2.6				
			2.8				
			3				
			3.2				
			3.4				
			3.6				
			3.8				
			4				
			4.2				
			4.4				
			4.6				
			4.8				

BOREHOLE LOG BH19

PROJECT NUMBER 367109
PROJECT NAME TEI
CLIENT GPT
ADDRESS 754-786 Mamre Road, Kemps Creek, NSW

DRILLING DATE 20/9/19
METHOD Push Tube
DRILLER Epoca
DRILL RIG Geoprobe

COMMENTS

LOGGED BY JL
CHECKED BY JW

Samples	Analysed	Sample Type	Depth (m)	Graphic Log	Moisture	Material Description	Additional Observations
			0.2		SM	FILL: Firm, dark brown, gravelly clay, low plasticity	No odours
BH19_0.1-0.2	Y	UD	0.4				All PID <0.1 ppm
BH19_0.5-0.6	Y	UD	0.6			CLAY: Firm, orange / tan clay, low plasticity	
			0.8				
			1				
			1.2				
			1.4			End of hole: 1.3 m refusal on weathered shale	
			1.6				
			1.8				
			2				
			2.2				
			2.4				
			2.6				
			2.8				
			3				
			3.2				
			3.4				
			3.6				
			3.8				
			4				
			4.2				
			4.4				
			4.6				
			4.8				

BOREHOLE LOG BH20

PROJECT NUMBER 367109
PROJECT NAME TEI
CLIENT GPT
ADDRESS 754-786 Mamre Road, Kemps Creek, NSW

DRILLING DATE 20/9/19
METHOD Push Tube
DRILLER Epoca
DRILL RIG Geoprobe

COMMENTS

LOGGED BY JL
CHECKED BY JW

Samples	Analysed	Sample Type	Depth (m)	Graphic Log	Moisture	Material Description	Additional Observations
			0.2		SM	FILL: Firm, dark brown, gravelly clay, low plasticity	No odours
BH20_0.3-0.4	N	UD	0.4			REWORKED NATURAL: Soft, brown / orange gravelly clay, low plasticity.	All PID <0.1 ppm
			0.6			CLAY: Firm, orange / tan clay, low plasticity	
BH20_1.0-1.1 / QA3	Y	UD	1				
			1.2			End of hole: 1.2 m refusal on weathered shale	
			1.4				
			1.6				
			1.8				
			2				
			2.2				
			2.4				
			2.6				
			2.8				
			3				
			3.2				
			3.4				
			3.6				
			3.8				
			4				
			4.2				
			4.4				
			4.6				
			4.8				

APPENDIX G
SAFEWORK SEARCHES

Locked Bag 2906, Lisarow NSW 2252
Customer Experience 13 10 50
ABN 81 913 830 179 | www.safework.nsw.gov.au

Our Ref: D21/003256

19 January 2021

Mr James Lean
KPMG Property and Environmental services Pty Ltd
Jlean1@kpmg.com.au

Dear James

RE SITE: 754-770 (Lot 60 on DP 259135) Mamre Road, KEMPS CREEK NSW 2178

I refer to your site search request received by SafeWork NSW requesting information on Storage of Hazardous Chemicals for the above site.

A search of the records held by SafeWork NSW has not located any records pertaining to the above-mentioned premises.

For further information or if you have any questions, please call us on 13 10 50 or email licensing@safework.nsw.gov.auw

Yours sincerely

Licensing Representative, Licensing and Funds
Licensing and Funds | Better Regulation Division
Department of Customer Service
p: 13 10 50
e: www.customerservice.nsw.gov.au
Level 3, 32 Mann Street, Gosford NSW 2250

Locked Bag 2906, Lisarow NSW 2252
Customer Experience 13 10 50
ABN 81 913 830 179 | www.safework.nsw.gov.au

Our Ref: D21/004125

19 January 2021

James Lean
KPMG Property and Environmental Services Pty Limited
Jlean1@kpmg.com.au

Dear James

RE SITE: 784-786 (Lot 59 on DP259135) Mamre Road, KEMPS CREEK NSW 2178

I refer to your site search request received by SafeWork NSW 24 December 2020 requesting information on Storage of Hazardous Chemicals for the above site.

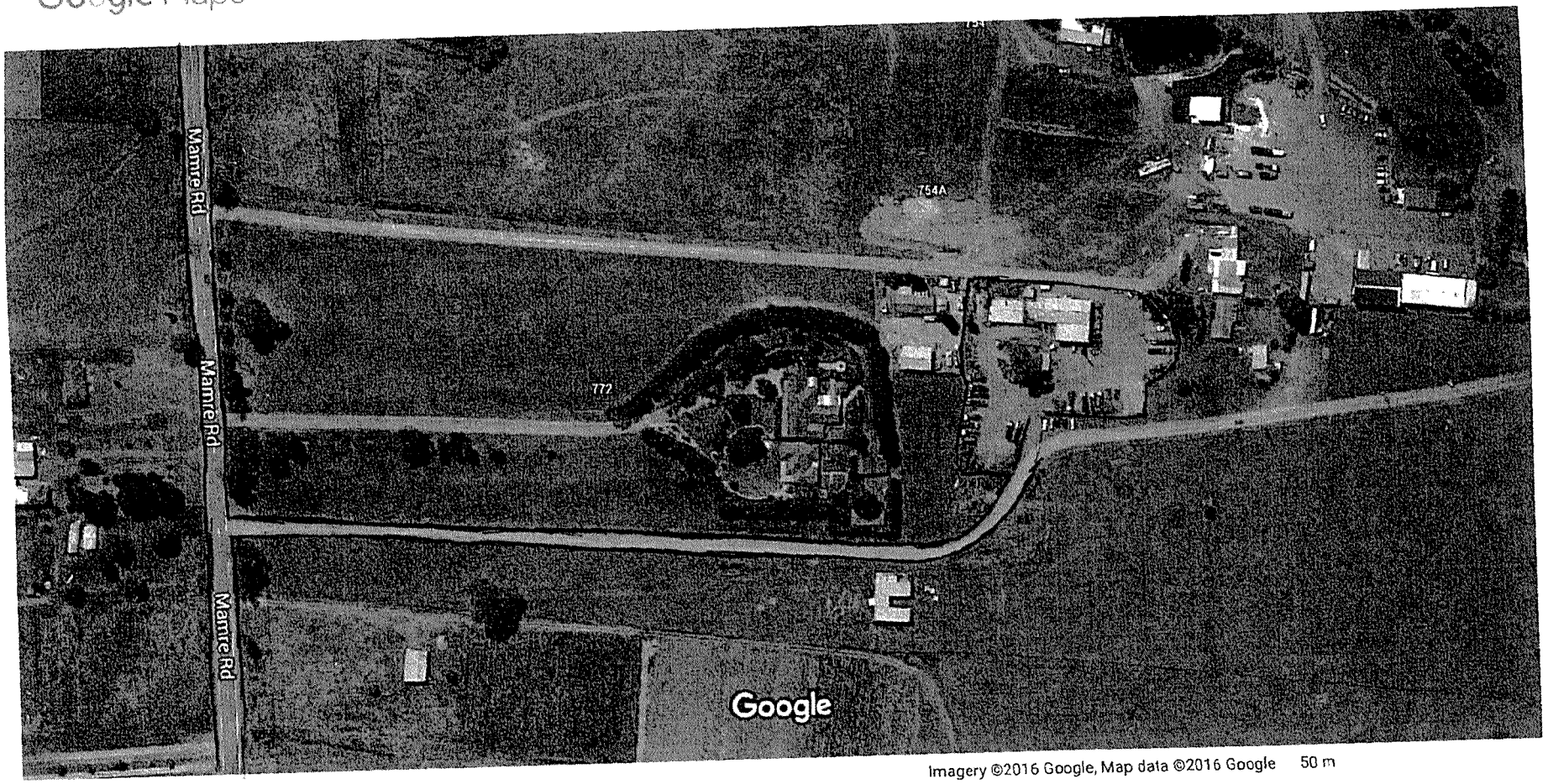
Enclosed are copies of the documents that SafeWork NSW holds on record number 35/029818 relating to the storage of Hazardous Chemicals at the above-mentioned premises.

