Detailed Site Investigation and Dam Water & Sediment Assessment

Project

Detailed Site Investigation
290-308 Aldington Road and 59-63 Abbotts Road
Kemps Creek NSW

Prepared for

ESR Australia

Date

1/12/2021

Report No

13546-ER-2-1

alliance
geotechnical & environmental solutions

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Report 13546-ER-2-1 dated 1 December 2021 reviewed for and on behalf of Alliance Geotechnical Pty Ltd

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Executive Summary

Alliance Geotechnical Pty Ltd (Alliance) was engaged by ESR Australia to undertake a Stage 2 Detailed Site Investigation (DSI), Dam Water and Sediment Assessment and Soil Salinity Assessment at 290-308 Aldington Road and 59-63 Abbotts Road, Kemps Creek NSW (refer **Figure 1**, with the 'site' boundaries outlined in **Figure 2**).

At the commencement of the project, Alliance had the following project appreciation:

- The site is currently owned by three separate private owners – one per lot.
- Each lot is currently occupied and being used for rural residential purposes.
- The site is proposed for redevelopment, including demolition of current onsite structures and dewatering/removal of onsite dams, and a subdivision consisting of seven industrial warehouses with associated awnings and ground level carparks, as well as a detention basin in the south-western of the site, with an arterial roadway separating the structures. It is understood that the majority of the site will be covered by structures & hardstand materials, with very limited landscaping and open space areas. In the context of NEPC (2013a), this is considered to be a land use scenario[1] comprising:
    - Commercial / industrial such as shops, offices, factories, and industrial sites.
- A preliminary site investigation (PSI) for 59-63 Abbotts Road was reported by Douglas Partners (2019). The PSI identified a number of potential land contamination risks at the site, and further assessment of those risks was recommended.
- A due diligence PSI with limited sampling for 290-308 Aldington Road was reported in Alliance (2019). The PSI concluded that the site was deemed unlikely to pose a significant contamination risk for future development.
- This DSI is required to address the data gaps and recommendations in previous reports, and facilitate the client addressing development consent decision making processes set out in State Environmental Planning Policy (SEPP) No. 55, as required by Penrith City Council.
- A dam water and sediment assessment is required to assist the client with addressing decommissioning procedures for the dam onsite.

The objectives of this project were to:

- Assess the potential for land contamination to be present in the areas of environmental concern (AEC) identified in the preliminary site investigations prepared for the site;
- Assess whether identified potential land contamination would present an unacceptable human health or ecological exposure risk, based on the proposed land use scenario;
- Assess whether the site is suitable, in the context of land contamination, for the proposed land use scenario;

[1] Adopted from Section 2.2 of NEPC (2013a) and Section 3 of NEPC (2013f)

- Make a preliminary assessment of concentrations of contaminants (considered to be relevant to the site) to be present within the dam water and sediments (for the purpose of informing dam decommissioning procedures to be prepared by others); and
- Provide recommendations for further investigations, and management or remediation of land contamination (if warranted).

The following scope of works was undertaken address the project objectives:

- A desktop review of previous reports;
- Preparation of a sampling and analysis quality plan;
- Intrusive investigations on site;
- Laboratory analysis; and
- Assessment of data and reporting.

The nominated scope of works was undertaken with reference to relevant sections of NEPC (2013) and WA DOH (2009).

Multiple areas of environmental concern (AEC) and contaminants of potential concern (COPC) associated with potential land contaminating activities undertaken at the site, have been identified as part of this project. The AEC, land contaminating activity and COPC are presented in the table below. The locations of the identified AEC are presented in **Figure 3**.

ID	AEC	Land Contaminating Activity (Source)	COPC
AEC01a	Western poultry farming area, 3 sheds (~1.2 hectares, ~0.5m in depth)	Poultry waste, hazardous buildings materials, shallow uncontrolled filling, termite and poultry parasite pesticides	Petroleum hydrocarbons, polycyclic aromatic hydrocarbons, organochlorine pesticides, BTEX, polychlorinated biphenyl, pathogens, metals, & asbestos.
AEC01b	Eastern poultry farming area, 1 shed on fill pad (~4,500m^2, ~3.0m to ~0.5m in depth)	Poultry waste, hazardous buildings materials, uncontrolled filling, termite and poultry parasite pesticides	Petroleum hydrocarbons, polycyclic aromatic hydrocarbons, organochlorine pesticides, BTEX, polychlorinated biphenyl, pathogens, metals, & asbestos.
AEC02	Aboveground fuel storage tank labelled as liquid petroleum gas (Lot 13 between poultry sheds, ~5,000L)	Fuel spills/leaks	Petroleum hydrocarbons, BTEX, PAH, lead
AEC03a	Dam 1 Wall (Lot 13 west, ~50m^2, ~1m in height)	Potential uncontrolled filling.	Petroleum hydrocarbons, polycyclic aromatic hydrocarbons, organochlorine pesticides, BTEX, metals, & asbestos
AEC03b	Dam 1 Sediments (Lot 13 west, ~180m^2, ~0.1m in thickness)	Poultry shed wastes	Organochlorine pesticides, metals, & asbestos, pathogens
AEC03c	Dam 1 Surface Water (Lot 13 west, ~180m^2, ~0.5m in depth)	Effluent from poultry sheds.	Pesticides, pathogens, nutrients, metals, temperature, turbidity, dissolved oxygen, biological oxygen demand
AEC04a	Dam 2 Wall (Lot 13 north, ~150m^2, ~1m in height)	Potential uncontrolled filling.	Petroleum hydrocarbons, polycyclic aromatic hydrocarbons, organochlorine pesticides, BTEX, metals, & asbestos
AEC04b	Dam 2 Sediments (Lot 13 north, ~900m^2, ~0.1m in thickness)	Waste disposal, poultry shed wastes.	Petroleum hydrocarbons, polycyclic aromatic hydrocarbons, organochlorine pesticides, BTEX, heavy metals, & asbestos
AEC04c	Dam 2 Surface Water (Lot 13 north, ~900m^2, ~1.5m in depth)	Waste disposal and effluent from poultry sheds.	Petroleum hydrocarbons, polycyclic aromatic hydrocarbons, organochlorine pesticides, BTEX, metals, temperature, turbidity, dissolved oxygen, biological oxygen demand
AEC05a	Dam 3 Wall (Lot 13 east, ~25m^2, ~1m in height)	Potential uncontrolled filling.	Petroleum hydrocarbons, polycyclic aromatic hydrocarbons, organochlorine pesticides, BTEX, metals, & asbestos
AEC05b	Dam 3 Sediments (Lot 13 east, ~90m^2, ~0.1m in thickness)	waste disposal.	Petroleum hydrocarbons, polycyclic aromatic hydrocarbons, organochlorine pesticides, BTEX, heavy metals, & asbestos

ID	AEC	Land Contaminating Activity (Source)	COPC
AEC05c	Dam 3 Surface Water (Lot 13 east, ~90m^2, ~0.5m in depth)	Waste disposal.	Petroleum hydrocarbons, polycyclic aromatic hydrocarbons, organochlorine pesticides, BTEX, metals, temperature, turbidity, dissolved oxygen, biological oxygen demand
AEC06	Stockpile (~50 m^3, near east dam in Lot 13)	Uncontrolled dumping or stockpiling of poultry manure	Petroleum hydrocarbons, polycyclic aromatic hydrocarbons, organochlorine pesticides, BTEX, polychlorinated biphenyl, metals, pathogens, nutrients & asbestos.
AEC07	Fill material (~200m^2, ~0.5m in thickness, south of eastern poultry shed in Lot 13)	Uncontrolled soil filling	Petroleum hydrocarbons, polycyclic aromatic hydrocarbons, organochlorine pesticides, , BTEX, polychlorinated biphenyl, metals, & asbestos.
AEC08a	Dam 4 Wall (Lot 12 west, ~250m^2, ~1m in height)	Potential uncontrolled filling.	Petroleum hydrocarbons, polycyclic aromatic hydrocarbons, organochlorine pesticides, BTEX, metals, & asbestos
AEC08b	Dam 4 Sediments (Lot 12 west, ~2,800m^2, ~0.1m in thickness)	Waste disposal.	Petroleum hydrocarbons, polycyclic aromatic hydrocarbons, organochlorine pesticides, BTEX, heavy metals, & asbestos
AEC08c	Dam 4 Surface Water (Lot 12 west, ~2,800m^2, ~2.0m in depth)	Waste disposal.	Petroleum hydrocarbons, polycyclic aromatic hydrocarbons, organochlorine pesticides, BTEX, metals, temperature, turbidity, dissolved oxygen, biological oxygen demand
AEC09a	Dam 5 Wall (Lot 12 north, ~70m^2, ~2m in height)	Potential uncontrolled filling.	Petroleum hydrocarbons, polycyclic aromatic hydrocarbons, organochlorine pesticides, BTEX, metals, & asbestos
AEC09b	Dam 5 Sediments (Lot 12 north, ~300m^2, ~0.1m in thickness)	Waste disposal.	Petroleum hydrocarbons, polycyclic aromatic hydrocarbons, organochlorine pesticides, BTEX, heavy metals, & asbestos
AEC09c	Dam 5 Surface Water (Lot 12 north, ~300m^2, ~1.0m in depth)	Waste disposal.	Petroleum hydrocarbons, polycyclic aromatic hydrocarbons, organochlorine pesticides, BTEX, metals, temperature, turbidity, dissolved oxygen, biological oxygen demand
AEC10a	Dam 6 Wall (Lot 12 south, ~100m^2, ~1m in height)	Potential uncontrolled filling.	Petroleum hydrocarbons, polycyclic aromatic hydrocarbons, organochlorine pesticides, BTEX, metals, & asbestos

ID	AEC	Land Contaminating Activity (Source)	COPC
AEC10b	Dam 6 Sediments (Lot 12 south, ~700m^2, ~0.1m in thickness)	Waste disposal	Petroleum hydrocarbons, polycyclic aromatic hydrocarbons, organochlorine pesticides, BTEX, heavy metals, & asbestos
AEC10c	Dam 6 Surface Water (Lot 12 south, ~700m^2, ~1.0m in depth)	Waste disposal.	Petroleum hydrocarbons, polycyclic aromatic hydrocarbons, organochlorine pesticides, BTEX, metals, temperature, turbidity, dissolved oxygen, biological oxygen demand
AEC11a	Dam 7 Wall (Lot 12 south east, ~40m^2, ~1m in height)	Potential uncontrolled filling.	Petroleum hydrocarbons, polycyclic aromatic hydrocarbons, organochlorine pesticides, BTEX, metals, & asbestos
AEC11b	Dam 7 Sediments (Lot 12 south east, ~190m^2, ~0.1m in thickness)	Waste disposal.	Petroleum hydrocarbons, polycyclic aromatic hydrocarbons, organochlorine pesticides, BTEX, heavy metals, & asbestos
AEC12	Fill material (~50 m², ~0.5m in thickness, west of Lot 12 south structure)	Uncontrolled soil filling/	Petroleum hydrocarbons, polycyclic aromatic hydrocarbons, organochlorine pesticides, BTEX, polychlorinated biphenyl, metals, & asbestos.
AEC13	Commercial paint warehouse (~2,000m², central southern portion of Lot 12)	Hazardous buildings materials, chemical and fuel storage/spills/leaks	Petroleum hydrocarbons, polycyclic aromatic hydrocarbons, VOC, BTEX, polychlorinated biphenyl, metals, & asbestos
AEC14	Gully between northern dams in Lot 12 (~500m², ~0.5m in thickness)	Uncontrolled soil filling/	Petroleum hydrocarbons, polycyclic aromatic hydrocarbons, organochlorine pesticides, , BTEX, polychlorinated biphenyl, metals, & asbestos.
AEC15	Residential premises (~3,000 m² Lot 12 east)	hazardous buildings materials, termite treatment	Petroleum hydrocarbons, polycyclic aromatic hydrocarbons, organochlorine pesticides, , BTEX, polychlorinated biphenyl, metals, & asbestos.
AEC16	Septic tank (~3m^2, ~1.5m deep, Lot 12 east property)	Domestic effluent disposal	Pathogens, petroleum hydrocarbons and metals
AEC17	Stockpile (~5 m³, north-west corner Lot 11)	Uncontrolled soil dumping	Petroleum hydrocarbons, polycyclic aromatic hydrocarbons, organochlorine pesticides, , BTEX, polychlorinated biphenyl, metals, & asbestos.

ID	AEC	Land Contaminating Activity (Source)	COPC
AEC18	Construction material storage area, including metal sheeting, piping and lumber (~1,000 m², north-west corner Lot 11)	Deterioration of exposed ageing materials, heavy vehicle use.	Petroleum hydrocarbons, BTEX, metals, asbestos.
AEC19a	Dam 8 Wall (Lot 11 north west smaller dam, ~40m^2, ~1m in height)	Potential uncontrolled filling.	Petroleum hydrocarbons, polycyclic aromatic hydrocarbons, organochlorine pesticides, BTEX, metals, & asbestos
AEC19b	Dam 8 Sediments (Lot 11 north west smaller dam, ~120m^2, ~0.1m in thickness)	Waste disposal.	Petroleum hydrocarbons, polycyclic aromatic hydrocarbons, organochlorine pesticides, BTEX, heavy metals, & asbestos
AEC19c	Dam 8 Surface Water (Lot 11 north west smaller dam, ~120m^2, ~0.5m in depth)	Waste disposal.	Petroleum hydrocarbons, polycyclic aromatic hydrocarbons, organochlorine pesticides, BTEX, metals, temperature, turbidity, dissolved oxygen, biological oxygen demand
AEC20a	Dam 9 Wall (Lot 11 north west larger dam, ~100m^2, ~1m in height)	Potential uncontrolled filling.	Petroleum hydrocarbons, polycyclic aromatic hydrocarbons, organochlorine pesticides, BTEX, metals, & asbestos
AEC20b	Dam 9 Sediments (Lot 11 north west larger dam, ~600m^2, ~0.1m in thickness)	Waste disposal.	Petroleum hydrocarbons, polycyclic aromatic hydrocarbons, organochlorine pesticides, BTEX, heavy metals, & asbestos
AEC20c	Dam 9 Surface Water (Lot 11 north west larger dam, ~600m^2, ~0.5m in depth)	Waste disposal	Petroleum hydrocarbons, polycyclic aromatic hydrocarbons, organochlorine pesticides, BTEX, metals, temperature, turbidity, dissolved oxygen, biological oxygen demand
AEC21	Stockpile (~50 m³, north-west Lot 11, south of AEC18)	Uncontrolled soil dumping	Petroleum hydrocarbons, polycyclic aromatic hydrocarbons, organochlorine pesticides, BTEX, polychlorinated biphenyl, metals, & asbestos.
AEC22	Septic tank (~3m^2, ~1.5m deep, Lot 11 north of residence)	Domestic effluent disposal	Pathogens, petroleum hydrocarbons and metals
AEC23	Residential premises (~2,500 m² Lot 11 west)	hazardous buildings materials, termite treatment	Petroleum hydrocarbons, polycyclic aromatic hydrocarbons, organochlorine pesticides, , BTEX, polychlorinated biphenyl, metals, & asbestos.

ID	AEC	Land Contaminating Activity (Source)	COPC
AEC24	Aboveground fuel storage tank unlabelled, likely diesel petroleum ~5,000L (Lot 11 north-west of residence)	Fuel spills/leaks	Petroleum hydrocarbons, BTEX, PAH, lead
AEC25	Storage shed (~40 m², centre-west Lot 11)	hazardous buildings materials, chemical and fuel storage/spills/leaks, termite treatment	Petroleum hydrocarbons, polycyclic aromatic hydrocarbons, organochlorine pesticides, BTEX, polychlorinated biphenyl, metals, & asbestos.
AEC26	Market Gardens (~5.2ha, ~0.5m in thickness, Central portion of Lot 11)	Application of pesticides	organochlorine pesticides, metals.
AEC27	Storage shed (~40 m², centre-east Lot 11)	hazardous buildings materials, termite treatment, chemical/fuel leaks and spills	Petroleum hydrocarbons, organochlorine pesticides, BTEX, polychlorinated biphenyl, metals, & asbestos.
AEC028	Storage shed (~15 m², centre-south Lot 11)	hazardous buildings materials, termite treatment, chemical/fuel leaks and spills	Petroleum hydrocarbons, organochlorine pesticides, BTEX, polychlorinated biphenyl, metals, & asbestos.
AEC29a	Dam 10 Wall (Lot 11 south east larger dam, ~220m^2, ~1m in height)	Potential uncontrolled filling.	Petroleum hydrocarbons, polycyclic aromatic hydrocarbons, organochlorine pesticides, BTEX, metals, & asbestos
AEC29b	Dam 10 Sediments (Lot 11 south east larger dam, ~2600m^2, ~0.1m in thickness)	Waste disposal	Petroleum hydrocarbons, polycyclic aromatic hydrocarbons, organochlorine pesticides, BTEX, heavy metals, & asbestos
AEC29c	Dam 10 Surface Water (Lot 11 south east larger dam, ~2600m^2, ~2.0m in depth)	Waste disposal	Petroleum hydrocarbons, polycyclic aromatic hydrocarbons, organochlorine pesticides, BTEX, metals, temperature, turbidity, dissolved oxygen, biological oxygen demand
AEC30a	Dam 11 Wall (Lot 11 south east smaller dam, ~200m^2, ~1m in thickness)	Potential uncontrolled filling	Petroleum hydrocarbons, polycyclic aromatic hydrocarbons, organochlorine pesticides, BTEX, metals, & asbestos
AEC30b	Dam 11 Sediments (Lot 11 south east smaller dam, ~1,300m^2, ~2.0m in depth)	Waste disposal	Petroleum hydrocarbons, polycyclic aromatic hydrocarbons, organochlorine pesticides, BTEX, heavy metals, & asbestos

ID	AEC	Land Contaminating Activity (Source)	COPC
AEC30c	Dam 11 Surface Water (Lot 11 south east larger dam, ~2600m^2, ~2.0m in depth)	Waste disposal	Petroleum hydrocarbons, polycyclic aromatic hydrocarbons, organochlorine pesticides, BTEX, metals, temperature, turbidity, dissolved oxygen, biological oxygen demand
AEC31	Power poles (12 poles across Lot 11 and 12)	Copper chrome arsenate treatment	Arsenic, chromium, copper
AEC32	Residential premises (<2,000 m² Lot 13 north – not within scope)	Deterioration of hazardous buildings materials, application of pesticides	Organochlorine pesticides, polychlorinated biphenyl, metals, & asbestos.
AEC33	Residential premises (<2,000 m² Lot 13 west – not within scope)	Deterioration of hazardous buildings materials, application of pesticides	Organochlorine pesticides, polychlorinated biphenyl, metals, & asbestos.
AEC34	Concrete driveway along the northern boundary to residential dwelling within Lot 13 (~100m in length)	Potential uncontrolled filling	Petroleum hydrocarbons, polycyclic aromatic hydrocarbons, BTEX, heavy metals, & asbestos
AEC35	Asphalt and gravel driveway leading to the commercial paint shed and residential dwelling within Lot 12 (~360m in length)	Potential uncontrolled filling	Petroleum hydrocarbons, polycyclic aromatic hydrocarbons, BTEX, heavy metals, & asbestos
AEC36	Gravel driveway leading to the residential dwelling within Lot 11 (~130m in length)	Potential uncontrolled filling	Petroleum hydrocarbons, polycyclic aromatic hydrocarbons, BTEX, heavy metals, & asbestos
AEC37	Gravel driveway leading to the eastern residential dwelling and poultry sheds within Lot 13 (~750m in length)	Potential uncontrolled filling	Petroleum hydrocarbons, polycyclic aromatic hydrocarbons, BTEX, heavy metals, & asbestos

Based on the assessment undertaken by Alliance of site history information, fieldwork observations and data, and laboratory analytical data, in the context of the proposed land use scenario and objectives of this project, Alliance has made the following conclusions:

- Detected concentrations of friable asbestos in soil present an unacceptable human health risk at TP70, and ASB12;
- Detected concentrations of bonded asbestos in soil present an unacceptable human health risk at TP09, TP51, ASB12, and DW23;

- Field observations and laboratory analysis warrant further assessment for aesthetics risks at the location of AEC14 (demolition waste, asbestos, and tyres), AEC09 (demolition waste and asbestos), AEC22 (asbestos and potential septic system), and AEC18 (surficial asbestos near TP61).
- Potential contamination risks in AEC13, AEC15, AEC16, AEC22, AEC23, AEC32, AEC33, and AEC34 have not yet been assessed. The presence of existing hardstands is constraining adequate access to assess underlying soils. This is a data gap that needs addressing in order to draw conclusions regarding site suitability in the context of land contamination;
- In the context of preparing a dam dewatering procedure for the site, in addition to information on the proposed disposal methods, the dam water data would need to be supplemented with further assessment of likely receptors during dewatering, in order to potentially derive less conservative assessment criteria, based on a preferred dam water disposal method, some additional dam water sampling and analysis to support the preliminary data obtained, that is consistent with site specific criteria
- The site is not yet considered to be suitable for the following land use scenario:
    - Commercial / industrial such as shops, offices, factories, and industrial sites.
- Specific assumptions that apply to the adopted land use scenario, are presented in Section 5 of this report.
- Further assessment, management, and remedial planning works for the identified unacceptable exposure risks is required.

Based on those conclusions, Alliance makes the following recommendations:

- An interim management plan should be implemented to mitigate potential human health exposure risks to asbestos in AEC14, TP70, TP09, and DW23. As some of those activities may result in disturbance of soils impacted with asbestos, a class A licensed asbestos contractor should undertake the recommended works where necessary. Prior to entry, site workers and other personnel on site should be made aware of the areas impacted with friable and bonded asbestos, and the controls in place to mitigate risk of exposure to human health;
- A supplementary contamination assessment should be undertaken to address the data gaps associated with AEC13, AEC15, AEC16, AEC22, AEC23, AEC32, AEC33, and AEC34, as well as assessing the extent of identified unacceptable risks onsite, to inform future remedial works. The supplementary contamination assessment should be undertaken following controlled demolition and removal of the structures and pavements.
- The recommended data gap assessment should also address the extent of asbestos contamination at AEC14, TP09, TP61, DS13, TP71, and TP141, as well as the aesthetics risk observed within AEC14, TP141 and TP142 (AEC21) and DS13 (AEC09);
- A remedial action plan (RAP) should be prepared to address the identified unacceptable human health exposure risks upon completion and consideration of the aforementioned data gap assessment; and
- Further assessment, management or remedial planning works for the site, be undertaken by a suitably experienced environmental consultant.

This report must be read in conjunction with the ***Important Information About This Report*** statements at the front of this report.

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1 Introduction

1.1 Background

Alliance Geotechnical Pty Ltd (Alliance) was engaged by ESR Australia to undertake a Stage 2 Detailed Site Investigation (DSI), Dam Water and Sediment Assessment at 290-308 Aldington Road and 59-63 Abbotts Road, Kemps Creek NSW (refer **Figure 1,** with the 'site' boundaries outlined in **Figure 2**)**.**

At the commencement of the project, Alliance had the following project appreciation:

- The site is currently owned by three separate private owners – one per lot.
- Each lot is currently occupied and being used for rural residential purposes.
- The site is proposed for redevelopment, including demolition of current onsite structures and dewatering/removal of onsite dams, and a subdivision consisting of seven industrial warehouses with associated awnings and ground level carparks, as well as a detention basin in the south western of the site, with an arterial roadway separating the structures. It is understood that the majority of the site will be covered by structures & hardstand materials, with very limited landscaping and open space areas. In the context of NEPC (2013a), this is considered to be a land use scenario[2] comprising:
    - Commercial / industrial such as shops, offices, factories, and industrial sites.
- A preliminary site investigation (PSI) for 59-63 Abbotts Road was reported by Douglas Partners (2019). The PSI identified a number of potential land contamination risks at the site, and further assessment of those risks was recommended.
- A due diligence PSI with limited sampling for 290-308 Aldington Road was reported in Alliance (2019). The PSI concluded that the site was deemed unlikely to pose a significant contamination risk for future development.
- This DSI is required to address the data gaps and recommendations in previous reports, and facilitate the client addressing development consent decision making processes set out in State Environmental Planning Policy (SEPP) No. 55, as required by Penrith City Council.
- A dam water and sediment assessment is required to assist the client with addressing decommissioning procedures for the dam onsite.