For further information or if you have any questions, please call us on 13 10 50 or email licensing@safework.nsw.gov.au

Yours sincerely

Customer Service Officer
Customer Experience - Operations
SafeWork NSW

Google Maps 784 Mamre Rd



Google Maps

MTF

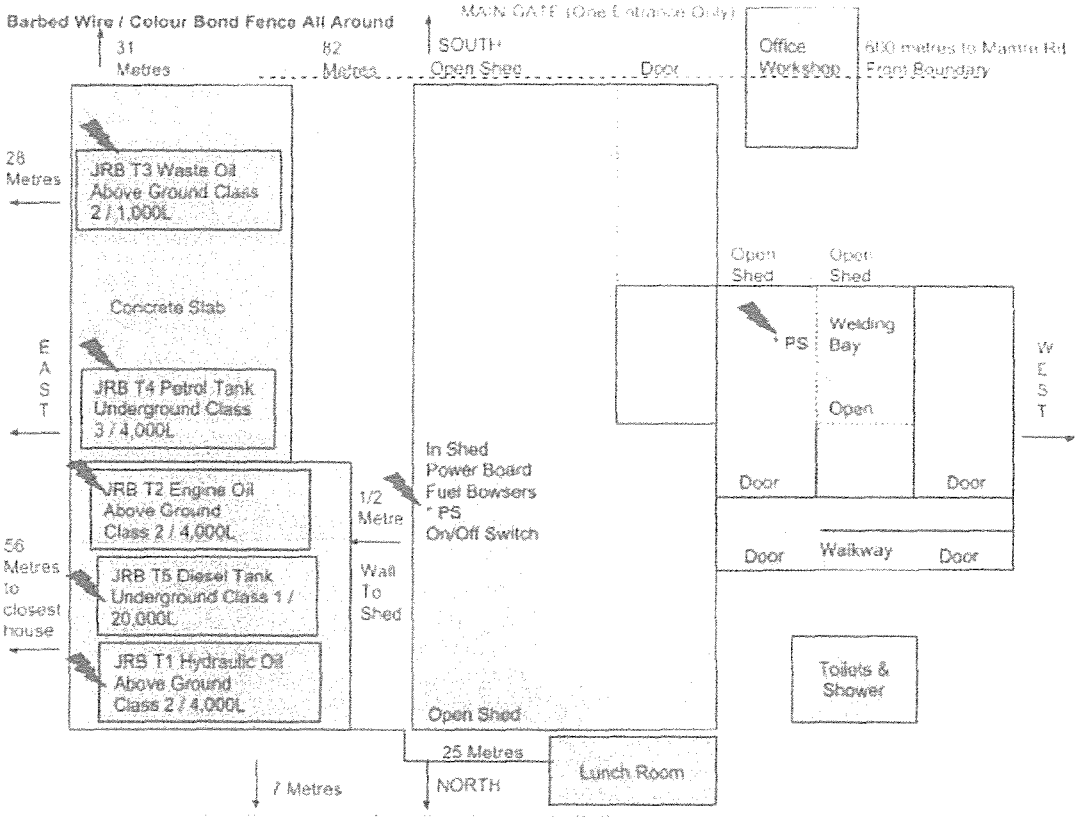
35/029818.

John Robar Boring Contractors Pty Ltd
Site Plan

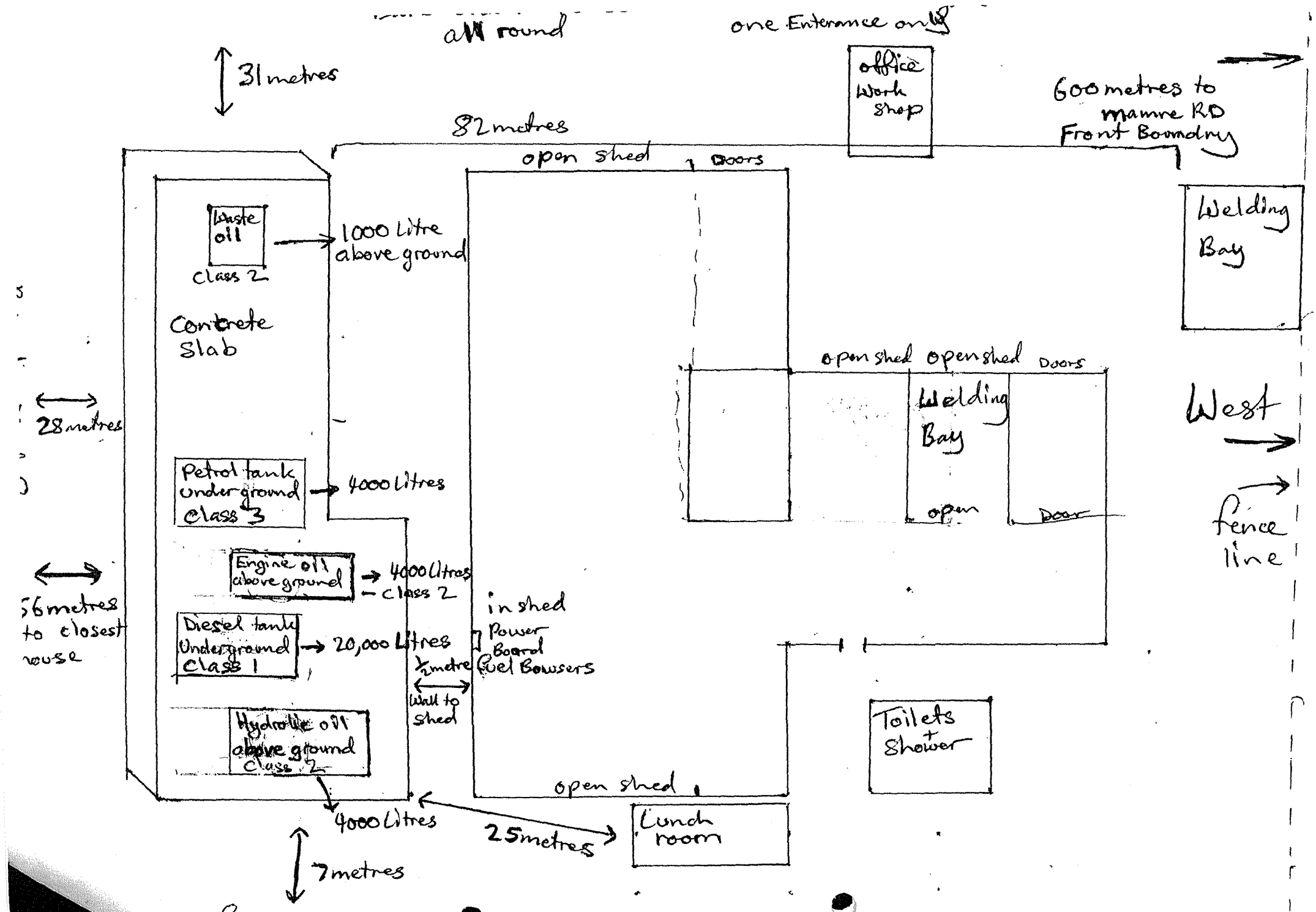
NAME OF PREMISES: John Robar Boring Contractors Pty Ltd
ADDRESS: 784 Mamre Road, Kemps Creek, NSW 2178
DATE OF THIS PLAN DRAWING: 11th August 2016
DATE OF LAST REVISION: 31st July 2016

Legend
* PS = Power Supply (2 Main)

Vacant Land Surrounding The Depot (N-S-E-W)



Vacant Land Surrounding The Depot (N-S-E-W)


all round
one Enterance only
31 metres
82 metres
office
Work
Shop
600 metres to
mamre RD
Front Boundry
open shed
Doors
Welding
Bay
Waste
oil
1000 Litre
above ground
class 2
Concrete
Slab
open shed
open shed
Doors
Welding
Bay
open
Door
West
fence
line
28 metres
Petrol tank
Underground
class 3
4000 Litres
Engine oil
above ground
4000 Litres
class 2
56 metres
to closest
house
in shed
Power
Board
Diesel tank
Underground
Class 1
20,000 Litres
½ metre
Wall to
shed
Fuel Bowsers
Hydraulic oil
above ground
Class 2
Toilets
+
Shower
open shed
4000 Litres
25 metres
Lunch
room
7 metres

STORAGE DETAILS (must be completed for both new notifications and further notifications)

If space is insufficient please provide details on a separate sheet of paper.

Storage facility identifier: 1

Type of storage facility: UNDERGROUND TANK

Class or division: 3

Maximum storage capacity: 4000

Unit (L or kg or number):

UN number	Class or division	Typical quantity	Unit (L or kg or number)	Packing group
1203				

Proper shipping name: UN1203 PETROL

Product or common name: UNLEADED PETROL

UN number	Class or division	Typical quantity	Unit (L or kg or number)	Packing group
0001	C1	20000		

Proper shipping name: UN0001 DIESEL

Product or common name: DIESEL

UN number	Class or division	Typical quantity	Unit (L or kg or number)	Packing group

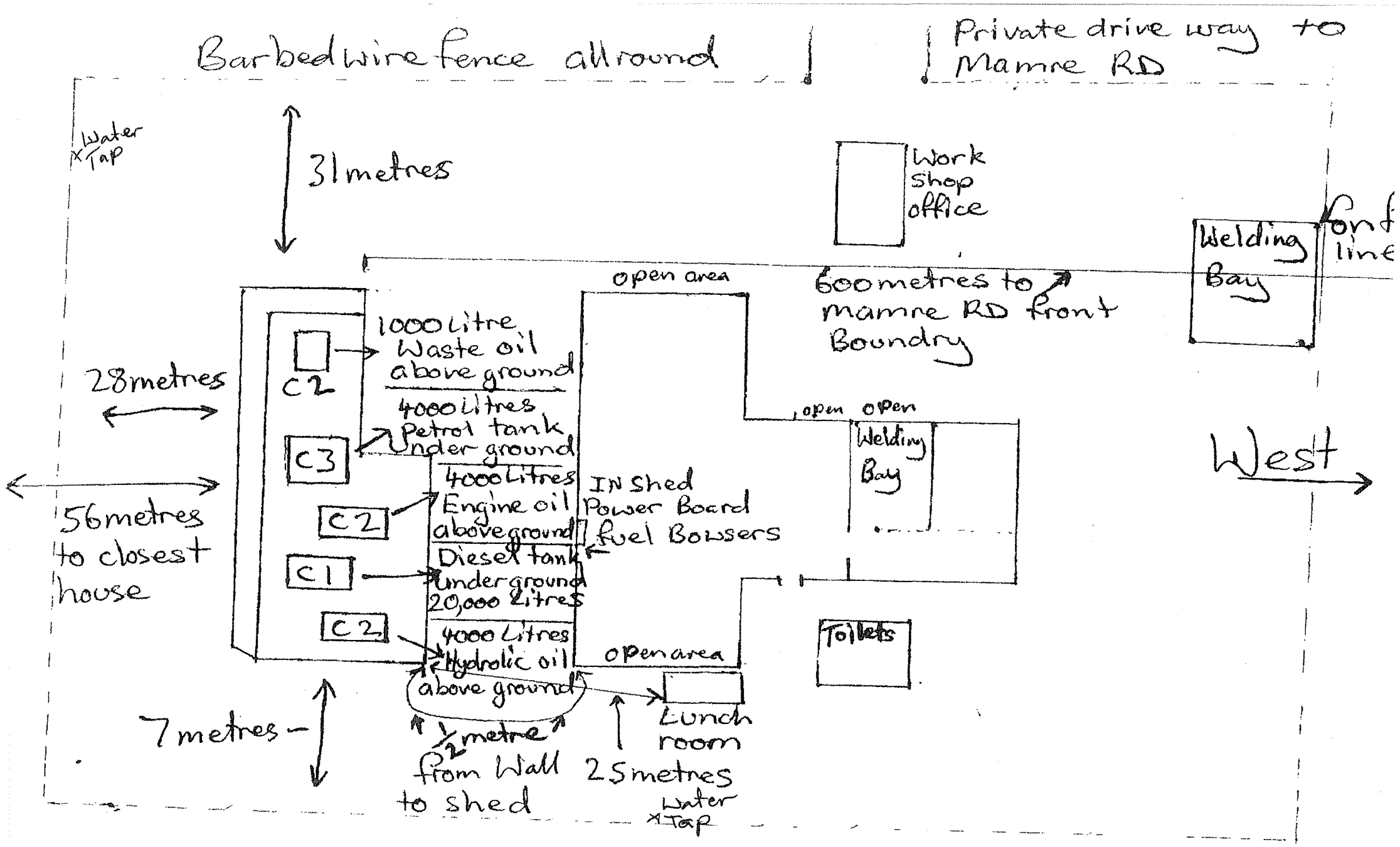
Proper shipping name:

Product or common name:

UN number	Class or division	Typical quantity	Unit (L or kg or number)	Packing group

Proper shipping name:

Product or common name:


Barbed wire fence all round
Private drive way to Mamre RD
Water Tap
31 metres
Work shop office
Welding Bay
front line
open area
600 metres to mamre RD front Boundry
1000 Litre Waste oil above ground
C2
28 metres
4000 Litres Petrol tank Under ground
C3
4000 Litres Engine oil above ground
IN Shed Power Board
Fuel Bowsers
C2
56 metres to closest house
Diesel tank Underground 20,000 Litres
C1
C2
4000 Litres Hydrolic oil above ground
open open
Welding Bay
West
Toilets
open area
Lunch room
7 metres
1/2 metre from Wall to shed
25 metres
Water Tap

Licence No. 35/029818

APPLICATION FOR RENEWAL

OF LICENCE TO KEEP DANGEROUS GOODS

ISSUED UNDER AND SUBJECT TO THE PROVISIONS OF THE DANGEROUS GOODS ACT, 1975 AND REGULATION THEREUNDER

DECLARATION: Please renew licence number 35/029818 to 26/01/2004 . I confirm that all the licence details shown below are correct (amend if necessary).

John Robar ..... JOHN ROBAR 16/1/2003

(Signature) *(Please print name)* *(Date signed)*

for: JOHN ROBAR BORING CONTRACTORS P/L

*THIS **SIGNED** DECLARATION SHOULD BE **RETURNED TO:***

WorkCover New South Wales
Dangerous Goods Licensing Section
LOCKED BAG 2906
LISAROW NSW 2252

Enquiries:ph (02) 43215500
fax (02) 92875500

Details of licence on 14 January 2003

Licence Number 35/029818 **Expiry Date** 26/01/2003

Licensee JOHN ROBAR BORING CONTRACTORS P/L ACN 001 906 396

Postal Address: 784 MAMRE RD ST MARYS NSW 2760

Licensee Contact JOHN ROBAR Ph. 670 4674 Fax. 670 5091

Premises Licensed to Keep Dangerous Goods
JOHN ROBAR BORING CONTRACTORS P/L
784 MAMRE RD ST MARYS 2760

Nature of Site PLANT HIRING OR LEASING

Major Supplier of Dangerous Goods UNKNOWN OR OTHER

Emergency Contact for this Site JOHN ROBAR Ph. 9670 4674

Site staffing 8 HRS 5 DAYS + HALF

Details of Depots

Depot No.	Depot Type	Goods Stored in Depot	Qty
1	EXEMPT - A/G TANK	Class C2	2000 L
	UN 00C2 COMBUSTIBLE LIQUID 2		2000 L
2	EXEMPT - A/G TANK	Class C2	1000 L
	UN 00C2 COMBUSTIBLE LIQUID 2		1000 L
3	EXEMPT - A/G TANK	Class C1	4000 L
	UN 00C1 DIESEL		4000 L
4	UNDERGROUND TANK	Class 3	20000 L
	UN 1203 PETROL		20000 L
5	EXEMPT - A/G TANK	Class C2	4000 L
	UN 00C2 COMBUSTIBLE LIQUID 2		4000 L
6	EXEMPT - U/G TANK	Class C1	4000 L
	UN 00C1 DIESEL		4000 L
7	EXEMPT - A/G TANK	Class C2	4000 L
	UN 00C2 COMBUSTIBLE LIQUID 2		4000 L

dangerous goods that will be stored and/or processed on these premises (refer to Guide GDG01). Copy this page additional sheets if there is insufficient space.