[2] Adopted from Section 2.2 of NEPC (2013a) and Section 3 of NEPC (2013f)

1.2 Objectives

The objectives of this project were to:

- Assess the potential for land contamination to be present in the areas of environmental concern (AEC) identified in the preliminary site investigations prepared for the site;
- Assess whether identified potential land contamination would present an unacceptable human health or ecological exposure risk, based on the proposed land use scenario;
- Assess whether the site is suitable, in the context of land contamination, for the proposed land use scenario;
- Make a preliminary assessment of concentrations of contaminants (considered to be relevant to the site) to be present within the dam water and sediments (for the purpose of informing dam decommissioning procedures to be prepared by others); and
- Provide recommendations for further investigations, and management or remediation of land contamination (if warranted).

1.3 Scope of Work

The following scope of works was undertaken address the project objectives:

- A desktop review of previous reports;
- Preparation of a sampling and analysis quality plan;
- Intrusive investigations on site;
- Laboratory analysis; and
- Assessment of data and reporting.

The nominated scope of works was undertaken with reference to relevant sections of NSW EPA (2020b), HEPA (2020), NEPC (2013) and WA DOH (2009).

2 Site Identification

2.1 Site Details

Site identification details are presented in **Table 2.1**.

Table 2.1 Site Identification Details

Cadastral Identification	**Lots 11, 12, & 13 in DP253503**
Geographic Coordinates (Nearmap)	**-33.857311, 150.799091**
Site Area	Approximately 32 ha
Local Government Authority	Penrith City Council
Current Zoning	IN1: General Industrial

2.2 Site Layout

The layout of the site is present in **Figure 2**. The layout plan also includes locations on site of:

- Site access points;
- Current residential buildings and site features, e.g. dams; and
- Existing lot boundaries and site boundaries.

3 Site Environmental Setting

3.1 Geology

The Department of Minerals and Energy Geological Survey of NSW Penrith 1:100,000 Geological Series Sheet 9030 (Edition 1) 1991, indicated that the site is likely to be underlain by Bringelly Shale, comprising shale, carbonaceous claystone, laminate, fine to medium grained lithic sandstone, rare coal, and tuff.

3.2 Site Topography and Elevation

Observations made on site and elevation data provided using Nearmap indicated that:

- the topography of the site is undulating with a significant overall east to west slope; and
- the surface of the site ranges in elevation from approximately 15m Australian Height Datum (AHD) in the west and 60m AHD in the east.

3.3 Acid Sulfate Soils

A review of https://www.environment.nsw.gov.au/eSpade2Webapp indicated that the site Is located in an area mapped as:

- N: no known occurrence

Further assessment of acid sulfate soils, in the context of this project is considered not warranted.

3.4 Hydrogeology and Hydrology

A review of Nearmap, indicated that surface water bodies located on or near the site included:

- Kemps Creek, located approximately 800 m to the south-west of the site.

Based on the location of the identified surface water bodies and the site surface topography, the inferred groundwater flow direction at the site is considered likely to be towards the west.

Based on site surface topography and site elevation, the inferred surface water flow direction at the site is considered likely to be towards the west.

A search of https://www.environment.nsw.gov.au/eSpade2WebApp was undertaken by Alliance and information considered relevant and related to the hydrogeological landscape for the locality of the site is presented in **Table 3.4**.

Table 3.4 Site Locality Hydrogeological Landscape

Aquifer Types	Unconfined in unconsolidated alluvial sediments Unconfined to semi-confined in fractured rock along structures Vertical and lateral flow components Local perching above clay-rich layers (seasonal)
Hydraulic Conductivity	Moderate

	Range: 10^{-2}m – 10m per day
Aquifer Transmissivity	Low to moderate Range: <2-20^{-2} m per day
Specific Yield	Moderate Range: 5-15%
Hydraulic Gradient	Gentle to intermediate Range: <10–30%
Groundwater Salinity	Marginal Range: 0.8–1.6 dS/m
Depth to Water Table	Intermediate Range: 2 – 6 m

A search of https://realtimedata.waternsw.com.au/water.stm indicated that there are no registered groundwater features located within a 500m radius of the site.

4 Previous Contamination Assessments

A copy of:

- Douglas Partners 2019, 'Preliminary Environmental Site Investigation with Limited Intrusive Investigation, 59 – 63 Abbotts Road, Kemps Creek, NSW' dated 08 August 2019, ref: 92352.00.
- Alliance Geotechnical 2019, 'Stage 1 Preliminary Site Investigation (with Limited Sampling), 290-308 Aldington Road, Kemps Creek NSW' dated 18 October 2019, ref: 9687-ER-1-1.
- Alliance 2021, 'Hazardous Building Materials (HAZMAT) Report, 290-308 Aldington Road, 59 – 63 Abbotts Road, Kemps Creek, NSW', ref: 13546-ER-1-1 Rev 1.

was provided to Alliance for review.

4.1.1 Douglas Partners (2019)

The objectives of Douglas Partners (2019) were to:

- Review available current and historical site information to identify key past or present potential contaminating activities: and
- To provide a preliminary assessment of the contamination status of the site with respect to the proposed development.

The scope of work undertaken to address the project objective included:

- Review of local topographic, soil, geological, salinity and acid sulfate soils mapping;
- Search of the NSW EPA Land Information records for any statutory notices or licences current on any parts of the site or nearby surrounds under the Contaminated Land Management Act 1997 and the Protection of the Environment Operations Act 1997 of relevance to the site;
- Search for groundwater bores on or adjacent to the site registered with the NSW Office of Water;
- Review of historical aerial photographs and Nearmap aerial imagery to identify past/present land uses and potential areas of environmental concern (PAEC);
- Review of current title deeds;
- Review of available council records;
- Undertake a site walkover and mapping of PAEC;
- Sampling of 21 test pits targeting PAEC and the general site area. Two surface samples adjacent to power poles were also collected, using hand tools. Two bore holes were also completed as part of the geotechnical investigation and reported under separate cover. Select soil samples were analyses for a range of potential contaminants and assessed against relevant NEPC (2013) guideline values;
- Preparation of a preliminary conceptual site model (CSM); and

- Preparation of a PSI report outlining the methodology and findings of the investigation, and an assessment of potential contamination at the site.

Based on the observations made during the site walkover and information obtained during the interviews, Douglas Partners (2019) made the following conclusions and recommendations:

- Localised filling impacted with metals and asbestos was recorded in the western portion of Lot 11 and filling impacted with asbestos in a gully on Lot 12 which will require further investigation and/or remediation prior to bulk earthworks. Notwithstanding the observed localised impact, based on the findings of this PSI, DP concludes that the potential for the presence of significant contamination constraints at the site with respect to the proposed industrial subdivision is considered to be generally low.

- DP recommends that an intrusive investigation in the form of a Detailed Site Investigation (DSI) including delineation of metal and asbestos impact observed in this investigation is undertaken prior to bulk earthworks to ascertain whether or not each identified PAEC require further management and/or remediation prior to commencement of the development.

- A hazardous building materials survey should be conducted for structures at the site prior to demolition. Demolition of structures containing hazardous building materials should be carried out by a licenced asbestos removal contractor (if required). After removal of existing structures, an inspection of the footprint should be conducted and (if considered to be required based on inspection) targeted soil sampling and analysis conducted to confirm the contamination status of the footprint.

- Inert materials observed during the walkover associated with fly tipping are assumed to be surficial and therefore can be removed by earthworks contractors prior to the commencement of bulk earthworks.

- A Remediation Action Plan (RAP) should be prepared by a suitably qualified environmental consultant to document how remediation and validation works will be carried out. If remediation is required, subsequent remediation and validation of any identified contamination (if any) should be carried out with reference to the RAP and the findings documented in a Validation Report. It is considered that the site could be rendered suitable for the proposed industrial subdivision, subject to further investigation and remediation, as required.

4.1.2 Alliance Geotechnical (2019)

The objectives of Alliance Geotechnical (2019) were to:

- Assess the potential for contamination to be present on the site as a result of past and current land use activities;

- Provide advice on whether the site would be suitable (in the context of land contamination) for the proposed land use setting;

- Provide advice on salinity hazards and risks for the site; and

- Provide recommendations for further investigation, management and/or remediation (if warranted).

The scope of works undertaken to address the investigation objectives, included:

- A desktop review of relevant information pertaining to the site;
- A site walkover to understand current site conditions;
- The preparation of a sampling and analysis quality plan (SAQP);
- Conduct a targeted intrusive site investigation to establish ground conditions and to facilitate the collection of representative soil samples;
- Laboratory analysis of selected samples collected during the field investigation; and
- An assessment of the contamination status of the site and the recommendation of any further remedial requirements associated with the redevelopment of the site (if necessary).

Based on Alliance's assessment of the desktop review information, fieldwork data and laboratory analytical data, in the context of the proposed redevelopment scenario, Alliance made the following conclusions:

- The detected concentrations of identified contaminants of potential concern in the soils assessed are considered unlikely to present an unacceptable human health or ecological risk;
- The detected concentrations of nutrients in the soils assessed are considered to be similarly low across the site;
- Soils assessed onsite (up to a depth of 1.0m below ground surface) are considered to be:
    - non-saline to very saline;
    - non-aggressive to concrete piles;
    - non-aggressive to steel piles; and
    - non-sodic to sodic.
- The soil materials were considered suitable for the proposed land use setting; and
- The site was deemed unlikely to pose a significant contamination risk to for future development.

Based on the above conclusions, Alliance made the following recommendations:

- The soil materials are considered suitable for the proposed land use (in the context of contamination), no further investigation, management and/or remediation is deemed warranted.

A copy of the sampling point layout plan, logs, and laboratory summary tables from Alliance Geotechnical (2019), is presented in Appendix E.

4.1.3 Alliance Geotechnical (2021)

The objectives of Alliance (2021) were to:

- Identify hazardous building materials within the accessible areas of the structures(s);
- Detail the survey methodology;
- Provide a qualitative risk assessment of the identified hazardous materials an provide information regarding health risks;
- Provide recommendations for control measures and management strategies;
- Prepare a hazardous materials register for the site to ensure legislative compliance;
- Outline the responsible persons and details those persons responsibilities in relation to managing on site asbestos containing materials (ACM)
- Detail the principles of hazardous materials management;
- Detail the management strategies for in-situ asbestos and other hazardous materials;
- Provide information about safe working practices for work involving asbestos and other hazardous materials;
- Detail the requirements for removal of ACM
- Provide a template for emergency response procedures; and
- Outline asbestos training and awareness.

The scope of works undertaken to address the investigation objectives, included:

- Development of a task specific safe work method Statement (SMMS);
- Walkthrough inspection of the site building(s);
- Risk assessment and identification of all visible and accessible hazardous materials including asbestos, lead, ODS, and SMF;
- Sampling and laboratory analysis of suspect materials where necessary/possible;
- Preparation of a hazardous materials register and management plan in accordance with all relevant legislatures.

Summary of Assessment
Location: 59-62 Abbotts Rd (Lot 12)

1 x Residential Dwelling, 3 x Sheds, 1 x Swimming Pool *(External inspections conducted to occupied structures)*

- Asbestos Containing Materials (ACM)
    - At the time of inspection, ACM was identified within externally accessible building areas.
- Lead Based Paint (LBP)
    - At the time of inspection, No LBP was identified within accessible building areas.
- Lead Containing Dust (LCD)
    - At the time of inspection, No LCD was identified within accessible building areas.
- Polychlorinated Biphenyls (PCBs)
    - At the time of inspection, fluorescent light fittings were observed which may contain PCBs.
- Synthetic Mineral Fibres (SMF)

- At the time of inspection, SMF was identified within externally accessible building areas.

- Ozone Depleting Substances (ODSs)
  - At the time of inspection, No ODS were identified within accessible building areas.

- Hazardous Chemicals

- At the time of the inspection, hazardous chemicals were identified within accessible building areas.

Location: 63 Abbotts Road (Lot 11)

1 x Residential Dwelling, 4 x Sheds *(External inspections conducted to occupied structures)*

- Asbestos Containing Materials (ACM)
  - At the time of inspection, ACM was identified within externally accessible building areas.
- Lead Based Paint (LBP)
  - At the time of inspection, No LBP was identified within accessible building areas.
- Lead Containing Dust (LCD)
  - At the time of inspection, No LCD was identified within accessible building areas.
- Polychlorinated Biphenyls (PCBs)
  - At the time of inspection, No PCB was identified within accessible building areas.
- Synthetic Mineral Fibres (SMF)
  - At the time of inspection, SMF was identified within externally accessible building areas.
- Ozone Depleting Substances (ODSs)
  - At the time of inspection, No ODS was identified within accessible building areas.

Location: 290-308 Aldington Road (Lot 13)

2 x Residential Dwelling, 5 x Sheds, 4 GHG Structures *(External inspections conducted to occupied structures)*

- Asbestos Containing Materials (ACM)
  - At the time of inspection, ACM was identified within accessible building areas.
- Lead Based Paint (LBP)
  - At the time of inspection, LBP was identified within accessible building areas.
- Lead Containing Dust (LCD)
  - At the time of inspection, No LCD was identified within accessible building areas.
- Polychlorinated Biphenyls (PCBs)
  - At the time of inspection, fluorescent light fittings were observed which may contain PCBs.
- Synthetic Mineral Fibres (SMF)
  - At the time of inspection, SMF was identified within accessible building areas.
- Ozone Depleting Substances (ODSs)
  - At the time of inspection, No ODS were identified within accessible building areas.

Summary of Assessment

Due to the public health rules and guidelines in place at the time this survey was undertaken, which did not allow access into resident occupied buildings and structures, a general assumption of the location of possible incidents of hazardous building materials was made.

These assumptions were made based on but not limited to the following:

- Age of building/structure
- Incidences of hazardous materials on the external structure implies potential incidences on the internal structure

The general assumption of the location of hazardous materials within the internal structure of the buildings are:

- 4 x residential dwellings
- Asbestos – wall linings to wet areas (bathrooms, toilets, kitchens, laundry rooms, sauna rooms), floor tiles, ceilings, storerooms
- Lead based paint – paint system to walls (where flaking mostly)
- Lead contained dust – roof/ceiling voids, underground voids etc
- PCBs – light fittings throughout building
- SMF – roof insulation, wall lining insulations, pipe insulations etc

4.1.4 Supplementary Site Walkover

A site walkover by an environmental consultant of all three lots was conducted on 24 September 2021 after review of the aforementioned reports, to make observations regarding potential changes in site conditions or use, and to identify potential areas of environmental concern not previously reported.

A walkover of the site did not note significant changes to those described in the previous assessments but did identify two stockpiles (50m^3, herein referred to as AEC06 and 25m^3, herein referred to as AEC17), which are considered in the conceptual site model in Section 6. Numerous empty paint and paint thinner containers were observed surrounding the front of the painters' warehouse, which was observed to remain in use at the time of the walkover.

Dam water appeared relatively clean at the time of inspection with no hydrocarbon sheen or odour of any kind observed. Dense algae was observed across AEC03b, and minimal construction waste (bricks) within AEC09a.

Cow and sheep manure were observed across most of the land within Lot 12 and 13, excluding areas fenced off such as residential, warehouse, and driveway areas.

During the walkover, residents of each Lot advised that no significant earthworks or construction of any kind had taken place within any of the Lots since the date of Douglas Partners (2019) and Alliance Geotechnical (2019) previous assessments.

The occupant of Lot 12 also advised that the central-southern warehouse had been used as a long-term commercial painters warehouse up to the commencement of this investigation.

4.1.5 Supplementary Aerial Photography Review

Alliance understands that poultry farms can contain burial pits (associated with disposal of mass mortality). The review of historical aerial photography and site walkover reported in Alliance (2019) did not provide commentary on the absence or presence of historical burial pits within Lot 13. Alliance undertook a review of historical aerial photography considered for Lot 13 in Alliance (2019). Evidence of burial pits or areas of disturbed ground and phytotoxicity or overgrowth, consistent with animal burial pits, was not observed. These observations are consistent with observations made during the supplementary site walkover reported in Section 4.1.4.

5 Data Gap Assessment

Based on a desktop review of previous reports and the recent site walkover referred to in **Section 4** and the development of the conceptual site model (CSM) presented in these previous reports, Alliance has assessed that that the following data gaps, in the context of site contamination characterisation and management, are present and need to be addressed prior to any management and/or remediation of the site:

- The soils surrounding and within the poultry sheds in Lot 13 may present a potentially unacceptable contamination risk to end users of the site, particularly the fill pad beneath the most eastern shed. A more robust intrusive investigation should be undertaken to assess the nature and extent of COPCs in soil within this area;
- The hazardous building materials within and surrounding the residential dwellings, both in the northwest and east of Lot 13, may present a potentially unacceptable contamination risk to end users of the site. Intrusive investigation should be undertaken to assess the nature and extent of COPCs in soil post demolition of these dwellings;
- The crushed concrete and gravel driveways in Lot 13 may present a potentially unacceptable contamination risk to end users of the site. Intrusive investigation should be undertaken to assess the nature and extent of COPCs in soil within this area;
- The gravel and soil driveways in Lot 12 may present a potentially unacceptable contamination risk to end users of the site. Intrusive investigation should be undertaken to assess the nature and extent of COPCs in soil within this area;
- The gravel and soil driveways in Lot 11 may present a potentially unacceptable contamination risk to end users of the site. Intrusive investigation should be undertaken to assess the nature and extent of COPCs in soil within this area;
- A previously unreported soil stockpile (AEC06) within the central portion of Lot 13 may present a potentially unacceptable contamination risk to end users of the site. Intrusive investigation should be undertaken to assess the nature and extent of COPCs in soil within this stockpile;
- A previously unreported soil stockpile (AEC17) within the north-eastern portion of Lot 11 may present a potentially unacceptable contamination risk to end users of the site. Intrusive investigation should be undertaken to assess the nature and extent of COPCs in soil within this stockpile;
- The land surrounding and within the painter's warehouse in Lot 12 may present a potentially unacceptable contamination risk to end users of the site. Intrusive investigation should be undertaken to assess the nature and extent of COPCs in soil within this area;
- The salinity of soils within in Lots 11 & 12 may present a risk to future structures onsite, and will need to be appropriately assessed. Alliance will assess soil salinity in these lots in a separate, tandem report.

Alliance considers that the remainder of the site has been appropriately assessed within the objectives and scope of the previous contamination assessments. Provision for addressing the aforementioned data gaps is presented in **Section 6** of this investigation.

6 Conceptual Site Model

6.1 Preamble

A conceptual site model (CSM) is a representation of site related information regarding contamination sources, receptors and exposure pathways between those sources and receptors. The initial CSM is constructed from the information obtained during the PSIs and it can be used to identify data gaps and inform a decision on whether a detailed site investigation (DSI) is required.

The CSM identifies complete and potential pathways between the known or potential source(s) and the receptors. Where a pathway between a source and a receptor is incomplete, the exposure to chemical substances via that pathway cannot occur, but the potential for that pathway to be completed (for example, by abstraction of groundwater or a change in land use) should be considered in the assessment.

6.2 Land Use

6.2.1 Adopted Land use Scenario

For the purpose of this project, Alliance understands that the proposed land use scenario for the site includes:

- Commercial / industrial such as shops, offices, factories, and industrial sites.

6.2.2 Assumptions for Adopted Land Use Scenario

Section 3 of NEPC (2013h) advises that the commercial/industrial land use scenario, which assumes typical commercial or light industrial properties, consisting of single or multistorey buildings where work areas are on the ground floor (constructed on a ground level slab) or above subsurface structures (such as basement car parks or storage areas).

The dominant users of commercial / industrial sites are adult employees who are largely involved in office-based or light industrial activities.

The outdoor areas of the commercial/industrial facilities are largely covered by hardstand, with some limited areas of landscaping or lawns and facilities. Opportunities for direct access to soil by employees using these facilities are likely to be minimal, but there may be potential for employees to inhale, ingest or come into direct dermal contact with dust particulates derived from the soil on the site.

The land use scenario does not include more sensitive uses that may be permitted under relevant commercial or industrial zonings. These more sensitive uses include childcare, educational facilities, caretaker residences and hotels and hostels, etc. Information on uses permitted under local council zoning schemes for commercial/industrial land use can be obtained from local council planning zones/schemes. Should these more sensitive uses be permitted, then ‘residential with accessible soil’, ‘residential with minimal access to soil’, or ‘public open space’ land use scenarios should be considered.

6.3 Sources of Contamination

A number of potential land contaminating activities have been identified for the site, based on the site history review and site walkover observations in Section 4. These include:

- Commercial-scale poultry farming;
- Use of a warehouse for commercial painting of various products and materials;
- Uncontrolled filling;
- Septic tanks;
- Aboveground fuel storage;
- Stockpiling;
- Odorous materials encountered at sampling point TP1, reported in DP (2019);
- Uncontrolled demolition;
- Copper Chrome Arsenate treatment on power poles;
- Use of hazardous building materials; and
- Former market gardens.

Table J1 in Appendix J of AS 4482.1-2005 and Appendix A in DUAP (1998) provides guidance on chemicals associated with land uses activities. That guidance provides a basis for deciding on contaminants of potential concern (COPC) for each relevant land use activity. Information on COPC adopted for this project is presented in Section 0 of this report.

6.4 Receptors

6.4.1 Identified Receptors

Based on the adopted land use scenario in Section 6.2, receptors at the site may include commercial / industrial workers, and ecological (terrestrial and/or aquatic) ecosystems.

6.4.2 Assumptions for Identified Receptors

The receptors at a commercial/industrial site are predominantly adult employees, who are largely involved in office-based or light indoor industrial activities. The employees who are most susceptible to health risks associated with volatile soil contaminants are the employees who work in offices on the ground floor, as the greatest potential for vapour intrusion occurs with workspaces immediately overlying contaminated soil.

Employees may make use of outdoor areas of a commercial/industrial premises for activities such as meal breaks. Opportunities for direct access to soil by employees using these facilities are likely to be minimal, but there may be potential for employees to inhale, ingest or come into direct dermal contact with dust particulates derived from the soil on the site.

6.5 Exposure Pathways

6.5.1 Human Health

6.5.1.1 Dermal Contact / Ingestion / Dust Inhalation

Site history information and observations made during the site walkover, indicated a potential for contaminants to be present in soils at the site, which could present a dermal contact, ingestion, or dust inhalation risk to human health.

The proposed land use scenario is likely to include unsealed and open space areas, where a pathway between identified receptors and direct contact, ingestion, and dust inhalation contaminant sources, may be complete.

Further assessment of dermal contact, dust inhalation and ingestion risk is considered warranted.

6.5.1.2 Vapour Intrusion / Inhalation

A vapour intrusion / inhalation exposure risk to human health can be present when a vapour source (either primary or secondary[3]) is present.

Site history information and observations made during the site walkover, indicated a potential for a source of vapour to be present on the site, including:

- Two aboveground storage tanks located in between the poultry farming sheds, and to the south of the driveway on Lot 11;
- Leaks and spills surrounding above ground storage tanks between poultry sheds in Lot 13, and within the commercial painter's warehouse in Lot 11; and
- Historical commercial painting within a warehouse near the central southern portion of Lot 12.

The proposed land use scenario is likely to include building footprints as well as limited unsealed and open space areas, where a vapour intrusion / inhalation exposure pathway between identified receptors and these identified primary and secondary sources, may be complete.

Further assessment of vapour intrusion / inhalation risks associated with the aboveground storage tanks and painting warehouse is considered warranted.

Site history information and observations made during the site walkover, indicated a potential for a historical uncontrolled filling to be present at the site. However, Alliance notes that the activity of transporting, placement and spreading of uncontrolled fill soils would typically include significant disturbance of those soils, that can result in the volatilisation of those contaminants that could normally present a vapour intrusion / inhalation risk (e.g. light fraction petroleum hydrocarbons, naphthalene, and chlorinated hydrocarbons); and

[3] Primary sources typically include underground storage tanks. Secondary sources typically include significantly contaminated soil or groundwater.

On that basis, Alliance considers that the potential for contaminants to be present in the uncontrolled filling, at concentrations which could present a vapour intrusion / inhalation risk, would be low.

Further assessment of vapour intrusion / inhalation risks associated with the uncontrolled filling, is considered not warranted.