Depot No	Type of storage location or process	Class	Maximum Storage Capacity (L, kg)
	Above ground tank roofless store	C2	1000L

UN Number	Proper Shipping Name	Class	PG (I, II, III)	Product or Common Name	HazChem Code	Typical Qty	Unit eg L, kg
	Ultra max 46	2		Hydrolic oil	3Y		1000L LPG.
	Premium 40	2		Engine oil	3Y		

Depot No	Type of storage location or process	Class	Maximum Storage Capacity (L, kg)
1	Underground tank	3	4000 Litres

UN Number	Proper Shipping Name	Class	PG (I, II, III)	Product or Common Name	HazChem Code	Typical Qty	Unit eg L, kg
1203	Petrol	3	II	Premium Unleaded Petrol	3YE	4000	Litres

Depot No	Type of storage location or process	Class	Maximum Storage Capacity (L, kg)
2.	Underground tank	1	20,000 Litres

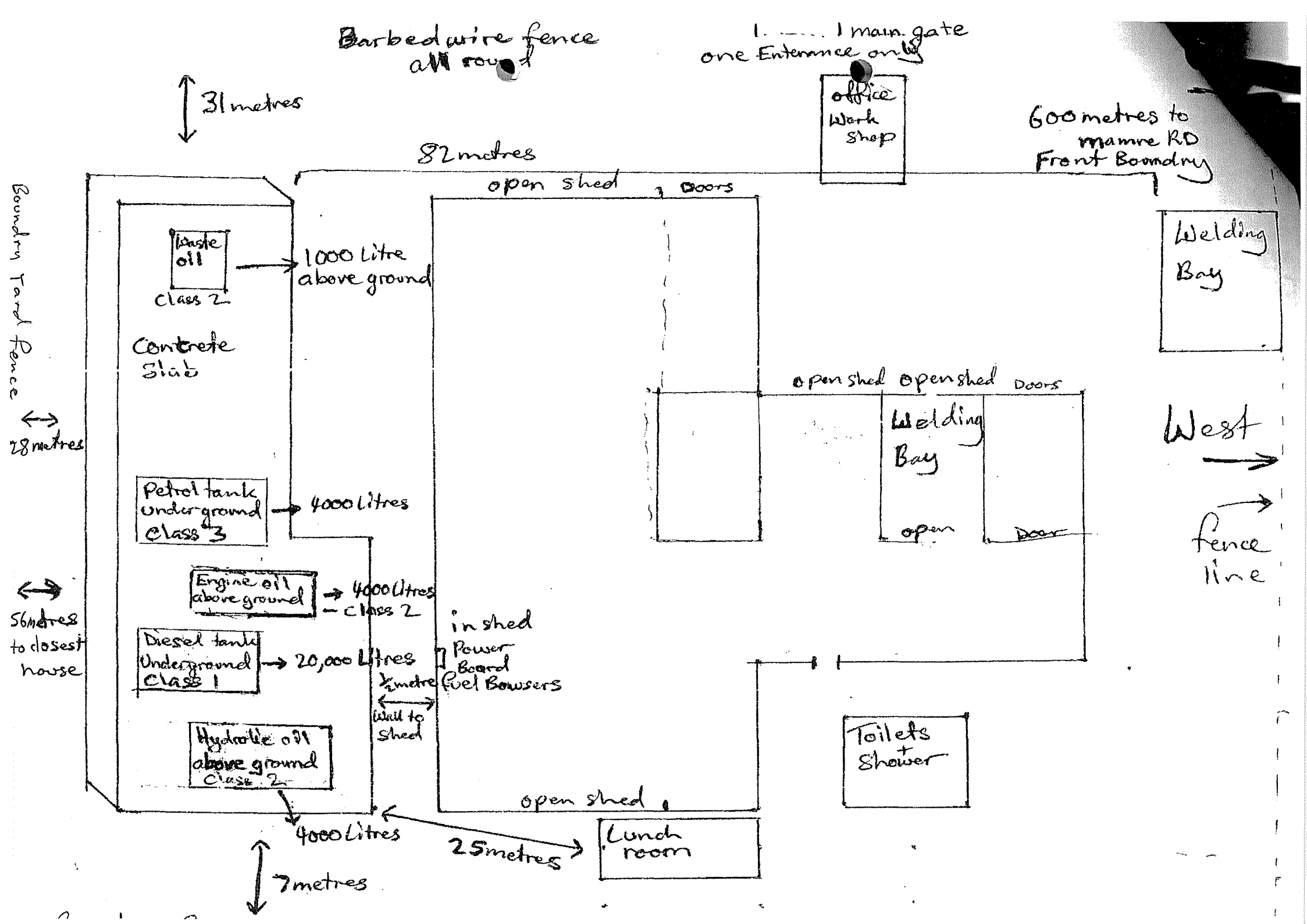
UN Number	Proper Shipping Name	Class	PG (I, II, III)	Product or Common Name	HazChem Code	Typical Qty	Unit eg L, kg
0001	Diesel	1		Diesel	3Y	20,000	Litres

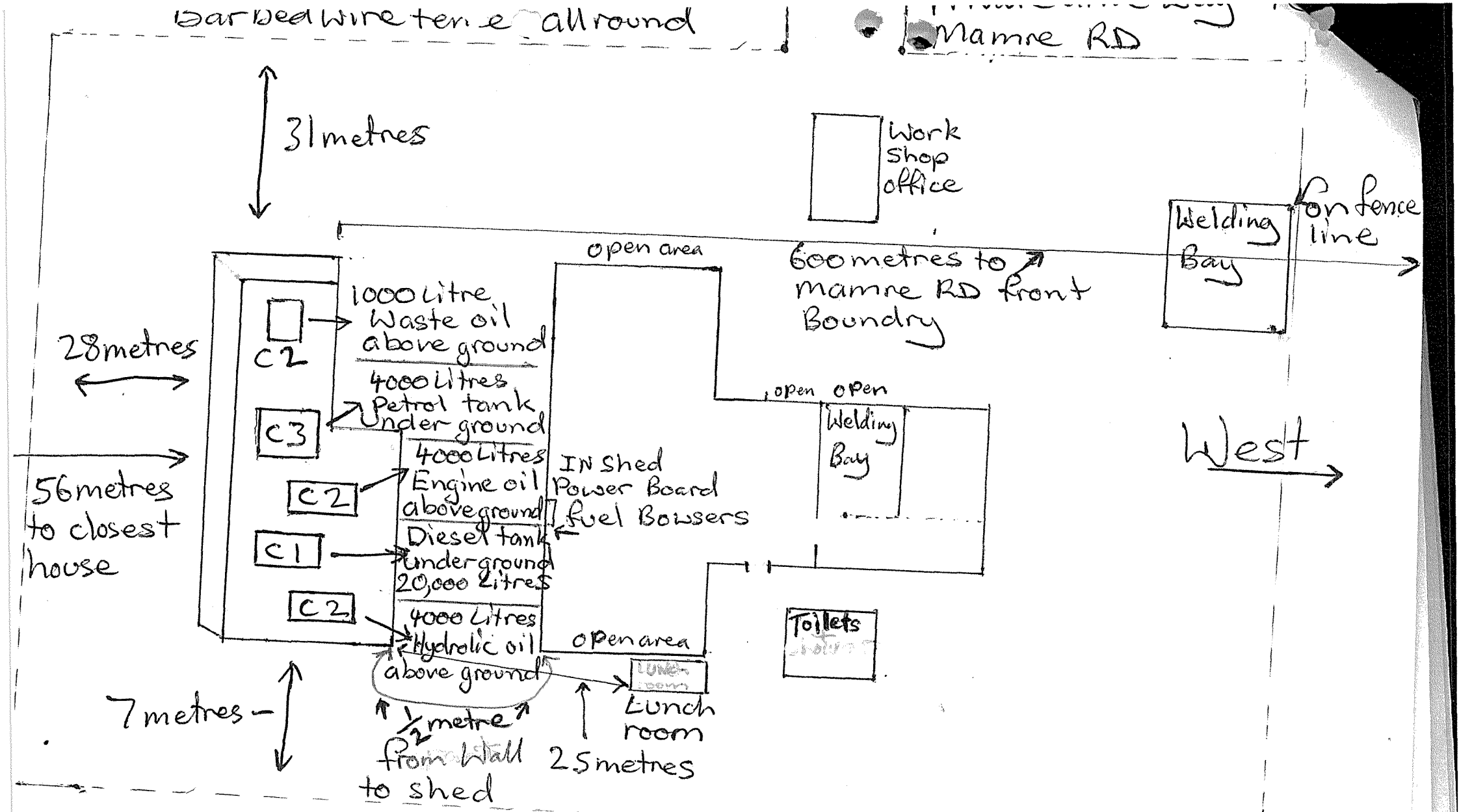
Depot No	Type of storage location or process	Class	Maximum Storage Capacity (L, kg)

UN Number	Proper Shipping Name	Class	PG (I, II, III)	Product or Common Name	HazChem Code	Typical Qty	Unit eg L, kg

Depot No	Type of storage location or process	Class	Maximum Storage Capacity (L, kg)

UN Number	Proper Shipping Name	Class	PG (I, II, III)	Product or Common Name	HazChem Code	Typical Qty	Unit eg L, kg


Barbed wire fence all round
1 ..... 1 main gate one Enterance only
31 metres
82 metres
office
Work shop
600 metres to mamre RD Front Boundry
open shed
3 Doors
Welding Bay
Boundry Yard Fence
28 metres
Waste oil
1000 Litre above ground
Class 2
Concrete Slab
open shed
open shed
Doors
Welding Bay
open
Door
West
fence line
Petrol tank underground class 3
4000 Litres
Engine oil above ground
4000 Litres
Class 2
in shed
Power Board
Fuel Bowsers
56 metres to closest house
Diesel tank Underground Class 1
20,000 Litres
½ metre
Wall to shed
Hydraulic oil above ground Class 2
Toilets + Shower
open shed
4000 Litres
25 metres
Lunch room
7 metres


Barbed wire fence all round
Mamre RD
31 metres
Work shop office
Welding Bay
on fence line
open area
600 metres to mamre RD front Boundry
28 metres
C2
1000 Litre Waste oil above ground
4000 Litres Petrol tank Under ground
C3
4000 Litres Engine oil above ground
IN Shed Power Board
Fuel Bowsers
C2
Diesel tank Underground 20,000 Litres
C1
C2
4000 Litres Hydrolic oil above ground
open open
Welding Bay
West
56 metres to closest house
Toilets
open area
Lunch room
7 metres
1/2 metre from wall to shed
25 metres