6.5.1.3 Asbestos

Bonded asbestos containing material (ACM) is comprised of asbestos bound in a matrix (including cement or resin), which is in sound condition, although possibly broken or fragmented.

Fibrous asbestos (FA) comprises friable asbestos material and includes severely weathered cement sheeting, insulation products and woven asbestos material. This type of friable asbestos is defined here as asbestos material that is in a degraded condition such that it can be broken or crumbled by hand pressure. This material is typically unbonded or was previously bonded and is now significantly degraded (crumbling).

Asbestos fines (AF) include free fibres, small fibre bundles and small fragments of ACM[4] that would pass through a 7mm x 7mm aperture sieve.

FA and AF are considered to be 'friable' asbestos, which is material that is in a powder form or that can be crumbled, pulverised or reduced to powder by hand pressure when dry.

Asbestos poses a risk to human health when asbestos fibres are made airborne and inhaled. The assessment of sites contaminated with asbestos in soil should aim to describe the nature and quantity of asbestos in soil in sufficient detail to enable a risk management plan to be developed for the proposed land use scenario.

Site history information and observations made during the site walkover, indicated a potential for ACM, FA, and AF to be present in soils at the site.

The proposed land use scenario is likely to include limited unsealed and open space areas, where a pathway between identified receptors and asbestos in soils, may be complete.

Further assessment of asbestos exposure risk is considered warranted.

6.5.2 Management Limits for Petroleum Hydrocarbons

Section 2.9 of NEPC (2013a) states that there are a number of policy considerations which reflect the nature and properties of petroleum hydrocarbons:

- Formation of observable light non-aqueous phase liquids (LNAPL);
- Fire and explosive hazards; and

[4] For bonded ACM fragments to pass through a 7mm x 7mm sieve implies a substantial degree of damage which increases the potential for fibre release.

- Effects on buried infrastructure e.g., penetration of, or damage to, in-ground services by hydrocarbons.

Section 2.9 of NEPC (2013a) notes that:

- CCME (2008) includes management limits to avoid or minimise these potential effects. Application of management limits requires consideration of site-specific factors such as depth of building basements and services, and depth to groundwater, to determine the maximum depth to which the limits should apply.
- management limits may have less relevance at operating industrial sites (including mine sites) which have no or limited sensitive receptors in the area of potential impact.
- the presence of site total petroleum hydrocarbon (TPH) contamination at the levels of the management limits does not imply that there is no need for administrative notification or controls in accordance with jurisdiction requirements.

Site history information and walkover observations indicated a potential for these policy considerations to be associated with relevant identified areas of environmental concern (AEC) at the site, in the context of the proposed future land use scenario. On that basis, further assessment of petroleum hydrocarbons in soils in the context of those policy considerations, is considered warranted.

6.5.3 Hazardous Ground Gases

NSW EPA (2020a) provides advice on ground gases that if present in the pore space of soils and rocks, and can adversely impact human health and safety or the integrity of structures. The ground gases that are generally of concern in this context are:

- Bulk ground gases, including methane, carbon dioxide, carbon monoxide, hydrogen, hydrogen sulphide, and petroleum vapours; and
- Trace ground gases including radon, volatile organic compounds, and mercury vapour.

Alliance has reviewed site history information review and site walkover observations in the context of sources and origins of hazardous ground gases in Table 1 and Table 2 of NSW EPA (2020a). Based on that review, Alliance considers that further assessment of hazardous ground gases in the context of this project, is considered not warranted.

6.5.4 Aesthetics

Aesthetic issues generally relate to the presence of low-concern or non-hazardous inert foreign material (refuse) in soil or fill resulting from human activity. Sites that are assessed as being acceptable from a human health and environmental perspective may still contain foreign material[5]. Sites may have some soil discolouration from relatively inert chemical waste (e.g. ferric metals) or residual odour (e.g. natural sulfur odour).

[5] Geotechnical issues related to the presence of fill should be treated separately to assessment of site contamination.

Assessment should be undertaken in the context of the sensitivity of the proposed land use scenario (e.g. higher expectations apply to residential properties with gardens compared with industrial settings). General assessment considerations should include:

- That chemically discoloured soils or large quantities of various types of inert refuse, particularly if unsightly, may cause ongoing concern to site users;
- The depth of the materials, including chemical residues, in relation to the final surface of the site;
- The need for, and practicality of, any long-term management of foreign material;
- The presence of small quantities of non-hazardous material and low odour residue (e.g. weak petroleum odours) that will decrease over time should not be a cause of concern in most circumstances
- Sites with large quantities of well-covered known inert material that present no health hazard such as brick fragments and cement wastes, are usually of low concern for non-sensitive and sensitive land uses; and
- Caution should be used when assessing sensitive land uses, such as residential, when large quantities of various fill types and demolition rubble are present.

Alliance has adapted guidance in Section 3.6.2 and Section 3.6.3 of NEPC (2013a) to facilitate a preliminary assessment of potential aesthetic risks, identified during review of site history information and site walkover observations. The results of the preliminary assessment are presented in Table 6.5.4, and they are used to assess whether the need for further assessment to be undertaken, has been triggered.

Table 6.5.4 Preliminary Aesthetics Screening

Preliminary Aesthetics Screening Question	Assessment
Is there potential for highly malodorous soils or extracted groundwater (e.g. strong residual petroleum hydrocarbon odours, hydrogen sulphide in soil or extracted groundwater, organosulfur compounds) to be present on site?	Yes
Is there hydrocarbon sheen on surface waters at site?	No
Is there potential for discoloured chemical deposits or soil staining with chemical waste other than of a very minor nature, to be present in site soils;	No
Is there potential for large monolithic deposits of otherwise low risk material, e.g. gypsum as powder or plasterboard or cement kiln dust, to be present in site soils;	No
Is there potential for putrescible refuse including material that may generate hazardous levels of methane such as a deep fill profile of green waste or large quantities of timber waste, to be present in site soils?	No
Is there potential for residue from animal burial (e.g. former abattoir sites) to be present in site soils.	No
Is there potential for large quantities of non-hazardous inert material to be present in site soils?	Yes
Is there potential for high odour residue material to be present in site soils?	Yes
Is there potential for large quantities of various fill types and demolition rubble to be present in site soils proposed for residential land use?	No

Site history information and observations made during the site walkover, and considered during the aesthetics risk assessment, indicated the following potential aesthetics risks for the site:

- Large deposits of building waste within the gulley between dams within Lot 12;

- Heavy litter and waste dumping of inert materials across all of lot 11, including across the market gardens, including irrigation pipes, timber beams, pallets, plastic sheets, metal scrap, polystyrene containers, plastic crates, abandoned cars, and litter; and
- Odours in soil at sampling point TP1 (reported in Douglas Partners (2019).

Further assessment of aesthetic risks is considered warranted.

6.5.5 Terrestrial Ecosystems

Site history information and observations made during the site walkover, indicated a potential for contaminants, which may present a risk to terrestrial ecosystems, may be present on site.

Section 3.4.2 of NEPC (2013a) states that:

- a pragmatic risk-based approach should be taken when assessing ecological risk in residential and commercial / industrial land use settings;
- in existing residential and urban development sites, there are often practical considerations that enable soil properties to be improved by addition of ameliorants with a persistent modifying effect or by the common practice of backfilling or top dressing with clean soil;
- in other cases, all of the site soils will be removed during site development works or relocated for the formation of new landforms;
- sites may also be backfilled with clean soil/fill and the fate of any excavated contaminated soil should be considered in process; and
- commercial and industrial sites may have large building structures and extensive areas covered with concrete, other pavement or hardstand materials and may have limited environmental values requiring consideration while in operational use.

Alliance has considered the potential for sensitive ecological receptors to be present at the site, in the context of site history information, site walkover observations and the proposed land use scenario.

Alliance notes that:

- Observations of flora onsite were limited to a limited number of scattered trees at the boundaries of the site, with some along the driveway of Lot 13. Observed native herbaceous flora species across the site were minimal;
- The proposed land use scenario will include soil excavation and removal across the site and covering the majority of the site with hardstand pavements and building footprints;
- Mammals are unlikely to access the site following construction of proposed buildings and hardstand areas;
- Invertebrates currently present at the site (including soil fauna, earthworms, and insects) are likely to be removed during excavation works;
- Birds are unlikely to remain onsite following removal of the scattered trees at the site boundary and along the Lot 13 driveway, and construction of the new buildings and hardstand areas;
- Reptiles unlikely to remain onsite following removal of the scattered trees at the site boundary, and along the Lot 13 driveway, excavation works, and construction of the new buildings and hardstand areas;

On the basis that, further assessment of terrestrial ecosystem risks is considered not warranted.

6.5.6 Groundwater

Section 2.2 of NSW DEC (2007) provides guidance on the need for the potential for groundwater contamination to be assessed, for the purposes of evaluating whether it may pose an unacceptable risk to human health and/or the environment.

Section 3.2 of NEPC (2013h) provides guidance on the environmental values (that are conducive to public benefit, welfare, safety, or health) and that require protection from the effects of pollution, waste discharge and deposits. These values include:

- Ecosystem protection;
- Aquaculture and human consumers of food;
- Agricultural water (irrigation and stock water);
- Recreation and aesthetics;
- Drinking water; and
- Industrial water.

Each of these values is considered in sub-sections 6.5.6.1 to 6.5.6.6.

6.5.6.1 Aquatic Ecosystem Protection

In the context of aquatic ecosystems, ANZG (2018) defines level of protection is the degree of protection afforded to a water body based upon its ecosystem condition (current or desired health status of an ecosystem relative to the human degree of disturbance). Selecting a level of protection should consider:

- Maintaining the existing ecosystem condition, or
- Enhancing a modified ecosystem by targeting the most appropriate level of condition.

ANZG (2018) recognises three categories of current or desired ecosystems:

- High conservation or ecological value systems
- Slightly to moderately disturbed ecosystems; and
- Highly disturbed ecosystems.

Alliance has undertaken an assessment of the likely nearest aquatic ecosystem to the site (refer Section 3.4) and considers that is it a freshwater system. Following review of site-specific attributes, and in the context of guidance provided in ANZG (2018)[6], Alliance considers that the nearest aquatic ecosystem is:

- highly disturbed system, on the basis that the aquatic ecosystem is measurably degraded and of lower ecological value (e.g. rural streams receiving runoff from intensive horticulture).

[6] https://www.waterquality.gov.au/anz-guidelines/resources/key-concepts/level-of-protection

Groundwater at the site is considered likely to discharge to the nearest downgradient surface water body identified for the site (refer Section 3.4). That surface water body is considered likely to be polluted and be of a quality that is not consistent with natural background water quality.

Geology at the site is likely to include low permeability clays, which would limit vertical migration of soil contaminants (if present) into groundwater.

The shallowest groundwater at the site is likely to be transient perched groundwater generally present at the soil-bedrock interface, after heavy rain events. Data on natural background water quality for transient groundwater is generally not available. Subsequently, comparison of site specific shallow transient groundwater data against background quality is therefore not practical.

Based on this, Alliance considers that further assessment of aquatic ecosystem protection as a groundwater value, is not warranted.

6.5.6.2 Aquaculture and Human Consumers of Food

Groundwater at the site is considered likely to discharge to the nearest surface water body identified for the site (refer Section 3.4).

The nearest surface water body to the site is not located on or adjacent to the site and is located a significant distance (~700 m) from the site. Alliance considers it unlikely that occupants of the site would frequent that surface water body for the collection and consumption of aquatic based foods, at a rate that the intake would present an unacceptable risk to human health.

The nearest surface water body identified for the site (refer Section 3.4) appears to be a drainage/creek line and is likely to be shallow in nature. Alliance considers it unlikely that the surface water body would contain an aquatic food source suitable for human consumption.

Based on this, Alliance considers that further assessment of aquaculture and human consumers of food as a groundwater value, is not warranted.

6.5.6.3 Agricultural (Irrigation and Stock Water)

The groundwater bore search in Section 3.4 did not identify any registered groundwater bores within a 500m radius of the site, that were authorised for irrigation or stock watering purposes.

The shallowest groundwater at the site is likely to be transient perched groundwater generally present at the soil-bedrock interface, after heavy rain events, and therefore, unlikely to be a reliable groundwater abstraction source for irrigation and stock watering purposes.

Commercial/industrial development on the site is considered likely to prevent agricultural land use activities from being undertaken, which would mitigate the potential for abstraction of groundwater for irrigation and stock watering.

Based on this, Alliance considers that further assessment of agricultural water as a groundwater value, is not warranted.

6.5.6.4 Recreation and Aesthetics

Section 3.4 of this report did not identify licensed recreational water abstraction bores within a 500m radius of the site. Further to this McNally (2009) advises that:

- deeper regional groundwater present in the fractures of the Ashfield / Bringelly shales (in western Sydney) is generally saline, typically in the range of 5,000-50,000mg/L (due to their sea salt content); and
- the Ashfield / Bringelly shales (in western Sydney) are also considered to have no value as sources of groundwater.

The future land use scenario for the site includes a reticulated drinking water system. Development surrounding the site is also considered likely to include a reticulated drinking water system. Alliance considers use of reticulated water as a recreational water source (e.g. filling up swimming pools or ponds on site) is considered a more plausible scenario.

On that basis, installation of groundwater wells on site for the purpose of groundwater abstraction and use as a recreational water source (e.g. filling up swimming pools or ponds on site) is considered unlikely.

Groundwater at the site is considered likely to discharge to the nearest surface water body identified for the site (refer Section 3.4).

The nearest surface water body identified for the site (refer Section 3.4) appears to be a drainage / creek line, is likely to be shallow in nature, and has limited access to the general public. Alliance considers it is unlikely that the surface water body would be used for:

- sports in which the user comes into frequent direct contact with water, either as part of the activity or accidentally, for example, swimming or surfing (primary contact);
- sports that generally have less-frequent body contact with the water, for example, boating or fishing (secondary contact); or
- visual passive recreational use, for example, pleasant places to be near or to look at (no body contact).

Based on this, Alliance considers that further assessment of recreation and aesthetics as a groundwater value, is not warranted.

6.5.6.5 Drinking Water

The groundwater bore search in Section 3.4 did not identify any registered groundwater bores within a 500m radius of the site, that were authorised for drinking water purposes.

The shallowest groundwater at the site is likely to be transient perched groundwater generally present at the soil-bedrock interface, after heavy rain events, and therefore, unlikely to be a reliable groundwater abstraction source for drinking water purposes.

McNally (2009) advises that:

- deeper regional groundwater present in the fractures of the Ashfield / Bringelly shales (in western Sydney) is generally saline, typically in the range of 5,000-50,000mg/L (due to their sea salt content), and therefore not suitable for drinking purposes; and

- the Ashfield / Bringelly shales (in western Sydney) are also considered to have no value as sources of groundwater.

The future land use scenario for the site includes a reticulated drinking water system. development surrounding the site is also considered likely to include a reticulated drinking water system. Alliance considers use of reticulated water as a drinking water source onsite is a more plausible scenario.

Installation of rainwater collection tanks on site (for use as a secondary source of drinking water is also considered a more plausible scenario).

On that basis, further assessment of drinking water as a groundwater value, is considered not warranted.

6.5.6.6 Industrial Use

The groundwater bore search in Section 3.4 did not identify any registered groundwater bores within a 500m radius of the site, that were authorised for industrial purposes.

The shallowest groundwater at the site is likely to be transient perched groundwater generally present at the soil-bedrock interface, after heavy rain events, and therefore, unlikely to be a reliable groundwater abstraction source for industrial purposes.

Development on the site and on land down gradient of the site, is considered likely to prevent industrial land use activities from being undertaken, which would mitigate the potential for abstraction of groundwater for industrial purposes.

The future land use scenario for the site includes a reticulated drinking water system. Development surrounding the site is also considered likely to include a reticulated drinking water system. Use of reticulated water for industrial purposes (if industrial activities were undertaken) is considered a more plausible scenario.

Based on this, Alliance considers that further assessment of industrial water as a groundwater value, is not warranted.

6.6 Source, Pathway and Receptor Links

Based on:

- The identified sources of contamination associated with the locations of where potential land contaminating activities have been undertaken at the site (areas of environmental concern or AEC);
- The identified contaminants of potential concern (COPC) associated with those land contaminating activities;
- The receptors identified for the site, based on the proposed land use scenario; and
- The exposure pathways between the identified sources and receptors that have been assessed as being potentially or actually complete,

a conceptual site model (CSM) that identifies plausible south-pathway-receptor linkages for the site, is presented Table 6.6.

The locations of the AEC are presented in **Figure 3**.

Table 6.6 Source, Pathway and Receptor Links

ID	AEC	Land Contaminating Activity (Source)	COPC	Exposure Pathway	Receptor
AEC01a	Western poultry farming area, 3 sheds (~1.2 hectares, ~0.5m in depth)	Poultry waste, hazardous buildings materials, shallow uncontrolled filling, termite, and poultry parasite pesticides	Petroleum hydrocarbons, polycyclic aromatic hydrocarbons, organochlorine pesticides, BTEX, polychlorinated biphenyl, pathogens, metals, & asbestos.	Dermal contact Soil Ingestion Dust inhalation Inhalation (asbestos) Management limits Aesthetics	Commercial / industrial workers
AEC01b	Eastern poultry farming area, 1 shed on fill pad (~4,500m^2, ~3.0m to ~0.5m in depth)	Poultry waste, hazardous buildings materials, uncontrolled filling, termite and poultry parasite pesticides	Petroleum hydrocarbons, polycyclic aromatic hydrocarbons, organochlorine pesticides, BTEX, polychlorinated biphenyl, pathogens, metals, & asbestos.	Dermal contact Soil Ingestion Dust inhalation Inhalation (asbestos) Management limits Aesthetics	Commercial / industrial workers
AEC02	Aboveground fuel storage tank labelled as liquid petroleum gas (Lot 13 between poultry sheds, ~5,000L)	Fuel spills/leaks	Petroleum hydrocarbons, BTEX, PAH, lead	Dermal contact Soil Ingestion Vapour inhalation / intrusion Management limits Aesthetics	Commercial / industrial workers
AEC03a	Dam 1 Wall (Lot 13 west, ~50m^2, ~1m in height)	Potential uncontrolled filling.	Petroleum hydrocarbons, polycyclic aromatic hydrocarbons, organochlorine pesticides, BTEX, metals, & asbestos	Dermal contact Soil Ingestion Dust inhalation Inhalation (asbestos) Management limits Aesthetics	Commercial / industrial workers

AEC03b	Dam 1 Sediments (Lot 13 west, ~180m^2, ~0.1m in thickness)	Poultry shed wastes	Organochlorine pesticides, metals, & asbestos, pathogens	Dermal contact Soil Ingestion Dust inhalation Inhalation (asbestos) Management limits Aesthetics	Commercial / industrial workers
AEC03c	Dam 1 Surface Water (Lot 13 west, ~180m^2, ~0.5m in depth)	Effluent from poultry sheds.	Pesticides, pathogens, nutrients, metals, temperature, turbidity, dissolved oxygen, biological oxygen demand	Dermal contact Soil Ingestion Dust inhalation Inhalation (asbestos) Management limits Aesthetics Surface water contact	Commercial / industrial workers
AEC04a	Dam 2 Wall (Lot 13 north, ~150m^2, ~1m in height)	Potential uncontrolled filling.	Petroleum hydrocarbons, polycyclic aromatic hydrocarbons, organochlorine pesticides, BTEX, metals, & asbestos	Dermal contact Soil Ingestion Dust inhalation Inhalation (asbestos) Management limits Aesthetics	Commercial / industrial workers
AEC04b	Dam 2 Sediments (Lot 13 north, ~900m^2, ~0.1m in thickness)	Waste disposal, poultry shed wastes.	Petroleum hydrocarbons, polycyclic aromatic hydrocarbons, organochlorine pesticides, BTEX, heavy metals, & asbestos	Dermal contact Soil Ingestion Dust inhalation Inhalation (asbestos) Management limits Aesthetics	Commercial / industrial workers
AEC04c	Dam 2 Surface Water (Lot 13 north, ~900m^2, ~1.5m in depth)	Waste disposal and effluent from poultry sheds.	Petroleum hydrocarbons, polycyclic aromatic hydrocarbons, organochlorine pesticides, BTEX, metals, temperature, turbidity,	Dermal contact Soil Ingestion Dust inhalation	Commercial / industrial workers

			dissolved oxygen, biological oxygen demand	Inhalation (asbestos) Management limits Aesthetics Surface water contact	
AEC05a	Dam 3 Wall (Lot 13 east, ~25m^2, ~1m in height)	Potential uncontrolled filling.	Petroleum hydrocarbons, polycyclic aromatic hydrocarbons, organochlorine pesticides, BTEX, metals, & asbestos	Dermal contact Soil Ingestion Dust inhalation Inhalation (asbestos) Management limits Aesthetics	Commercial / industrial workers
AEC05b	Dam 3 Sediments (Lot 13 east, ~90m^2, ~0.1m in thickness)	waste disposal.	Petroleum hydrocarbons, polycyclic aromatic hydrocarbons, organochlorine pesticides, BTEX, heavy metals, & asbestos	Dermal contact Soil Ingestion Dust inhalation Inhalation (asbestos) Management limits Aesthetics	Commercial / industrial workers
AEC05c	Dam 3 Surface Water (Lot 13 east, ~90m^2, ~0.5m in depth)	Waste disposal.	Petroleum hydrocarbons, polycyclic aromatic hydrocarbons, organochlorine pesticides, BTEX, metals, temperature, turbidity, dissolved oxygen, biological oxygen demand	Dermal contact Soil Ingestion Dust inhalation Inhalation (asbestos) Management limits Aesthetics	Commercial / industrial workers
AEC06	Stockpile (~50 m^3, near east dam in Lot 13)	Uncontrolled dumping or stockpiling of poultry manure	Petroleum hydrocarbons, polycyclic aromatic hydrocarbons, organochlorine pesticides, BTEX, polychlorinated biphenyl, metals, pathogens, nutrients & asbestos.	Dermal contact Soil Ingestion Dust inhalation Inhalation (asbestos) Management limits	Commercial / industrial workers

				Aesthetics	
AEC07	Fill material (~200m², ~0.5m in thickness, south of eastern poultry shed in Lot 13)	Uncontrolled soil filling	Petroleum hydrocarbons, polycyclic aromatic hydrocarbons, organochlorine pesticides, BTEX, polychlorinated biphenyl, metals, & asbestos.	Dermal contact Soil Ingestion Dust inhalation Inhalation (asbestos) Management limits Aesthetics	Commercial / industrial workers
AEC08a	Dam 4 Wall (Lot 12 west, ~250m^2, ~1m in height)	Potential uncontrolled filling.	Petroleum hydrocarbons, polycyclic aromatic hydrocarbons, organochlorine pesticides, BTEX, metals, & asbestos	Dermal contact Soil Ingestion Dust inhalation Inhalation (asbestos) Management limits Aesthetics	Commercial / industrial workers
AEC08b	Dam 4 Sediments (Lot 12 west, ~2,800m^2, ~0.1m in thickness)	Waste disposal.	Petroleum hydrocarbons, polycyclic aromatic hydrocarbons, organochlorine pesticides, BTEX, heavy metals, & asbestos	Dermal contact Soil Ingestion Dust inhalation Inhalation (asbestos) Management limits Aesthetics	Commercial / industrial workers
AEC08c	Dam 4 Surface Water (Lot 12 west, ~2,800m^2, ~2.0m in depth)	Waste disposal.	Petroleum hydrocarbons, polycyclic aromatic hydrocarbons, organochlorine pesticides, BTEX, metals, temperature, turbidity, dissolved oxygen, biological oxygen demand	Dermal contact Soil Ingestion Dust inhalation Inhalation (asbestos) Management limits Aesthetics Surface water contact	Commercial / industrial workers
AEC09a	Dam 5 Wall (Lot 12 north, ~70m^2, ~2m in height)	Potential uncontrolled filling.	Petroleum hydrocarbons, polycyclic aromatic hydrocarbons,	Dermal contact Soil Ingestion	Commercial / industrial workers

			organochlorine pesticides, BTEX, metals, & asbestos	Dust inhalation Inhalation (asbestos) Management limits Aesthetics	
AEC09b	Dam 5 Sediments (Lot 12 north, ~300m^2, ~0.1m in thickness)	Waste disposal.	Petroleum hydrocarbons, polycyclic aromatic hydrocarbons, organochlorine pesticides, BTEX, heavy metals, & asbestos	Dermal contact Soil Ingestion Dust inhalation Inhalation (asbestos) Management limits Aesthetics	Commercial / industrial workers
AEC09c	Dam 5 Surface Water (Lot 12 north, ~300m^2, ~1.0m in depth)	Waste disposal.	Petroleum hydrocarbons, polycyclic aromatic hydrocarbons, organochlorine pesticides, BTEX, metals, temperature, turbidity, dissolved oxygen, biological oxygen demand	Dermal contact Soil Ingestion Dust inhalation Inhalation (asbestos) Management limits Aesthetics Surface water contact	Commercial / industrial workers
AEC10a	Dam 6 Wall (Lot 12 south, ~100m^2, ~1m in height)	Potential uncontrolled filling.	Petroleum hydrocarbons, polycyclic aromatic hydrocarbons, organochlorine pesticides, BTEX, metals, & asbestos	Dermal contact Soil Ingestion Dust inhalation Inhalation (asbestos) Management limits Aesthetics	Commercial / industrial workers
AEC10b	Dam 6 Sediments (Lot 12 south, ~700m^2, ~0.1m in thickness)	Waste disposal	Petroleum hydrocarbons, polycyclic aromatic hydrocarbons, organochlorine pesticides, BTEX, heavy metals, & asbestos	Dermal contact Soil Ingestion Dust inhalation Inhalation (asbestos) Management limits	Commercial / industrial workers