35/029818

82 metres

Concrete wall is around tanks ½ metre high

Concrete Slab 4 inch thick

20 metres long

Boundary 21 metres

Boundary 8 metres

above ground — Old Sump Oil — 2,000 Litres

Hydrolic oil — above ground — 1,000 Litres

Diesel above ground — 4,000 Litres

2.4 metres

Underground Petrol Tank — 20,000 Litres

Hydrolic oil above ground — 4,000 Litres — on a Stand

Underground Diesel Tank — 4,000 Litres

Engine oil above ground — 4,000 Litres — on a Stand

1/2

Factory Workshop

Welding area

Parts only

Parts only

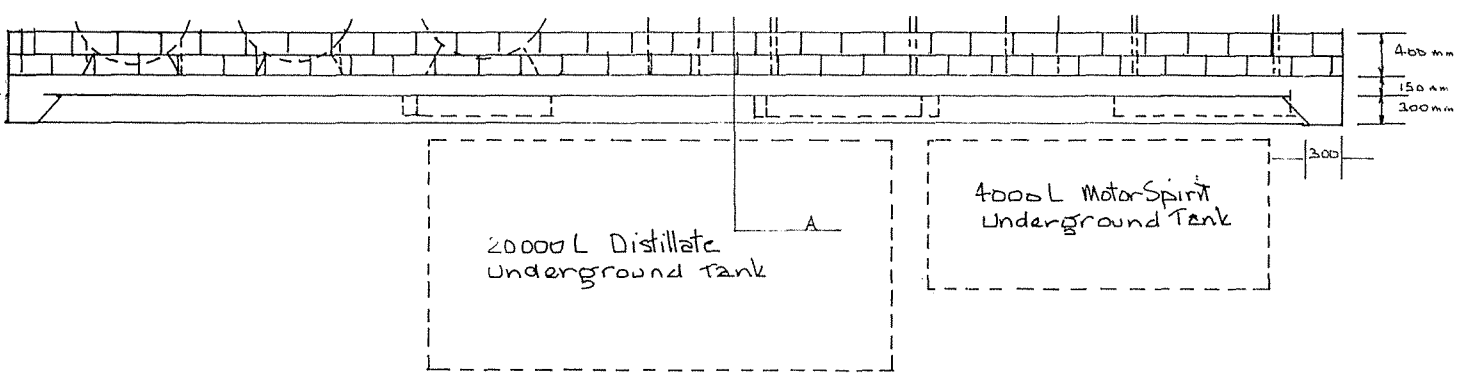
Toilet Shower

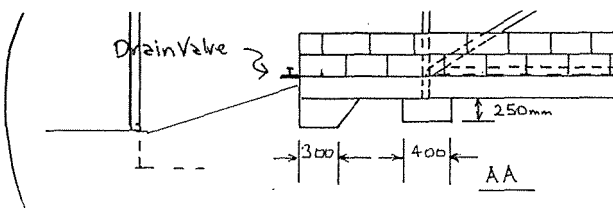
Lunch room

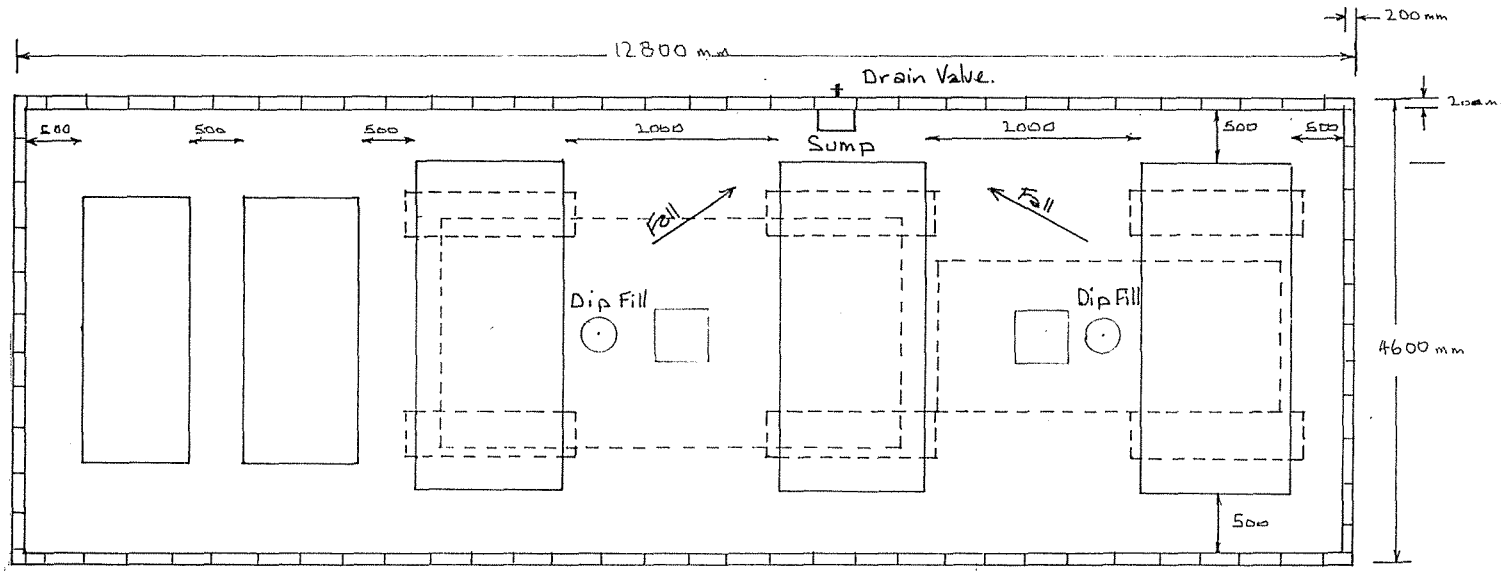
Factory Workshop

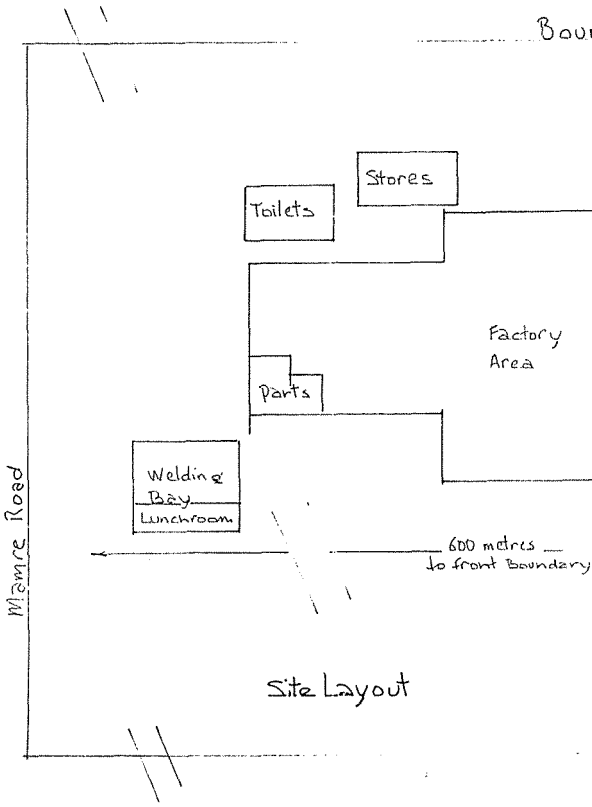
Weldi area

RECEIVED
13 APR 1995
SCIENTIFIC SERVICES BRANCH







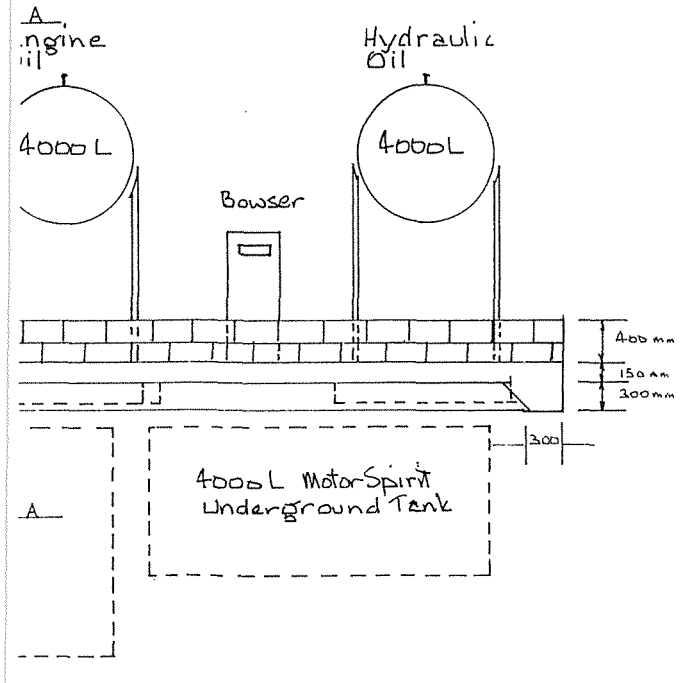


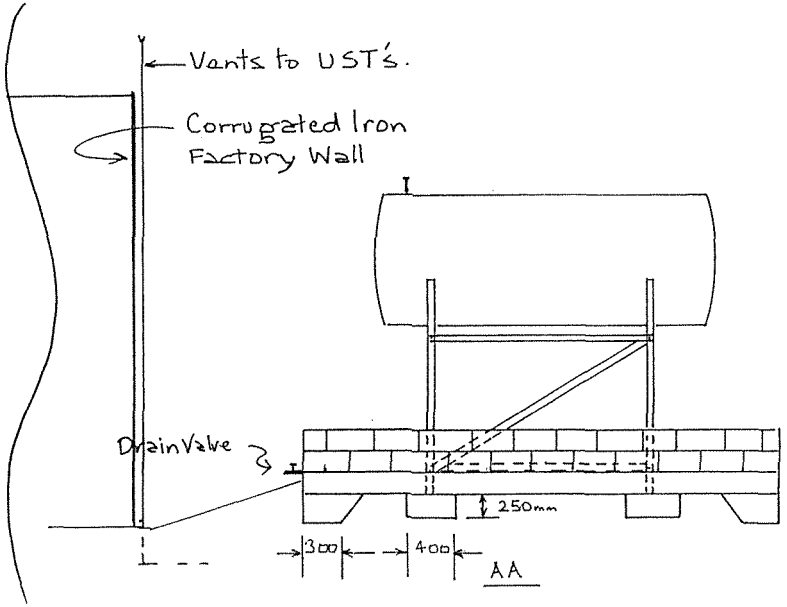
NOTE: Distance from Tank Shell to Bund Crest reduced to 500mm due to Viscocity of product being stored ie: oils.
AS 1940-93 5.9.3(g)

This plan conforms with the Dangerous Goods Act N.S.W. 1975 and Aust. Standard As 1940-93