				Aesthetics	
AEC10c	Dam 6 Surface Water (Lot 12 south, ~700m^2, ~1.0m in depth)	Waste disposal.	Petroleum hydrocarbons, polycyclic aromatic hydrocarbons, organochlorine pesticides, BTEX, metals, temperature, turbidity, dissolved oxygen, biological oxygen demand	Dermal contact Soil Ingestion Dust inhalation Inhalation (asbestos) Management limits Aesthetics	Commercial / industrial workers
AEC11a	Dam 7 Wall (Lot 12 south east, ~40m^2, ~1m in height)	Potential uncontrolled filling.	Petroleum hydrocarbons, polycyclic aromatic hydrocarbons, organochlorine pesticides, BTEX, metals, & asbestos	Dermal contact Soil Ingestion Dust inhalation Inhalation (asbestos) Management limits Aesthetics	Commercial / industrial workers
AEC11b	Dam 7 Sediments (Lot 12 south east, ~190m^2, ~0.1m in thickness)	Waste disposal.	Petroleum hydrocarbons, polycyclic aromatic hydrocarbons, organochlorine pesticides, BTEX, heavy metals, & asbestos	Dermal contact Soil Ingestion Dust inhalation Inhalation (asbestos) Management limits Aesthetics	Commercial / industrial workers Intrusive maintenance workers
AEC12	Fill material (~50 m², ~0.5m in thickness, west of Lot 12 south structure)	Uncontrolled soil filling/	Petroleum hydrocarbons, polycyclic aromatic hydrocarbons, organochlorine pesticides, BTEX, polychlorinated biphenyl, metals, & asbestos.	Dermal contact Soil Ingestion Dust inhalation Inhalation (asbestos) Management limits Aesthetics	Commercial / industrial workers
AEC13	Commercial paint warehouse (~2,000m²,	Hazardous buildings materials, chemical and fuel storage/spills/leaks	Petroleum hydrocarbons, polycyclic aromatic hydrocarbons, VOC,	Dermal contact Soil Ingestion	Commercial / industrial workers

	central southern portion of Lot 12)		BTEX, polychlorinated biphenyl, metals, & asbestos	Dust inhalation Inhalation (asbestos) Management limits Aesthetics	
AEC14	Gully between northern dams in Lot 12 (~500m², ~0.5m in thickness)	Uncontrolled soil filling/	Petroleum hydrocarbons, polycyclic aromatic hydrocarbons, organochlorine pesticides, BTEX, polychlorinated biphenyl, metals, & asbestos.	Dermal contact Soil Ingestion Dust inhalation Inhalation (asbestos) Management limits Aesthetics	Commercial / industrial workers
AEC15	Residential premises (~3,000 m² Lot 12 east)	hazardous buildings materials, termite treatment	Petroleum hydrocarbons, polycyclic aromatic hydrocarbons, organochlorine pesticides, BTEX, polychlorinated biphenyl, metals, & asbestos.	Dermal contact Soil Ingestion Dust inhalation Inhalation (asbestos) Management limits Aesthetics	Commercial / industrial workers
AEC16	Septic tank (~3m^2, ~1.5m deep, Lot 12 east property)	Domestic effluent disposal	Pathogens, petroleum hydrocarbons and metals	Dermal contact Soil Ingestion Management limits Aesthetics	Commercial / industrial workers
AEC17	Stockpile (~5 m³, north-west corner Lot 11)	Uncontrolled soil dumping	Petroleum hydrocarbons, polycyclic aromatic hydrocarbons, organochlorine pesticides, BTEX, polychlorinated biphenyl, metals, & asbestos.	Dermal contact Soil Ingestion Dust inhalation Inhalation (asbestos) Management limits Aesthetics	Commercial / industrial workers
AEC18	Construction material storage area, including metal sheeting, piping	Deterioration of exposed ageing materials, heavy vehicle use.	Petroleum hydrocarbons, BTEX, metals, asbestos.	Dermal contact Soil Ingestion	Commercial / industrial workers

	and lumber (~1,000 m², north-west corner Lot 11)			Dust inhalation Inhalation (asbestos) Management limits Aesthetics	
AEC19a	Dam 8 Wall (Lot 11 north west smaller dam, ~40m^2, ~1m in height)	Potential uncontrolled filling.	Petroleum hydrocarbons, polycyclic aromatic hydrocarbons, organochlorine pesticides, BTEX, metals, & asbestos	Dermal contact Soil Ingestion Dust inhalation Inhalation (asbestos) Management limits Aesthetics	Commercial / industrial workers
AEC19b	Dam 8 Sediments (Lot 11 north west smaller dam, ~120m^2, ~0.1m in thickness)	Waste disposal.	Petroleum hydrocarbons, polycyclic aromatic hydrocarbons, organochlorine pesticides, BTEX, heavy metals, & asbestos	Dermal contact Soil Ingestion Dust inhalation Inhalation (asbestos) Management limits Aesthetics	Commercial / industrial workers
AEC19c	Dam 8 Surface Water (Lot 11 north west smaller dam, ~120m^2, ~0.5m in depth)	Waste disposal.	Petroleum hydrocarbons, polycyclic aromatic hydrocarbons, organochlorine pesticides, BTEX, metals, temperature, turbidity, dissolved oxygen, biological oxygen demand	Dermal contact Soil Ingestion Dust inhalation Inhalation (asbestos) Management limits Aesthetics Surface water contact	Commercial / industrial workers
AEC20a	Dam 9 Wall (Lot 11 north west larger dam, ~100m^2, ~1m in height)	Potential uncontrolled filling.	Petroleum hydrocarbons, polycyclic aromatic hydrocarbons, organochlorine pesticides, BTEX, metals, & asbestos	Dermal contact Soil Ingestion Dust inhalation Inhalation (asbestos) Management limits	Commercial / industrial workers

				Aesthetics	
AEC20b	Dam 9 Sediments (Lot 11 north west larger dam, ~600m^2, ~0.1m in thickness)	Waste disposal.	Petroleum hydrocarbons, polycyclic aromatic hydrocarbons, organochlorine pesticides, BTEX, heavy metals, & asbestos	Dermal contact Soil Ingestion Dust inhalation Inhalation (asbestos) Management limits Aesthetics	Commercial / industrial workers
AEC20c	Dam 9 Surface Water (Lot 11 north west larger dam, ~600m^2, ~0.5m in depth)	Waste disposal	Petroleum hydrocarbons, polycyclic aromatic hydrocarbons, organochlorine pesticides, BTEX, metals, temperature, turbidity, dissolved oxygen, biological oxygen demand	Dermal contact Soil Ingestion Dust inhalation Inhalation (asbestos) Management limits Aesthetics Surface water contact	Commercial / industrial workers
AEC21	Stockpile (~50 m³, north-west Lot 11, south of AEC18)	Uncontrolled soil dumping	Petroleum hydrocarbons, polycyclic aromatic hydrocarbons, organochlorine pesticides, BTEX, polychlorinated biphenyl, metals, & asbestos.	Dermal contact Soil Ingestion Dust inhalation Inhalation (asbestos) Management limits Aesthetics	Commercial / industrial workers
AEC22	Septic tank (~3m^2, ~1.5m deep, Lot 11 north of residence)	Domestic effluent disposal	Pathogens, petroleum hydrocarbons and metals	Dermal contact Soil Ingestion Management limits Aesthetics	Commercial / industrial workers
AEC23	Residential premises (~2,500 m² Lot 11 west)	hazardous buildings materials, termite treatment	Petroleum hydrocarbons, polycyclic aromatic hydrocarbons, organochlorine pesticides, BTEX, polychlorinated biphenyl, metals, & asbestos.	Dermal contact Soil Ingestion Dust inhalation Inhalation (asbestos)	Commercial / industrial workers

				Management limits Aesthetics	
AEC24	Aboveground fuel storage tank unlabelled, likely diesel petroleum ~5,000L (Lot 11 north-west of residence)	Fuel spills/leaks	Petroleum hydrocarbons, BTEX, PAH, lead	Dermal contact Soil Ingestion Dust inhalation Vapour inhalation Management limits Aesthetics	Commercial / industrial workers
AEC25	Storage shed (~40 m², centre-west Lot 11)	hazardous buildings materials, chemical and fuel storage/spills/leaks, termite treatment	Petroleum hydrocarbons, polycyclic aromatic hydrocarbons, organochlorine pesticides, BTEX, polychlorinated biphenyl, metals, & asbestos.	Dermal contact Soil Ingestion Dust inhalation Vapour inhalation Inhalation (asbestos) Management limits Aesthetics	Commercial / industrial workers I
AEC26	Market Gardens (~5.2ha, ~0.5m in thickness, Central portion of Lot 11)	Application of pesticides	organochlorine pesticides, metals.	Dermal contact Soil Ingestion Dust inhalation Management limits	Commercial / industrial workers
AEC27	Storage shed (~40 m², centre-east Lot 11)	hazardous buildings materials, termite treatment, chemical/fuel leaks and spills	Petroleum hydrocarbons, organochlorine pesticides, BTEX, polychlorinated biphenyl, metals, & asbestos.	Dermal contact Soil Ingestion Dust inhalation Inhalation (asbestos) Management limits Aesthetics	Commercial / industrial workers
AEC028	Storage shed (~15 m², centre-south Lot 11)	hazardous buildings materials, termite treatment, chemical/fuel leaks and spills	Petroleum hydrocarbons, organochlorine pesticides, BTEX, polychlorinated biphenyl, metals, & asbestos.	Dermal contact Soil Ingestion Dust inhalation	Commercial / industrial workers

				Inhalation (asbestos) Management limits Aesthetics	
AEC29a	Dam 10 Wall (Lot 11 south east larger dam, ~220m^2, ~1m in height)	Potential uncontrolled filling.	Petroleum hydrocarbons, polycyclic aromatic hydrocarbons, organochlorine pesticides, BTEX, metals, & asbestos	Dermal contact Soil Ingestion Dust inhalation Inhalation (asbestos) Management limits Aesthetics	Commercial / industrial workers
AEC29b	Dam 10 Sediments (Lot 11 south east larger dam, ~2600m^2, ~0.1m in thickness)	Waste disposal	Petroleum hydrocarbons, polycyclic aromatic hydrocarbons, organochlorine pesticides, BTEX, heavy metals, & asbestos	Dermal contact Soil Ingestion Dust inhalation Inhalation (asbestos) Management limits Aesthetics	Commercial / industrial workers
AEC29c	Dam 10 Surface Water (Lot 11 south east larger dam, ~2600m^2, ~2.0m in depth)	Waste disposal	Petroleum hydrocarbons, polycyclic aromatic hydrocarbons, organochlorine pesticides, BTEX, metals, temperature, turbidity, dissolved oxygen, biological oxygen demand	Dermal contact Soil Ingestion Dust inhalation Inhalation (asbestos) Management limits Aesthetics Surface water contact	Commercial / industrial workers
AEC30a	Dam 11 Wall (Lot 11 south east smaller dam, ~200m^2, ~1m in thickness)	Potential uncontrolled filling	Petroleum hydrocarbons, polycyclic aromatic hydrocarbons, organochlorine pesticides, BTEX, metals, & asbestos	Dermal contact Soil Ingestion Dust inhalation Inhalation (asbestos) Management limits Aesthetics	Commercial / industrial workers Intrusive maintenance workers

AEC30b	Dam 11 Sediments (Lot 11 south east smaller dam, ~1,300m^2, ~2.0m in depth)	Waste disposal	Petroleum hydrocarbons, polycyclic aromatic hydrocarbons, organochlorine pesticides, BTEX, heavy metals, & asbestos	Dermal contact Soil Ingestion Dust inhalation Inhalation (asbestos) Management limits Aesthetics	Commercial / industrial workers
AEC30c	Dam 11 Surface Water (Lot 11 south east larger dam, ~2600m^2, ~2.0m in depth)	Waste disposal	Petroleum hydrocarbons, polycyclic aromatic hydrocarbons, organochlorine pesticides, BTEX, metals, temperature, turbidity, dissolved oxygen, biological oxygen demand	Dermal contact Soil Ingestion Dust inhalation Inhalation (asbestos) Management limits Aesthetics Surface water contact	Commercial / industrial workers
AEC31	Power poles (12 poles across Lot 11 and 12)	Copper chrome arsenate treatment	Arsenic, chromium, copper	Dermal contact Soil Ingestion Dust inhalation	Commercial / industrial workers
AEC32	Residential premises (<2,000 m² Lot 13 north – not within scope)	Deterioration of hazardous buildings materials, application of pesticides	Organochlorine pesticides, polychlorinated biphenyl, metals, & asbestos.	Dermal contact Soil Ingestion Dust inhalation Inhalation (asbestos) Management limits Aesthetics	Commercial / industrial workers
AEC33	Residential premises (<2,000 m² Lot 13 west – not within scope)	Deterioration of hazardous buildings materials, application of pesticides	Organochlorine pesticides, polychlorinated biphenyl, metals, & asbestos.	Dermal contact Soil Ingestion Dust inhalation Inhalation (asbestos) Management limits Aesthetics	Commercial / industrial workers

AEC34	Concrete driveway along the northern boundary to residential dwelling within Lot 13 (~100m in length)	Potential uncontrolled filling	Petroleum hydrocarbons, polycyclic aromatic hydrocarbons, BTEX, heavy metals, & asbestos	Dermal contact Soil Ingestion Dust inhalation Inhalation (asbestos) Management limits Aesthetics	Commercial / industrial workers
AEC35	Asphalt and gravel driveway leading to the commercial paint shed and residential dwelling within Lot 12 (~360m in length)	Potential uncontrolled filling	Petroleum hydrocarbons, polycyclic aromatic hydrocarbons, BTEX, heavy metals, & asbestos	Dermal contact Soil Ingestion Dust inhalation Inhalation (asbestos) Management limits Aesthetics	Commercial / industrial workers
AEC36	Gravel driveway leading to the residential dwelling within Lot 11 (~130m in length)	Potential uncontrolled filling	Petroleum hydrocarbons, polycyclic aromatic hydrocarbons, BTEX, heavy metals, & asbestos	Dermal contact Soil Ingestion Dust inhalation Inhalation (asbestos) Management limits Aesthetics	Commercial / industrial workers
AEC37	Gravel driveway leading to the eastern residential dwelling and poultry sheds within Lot 13 (~750m in length)	Potential uncontrolled filling	Petroleum hydrocarbons, polycyclic aromatic hydrocarbons, BTEX, heavy metals, & asbestos	Dermal contact Soil Ingestion Dust inhalation Inhalation (asbestos) Management limits Aesthetics	Commercial / industrial workers

7 Data Quality Objectives

7.1 Step 1: State the problem

The reason the project is being undertaken, is set out in **Section 1.1** of this report.

The objective of this project is set out in **Section 1.2** of this report.

The project team and technical support experts identified for the project include the Alliance project director, Alliance project manager, Alliance field staff and Alliance's subcontractors.

The design and undertaking of this project will be constrained by the client's financial and time budgets.

The regulatory authorities associated with this project include NSW EPA, the local planning authority, and SafeWork NSW.

7.2 Step 2: Identify the decision / goal of the study

The decisions that need to be made during this project, to address the project objectives, include:

- Is the data collected for the project, suitable for assessing land contamination exposure risks?
- Do the detected concentrations of contaminants of potential concern identified in the CSM, present an unacceptable exposure risk to the receptors identified in the CSM, based on the proposed land use scenario?
- Is the dam water present on site suitable for dewatering on site based on detected concentrations of contaminants of potential concerns?
- Is the site suitable, in the context of land contamination, for the proposed land use scenario?

7.3 Step 3: Identify the information inputs

The information inputs required to make the decisions for the project set out in **Section 7.2**, include:

- Data obtained during the site history review and site walkover;
- Identification of sample media that needs to be collected, as set out in **Section 7.7**;
- Parameters that will be measured in each relevant sample, as set out in **Section 7.7**;
- Guidelines For Preparing a Dam Dewatering Report guidance provided by the Hills Shite Council;
- The analytical methods required for each identified COPC, so that assessment can be made relative to adopted site criteria. These are set out in **Section 7.7** of this report; and

- The site criteria for the media of concern. These criteria are set out in Table 7.3 and will be adopted based on the proposed land use scenario[7], identified receptors, and site-specific soil and groundwater conditions (where relevant).

Table 7.3 Adopted Tier 1 Site Assessment Screening Criteria

Exposure Pathway	Land Use Scenario[8]	Criteria Reference
Human health dermal contact / ingestion / dust inhalation	HIL D - Commercial / industrial	Table 1A(1) in NEPC (2013a) Table B4 in Friebel, E & Nadebaum P (2011) Table 3-5 in NSW EPA (2000)
Human health inhalation/intrusion	HSL D / Commercial / Industrial D	Table 1A(2) in NEPC (2013a) Table 1A(3) in NEPC (2013a)[9] Table 1A(5) in NEPC (2013a)
Human health (asbestos)	Commercial / Industrial D	Table 7 in NEPC (2013a)[10]
Human health (aesthetics)	All	Characteristics and processes in Section 3.6.2 and 3.6.3 in NEPC (2013a)
Management Limits (petroleum hydrocarbons)	Commercial / industrial	Table 1B(7) in NEPC (2013a)

7.4 Step 4: Define the boundaries of the study

The spatial extent of the project will be limited to:

- The boundaries of the site as set out in **Section 2** and **Figure 2**; and
- Physical constraints or infrastructure on site or on land adjacent to the site, that prevents safe and reasonable access for project team members and/or typical and readily available equipment used for projects of this nature.

The scale of the decisions required (as set out in **Section 7.2**) will be based on the boundaries of the site set out in **Section 2** and **Figure 2**.

The vertical and lateral extents of investigation will be limited to the distribution of contamination assessed in the CSM (refer **Section 6.6**), based on the CSM, which are likely to be:

- The inferred vertical extent of each identified AEC, likely to be to the base of fill material in those AEC, to ~1m below the base of belowground infrastructure and to the base of material in each stockpile; and
- The inferred lateral boundaries of each identified AEC.

[7] The land use scenarios in Section 2.2 of NEPC (2013a) will be considered when adopting human health assessment criteria. The land use scenarios in Section 2.5 of NEPC (2013a) will be considered when adopting ecological assessment criteria.
[8] Consideration will be given to soil type, soil texture, soil depth, groundwater depth and appropriate species protection levels.
[9] Secondary school buildings should be assessed using the Residential A / Residential B HILs for vapour intrusion purposes.
[10] A depth of up to 10cm below ground level is adopted to define 'surface soil'.

The time and budget constraints of this project will be as per those set out in the contract (and any subsequent variations to that contract) between the client and Alliance.

The temporal boundaries of the project will include:

- Availability of project team members (including subcontractors and subconsultants) to collect and assess relevant project data;
- The availability of site access to undertake fieldwork; and
- Meteorological conditions including heat, cold, wind, rain, and snow, which may constrain undertaking of fieldwork, or may affect the quality of the data being collected.

7.5 Step 5: Develop the analytical approach

7.5.1 Field Duplicates and Triplicates

A minimum of one set of field duplicates and triplicates will be collected for each set of 20 samples collected (an equivalent of 5%), excluding asbestos samples.

Field duplicate and triplicate samples will be collected by splitting one bulk sample across three separate sample containers. Soil samples will not be homogenised, particularly where volatile or semi volatile COPC are being considered.

Analysis of the duplicate samples and triplicate samples will be scheduled based on at least one of the analytes that the relevant parent sample is being analysed for.

The relative percent difference (RPD) of the detected concentrations in the parent and duplicate, and the parent and triplicate, will be calculated, and the result compared to the relevant data quality indicator (DQI), as set out in **Section 7.5.4**.

7.5.2 Trip Spikes and Trip Blanks

One trip spike and one trip blank will be used for each day of sampling[11].

A minimum of one trip spike and one trip blank will be scheduled for BTEX analysis, during the project, provided the sample preservation, handling, transport and storage procedures used are the same for each day of sampling undertaken.

[11] When samples are being collected on that day, that will be analysed for BTEX and/or TRH C_6-C_{10}.

7.5.3 Analytical Laboratory Quality Assurance and Quality Control

The primary analytical laboratory will:

- be NATA accredited for the methods used; and
- use a quality assurance and quality control (QA/QC) program that will typically include analysis of method blanks, matrix spikes, surrogate spikes, laboratory control samples and laboratory duplicates.

The primary analytical laboratory will report on whether the analytical results of the QA/QC program are within the criteria set out in the laboratory's adopted data quality objectives.

7.5.4 Data Quality Indicators

A set of data quality indicators (DQI) will be adopted for assessing the completeness, comparability, representativeness, precision, and bias (accuracy) of data collected during fieldwork, the analytical data produced by the laboratory. Each of these DQI, and associated target criteria are set out in **Table 7.5.4**.

Table 7.5.4. Data Quality Indicators and Target Criteria

Completeness			
Field Considerations	***Target Criteria***	***Laboratory Considerations***	***Target Criteria***
Experienced sampling team used	Yes	Complete sample receipt advice and chain of custody attached	Yes
Sampling devices and equipment set out in sampling plan were used (refer **Section 7.7**).	Yes	Critical samples identified in sampling plan, analysed	Yes
Critical locations in sampling plan, sampled (refer **Section 7.7**).	Yes	Analysis undertaken addresses COPC in sampling plan (refer **Section 7.7**)	Yes
Critical samples in sampling plan, collected (refer **Section 7.7**).	Yes	Analytical methods reported in laboratory documentation and appropriate limit of reporting used	Yes
Completed field and calibration logs attached	Yes	Sample holding times met (refer **Section 7.7**)	Yes
Completed chain of custody attached	Yes		

Comparability			
Field Considerations	***Target Criteria***	***Laboratory Considerations***	***Target Criteria***

Same sampling team used for all work.	Yes	Same laboratory used for all analysis (refer **Section 7.7**).	Yes
Weather conditions suitable for sampling.	Yes	Comparable methods if different laboratories used Refer **Section 7.7**).	Yes
Same sample types collected and preserved in same way (refer **Section 7.7**).	Yes	Comparable limits of reporting if different laboratories used.	Yes
Relevant samples stored in insulated containers and chilled (refer **Section 7.7**).	Yes	Comparable units of measure if different laboratories have been used (refer **Section 7.7**).	Yes
Representativeness			
Field Considerations	***Target Criteria***	***Laboratory Considerations***	***Target Criteria***
Media identified in sampling plan, sampled (refer **Section 7.7**).	Yes	Samples identified in sampling plan, analysed.	Yes
Samples required by sampling plan, collected (refer **Section 7.7**).	Yes		
Precision			
Field Considerations	***Target Criteria***	***Laboratory Considerations***	***Target Criteria***
Minimum 5% duplicates and triplicates collected and analysed (refer **Section 7.5**).	Yes	All laboratory duplicate RPDs within laboratory acceptance criteria (refer **Section 7.5**).	Yes
RPD unlimited where detected concentrations are <10 times the limit of reporting.	Yes		
RPD within 50% where detected concentrations are 10-20 times the limit of reporting.	Yes		
RPD within 30% where detected concentrations are >20 times the limit of reporting.	Yes		
Bias (Accuracy)			
Field Considerations	***Target Criteria***	***Laboratory Considerations***	***Target Criteria***
Trip blank analyte results less than limit of reporting (refer **Section 7.5**).	Yes	Laboratory method blank results within laboratory acceptance limits (refer **Section 7.5**).	Yes
Trip spike analyte results less between 60% and 140% (refer **Section 7.5**).	Yes	Laboratory control sample results within laboratory acceptance limits (refer **Section 7.5**).	Yes
		Laboratory spike sample results within laboratory acceptance limits.	Yes

7.5.5 If / Then Statements

If the field and laboratory analytical dataset meets the DQI target assessment criteria, then the data may be considered adequately complete, comparable, representative, precise, and unbiased, for the purpose of addressing the decisions / goals of this project as set out in **Section 7.2**.