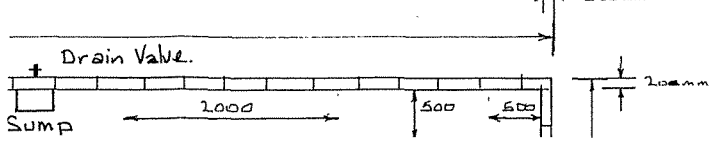
Signed for Robar Boring

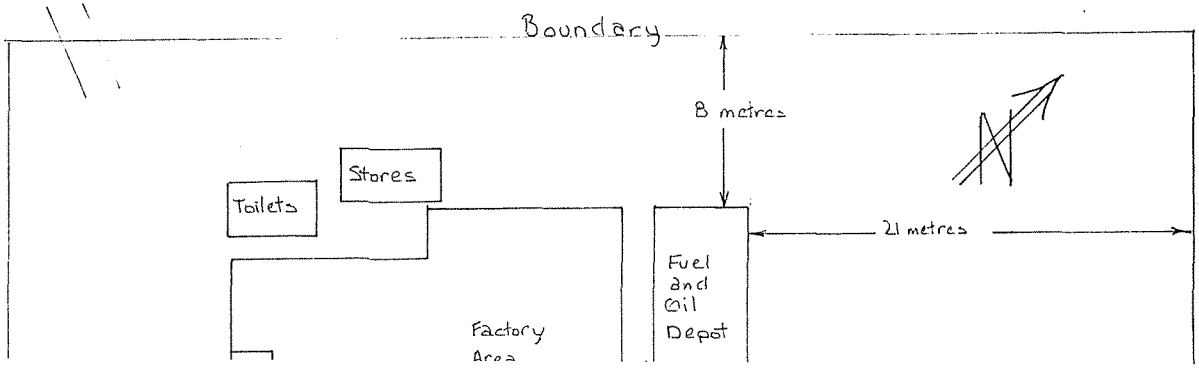
Date 20/3/95

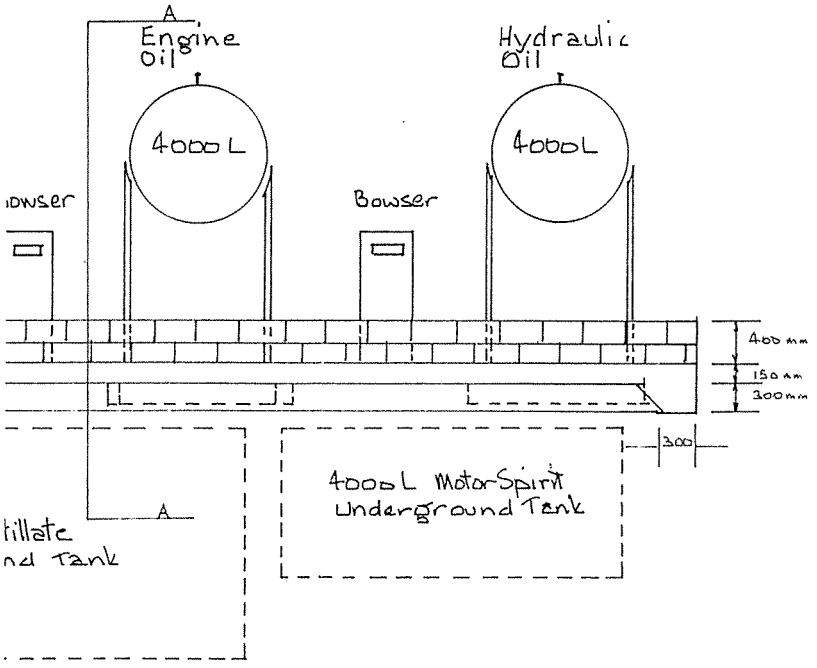


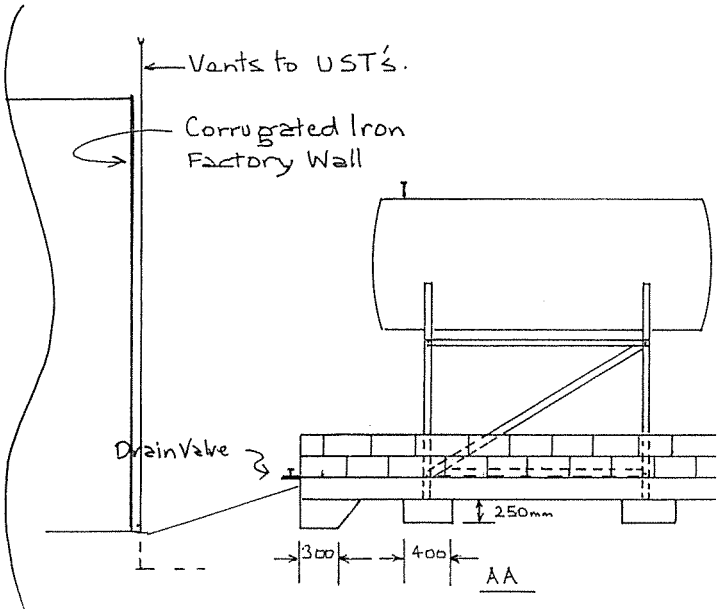


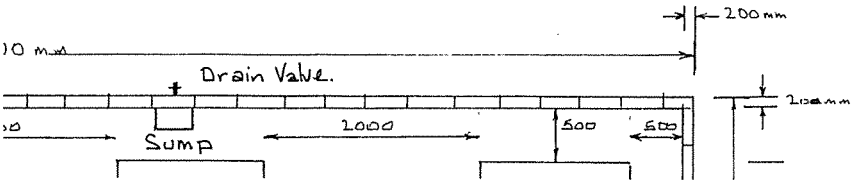
Filled Concrete Block Wall
Slab: 20 mpa - F82 Mesh

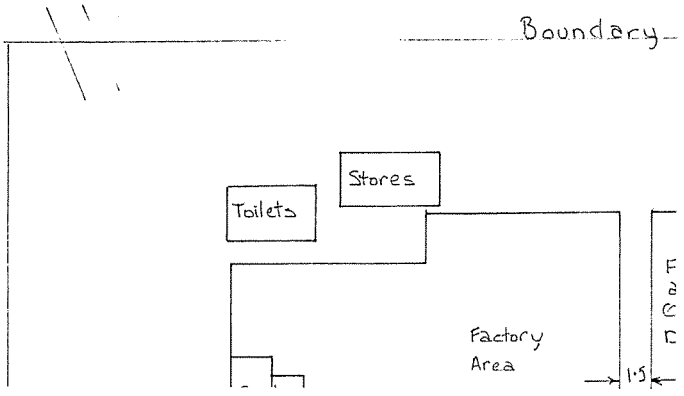


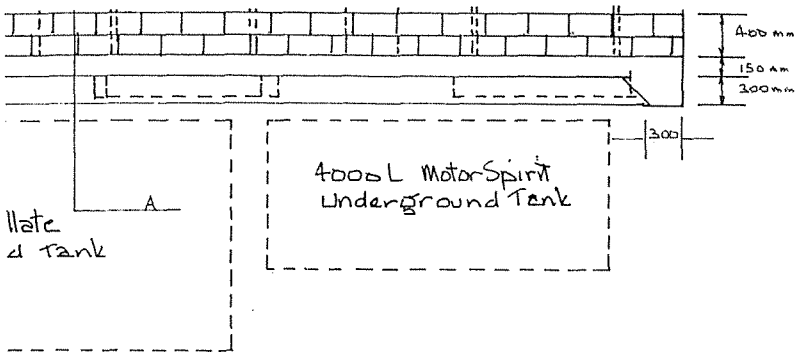


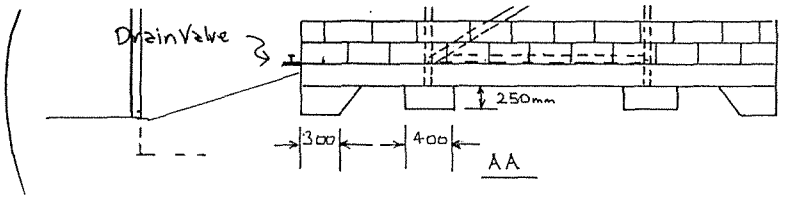

A
Engine Oil
Hydraulic Oil
4000 L
4000L
owser
Bowser
400 mm
150 mm
300mm
300
4000L Motor Spirit Underground Tank
A
tillate
nd Tank