If the field and laboratory analytical dataset does not meet the DQI target assessment criteria, then additional data may need to be collected to address gaps identified in the data.

If the field and laboratory analytical results are within the adopted land contamination assessment criteria (refer **Section 7.3**), then it may be assessed that identified land contamination at the site does not present an unacceptable human health and/or ecological exposure risk.

If the field and laboratory analytical results are outside adopted land contamination assessment criteria (refer **Section 7.3**), then it may be assessed that identified land contamination at the site presents an unacceptable human health and/or ecological exposure risk, or that supplementary site specific qualitative / quantitative risk assessment may be required.

7.6 Step 6: Performance and Acceptance Criteria

7.6.1 If / Then Decisions

There are two types of decision error:

- Sampling errors – these occur when the sampling program does not adequately detect variability of a contaminant from point to point across a site. That is, the samples collected are not representative of site conditions (e.g. an appropriate number of representative samples have not been collected from each stratum to account for estimated variability in that contaminant); and
- Measurement errors - these occur during sample collection, preparation, analysis, and reduction of data.

During land contamination assessment, these errors can result in either:

- a Type I error, where land contamination human health and/or ecological exposure risks are considered to be acceptable, when they are not acceptable; or
- a Type II error, where land contamination human health and/or ecological exposure risks are considered to be unacceptable, when they are acceptable.

For decision rules to be sound, they should be designed to mitigate risk of decision errors occurring. The risk of decision error on this project will be mitigated by:

- Ensuring fieldwork is undertaken by suitably experienced field staff and sub-contractors, with reference to the DQO adopted for this project;
- Ensuring laboratory analysis is undertaken by NATA accredited laboratories; and
- Ensuring assessment of field and laboratory analytical data is undertaken by suitably experienced environmental consultants and/or outsourcing assessment to technical experts (if warranted).

7.7 Step 7: Develop the plan for obtaining data

7.7.1 Sampling Point Densities and Locations

Table A in NSW EPA (1995) provides guidance on minimum sampling point densities required for characterising a site, based on detecting circular hot spots, by using a systematic sampling pattern. Application of sampling densities in Table A can be appropriate when:

- There is little knowledge about the probable locations of the contamination;
- The distribution of the contamination is expected to be random (e.g. landfill sites); or
- The distribution of the contamination is expected to be fairly homogenous (e.g. agricultural lands).

Section 3.1 of NSW EPA (1995) advises that judgemental or stratified sampling methods can be used if there is sufficient information about the probable distribution of the contamination.

Section 6.2.1 in NEPC (2013b) advises that judgemental sampling and the selection of samples (number, location, timing, etc) should be based on knowledge of the site and professional judgement. In these instances, sampling would be expected to be localised to known or potentially contaminated areas identified from knowledge of the site either from the site history or an earlier phase of laned contamination assessment. Judgemental sampling can be used to investigate sub-surface contamination issues in site assessment.

Section 7.5 of NEPC (2013b) and VIC EPA (2009) provides guidance on sampling point densities, sampling methods and sample quantities for stockpiles.

Section 4.1 and Table 1 of WA DOH (2009) provides guidance on asbestos in soil sampling densities (in-situ and stockpiles), relative to the likelihood of asbestos being present on the site, based on assessment of site history.

The scope of this project has included collection of data that provides an understanding of:

- site history;
- the locations of potentially contaminated areas;
- the identified COPC;
- laydown mechanisms for COPC in each AEC;
- the likely lateral and vertical extent of potential contamination in each AEC; and
- constraints on site which may restrict the use of certain sampling techniques.

On that basis, it is considered reasonable to adopt a mix of systematic grid based and judgemental sampling patterns, using the sampling point densities set out in **Table 7.7.1** and **Figure 4.**

Table 7.7.1 Sampling Point Densities and Locations

ID	AEC	Sampling Point ID	Method	Target Depth (m bgl)
AEC01a	Western poultry farming area, 3 sheds (~1.2 hectares, ~0.5m in depth)	TP1 to TP25	Test Pit	2m, 0.3m into natural, or practical refusal

AEC01b	Eastern poultry farming area, 1 shed on fill pad (~4,500m^2, ~3.0m to ~0.5m in depth)	TP26 to TP36	Test Pit	2.5m, 0.3m into natural, or practical refusal
AEC02	Aboveground fuel storage tank labelled as liquid petroleum gas (Lot 13 between poultry sheds, ~5,000L)	TP15 to TP17	Test Pit	2m, 0.3m into natural, or practical refusal
AEC03a	Dam 1 Wall (Lot 13 west, ~50m^2, ~1m in height)	DW01 and DW02	Test Pit	>0.3 m into walls
AEC03b	Dam 1 Sediments (Lot 13 west, ~180m^2, ~0.1m in thickness)	DS01 & DS02	Grab Sample	<0.3 into sediment
AEC03c	Dam 1 Surface Water (Lot 13 west, ~180m^2, ~0.5m in depth)	SW01 & SW02	Grab Sample	Surface water grab
AEC04a	Dam 2 Wall (Lot 13 north, ~150m^2, ~1m in height)	DW05 to DW08	Test Pit	>0.3 m into walls
AEC04b	Dam 2 Sediments (Lot 13 north, ~900m^2, ~0.1m in thickness)	DS05 & DS06	Grab Sample	<0.3 into sediment
AEC04c	Dam 2 Surface Water (Lot 13 north, ~900m^2, ~1.5m in depth)	SW05 & SW06	Grab Sample	Surface water grab
AEC05a	Dam 3 Wall (Lot 13 east, ~25m^2, ~1m in height)	DW03 to DW04	Test Pit	>0.3 m into walls
AEC05b	Dam 3 Sediments (Lot 13 east, ~90m^2, ~0.1m in thickness)	DS03 & DS04	Grab Sample	<0.3 into sediment
AEC05c	Dam 3 Surface Water (Lot 13 east, ~90m^2, ~0.5m in depth)	SW03 & SW04	Grab Sample	Surface water grab
AEC06	Stockpile (~50 m^3, near east dam in Lot 13)	SP1-1 to SP1-3	Test Pit	To base of stockpile
AEC07	Fill material (~200m^2, ~0.5m in thickness, south of eastern poultry shed in Lot 13)	TP37 to TP40	Test Pit	2m, 0.3m into natural, or practical refusal
AEC08a	Dam 4 Wall (Lot 12 west, ~250m^2, ~1m in height)	DW13 to DW16	Test Pit	>0.3 m into walls
AEC08b	Dam 4 Sediments (Lot 12 west, ~2,800m^2, ~0.1m in thickness)	DS11 & DS12	Grab Sample	<0.3 into sediment
AEC08c	Dam 4 Surface Water (Lot 12 west, ~2,800m^2, ~2.0m in depth)	SW09 & SW10	Grab Sample	Surface water grab
AEC09a	Dam 5 Wall (Lot 12 north, ~70m^2, ~2m in height)	DW17 to DW19	Test Pit	>0.3 m into walls

AEC09b	Dam 5 Sediments (Lot 12 north, ~300m^2, ~0.1m in thickness)	DS13 & DS14	Grab Sample	<0.3 into sediment
AEC09c	Dam 5 Surface Water (Lot 12 north, ~300m^2, ~1.0m in depth)	SW11 & SW12	Grab Sample	Surface water grab
AEC10a	Dam 6 Wall (Lot 12 south, ~100m^2, ~1m in height)	DW09 & DW10	Test Pit	>0.3 m into walls
AEC10b	Dam 6 Sediments (Lot 12 south, ~700m^2, ~0.1m in thickness)	DS07 & DS08	Grab Sample	<0.3 into sediment
AEC10c	Dam 6 Surface Water (Lot 12 south, ~700m^2, ~1.0m in depth)	SW07 & SW08	Grab Sample	Surface water grab
AEC11a	Dam 7 Wall (Lot 12 south east, ~40m^2, ~1m in height)	DW11 to DW12	Test Pit	>0.3 m into walls
AEC11b	Dam 7 Sediments (Lot 12 south east, ~190m^2, ~0.1m in thickness)	DS09 & DS10	Grab Sample	<0.3 into sediment
AEC11c	Dam 7 Surface Water (Lot 12 south east, ~190m^2, ~0.3m in depth)	-	-	Dam dry
AEC12	Fill material (~50m², ~0.5m in thickness, west of Lot 12 south structure)	TP41 to TP44	Test Pit	2m, 0.3m into natural, or practical refusal
AEC13	Commercial paint warehouse (~2,000m², central southern portion of Lot 12)	TP41 to TP49	Test Pit	2m, 0.3m into natural, or practical refusal
AEC14	Gully between northern dams in Lot 12 (~500m², ~0.5m in thickness)	TP50 to TP54 ASB10 to ASB15	Test Pit Surface Sample	2m, 0.3m into natural, or practical refusal
AEC15	Residential premises (~3,000 m² Lot 12 east)	TP55 to TP60 PP6 to PP8	Test Pit	2m, 0.3m into natural, or practical refusal
AEC16	Septic tank (~3m^2, ~1.5m deep, Lot 12 east property)	TP60	Test Pit	2m, 0.3m into natural, or practical refusal
AEC17	Stockpile (~5 m³, north-west corner Lot 11)	SP3-1 & SP3-2	Test Pit	To base of stockpile
AEC18	Construction material storage area, including metal sheeting, piping and lumber (~1,000 m², north-west corner Lot 11)	TP61 to TP66	Test Pit	2m, 0.3m into natural, or practical refusal
AEC19a	Dam 8 Wall (Lot 11 north west smaller dam, ~40m^2, ~1m in height)	DW22 to DW23	Test Pit	>0.3 m into walls

AEC19b	Dam 8 Sediments (Lot 11 north west smaller dam, ~120m^2, ~0.1m in thickness)	DS17 & DS18	Grab Sample	<0.3 into sediment
AEC19c	Dam 8 Surface Water (Lot 11 north west smaller dam, ~120m^2, ~0.5m in depth)	SW15 & SW16	Grab Sample	Surface water grab
AEC20a	Dam 9 Wall (Lot 11 north west larger dam, ~100m^2, ~1m in height)	DW20 & DW21	Test Pit	>0.3 m into walls
AEC20b	Dam 9 Sediments (Lot 11 north west larger dam, ~600m^2, ~0.1m in thickness)	DS15 & DS16	Grab Sample	<0.3 into sediment
AEC20c	Dam 9 Surface Water (Lot 11 north west larger dam, ~600m^2, ~0.5m in depth)	SW13 & SW14	Grab Sample	Surface water grab
AEC21	Stockpile (~50 m^3, north-west Lot 11, south of AEC18)	SP2-1 to SP2-3	Test Pit	To base of stockpile
AEC22	Septic tank (~3m^2, ~1.5m deep, Lot 11 north of residence)	TP73	Test Pit	2m, 0.3m into natural, or practical refusal
AEC23	Residential premises (~2,500 m² Lot 11 west)	TP67 to TP77 ASB1 to ASB9	Test Pit	2m, 0.3m into natural, or practical refusal
AEC24	Aboveground fuel storage tank unlabelled, likely diesel or liquid petroleum ~5,000L (Lot 11 north-west of residence)	TP70 & TP71	Test Pit	2m, 0.3m into natural, or practical refusal
AEC25	Storage shed (~40 m², centre-west Lot 11)	TP95	Test Pit	2m, 0.3m into natural, or practical refusal
AEC26	Market Gardens (~5.2ha, ~0.5m in thickness, Central portion of Lot 11)	TP78 to TP139	Test Pit	2m, 0.3m into natural, or practical refusal
AEC27	Storage shed (~40 m², centre-east Lot 11)	TP120	Test Pit	2m, 0.3m into natural, or practical refusal
AEC028	Storage shed (~15 m², centre-south Lot 11)	TP125	Test Pit	2m, 0.3m into natural, or practical refusal
AEC29a	Dam 10 Wall (Lot 11 south east larger dam, ~220m^2, ~1m in height)	DW27 to DW29	Test Pit	>0.3 m into walls
AEC29b	Dam 10 sediments (Lot 11 south east larger dam, ~2600m^2, ~0.1m in thickness)	DS21 & DS22	Grab Sample	<0.3 into sediment

AEC29c	Dam 10 surface water (Lot 11 south east larger dam, ~2600m^2, ~2.0m in depth)	SW19 & SW20	Grab Sample	Surface water grab
AEC30a	Dam 11 Wall (Lot 11 south east smaller dam, ~200m^2, ~1m in height)	DW24 to DW26	Test Pit	>0.3 m into walls
AEC30b	Dam 11 sediments (Lot 11 south east smaller dam, ~900m^2, ~0.1m in thickness)	DS19 & DS20	Grab Sample	<0.3 into sediment
AEC30c	Dam 11 surface water (Lot 11 south east smaller dam, ~1,300m^2, ~2.0m in depth)	SW17 & SW18	Grab Sample	Surface water grab
AEC31	Power poles (12 poles across Lot 11 and 12)	PP1 to PP12	Grab sample	Surface sample
AEC32	Residential premises (<2,000 m² Lot 13 north – not within scope)	-	-	No access due to presence of structure. Post demolition assessment required.
AEC33	Residential premises (<2,000 m² Lot 13 west – not within scope)	-	-	No access due to presence of structure. Post demolition assessment required.
AEC34	Concrete driveway along the northern boundary to residential dwelling within Lot 13 (~100m in length)	DR09 & DR10	Test Pit	2m, 0.3m into natural, or practical refusal
AEC35	Asphalt and gravel driveway leading to the commercial paint shed and residential dwelling within Lot 12 (~360m in length)	DR11 to DR14	Test Pit	2m, 0.3m into natural, or practical refusal
AEC36	Gravel driveway leading to the residential dwelling within Lot 11 (~130m in length)	DR15 to DR17	Test Pit	2m, 0.3m into natural, or practical refusal
AEC37	Gravel driveway leading to the eastern residential dwelling and poultry sheds within Lot 13 (~750m in length)	DR01 to DR08	Test Pit	2m, 0.3m into natural, or practical refusal

7.7.2 Sampling Methods

7.7.2.1 Soils

Soil samples will be collected from each relevant sampling point, at the surface, and at regular intervals thereafter, or where there is a change in lithology, or where there is visual/olfactory evidence of potential contamination.

Samples requiring asbestos gravimetric screening for asbestos containing material (ACM) and fibrous asbestos (FA) will be 10L in volume and will be collected and screened with reference to Table 5 in WA DOH (2009).

Samples requiring asbestos fines (AF) and fibrous asbestos (FA) analysis, will be collected as separate samples to the 10L bulk samples.

Samples will be submitted to a NATA accredited laboratory for analysis.

7.7.2.2 Surface Water

Surface water sampling points SW01 to SW22 will be established onsite, at the locations nominated in **Figure 4.**

Creek water samples will be collected by submersion of sampling containers into the water, away from the creek embankment (if possible). Headspace in sample containers will be avoided.

Non-disposable sampling equipment (if used) will be decontaminated between sampling points.

Samples will be submitted to a NATA accredited laboratory for analysis.

7.7.3 Decontamination

Non-disposable sampling equipment will be decontaminated between sampling points to mitigate potential for cross contamination of samples. Decontamination will include the following procedure:

- Washing off the non-disposable sampling equipment with a solution of potable water and phosphate free detergent (e.g. Decon 90);
- Rinsing the washed equipment with distilled or de-ionised water; and
- Air drying of the rinsed equipment.

7.7.4 Headspace Screening

When COPC identified for the site include volatiles (e.g., BTEX, TRH or VOC), collected soil samples will be subjected to headspace screening for ionisable volatile organic compounds, using a calibrated photo-ionisation detector (PID) fitted with a 10.6 eV lamp. A sub sample from each collected sample will be placed in a zip lock bag, sealed, and shaken. Each zip lock bag will then be pierced with the tip of a PID, and the results recorded on the relevant sampling point borehole or test pit log.

7.7.5 Sample Identification, Handling, Storage and Transport

Soil samples will be identified using the relevant Alliance project number, the sampling point identification number and the sampling depth interval (e.g. BH01/0.0-0.2 or TP05/0.5-0.7), and date the sample was collected.

Surface water samples will be identified using the relevant Alliance project number, the sampling point identification number (e.g. SW01) and date the sample was collected.

Samples will be placed in laboratory prepared containers (containing preservatives as appropriate), bulk sample bags and zip lock bags. Soil, and water samples will be stored in insulated containers with ice.

Samples will be transported to the relevant analytical laboratory by Alliance or a third-party courier, using chain of custody (COC) documentation.

7.7.6 Selection of Laboratory

The analytical laboratories used for this project will reputable industry recognised environmental laboratories, that are NATA accredited for the analytical methods used.

7.7.7 Scheduling of Laboratory Analysis

Collected samples will be scheduled for laboratory analysis based on:

- The COPC identified for the AEC the sample was collected from;
- Observations made of the sample when collected (including staining, odour, presence of anthropogenic materials, and presence of potential asbestos containing materials);
- The results of sample headspace screening (if applicable); and
- The need for specific qualitative or quantitative data to inform assessment of risk associated with other laboratory analytical data (e.g. pH, cation exchange capacity, clay content, organic carbon content).

The laboratory analytical schedule (including upper limiting sample quantities) adopted for this project, is set out in **Table 7.7.7**.

ID	AEC	Sampling Point ID	TRH/BTEX	PAH	OCP	PCB	Metals (8)	Arsenic, chromium, & copper	Phenols	Asbestos (0.001%)	Pathogens (E. coli & thermotolerant coliforms)	Nutrients (nitrogen compounds and phosphate)
AEC01	Poultry farming area (~2.7 ha)	TP1 to TP36	36	36	16	16	36			36	12	12
AEC02	Aboveground fuel storage tank (Lot 13 between poultry sheds)	TP15 to TP17	3				3					

AEC03	Dam (Lot 13 west)	DW01, DW02, SW01, SW02, DS01, & DS02	6	6	6	6	6			6	4	4
AEC04	Dam (Lot 13 north)	DW05 to DW08, SW05, SW06, DS05, & DS06	7	7	5	5	7			7		
AEC05	Dam (Lot 13 east)	DW03, DW04, SW03, SW04, DS03, & DS04	6	6	4	4	6			6		
AEC06	Stockpile (<50 m³, near east dam in Lot 13)	SP1-1 to SP1-3	3	3	3	3	3			3		3
AEC07	Fill material (<200 m² south of eastern poultry shed in Lot 13)	TP37 to TP40	4	4	1	1	4			4		
AEC08	Dam (Lot 12 west)	DW13 to DW16, SW09, SW10, DS11, & DS12	8	8	6	6	8			8		
AEC09	Dam (Lot 12 north)	DW17 to DW19, SW11, SW12, DS13, & DS14	7	7	5	5	7			7		
AEC10	Dam (Lot 12 south)	DW09, DW10, SW07, SW08, DS07, & DS08	6	6	4	4	6			6		
AEC11	Dam (Lot 12 east)	DW11, DW12, DS09, & DS10	4	4	4	4	4			4		
AEC12	Fill material (<500 m² west of Lot 12 south structure)	TP41 to TP44	4	4	4	4	4			4		
AEC13	Commercial paint warehouse (<2,000 m² centre-south portion of Lot 12)	TP41 to TP49	9	9	9	9	9		9	9		
AEC14	Gully between northern dams in Lot 12 (< 1,000 m²)	TP50 to TP54	5	5	5	5	5			5		
AEC14	Gully between northern dams in Lot 12 (< 1,000 m²)	ASB10 to ASB15								6		
AEC15	Residential premises (<3,000 m² Lot 12 east)	TP55 to TP60 and PP6 to PP8	8	8	8	8	8	2		8		
AEC16	Septic tank (Lot 12 east property)	TP60	1	1	1	1	1			1	1	
AEC17	Stockpile (<5 m³, north-west corner Lot 11)	SP3-1 and SP3-2	2	2	2	2	2			2		

AEC18	Bulk storage area (<1,000 m² north-west corner Lot 11)	TP61 to TP66	3	1			6			6		
AEC19	Dam (Lot 11 north-west smaller dam)	DW22, DW23, SW15, SW16, DS17, & DS18	6	6	4	4	6			6		
AEC20	Dam (Lot 11 north-west larger dam)	DW20, DW21, SW13, SW14, DS15, & DS16	6	6	4	4	6			6		
AEC21	Stockpile (<50 m³, north-west Lot 11, south of AEC18)	SP2-1 to SP2-3	3	3	3	3	3			3		
AEC22	Septic tank (Lot 11 north of residence)	TP73	1	1	1	1	1			1	1	
AEC23	Residential premises (<2,500 m² Lot 11 west)	TP67 to TP69, and TP72 to TP77	9	9	9	9	9			9		
AEC23	Residential premises (<2,500 m² Lot 11 west)	ASB1 to ASB9								9		
AEC24	Aboveground fuel storage tank (Lot 11 north-west of residence)	TP70 and TP71	2				2			2		
AEC25	Storage shed (~40 m², centre-west Lot 11)	TP95	1	1	1	1	1			1		
AEC26	Agricultural area (Lot 11)	TP78 to TP139	3	3	34	4	33			3		
AEC27	Storage shed (~40 m², centre-east Lot 11)	TP120	1	1	1	1	1			1		
AEC28	Storage shed (~15 m² adjacent to AEC29)	TP125	1	1	1	1	1			1		
AEC29	Dam (Lot 11 south-east larger dam)	DW27 to DW29, SW19, SW20, DS21, & DS22	7	7	5	5	7			7		
AEC30	Dam (Lot 11 south-east smaller dam)	DW24 to DW26, SW17, SW18, DS19, & DS20	7	7	5	5	7			7		
AEC31	Power poles (12 poles across Lot 11 and 12)	PP1 to PP12						12				
AEC32	Residential premises (<2,000 m² Lot 13 north – not within scope)											
AEC33	Residential premises (<2,000 m² Lot											

	13 west – not within scope)											
AEC34	Concrete driveway along the northern boundary to residential dwelling within Lot 13 (~100m in length)	DR09 & DR10	X	X			X			X		
AEC35	Asphalt and gravel driveway leading to the commercial paint shed and residential dwelling within Lot 12 (~360m in length)	DR11 to DR14	4	4			4			4		
AEC36	Gravel driveway leading to the residential dwelling within Lot 11 (~130m in length)	DR15 to DR17	3	3			3			3		
AEC37	Gravel driveway leading to the eastern residential dwelling and poultry sheds within Lot 13 (~750m in length)	DR01 to DR08	8	8			8			8		

7.7.8 Analytical Methods, Limits of Reporting and Holding Times

The analytical methods, limits of reporting and sample holding times adopted for this project, are set out in **Table 7.7.8**

Table 7.7.8 Analytical Methods, Limits of Reporting and Holding Times

Analyte	Method	Limit of Reporting (mg/kg)	Limit of Reporting (µg/L)	Holding Time
BTEX and TRH C_6-C_{10}	USEPA 5030, 8260B and 8020	0.2-0.5	1-2 and 50	14 days
TRH C_{10}-C_{40}	USEPA 8015B & C	20-100	50-500	14 days
VOC	USEPA 8260	0.1-0.5	-	14 days
PAH	USEPA 8270	0.1-0.2	0.5-10	14 days
PCB	USEPA 8270	0.2	-	14 days
OCP	USEPA 8081	0.2	-	14 days
Metals (Hg and Cr^{vi})	USEPA 8015B & C	0.05-2	0.1-5	6 months (28 days)
Asbestos ID	AS4926	Absence / presence	-	No limit
Asbestos (WA DOH)	Inhouse	0.001% w/w	-	No limit
Faecal Coliforms	AS 4276.5:2007	10 MPN/g	1 cfu/100mL	24 hours
E. Coli	AS 4276.7:2007	10 MPN/g	1 cfu/100mL	24 hours
pH	APHA 4500 pH	-	0.1 pH unit	24 hours (up to 7 days allowed)
Hardness	APHA 2340	-	5mg/L	6 months
Nitrogens (speciated including Ammonia)	APHA 4500-NH3, APHA 4500-NO3 4500-NO2 4500-NOX 4500-TKN 4500-Organic N	-	0.01-0.2mg/L	2-28 days
Phosphorus	APHA 4500-P	-	0.05mg/L	1 month

8 Fieldwork

8.1 Soils

8.1.1 Sampling

Soil sampling works were undertaken on 06, 07, 08, 11, 12, 13, 15, 18, 19, 20, 21, & 22 October 2021 by suitably experienced Alliance environmental consultants Sam Jones and Jacob Walker.

These works included:

- Undertaking a survey of each lot by a service locating contractor for buried metallic services;
- Excavation of two hundred and ten test pits (TP01 to TP44, TP50 to TP54, ASB10 to ASB15, TP60 to TP66, TP70 and TP71, TP78 to TP139, TP141 and TP142, DR01 to DR08, DR11 to DR17, SP1-1 to SP1-3, SP3-1, and SP3-2, DW01 to DW29, PP1 to PP12, and DS01 to DS22) using a five-tonne tracked hydraulic excavator

Soil samples were collected at each sampling point, at the surface and at regular intervals thereafter, or at depths where visual or olfactory evidence of contamination was encountered.

Samples were collected either directly from excavated soils, or from the centre of soils while still in the excavator bucket (to avoid cross contamination), as grab samples, using a fresh pair of nitrile gloves.

Surface water samples were collected directly using fresh disposable nitrile gloves and laboratory supplied sample containers. Containers were inverted and submerged as far and deep from the bank as practicable, before being turned right way up to avoid surface film and debris.

A grid-based walkover of the surface of each relevant AEC, was undertaken for the purpose of assessing the presence of visible asbestos on surface soils.

A 10L bulk sample was collected at each relevant test pit sampling point, at the surface and for each metre (or part thereof) of inferred fill material encountered. Sub samples of 500ml volume were taken as separate samples to 10L bulk samples.

Samples were placed in suitable laboratory prepared containers and labelled.

Test pits were backfilled with excavated soils and track rolled.

Duplicate and triplicate samples were collected by splitting the primary sample across three sample containers (without homogenising, to avoid loss of volatiles).

A trip spike and trip blank were used for each day of fieldwork.

Samples were placed in insulated containers with ice bricks.

Sampling point locations were confirmed on a site plan. The sampling point location plan is presented in **Figures 4a, 4b, and 4c.**

Image 8.1.1.1 Excavator used for all test pits at the location of DR11, facing west.

Image 8.1.1.2 Soils post asbestos screening, showing tarp and 10L bucket used, and PACM screened from sample ASB12

8.1.2 Site Specific Geology

Observations made of the soils encountered during intrusive investigation works on site, were recorded on relevant field logs. A copy of those logs is presented in **Appendix A**.

8.1.3 Soil Staining and Odours

Visual evidence of heavy black staining was observed in soil samples collected from sub-surface soils within TP141 and TP142 at depths between 0.1 m and 1.5 m. This area is suspected to be part of the septic runoff system for Lot 11. No other staining was observed within any other test pit.

Olfactory evidence of a moderate sewage odour was detected in soil samples collected from the test pits and depths in the abovementioned staining.

Image 8.1.3.1 Test Pit 142 showing black stained soils and bricks covered by geofabric and topsoil

8.1.4 Headspace Screening

Sample headspace screening was undertaken, by placing a sub sample from each relevant sample at each relevant sampling point, in a zip lock bag, sealing it, shaking it, then piercing the bag with the tip of the PID and the results recorded on the relevant field log. The results of the headspace screening are presented in the logs in **Appendix A**.

The results of the headspace screening indicated the potential for ionisable volatile organic compounds (VOC) to be present in the samples screened was generally low, with the highest PID reading recorded being 13.0 in sample TP61 0.5-0.6.

A copy of the calibration certificate for the PID is presented in **Appendix D**.

8.1.5 Asbestos Containing Materials and Fibrous Asbestos

Evidence of visual asbestos in surface soils was observed at multiple locations across the site.

The 10L bulk soil samples were weighed and the weights recorded (to inform assessment of site-specific soil densities). The samples were then screened by spreading on a large contrasting plastic surface. Potential asbestos containing materials (ACM) that were found during screening were weighed. The material weights were recorded on the relevant sampling point log, and the potential ACM placed in separate zip lock bags.

Visual evidence of potential asbestos containing materials (ACM) was encountered:

- At sampling points TP09 (0.1m), TP18 (0.1m), TP22 (0.1m), TP26 (0.1m), TP43 (0.1m), TP51 (2m) ASB12 (0.1-2.0m), TP141 (0.1m), DW23 (0.5 m), and DS13 (0.1m) in the form of fibrous cement sheeting fragments; and
- On the surface adjacent to sampling point TP61, in the form of thick cement panel fragments.

Samples of these potential ACM were collected.

Image 8.1.5.1 Potential ACM fragment observed within surface soils at TP18

Image 8.1.5.2 Potential ACM fragments observed within surface soils at TP43

Image 8.1.5.3 Weighing of potential ACM after soil screening and taring the bucket to zero at ASB12.

8.2 Surface (Dam) Water

Surface water sampling works were undertaken by a suitably experienced Alliance environmental consultant (Sam Jones).

Surface water samples were collected at two sampling points (inferred inflow and outflow locations) at each dam within the site The surface water samples were collected directly into laboratory prepared containers.

A YSI Professional Plus Water Quality Meter with a 1 m Quatro Cable was used for field measurement of temperature, pH, dissolved oxygen, conductivity, total dissolved solids, and oxidation reduction potential dam waters.

A summary of field measured dam water parameters is presented in **Table 8.2**.

Table 8.2. Summary of field measured dam water parameters.

Groundwater Parameter	Observation Summary
Sheen	Visual evidence of sheen on collected samples not observed
LNAPL / DNAPL	Visual evidence of light non aqueous phase liquid (LNAPL) / dense non aqueous phase liquid (DNAPL) was not observed.
Odour	No olfactory evidence of odours was detected.
Dissolved oxygen	Readings ranged from 0.04ppm to 9.15ppm which suggests low to high oxygen content.
Electrical Conductivity	Readings ranged from 193.3µS/cm to 990µS/cm, generally indicating freshwater conditions.
pH	Readings ranged from 6.01 to 7.72, which suggest mildly acidic to mildly alkaline conditions
Reduction oxygen (redox) potential	Readings ranged from -86.2mV to -23.3mV. These values combined with observations of low to high dissolved oxygen content, generally indicates low reducing conditions across the site.

Surface water sampling point locations were confirmed on a site plan. The sampling point location plan is presented in **Figure 4.**

Olfactory evidence of odours was not detected in the surface water samples collected.

Visual evidence of sheen was not observed in the surface water samples collected.

The west dam in Lot 13 (AEC03) was observed to be covered in vegetation and algae. The east dam in Lot 13 (AEC05) was observed to be low and covered by vegetation. The east dam within Lot 12 (AEC11) was dry at the time of assessment. All other dam surfaces were mostly open water with sparse vegetation.

Dam water turbidity was visually observed to be variable across the site with AEC03, AEC05, AEC09, AEC19, and AEC30 being highly turbid, whilst AEC08, AEC10, and AEC29 were mostly clear. Water in the remaining dams wa visually observed to be moderately turbid.

Image 8.2.1 Dam AEC10, showing outflow location (SW07 - bottom left) and opposite inflow (SW08 – top centre).

9 Laboratory Analysis

The collected samples were transported to the analytical laboratory using chain of custody (COC) protocols. A selection of those samples were scheduled for laboratory analysis, taking into consideration the laboratory analytical schedule presented in **Table 7.7.7**, observations made in the field, and the results of field and headspace screening.

A copy of the COC, sample receipts and certificates of analysis, is presented in **Appendix B**.

The relevant laboratory analytical results were tabulated and presented in the attached Table 1, Table 2, and Table 3, to allow comparison with assessment criteria adopted for this project.

10 Data Quality Indicator (DQI) Assessment

In order to assess the quality of the field and laboratory analytical data collected for this project, that data was compared against the data quality indicators (DQI) established for this project (refer **Section 7.5.4**).

The results of that comparison is presented in **Appendix C**.

The DQI comparison results indicate that the field and laboratory data are adequately complete, comparable, representative, precise, and unbiased (accurate), with in the context and objectives of this project.

11 Site Characterisation Discussion

11.1 Exposure Pathways

11.1.1 Human Health

11.1.1.1 Dermal Contact / Ingestion / Dust Inhalation

The detected concentrations of the relevant COPC in the soil samples analysed, were less than the adopted human health dermal contact, ingestion, and dust inhalation assessment criteria.

Further assessment of dermal contact, ingestion and dust inhalation human health exposure risks is considered not warranted.

11.1.1.2 Vapour Intrusion / Inhalation

The detected concentrations of the relevant TRH and BTEXN compounds in the soil samples analysed, were less than the adopted human health vapour intrusion / inhalation assessment criteria.

Further assessment of vapour intrusion / inhalation human health exposure risks is considered not warranted.

11.1.1.3 Asbestos Containing Materials

Fragments of ACM were encountered during field screening of relevant bulk soil samples.

The fragments encountered were not considered to be friable, on the basis that the material was not severely weathered, or in a degraded condition such that it could not be broken or crumbled by hand pressure.

Asbestos was identified by laboratory analysis, in some of the samples of suspected ACM.

Asbestos was identified by laboratory analysis, in the samples of suspected fibrous asbestos (FA).

Quantification of ACM in soil concentrations was undertaken using guidance presented in Section 4.10 of NEPC (2013a), using 10L bulk samples, with the following assumptions:

- 15% asbestos by weight in cement bonded asbestos; and
- a variable soil density has been used based on field measurements.

The quantification of ACM in soil was assessed using the following formula:

$$\%\ \text{w/w asbestos in soil} = \frac{\%\ \text{asbestos content x bonded ACM (kg)}}{\text{soil volume (L) x soil density (kg/L)}}$$

The results of the ACM quantification in soil assessment where ACM was identified are presented in **Table 11.1.1.3**.

Table 11.1.1.3 Quantification of ACM in Soil

Sample ID	ACM Weight (kg)	Asbestos Quantification in Soil (% w/w)
TP09 0.0-0.1	0.056	0.0571
TP51 2.0-2.5	0.22	0.1930
ASB12 0.0-0.1	0.58	0.5839
ASB12 0.1-1.0	1.63	1.7340
ASB12 1.0-2.0	1.25	1.0417
DW23	0.115	0.1173
TP141 0.0-0.1	0.017	0.0188

The quantified concentrations of ACM in fill soil was greater than the adopted health screening level of 0.05% w/w, except for TP141 0.0-0.1 (discussed further in Section 11.1.1.5). The sampling points where the exceedances of the adopted criterion occurred, are presented graphically in **Figure 5.**

Further assessment of ACM in soil human health exposure risks is considered warranted.

11.1.1.4 Fibrous Asbestos / Asbestos Fines

The concentrations of FA and AF detected in the soil samples analysed, were less than the adopted health screening level of 0.001% w/w, except for the concentrations detected in samples ASB12 0.1-1.0 (0.0025 % w/w), ASB12 1.0-2.0 (0.004 % w/w), and TP70 0.0-0.1 (0.003 % w/w). The sampling points where the exceedances of the adopted criterion occurred, are presented graphically in **Figure 5.**

Further assessment of fibrous asbestos / asbestos fines in soil human health exposure risks is considered warranted.

11.1.1.5 Asbestos in Surface Soils

Evidence of visible asbestos in surface soils was observed during fieldwork at TP09, TP141, TP61, DS13, and ASB12. Asbestos observed at TP61 was surficial fragments near the test pit location. No asbestos was observed in samples collected from TP61 itself. The sampling points where the exceedances of the adopted criterion occurred, are presented graphically in **Figure 5.**

A large, fragmented asbestos containing panel was observed within AEC18, north of TP61. No further ACM was observed within this area, however further assessment is considered warranted pending the removal of waste materials from this area.

Further assessment of visible asbestos in surface soil risks is considered warranted.

11.1.2 Management Limits for Petroleum Hydrocarbons

The detected concentrations of the relevant COPC in the soil samples analysed, were less than the adopted management limits for petroleum hydrocarbon assessment criteria.

11.1.3 Aesthetics

Visual and olfactory observations made of soils encountered during fieldwork within AEC14, identified the presence of stockpiled demolition waste consisting of predominantly bricks at the location of TP51. Further bricks, demolition waste, ACM, and a large volume of tyres were also identified at and near the surface within the surrounding test pits (DS12, ASB10, TP50, ASB11, and ASB12). Large quantities of tyres were also observed from 1.5 m bgl beneath fill soils (where evidence of other anthropogenic materials was not observed) at TP52.

Some brick and an ACM fragment were also observed beneath the water surface as DS13 (AEC09), however the presence of dam water prevented further assessment in this area.

Subsurface soils within TP141 and TP142 were observed to contain large quantities of brick underlying geofabric from approximately 0.1 m to 1.5 m bgl. Soils were wet and stained black with a moderate sewage odour. A single ACM fragment was also observed in the surface soils at TP141 and presence of asbestos confirmed by laboratory analysis.

Various forms of waste were observed across the agricultural area within AEC26, including timber boards, pallets, Irrigation piping, polystyrene crates, hard plastic crates, and plastic sheeting. Black plastic irrigation piping was also present across the soil surface in this area, as well as fine shredded black plastic sheeting.

Section 3.6.3 of NEPC (2013a) advises that:

- Small quantities of non-hazardous inert material should not be a cause of concern or limit the use of the site in most circumstances;
- Sites with large quantities of well-covered known inert materials that present no health hazard such as brick fragments and concrete wastes (for example, broken cement blocks) are usually of low concern for both non-sensitive and sensitive land uses.

The surficial materials across AEC26 are considered to be inert and unlikely to present a health hazard and are anticipated to be removed during site development. Observations made within the dam gully AEC14 and AEC09, and at the location of AEC21 and AEC18 present circumstances which would trigger further assessment of aesthetics. The sampling points where the exceedances of the adopted criterion occurred, are presented graphically in **Figure 5.**

Further assessment of aesthetic risks is considered warranted.

11.1.4 Microbiological

The detected concentrations of the relevant COPC in the soil samples analysed (E.coli and thermotolerant coliforms), were less than the adopted soil assessment criteria.

Further assessment of microbiological risk within soils is considered not warranted.

11.1.5 Dam Water and Sediments

Proposed subdivision plans indicate that the dam does not form part of the site redevelopment, mitigating risk of exposure to future residents on the site.

11.1.5.1 Dam Water

The detected concentrations of the relevant COPC in the surface water samples analysed, were less than the adopted dam water assessment criteria, except for the following exceptions:

- Arsenic within samples SW02, SW10, SW12, & SW17 with concentrations ranging from 2 to 31 ug/L (criteria: 13 ug/L);
- Cadmium within samples SW02, SW06, SW10, SW12, and SW17, with concentrations ranging from <0.2 to 0.8 ug/L (criteria: 0.2 ug/L);
- Chromium within all samples except for SW16, with concentrations ranging from 1 of 130 ug/L (criteria: 1 ug/L);
- Copper within all samples, with concentrations ranging from 6 to 240 ug/L (criteria: 1.4 ug/L);
- Lead within all samples, with concentrations ranging from 4 to 230 ug/L (criteria: 3.4 ug/L);
- Nickel within SW01, SW02, SW03, SW04, SW06, SW07, SW08, SW10, SW11, SW12, SW17, and SW20, with concentrations ranging from 3 to 110 ug/L (criteria: 11 ug/L);
- Zinc within all samples, with concentrations ranging from 10 to 1,500 ug/L (criteria: 8 ug/L); and
- Phosphate in SW01 and SW02, with a maximum detected concentration of 1.5 mg/kg (criteria: 0.1 mg/L)

Alliance notes that the laboratory limit of reporting (LOR) for a number of PAH compounds was greater than the relevant adopted assessment criterion. On that basis, the potential for concentrations of PAH compounds to be present in dam water above those criterion, cannot be precluded. However, based on the nature of identified land use activities and the laboratory analytical results of soil and sediment samples collected from site, it is the opinion of Alliance that the potential for PAH compounds to be present in dam water at concentrations greater than the adopted criterion, to be low.

Alliance is of the opinion that the data collected does not suggest the dam water assessed is likely to contain concentrations of contaminants that would prevent disposal of the water using conventional methods such as irrigation across the site, or dust suppression methods on site during the earthworks/construction phase. The data suggests the dam water may not be suitable for disposal to surface water bodies (e.g. drainage lines, creeks, streams, or rivers) or municipal stormwater infrastructure.

In the context of preparing a dam dewatering procedure for the site, in addition to information on the proposed disposal methods, the dam water data would need to be supplemented with further assessment of likely receptors during dewatering, in order to potentially derive less conservative assessment criteria, based on a preferred dam water disposal method, some additional dam water sampling and analysis to support the preliminary data obtained that is consistent with site specific criteria. The sampling points where the exceedances of the adopted criterion occurred, are presented graphically in **Figure 5.**

11.1.5.2 Dam Sediment

The detected concentrations of the relevant COPC in the dam sediment samples analysed, were less than the adopted assessment criteria.

12 Revised Conceptual Site Model

Consistent with guidance provided in Section 4.2 of NEPC (2013b), the conceptual site model (CSM) presented in **Section 6.6** has reviewed to reflect the data collected during this project, and subsequent assessment of that data against the screening criteria adopted for this project.

An updated CSM is presented in **Table 12**. The locations of the AEC considered in the CSM, are presented in **Figure 3.**

Table 12 Revised Conceptual Site Model

ID	AEC	Land Contaminating Activity (Source)	COPC	Exposure Pathway	Receptor	Outcome
AEC01a	Western poultry farming area, 3 sheds (~1.2 hectares, ~0.5m in depth)	Poultry waste, hazardous buildings materials, shallow uncontrolled filling, termite and poultry parasite pesticides	Petroleum hydrocarbons, polycyclic aromatic hydrocarbons, organochlorine pesticides, BTEX, polychlorinated biphenyl, pathogens, metals, & asbestos.	Dermal contact Soil Ingestion Dust inhalation Inhalation (asbestos) Management limits Aesthetics	Commercial / industrial workers	The field and laboratory analytical data for soils were less than or equal the adopted Tier 1 screening criteria, except for bonded asbestos at TP09. Further assessment warranted.
AEC01b	Eastern poultry farming area, 1 shed on fill pad (~4,500m^2, ~3.0m to ~0.5m in depth)	Poultry waste, hazardous buildings materials, uncontrolled filling, termite and poultry parasite pesticides	Petroleum hydrocarbons, polycyclic aromatic hydrocarbons, organochlorine pesticides, BTEX, polychlorinated biphenyl, pathogens, metals, & asbestos.	Dermal contact Soil Ingestion Dust inhalation Inhalation (asbestos) Management limits Aesthetics	Commercial / industrial workers	The field and laboratory analytical data for soils were less than or equal the adopted Tier 1 screening criteria. No further assessment warranted.
AEC02	Aboveground fuel storage tank labelled as liquid petroleum gas (Lot 13 between poultry sheds, ~5,000L)	Fuel spills/leaks	Petroleum hydrocarbons, BTEX, PAH, lead	Dermal contact Soil Ingestion Vapour inhalation / intrusion Management limits	Commercial / industrial workers	The field and laboratory analytical data for soils were less than or equal the adopted Tier 1 screening criteria. No

				Aesthetics		further assessment warranted.
AEC03a	Dam 1 Wall (Lot 13 west, ~50m^2, ~1m in height)	Potential uncontrolled filling.	Petroleum hydrocarbons, polycyclic aromatic hydrocarbons, organochlorine pesticides, BTEX, metals, & asbestos	Dermal contact Soil Ingestion Dust inhalation Inhalation (asbestos) Management limits Aesthetics	Commercial / industrial workers	Dam wall visually observed to comprise soil material consistent with in-situ site soils, free from foreign material or signs of contamination. Assessment considered unwarranted.
AEC03b	Dam 1 Sediments (Lot 13 west, ~180m^2, ~0.1m in thickness)	Poultry shed wastes	organochlorine pesticides, metals, & asbestos, pathogens	Dermal contact Soil Ingestion Dust inhalation Inhalation (asbestos) Management limits Aesthetics	Commercial / industrial workers	The field and laboratory analytical data for soils were less than or equal the adopted Tier 1 screening criteria. No further assessment warranted.
AEC03c	Dam 1 Surface Water (Lot 13 west, ~180m^2, ~0.5m in depth)	Effluent from poultry sheds.	pesticides, pathogens, nutrients, metals, temperature, turbidity, dissolved oxygen, biological oxygen demand	Dermal contact Soil Ingestion Dust inhalation Inhalation (asbestos) Management limits Aesthetics Surface water contact	Commercial / industrial workers	The field and laboratory analytical data for surface water were greater than the adopted Tier 1 screening criteria for heavy metals. Further assessment warranted.
AEC04a	Dam 2 Wall (Lot 13 north, ~150m^2, ~1m in height)	Potential uncontrolled filling.	Petroleum hydrocarbons, polycyclic aromatic hydrocarbons, organochlorine pesticides, BTEX, metals, & asbestos	Dermal contact Soil Ingestion Dust inhalation Inhalation (asbestos) Management limits Aesthetics	Commercial / industrial workers	Dam wall visually observed to comprise soil material consistent with in-situ site soils, free from foreign material or signs of contamination. Assessment considered unwarranted.