Vents to UST's.
Corrugated Iron Factory Wall
Drain Valve
250mm
300
400
AA

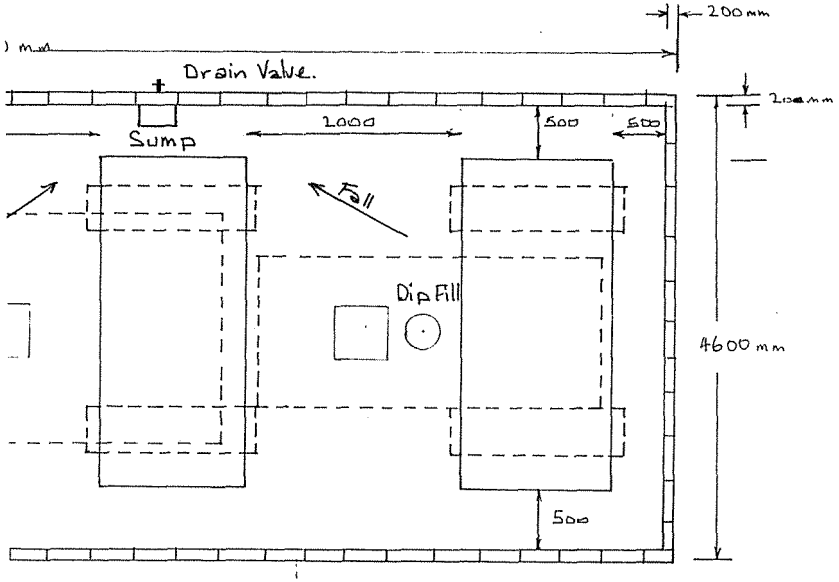

200mm
Drain Valve.
Sump
2000
500
500

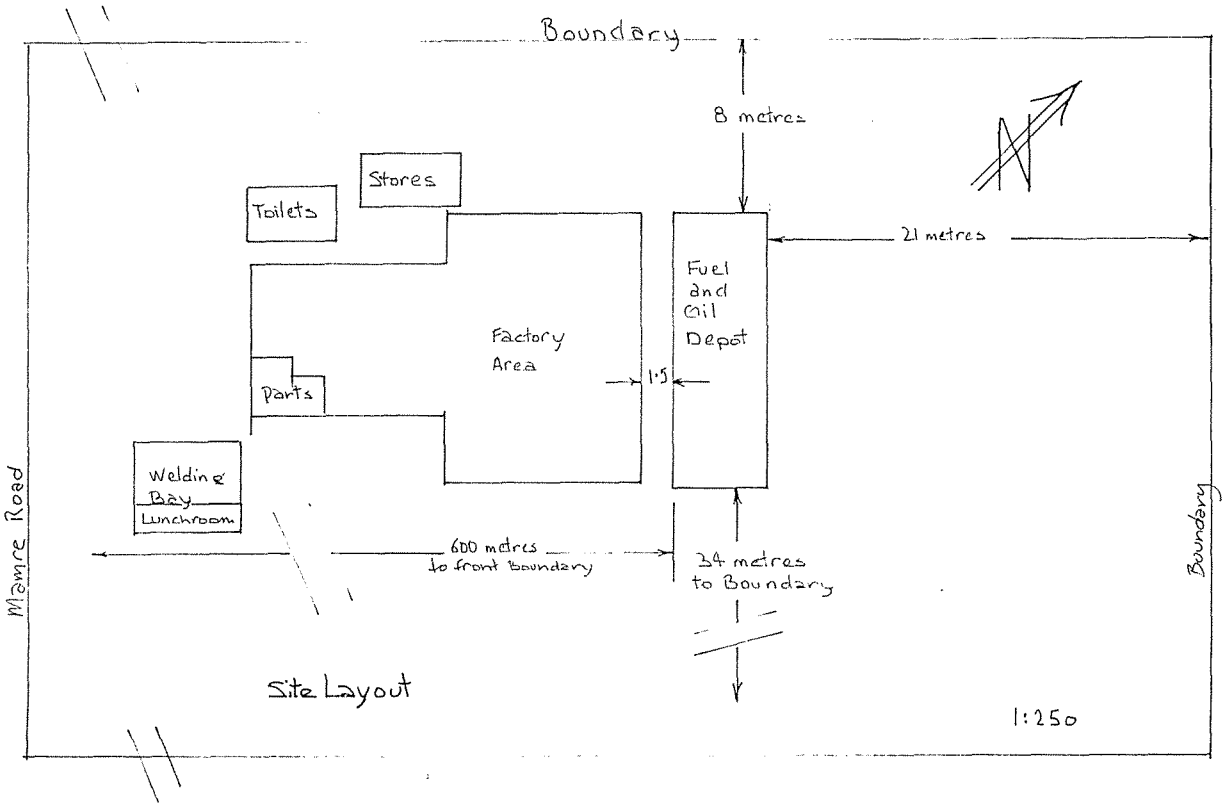

Boundary
Toilets
Stores
Factory Area
1·5





Filled Concrete Block Wall
Slab: 20 mpa - F82 Mesh





This plan conforms with the
Dangerous Goods Act N.S.W. 1975
and Aust. Standard As 1940-93
Signed for Robar Boring
Date 20/3/95

PETROLINK Pty Ltd
Commercial Fuel Installations

Lot 44 Tilba Rd MULGOA Tel. 047 738521

Robar Boring 784 Mamre Rd St Marys
Fuel Storage Compound

DRAWN	CHECKED	SCALE	JOB
18/3/95		1:5 1:250	2745

APPENDIX F
REPORT LIMITATIONS

Property and Environmental Services

Report Limitations

We advise that, unless specifically stated otherwise within the body of this document, the following Limitations apply to our Report;

- Sections within this Report may contain additional Limitations relevant to the reporting discipline concerned. These must be viewed as additional limitations that stand separately, and in addition to, the following Limitations.
- No reliance should be placed on draft reports, draft conclusions or draft advice issued by us as they may be subject to further work, revision and other factors which may mean that drafts are substantially different from any FINAL report or advice issued.
- Parts of the building built in, covered up or otherwise made inaccessible during construction, alteration or fitting out have not been inspected.
- This generally relates to ceiling voids, wall cavities and service risers. Therefore we are unable to comment as to whether such elements are free from defect or infestation.
- We have not undertaken any work of a specific engineering nature, such as engineering calculations, structural analysis, testing or measurements as the Report reflects our interpretation of the condition of the building as apparent from the inspection.
- Building services have been visually inspected where exposed to view only. No internal inspections have been undertaken of plant, equipment and machinery or where services are covered up or hidden by building structural elements or finishes. Building services have not been tested and no design calculations have been undertaken.
- The property has not been inspected specifically for termite infestation and we would only report on such if evidence of termite activity was apparent during our inspection.
- Where a variety of multiple units or tenanted areas are inspected, a random selection of each type of unit / area was inspected and used for the basis of this report.
- This Report is not a certification, a warranty or guarantee and has been scoped in accordance with the instructions given and the time allowed.
- The scope of the Report is described in the fee proposal accepted by the instructing client and disciplines not specifically mentioned are excluded from this report.
- This Report has been prepared for the benefit of the instructing client named on the cover of the document. This Report is not to be reproduced, in whole or in part, without the express written authorisation of KPMG Property & Environmental Services Pty Limited.
- The findings of this Report are valid for six calendar months from the date of issue of the Draft version of the document.
- Unless specifically stated otherwise, all cost estimates provided throughout the Report are subject to the following Limitations;
- Estimates are indicative only and are provided as a guide to “order of magnitude” of the cost item. Items of work are not fully described or detailed reflecting the high level nature of the assessment, the amount of information available and the purpose for which they are prepared;
- Preliminaries, builder’s margins, overheads and contingencies are excluded;
- Professional fees, project management fees, planning and building licence fees are excluded;
- No allowance has been made for Tender Price Inflation throughout the budget terms considered;
- In providing estimates we have assumed that replacements and renewals will be on a like for like basis. Unless specifically stated otherwise we have made no allowances for improvements over and above this standard.
- We have assume that WH&S /OH&S requirements will be similar to those encountered in the present and have made no allowances for any additional measures that may be required in the future.

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- Disability Access Audits
- Building Code Consultancy
- Statutory Compliance

Capitalising on a global skill base, all senior consultants are Chartered Building Surveyors, Engineers or Environmental Scientists, providing the company with a breadth of understanding across many specialist competencies, which is the key to our speed of assessment, service and delivery.

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Our reporting date corresponds with a period of significant volatility in global financial markets and widespread macro-economic uncertainty. In light of the emergence and spread of COVID-19, this volatility and uncertainty could persist for some time. The assumptions and cost estimates set out in our report will need to be reviewed and revised to reflect any changes which emerge as a result of COVID-19. As a result of the continued uncertainty in relation to the impact of COVID-19, our work may not have identified, or reliably quantified the impact of, all such uncertainties and implications. If the assumptions provided by Client/Target on which this report is based are subsequently shown to be incorrect or incomplete, this could have the effect of changing the findings set out in this report and these changes could be material. We are under no obligation to amend our report for any subsequent event or new information.

KPMG Property & Environmental Services

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October 2020. 57775576DTL