AEC04b	Dam 2 Sediments (Lot 13 north, ~900m^2, ~0.1m in thickness)	Waste disposal, poultry shed wastes.	Petroleum hydrocarbons, polycyclic aromatic hydrocarbons, organochlorine pesticides, BTEX, heavy metals, & asbestos	Dermal contact Soil Ingestion Dust inhalation Inhalation (asbestos) Management limits Aesthetics	Commercial / industrial workers	The field and laboratory analytical data for soils were less than or equal the adopted Tier 1 screening criteria. No further assessment warranted.
AEC04c	Dam 2 Surface Water (Lot 13 north, ~900m^2, ~1.5m in depth)	Waste disposal and effluent from poultry sheds.	Petroleum hydrocarbons, polycyclic aromatic hydrocarbons, organochlorine pesticides, BTEX, metals, temperature, turbidity, dissolved oxygen, biological oxygen demand	Dermal contact Soil Ingestion Dust inhalation Inhalation (asbestos) Management limits Aesthetics Surface water contact	Commercial / industrial workers	The field and laboratory analytical data for surface water were greater than the adopted Tier 1 screening criteria for heavy metals. Further assessment warranted.
AEC05a	Dam 3 Wall (Lot 13 east, ~25m^2, ~1m in height)	Potential uncontrolled filling.	Petroleum hydrocarbons, polycyclic aromatic hydrocarbons, organochlorine pesticides, BTEX, metals, & asbestos	Dermal contact Soil Ingestion Dust inhalation Inhalation (asbestos) Management limits Aesthetics	Commercial / industrial workers	Dam wall visually observed to comprise soil material consistent with in-situ site soils, free from foreign material or signs of contamination. Assessment considered unwarranted.
AEC05b	Dam 3 Sediments (Lot 13 east, ~90m^2, ~0.1m in thickness)	waste disposal.	Petroleum hydrocarbons, polycyclic aromatic hydrocarbons, organochlorine pesticides, BTEX, heavy metals, & asbestos	Dermal contact Soil Ingestion Dust inhalation Inhalation (asbestos) Management limits Aesthetics	Commercial / industrial workers	The field and laboratory analytical data for soils were less than or equal the adopted Tier 1 screening criteria. No further assessment warranted.
AEC05c	Dam 3 Surface Water (Lot 13 east,	Waste disposal.	Petroleum hydrocarbons, polycyclic aromatic hydrocarbons,	Dermal contact Soil Ingestion	Commercial / industrial workers	The field and laboratory analytical data for surface water were greater than

	~90m^2, ~0.5m in depth)		organochlorine pesticides, BTEX, metals, temperature, turbidity, dissolved oxygen, biological oxygen demand	Dust inhalation Inhalation (asbestos) Management limits Aesthetics		the adopted Tier 1 screening criteria for heavy metals. Further assessment warranted.
AEC06	Stockpile (~50 m³, near east dam in Lot 13)	Uncontrolled dumping or stockpiling of poultry manure	Petroleum hydrocarbons, polycyclic aromatic hydrocarbons, organochlorine pesticides, BTEX, polychlorinated biphenyl, metals, pathogens, nutrients & asbestos.	Dermal contact Soil Ingestion Dust inhalation Inhalation (asbestos) Management limits Aesthetics	Commercial / industrial workers	The field and laboratory analytical data for soils were less than or equal the adopted Tier 1 screening criteria. No further assessment warranted.
AEC07	Fill material (~200m², ~0.5m in thickness, south of eastern poultry shed in Lot 13)	Uncontrolled soil filling	Petroleum hydrocarbons, polycyclic aromatic hydrocarbons, organochlorine pesticides, , BTEX, polychlorinated biphenyl, metals, & asbestos.	Dermal contact Soil Ingestion Dust inhalation Inhalation (asbestos) Management limits Aesthetics	Commercial / industrial workers	The field and laboratory analytical data for soils were less than or equal the adopted Tier 1 screening criteria. No further assessment warranted.
AEC08a	Dam 4 Wall (Lot 12 west, ~250m^2, ~1m in height)	Potential uncontrolled filling.	Petroleum hydrocarbons, polycyclic aromatic hydrocarbons, organochlorine pesticides, BTEX, metals, & asbestos	Dermal contact Soil Ingestion Dust inhalation Inhalation (asbestos) Management limits Aesthetics	Commercial / industrial workers	Dam wall visually observed to comprise soil material consistent with in-situ site soils, free from foreign material or signs of contamination. Assessment considered unwarranted.
AEC08b	Dam 4 Sediments (Lot 12 west, ~2,800m^2, ~0.1m in thickness)	Waste disposal.	Petroleum hydrocarbons, polycyclic aromatic hydrocarbons, organochlorine	Dermal contact Soil Ingestion Dust inhalation Inhalation (asbestos)	Commercial / industrial workers	The field and laboratory analytical data for soils were less than or equal the adopted Tier 1 screening criteria. No

			pesticides, BTEX, heavy metals, & asbestos	Management limits Aesthetics		further assessment warranted.
AEC08c	Dam 4 Surface Water (Lot 12 west, ~2,800m^2, ~2.0m in depth)	Waste disposal.	Petroleum hydrocarbons, polycyclic aromatic hydrocarbons, organochlorine pesticides, BTEX, metals, temperature, turbidity, dissolved oxygen, biological oxygen demand	Dermal contact Soil Ingestion Dust inhalation Inhalation (asbestos) Management limits Aesthetics Surface water contact	Commercial / industrial workers	The field and laboratory analytical data for surface water were greater than the adopted Tier 1 screening criteria for heavy metals. Further assessment warranted.
AEC09a	Dam 5 Wall (Lot 12 north, ~70m^2, ~2m in height)	Potential uncontrolled filling.	Petroleum hydrocarbons, polycyclic aromatic hydrocarbons, organochlorine pesticides, BTEX, metals, & asbestos	Dermal contact Soil Ingestion Dust inhalation Inhalation (asbestos) Management limits Aesthetics	Commercial / industrial workers	Dam wall visually observed to comprise soil material consistent with in-situ site soils, free from foreign material or signs of contamination. Assessment considered un-warranted.
AEC09b	Dam 5 Sediments (Lot 12 north, ~300m^2, ~0.1m in thickness)	Waste disposal.	Petroleum hydrocarbons, polycyclic aromatic hydrocarbons, organochlorine pesticides, BTEX, heavy metals, & asbestos	Dermal contact Soil Ingestion Dust inhalation Inhalation (asbestos) Management limits Aesthetics	Commercial / industrial workers	The field and laboratory analytical data for soils were greater than the adopted Tier 1 aesthetics screening criteria for bonded asbestos. Further assessment warranted.
AEC09c	Dam 5 Surface Water (Lot 12 north, ~300m^2, ~1.0m in depth)	Waste disposal.	Petroleum hydrocarbons, polycyclic aromatic hydrocarbons, organochlorine pesticides, BTEX, metals, temperature, turbidity, dissolved oxygen,	Dermal contact Soil Ingestion Dust inhalation Inhalation (asbestos) Management limits Aesthetics Surface water contact	Commercial / industrial workers	The field and laboratory analytical data for surface water were greater than the adopted Tier 1 screening criteria for heavy metals. Further assessment warranted.

			biological oxygen demand			
AEC10a	Dam 6 Wall (Lot 12 south, ~100m^2, ~1m in height)	Potential uncontrolled filling.	Petroleum hydrocarbons, polycyclic aromatic hydrocarbons, organochlorine pesticides, BTEX, metals, & asbestos	Dermal contact Soil Ingestion Dust inhalation Inhalation (asbestos) Management limits Aesthetics	Commercial / industrial workers	Dam wall visually observed to comprise soil material consistent with in-situ site soils, free from foreign material or signs of contamination. Assessment considered unwarranted.
AEC10b	Dam 6 Sediments (Lot 12 south, ~700m^2, ~0.1m in thickness)	Waste disposal	Petroleum hydrocarbons, polycyclic aromatic hydrocarbons, organochlorine pesticides, BTEX, heavy metals, & asbestos	Dermal contact Soil Ingestion Dust inhalation Inhalation (asbestos) Management limits Aesthetics	Commercial / industrial workers	The field and laboratory analytical data for soils were less than or equal the adopted Tier 1 screening criteria. No further assessment warranted.
AEC10c	Dam 6 Surface Water (Lot 12 south, ~700m^2, ~1.0m in depth)	Waste disposal.	Petroleum hydrocarbons, polycyclic aromatic hydrocarbons, organochlorine pesticides, BTEX, metals, temperature, turbidity, dissolved oxygen, biological oxygen demand	Dermal contact Soil Ingestion Dust inhalation Inhalation (asbestos) Management limits Aesthetics	Commercial / industrial workers	The field and laboratory analytical data for surface water were greater than the adopted Tier 1 screening criteria for heavy metals. Further assessment warranted.
AEC11a	Dam 7 Wall (Lot 12 east, ~40m^2, ~1m in height)	Potential uncontrolled filling.	Petroleum hydrocarbons, polycyclic aromatic hydrocarbons, organochlorine pesticides, BTEX, metals, & asbestos	Dermal contact Soil Ingestion Dust inhalation Inhalation (asbestos) Management limits Aesthetics	Commercial / industrial workers	Dam wall visually observed to comprise soil material consistent with in-situ site soils, free from foreign material or signs of contamination. Assessment considered unwarranted.

AEC11b	Dam 7 Sediments (Lot 12 east, ~190m^2, ~0.1m in thickness)	Waste disposal.	Petroleum hydrocarbons, polycyclic aromatic hydrocarbons, organochlorine pesticides, BTEX, heavy metals, & asbestos	Dermal contact Soil Ingestion Dust inhalation Inhalation (asbestos) Management limits Aesthetics	Commercial / industrial workers Intrusive maintenance workers	The field and laboratory analytical data for soils were less than or equal the adopted Tier 1 screening criteria. No further assessment warranted.
AEC12	Fill material (~50 m², ~0.5m in thickness, west of Lot 12 south structure)	Uncontrolled soil filling/	Petroleum hydrocarbons, polycyclic aromatic hydrocarbons, VOC, BTEX, polychlorinated biphenyl, metals, & asbestos	Dermal contact Soil Ingestion Dust inhalation Inhalation (asbestos) Management limits Aesthetics	Commercial / industrial workers	The field and laboratory analytical data for soils were less than or equal the adopted Tier 1 screening criteria. No further assessment warranted.
AEC13	Commercial paint warehouse (~2,000m², central southern portion of Lot 12)	Hazardous buildings materials, chemical and fuel storage/spills/leaks	Petroleum hydrocarbons, polycyclic aromatic hydrocarbons, organochlorine pesticides, , BTEX, polychlorinated biphenyl, metals, & asbestos.	Dermal contact Soil Ingestion Dust inhalation Inhalation (asbestos) Management limits Aesthetics	Commercial / industrial workers	Assessment precluded due to active demolition works. Further assessment warranted.
AEC14	Gully between northern dams in Lot 12 (~500m², ~0.5m in thickness)	Uncontrolled soil filling/	Petroleum hydrocarbons, polycyclic aromatic hydrocarbons, organochlorine pesticides, , BTEX, polychlorinated biphenyl, metals, & asbestos.	Dermal contact Soil Ingestion Dust inhalation Inhalation (asbestos) Management limits Aesthetics	Commercial / industrial workers	The field and laboratory analytical data for soils were greater than the adopted Tier 1 screening criteria for friable and bonded asbestos and aesthetics. Further assessment warranted.
AEC15	Residential premises (~3,000 m² Lot 12 east)	hazardous buildings materials, termite treatment	Pathogens, petroleum hydrocarbons and metals	Dermal contact Soil Ingestion Dust inhalation	Commercial / industrial workers	Assessment precluded due to active demolition works. Further assessment warranted.

				Inhalation (asbestos) Management limits Aesthetics		
AEC16	Septic tank (~3m^2, ~1.5m deep, Lot 12 east property)	Domestic effluent disposal	Petroleum hydrocarbons, polycyclic aromatic hydrocarbons, organochlorine pesticides, , BTEX, polychlorinated biphenyl, metals, & asbestos.	Dermal contact Soil Ingestion Management limits Aesthetics	Commercial / industrial workers	Assessment precluded due to active demolition works. Further assessment warranted.
AEC17	Stockpile (~5 m³, north-west corner Lot 11)	Uncontrolled soil dumping	Petroleum hydrocarbons, BTEX, metals, asbestos.	Dermal contact Soil Ingestion Dust inhalation Inhalation (asbestos) Management limits Aesthetics	Commercial / industrial workers	The field and laboratory analytical data for soils were less than or equal the adopted Tier 1 screening criteria. No further assessment warranted.
AEC18	Construction material storage area, including metal sheeting, piping and lumber (~1,000 m², north-west corner Lot 11)	Deterioration of exposed ageing materials, heavy vehicle use.	Petroleum hydrocarbons, polycyclic aromatic hydrocarbons, organochlorine pesticides, BTEX, metals, & asbestos	Dermal contact Soil Ingestion Dust inhalation Inhalation (asbestos) Management limits Aesthetics	Commercial / industrial workers	The field and laboratory analytical data for soils were greater than the adopted Tier 1 aesthetics screening criteria for bonded asbestos. Further assessment warranted.
AEC19a	Dam 8 Wall (Lot 11 north west smaller dam, ~40m^2, ~1m in height)	Potential uncontrolled filling.	Petroleum hydrocarbons, polycyclic aromatic hydrocarbons, organochlorine pesticides, BTEX, heavy metals, & asbestos	Dermal contact Soil Ingestion Dust inhalation Inhalation (asbestos) Management limits Aesthetics	Commercial / industrial workers	The field and laboratory analytical data for soils were greater than the adopted Tier 1 screening criteria for bonded asbestos. Further assessment warranted.

AEC19b	Dam 8 Sediments (Lot 11 north west smaller dam, ~120m^2, ~0.1m in thickness)	Waste disposal.	Petroleum hydrocarbons, polycyclic aromatic hydrocarbons, organochlorine pesticides, BTEX, metals, temperature, turbidity, dissolved oxygen, biological oxygen demand	Dermal contact Soil Ingestion Dust inhalation Inhalation (asbestos) Management limits Aesthetics	Commercial / industrial workers	The field and laboratory analytical data for soils were less than or equal the adopted Tier 1 screening criteria. No further assessment warranted.
AEC19c	Dam 8 Surface Water (Lot 11 north west smaller dam, ~120m^2, ~0.5m in depth)	Waste disposal.	Petroleum hydrocarbons, polycyclic aromatic hydrocarbons, organochlorine pesticides, BTEX, metals, & asbestos	Dermal contact Soil Ingestion Dust inhalation Inhalation (asbestos) Management limits Aesthetics Surface water contact	Commercial / industrial workers	The field and laboratory analytical data for surface water were greater than the adopted Tier 1 screening criteria for heavy metals. Further assessment warranted.
AEC20a	Dam 9 Wall (Lot 11 north west larger dam, ~100m^2, ~1m in height)	Potential uncontrolled filling.	Petroleum hydrocarbons, polycyclic aromatic hydrocarbons, organochlorine pesticides, BTEX, heavy metals, & asbestos	Dermal contact Soil Ingestion Dust inhalation Inhalation (asbestos) Management limits Aesthetics	Commercial / industrial workers	Dam wall visually observed to comprise soil material consistent with in-situ site soils, free from foreign material or signs of contamination. Assessment considered unwarranted.
AEC20b	Dam 9 Sediments (Lot 11 north west larger dam, ~600m^2, ~0.1m in thickness)	Waste disposal.	Petroleum hydrocarbons, polycyclic aromatic hydrocarbons, organochlorine pesticides, BTEX, metals, temperature, turbidity, dissolved oxygen, biological oxygen demand	Dermal contact Soil Ingestion Dust inhalation Inhalation (asbestos) Management limits Aesthetics	Commercial / industrial workers	The field and laboratory analytical data for soils were less than or equal the adopted Tier 1 screening criteria. No further assessment warranted.

AEC20c	Dam 9 Surface Water (Lot 11 north west larger dam, ~600m^2, ~0.5m in depth)	Waste disposal	Petroleum hydrocarbons, polycyclic aromatic hydrocarbons, organochlorine pesticides, BTEX, polychlorinated biphenyl, metals, & asbestos.	Dermal contact Soil Ingestion Dust inhalation Inhalation (asbestos) Management limits Aesthetics Surface water contact	Commercial / industrial workers	The field and laboratory analytical data for surface water were greater than the adopted Tier 1 screening criteria for heavy metals. Further assessment warranted.
AEC21	Stockpile (~50 m^3, north-west Lot 11, south of AEC18)	Uncontrolled soil dumping	Pathogens, petroleum hydrocarbons and metals	Dermal contact Soil Ingestion Dust inhalation Inhalation (asbestos) Management limits Aesthetics	Commercial / industrial workers	No stockpile present - overgrown and highly localised tall vegetation present. The field and laboratory analytical data for soils were greater than the adopted Tier 1 aesthetics screening criteria. Further assessment warranted.
AEC22	Septic tank (~3m^2, ~1.5m deep, Lot 11 north of residence)	Domestic effluent disposal	Petroleum hydrocarbons, polycyclic aromatic hydrocarbons, organochlorine pesticides, , BTEX, polychlorinated biphenyl, metals, & asbestos.	Dermal contact Soil Ingestion Management limits Aesthetics	Commercial / industrial workers	Assessment precluded due to active demolition works. Further assessment warranted.
AEC23	Residential premises (~2,500 m² Lot 11 west)	hazardous buildings materials, termite treatment	Petroleum hydrocarbons, BTEX, PAH, lead	Dermal contact Soil Ingestion Dust inhalation Inhalation (asbestos) Management limits Aesthetics	Commercial / industrial workers	Assessment precluded due to active demolition works. Further assessment warranted.

AEC24	Aboveground fuel storage tank unlabelled, likely diesel petroleum ~5,000L (Lot 11 north-west of residence)	Fuel spills/leaks.	Petroleum hydrocarbons, polycyclic aromatic hydrocarbons, organochlorine pesticides, BTEX, polychlorinated biphenyl, metals, & asbestos.	Dermal contact Soil Ingestion Dust inhalation Vapour inhalation Management limits Aesthetics	Commercial / industrial workers	The field and laboratory analytical data for soils were greater than the adopted Tier 1 screening criteria for friable asbestos. Further assessment warranted.
AEC25	Storage shed (~40 m², centre-west Lot 11)	hazardous buildings materials, chemical and fuel storage/spills/leaks, termite treatment	organochlorine pesticides, metals.	Dermal contact Soil Ingestion Dust inhalation Vapour inhalation Inhalation (asbestos) Management limits Aesthetics	Commercial / industrial workers	The field and laboratory analytical data for soils were less than or equal the adopted Tier 1 screening criteria. No further assessment warranted.
AEC26	Market Gardens (~5.2ha, ~0.5m in thickness, Central portion of Lot 11)	Application of pesticides	Petroleum hydrocarbons, organochlorine pesticides, BTEX, polychlorinated biphenyl, metals, & asbestos.	Dermal contact Soil Ingestion Dust inhalation Management limits	Commercial / industrial workers	The field and laboratory analytical data for soils were less than or equal the adopted Tier 1 screening criteria. No further assessment warranted.
AEC27	Storage shed (~40 m², centre-east Lot 11)	hazardous buildings materials, termite treatment, chemical/fuel leaks and spills	Petroleum hydrocarbons, organochlorine pesticides, , BTEX, polychlorinated biphenyl, metals, & asbestos.	Dermal contact Soil Ingestion Dust inhalation Inhalation (asbestos) Management limits Aesthetics	Commercial / industrial workers	The field and laboratory analytical data for soils were less than or equal the adopted Tier 1 screening criteria. No further assessment warranted.
AEC028	Storage shed (~15 m², centre-south Lot 11)	hazardous buildings materials, termite treatment, chemical/fuel leaks and spills	Petroleum hydrocarbons, polycyclic aromatic hydrocarbons, organochlorine	Dermal contact Soil Ingestion Dust inhalation	Commercial / industrial workers	The field and laboratory analytical data for soils were less than or equal the adopted Tier 1

			pesticides, BTEX, metals, & asbestos	Inhalation (asbestos) Management limits Aesthetics		screening criteria. No further assessment warranted.
AEC29a	Dam 10 Wall (Lot 11 south east larger dam, ~220m^2, ~1m in height)	Potential uncontrolled filling.	Petroleum hydrocarbons, polycyclic aromatic hydrocarbons, organochlorine pesticides, BTEX, heavy metals, & asbestos	Dermal contact Soil Ingestion Dust inhalation Inhalation (asbestos) Management limits Aesthetics	Commercial / industrial workers	Dam wall visually observed to comprise soil material consistent with in-situ site soils, free from foreign material or signs of contamination. Assessment considered unwarranted.
AEC29b	Dam 10 Sediments (Lot 11 south east larger dam, ~2600m^2, ~0.1m in thickness)	Waste disposal	Petroleum hydrocarbons, polycyclic aromatic hydrocarbons, organochlorine pesticides, BTEX, metals, temperature, turbidity, dissolved oxygen, biological oxygen demand	Dermal contact Soil Ingestion Dust inhalation Inhalation (asbestos) Management limits Aesthetics	Commercial / industrial workers	The field and laboratory analytical data for soils were less than or equal the adopted Tier 1 screening criteria. No further assessment warranted.
AEC29c	Dam 10 Surface Water (Lot 11 south east larger dam, ~2600m^2, ~2.0m in depth)	Waste disposal	Petroleum hydrocarbons, polycyclic aromatic hydrocarbons, organochlorine pesticides, BTEX, metals, & asbestos	Dermal contact Soil Ingestion Dust inhalation Inhalation (asbestos) Management limits Aesthetics Surface water contact	Commercial / industrial workers	The field and laboratory analytical data for surface water were greater than the adopted Tier 1 screening criteria for heavy metals. Further assessment warranted.
AEC30a	Dam 11 Wall (Lot 11 south east smaller dam, ~200m^2, ~1m in thickness)	Potential uncontrolled filling	Petroleum hydrocarbons, polycyclic aromatic hydrocarbons, organochlorine pesticides, BTEX, heavy metals, & asbestos	Dermal contact Soil Ingestion Dust inhalation Inhalation (asbestos) Management limits	Commercial / industrial workers	Dam wall visually observed to comprise soil material consistent with in-situ site soils, free from foreign material or signs of contamination.

				Aesthetics	Intrusive maintenance workers	Assessment considered unwarranted.
AEC30b	Dam 11 Sediments (Lot 11 south east smaller dam, ~1,300m^2, ~2.0m in depth)	Waste disposal	Petroleum hydrocarbons, polycyclic aromatic hydrocarbons, organochlorine pesticides, BTEX, metals, temperature, turbidity, dissolved oxygen, biological oxygen demand	Dermal contact Soil Ingestion Dust inhalation Inhalation (asbestos) Management limits Aesthetics	Commercial / industrial workers	The field and laboratory analytical data for soils were less than or equal the adopted Tier 1 screening criteria. No further assessment warranted.
AEC30c	Dam 11 Surface Water (Lot 11 south east larger dam, ~2600m^2, ~2.0m in depth)	Waste disposal	Arsenic, chromium, copper	Dermal contact Soil Ingestion Dust inhalation Inhalation (asbestos) Management limits Aesthetics Surface water contact	Commercial / industrial workers	The field and laboratory analytical data for surface water were greater than the adopted Tier 1 screening criteria for heavy metals. Further assessment warranted.
AEC31	Power poles (12 poles across Lot 11 and 12)	Copper chrome arsenate treatment	Organochlorine pesticides, , polychlorinated biphenyl, metals, & asbestos.	Dermal contact Soil Ingestion Dust inhalation	Commercial / industrial workers	The field and laboratory analytical data for soils were less than or equal the adopted Tier 1 screening criteria. No further assessment warranted.
AEC32	Residential premises (<2,000 m² Lot 13 north – not within scope)	Deterioration of hazardous buildings materials, application of pesticides	Organochlorine pesticides, , polychlorinated biphenyl, metals, & asbestos.	Dermal contact Soil Ingestion Dust inhalation Inhalation (asbestos) Management limits	Commercial / industrial workers	Assessment precluded due to active demolition works. Further assessment warranted.

				Aesthetics		
AEC33	Residential premises (<2,000 m² Lot 13 west – not within scope)	Deterioration of hazardous buildings materials, application of pesticides	Petroleum hydrocarbons, polycyclic aromatic hydrocarbons, BTEX, heavy metals, & asbestos	Dermal contact Soil Ingestion Dust inhalation Inhalation (asbestos) Management limits Aesthetics	Commercial / industrial workers	Assessment precluded due to active demolition works. Further assessment warranted.
AEC34	Concrete driveway along the northern boundary to residential dwelling within Lot 13 (~100m in length)	Potential uncontrolled filling	Petroleum hydrocarbons, polycyclic aromatic hydrocarbons, BTEX, heavy metals, & asbestos	Dermal contact Soil Ingestion Dust inhalation Inhalation (asbestos) Management limits Aesthetics	Commercial / industrial workers	Assessment precluded due to active demolition works. Further assessment warranted.
AEC35	Asphalt and gravel driveway leading to the commercial paint shed and residential dwelling within Lot 12 (~360m in length)	Potential uncontrolled filling	Petroleum hydrocarbons, polycyclic aromatic hydrocarbons, BTEX, heavy metals, & asbestos	Dermal contact Soil Ingestion Dust inhalation Inhalation (asbestos) Management limits Aesthetics	Commercial / industrial workers	The field and laboratory analytical data for soils were less than or equal the adopted Tier 1 screening criteria. No further assessment warranted.
AEC36	Gravel driveway leading to the residential dwelling within Lot 11 (~130m in length)	Potential uncontrolled filling	Petroleum hydrocarbons, polycyclic aromatic hydrocarbons, BTEX, heavy metals, & asbestos	Dermal contact Soil Ingestion Dust inhalation Inhalation (asbestos) Management limits Aesthetics	Commercial / industrial workers	The field and laboratory analytical data for soils were less than or equal the adopted Tier 1 screening criteria. No further assessment warranted.
AEC37	Gravel driveway leading to the eastern residential dwelling and poultry	Potential uncontrolled filling	Petroleum hydrocarbons, polycyclic aromatic hydrocarbons, BTEX, heavy metals, & asbestos	Dermal contact Soil Ingestion Dust inhalation	Commercial / industrial workers	The field and laboratory analytical data for soils were less than or equal the adopted Tier 1

	sheds within Lot 13 (~750m in length)	Inhalation (asbestos) Management limits Aesthetics	screening criteria. No further assessment warranted.

13 Duty to Report Contamination

Section 1.3 of NSW EPA (2020b) states that contaminated land consultants should take reasonable steps to draw the client's attention to its potential duty to report contamination under section 60 of the Contaminated Land Management Act 1997.

Section 2 in NSW EPA (2015) includes guidance on how to address reporting obligations under section 60 of the Contaminated Land Management Act 1997, including those parties required to notify EPA as soon as practical after they become aware of contamination. Those parties include:

- Anyone whose activities have contaminated land; or
- An owner of land that has been contaminated.

Alliance understands that the client is:

- not the occupier of the land, and as a consequence, is unlikely to have undertaken activities on the site that have contaminated the land, or
- not the owner of the land that may have been contaminated

On that basis, further assessment of the duty to report in the context of the guidance provided in NSW EPA (2015) is considered not warranted.

However, if the client was to become the owner and/or occupier of the land that the site is located on, and

- the client undertakes activities on the site that contaminates the land; or
- the client is the owner of the land that may have been contaminated;

then NSW EPA (2015) includes guidance on when the client should seek further advice about site contamination and its obligations regarding the duty to report. Additional information on the client's duty to report can be found at www.epa.nsw.gov.au.

14 Conclusions and Recommendations

Based on the assessment undertaken by Alliance of site history information, fieldwork observations and data, and laboratory analytical data, in the context of the proposed land use scenario and objectives of this project, Alliance has made the following conclusions:

- Detected concentrations of friable asbestos in soil present an unacceptable human health risk at TP70, and ASB12;
- Detected concentrations of bonded asbestos in soil present an unacceptable human health risk at TP09, TP51, ASB12, and DW23;
- Field observations and laboratory analysis warrant further assessment for aesthetics risks at the location of AEC14 (demolition waste, asbestos, and tyres), AEC09 (demolition waste and asbestos), AEC22 (asbestos and potential septic system), and AEC18 (surficial asbestos near TP61).
- Potential contamination risks in AEC13, AEC15, AEC16, AEC22, AEC23, AEC32, AEC33, and AEC34 have not yet been assessed. The presence of existing hardstands is constraining adequate access to assess underlying soils. This is a data gap that needs addressing in order to draw conclusions regarding site suitability in the context of land contamination;
- In the context of preparing a dam dewatering procedure for the site, in addition to information on the proposed disposal methods, the dam water data would need to be supplemented with further assessment of likely receptors during dewatering, in order to potentially derive less conservative assessment criteria, based on a preferred dam water disposal method, some additional dam water sampling and analysis to support the preliminary data obtained, that is consistent with site specific criteria
- The site is not yet considered to be suitable for the following land use scenario:
    - Commercial / industrial such as shops, offices, factories, and industrial sites.
- Specific assumptions that apply to the adopted land use scenario, are presented in Section 5 of this report.
- Further assessment, management, and remedial planning works for the identified unacceptable exposure risks is required.

Based on those conclusions, Alliance makes the following recommendations:

- An interim management plan should be implemented to mitigate potential human health exposure risks to asbestos in AEC14, TP70, TP09, and DW23. As some of those activities may result in disturbance of soils impacted with asbestos, a class A licensed asbestos contractor should undertake the recommended works where necessary. Prior to entry, site workers and other personnel on site should be made aware of the areas impacted with friable and bonded asbestos, and the controls in place to mitigate risk of exposure to human health;
- A supplementary contamination assessment should be undertaken to address the data gaps associated with AEC13, AEC15, AEC16, AEC22, AEC23, AEC32, AEC33, and AEC34, as well as assessing the extent of identified unacceptable risks onsite, to inform future remedial works. The supplementary contamination assessment should be undertaken following controlled demolition and removal of the structures and pavements.

- The recommended data gap assessment should also address the extent of asbestos contamination at AEC14, TP09, TP61, DS13, TP71, and TP141, as well as the aesthetics risk observed within AEC14, TP141 and TP142 (AEC21) and DS13 (AEC09);
- A remedial action plan (RAP) should be prepared to address the identified unacceptable human health exposure risks upon completion and consideration of the aforementioned data gap assessment; and
- Further assessment, management or remedial planning works for the site, be undertaken by a suitably experienced environmental consultant.

This report must be read in conjunction with the ***Important Information About This Report*** statements at the front of this report.

15 References

Alliance 2019, ‘Stage 1 Preliminary Site Investigation with Limited Sampling’, reference: 9687-ER-1-1

Alliance 2021, ‘Hazardous Building Materials (HAZMAT) Report’, reference: 13546-ER-1-1

ANZECC 2000, ‘Australian and New Zealand Guidelines for Fresh and Marine Water Quality’ dated October 2000

ANZECC & ARMCANZ (2000) water quality guidelines, ‘Volume 3, Primary Industries – Rationale and Background Information’, dated October 2000

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DUAP 1998, ‘Managing Land Contamination Planning Guidelines SEPP55 – Remediation of Land’, dated April 1999, ref: 98/65.

Friebel, E & Nadebaum, P 2011, ‘Health screening levels for petroleum hydrocarbons in soil and groundwater. Part 2: Application document’, CRC CARE Technical Report No. 10.

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National Environment Protection Council (NEPC) 2013b, ‘Schedule B(2) Guideline on Site Characterisation’, National Environment Protection (Assessment of Site Contamination) Measure (NEPM) as amended in May 2013.

National Environment Protection Council (NEPC) 2013c, ‘Schedule B(3) Guideline on Laboratory Analysis of Potentially Contaminated Soil’, National Environment Protection (Assessment of Site Contamination) Measure (NEPM) as amended in May 2013.

National Environment Protection Council (NEPC) 2013d, 'Schedule B(4) Guideline on Site-Specific Health Risk Assessment Methodology', National Environment Protection (Assessment of Site Contamination) Measure (NEPM) as amended in May 2013.

National Environment Protection Council (NEPC) 2013e, 'Schedule B(5a) Guideline on Ecological Risk Assessment', National Environment Protection (Assessment of Site Contamination) Measure (NEPM) as amended in May 2013.

National Environment Protection Council (NEPC) 2013f, 'Schedule B(5b) Guideline on Methodology to Derive Ecological Investigation Levels in Contaminated Soils', National Environment Protection (Assessment of Site Contamination) Measure (NEPM) as amended in May 2013.

National Environment Protection Council (NEPC) 2013g, 'Schedule B(5c) Guideline on Ecological Investigation Levels for Arsenic, Chromium (III), Copper, DDT, Lead, Naphthalene, Nickel and Zinc', National Environment Protection (Assessment of Site Contamination) Measure (NEPM) as amended in May 2013.

National Environment Protection Council (NEPC) 2013h, 'Schedule B(6) Guideline on The Framework for Risk-Based Assessment of Groundwater Contamination', National Environment Protection (Assessment of Site Contamination) Measure (NEPM) as amended in May 2013.

National Environment Protection Council (NEPC) 2013i, 'Schedule B(7) Guideline on Derivation of Health-Based Investigation Levels', National Environment Protection (Assessment of Site Contamination) Measure (NEPM) as amended in May 2013.

NSW DEC 2007, 'Contaminated Sites: Guidelines for the Assessment and Management of Groundwater Contamination' dated March 2007, ref: DEC 2007/144.

NSW EPA 1995, 'Contaminated Sites: Sampling Design Guidelines', dated September 1995, ref: EPA 95/59.

NSW EPA 2000, 'Environmental Guidelines: Use and Disposal of Biosolid Products' dated December 2000, ref: EPA 97/62

NSW EPA 2015, 'Guidelines on the Duty to Report Contamination under the Contaminated Land Management Act 1997' dated September 2015, ref: EPA 2015/0164.

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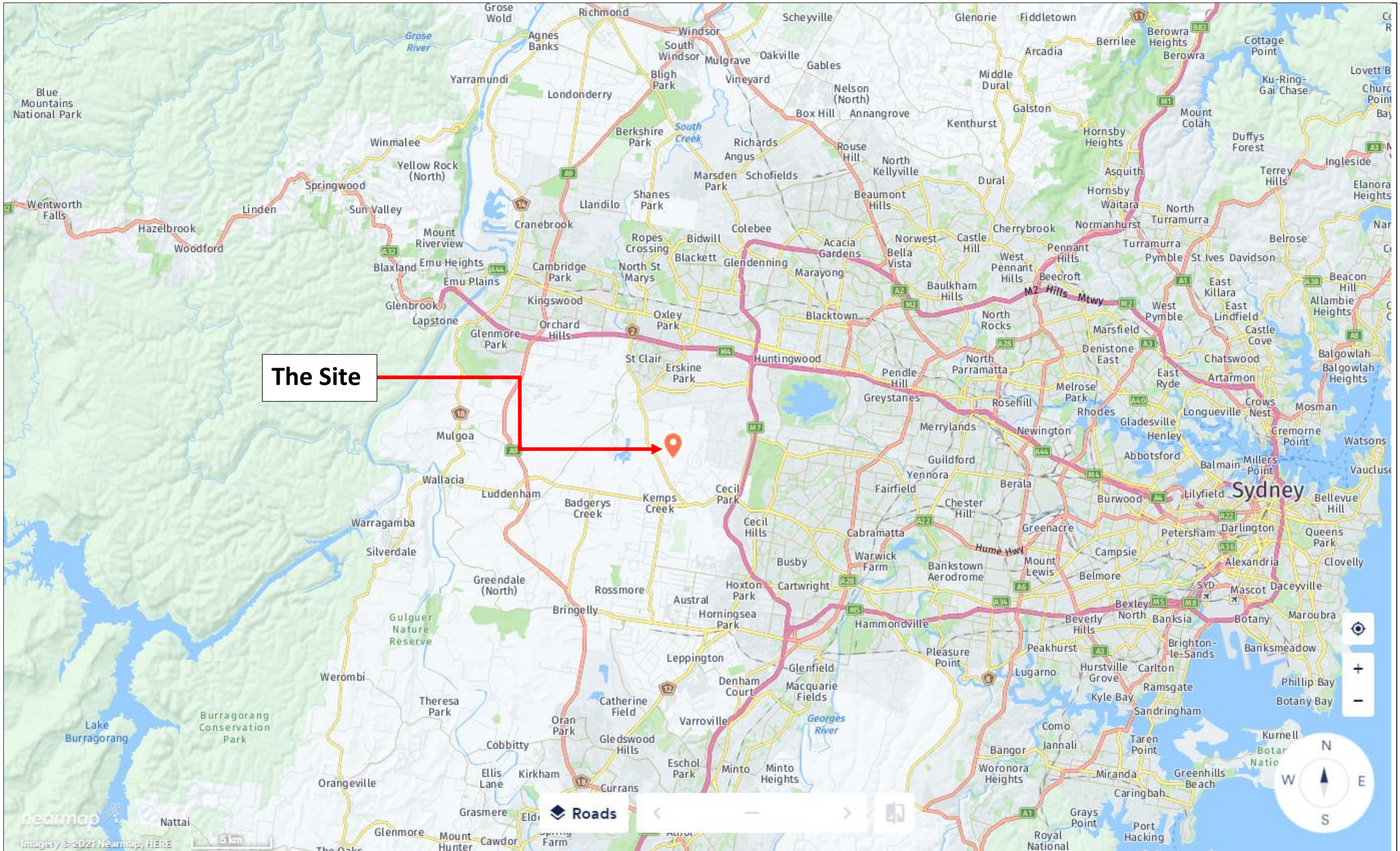
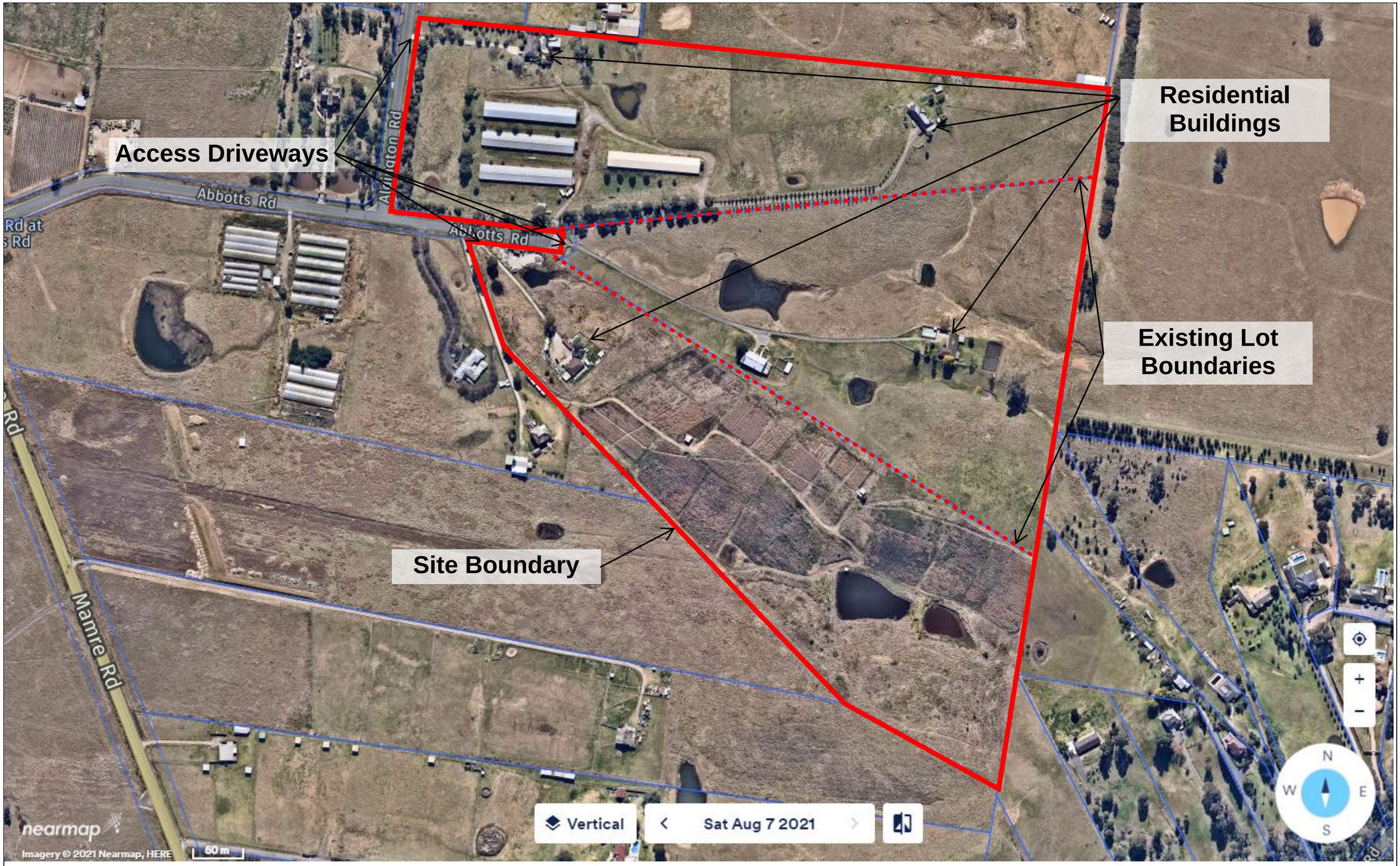
FIGURES



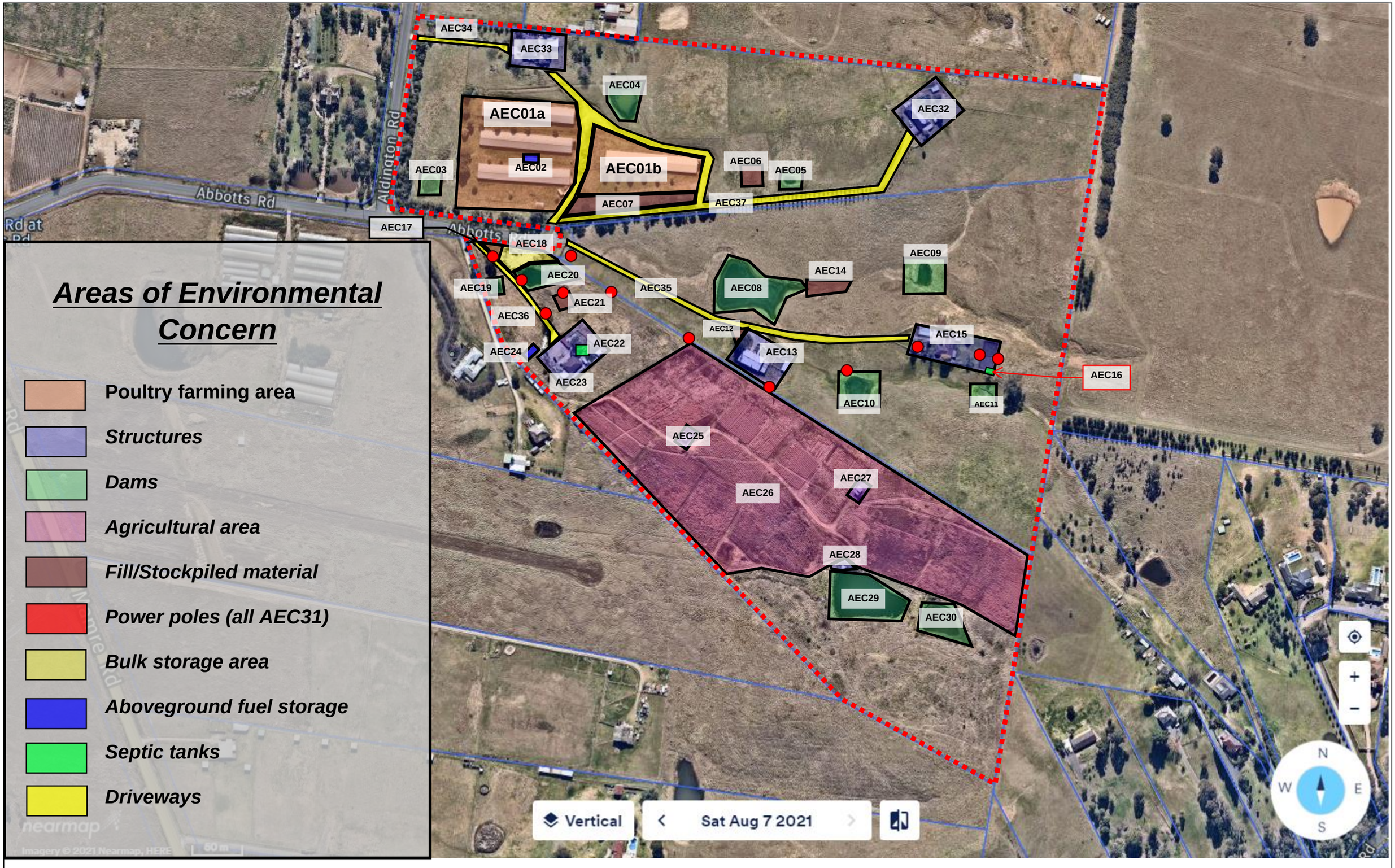
Site Locality

Client Name:	ESR Australia	Figure / Drawing Number:	1
Project Name:	Detailed Site Investigation	Figure / Drawing Date:	27/09/2021
Project Location:	290-308 Aldington Road and 59-63 Abbotts Road, Kemps Creek NSW	Report Number:	13546-ER-2-1



Site Boundary and Layout

alliance	Client Name:	ESR Australia	Figure / Drawing Number:	2
	Project Name:	Detailed Site Investigation	Figure / Drawing Date:	27/09/2021
	Project Location:	290-308 Aldington Road and 59-63 Abbotts Road, Kemps Creek NSW	Report Number:	13546-ER-2-1



Areas of Environmental Concern

Client Name:	ESR Australia	Figure / Drawing Number:	3
Project Name:	Detailed Site Investigation	Figure / Drawing Date:	28/09/2021
Project Location:	290-308 Aldington Road and 59-63 Abbotts Road, Kemps Creek NSW	Report Number:	13546-ER-2-1

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Sampling Plan

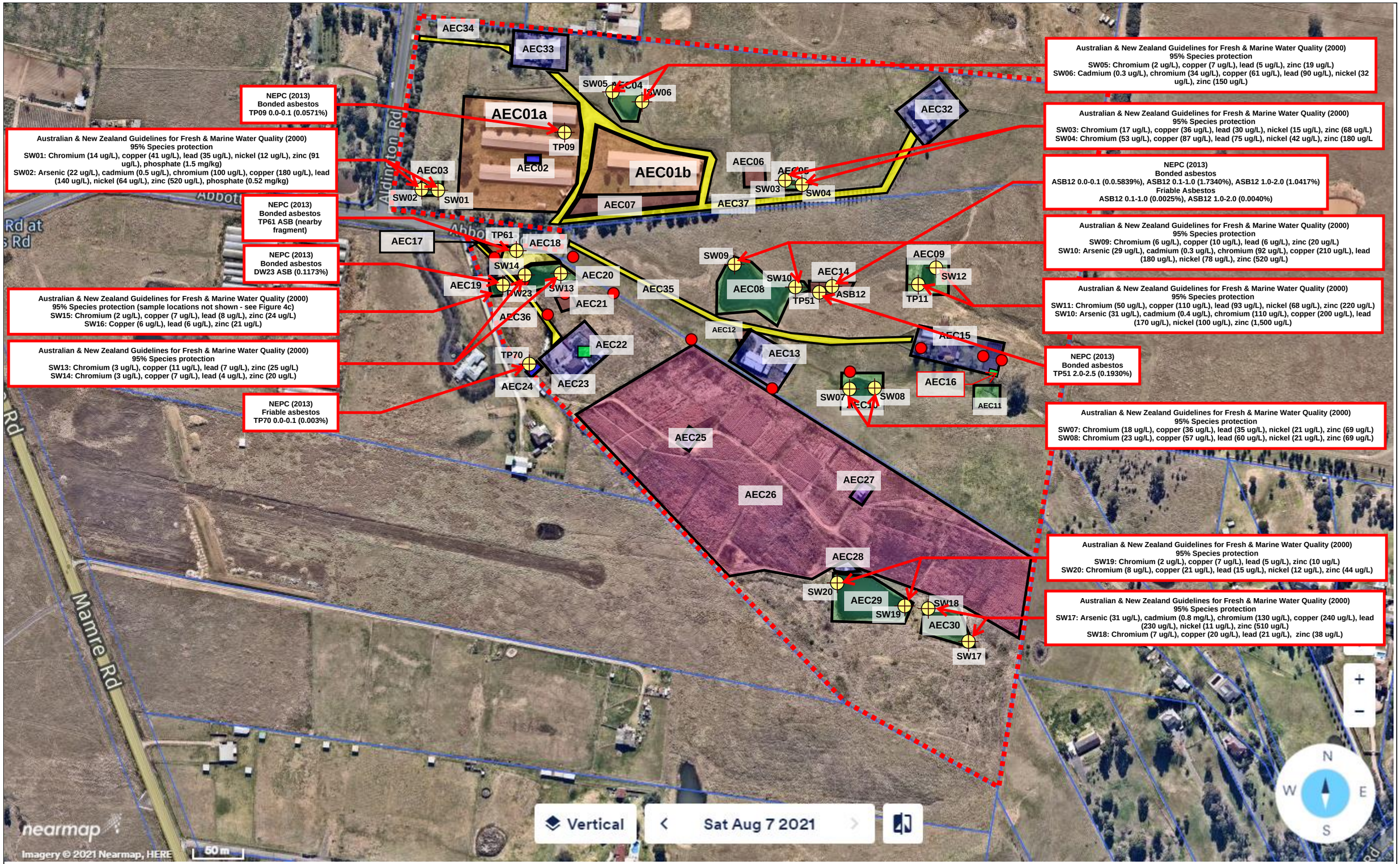
Client Name:	ESR Australia	Figure / Drawing Number:	4a
Project Name:	Detailed Site Investigation	Figure / Drawing Date:	29/09/2021
Project Location:	290-308 Aldington Road and 59-63 Abbotts Road, Kemps Creek NSW	Report Number:	13546-ER-2-1

Sampling Plan

alliance	Client Name:	ESR Australia	Figure / Drawing Number:	4b
	Project Name:	Detailed Site Investigation	Figure / Drawing Date:	30/09/2021
	Project Location:	290-308 Aldington Road and 59-63 Abbotts Road, Kemps Creek NSW	Report Number:	13546-ER-2-1

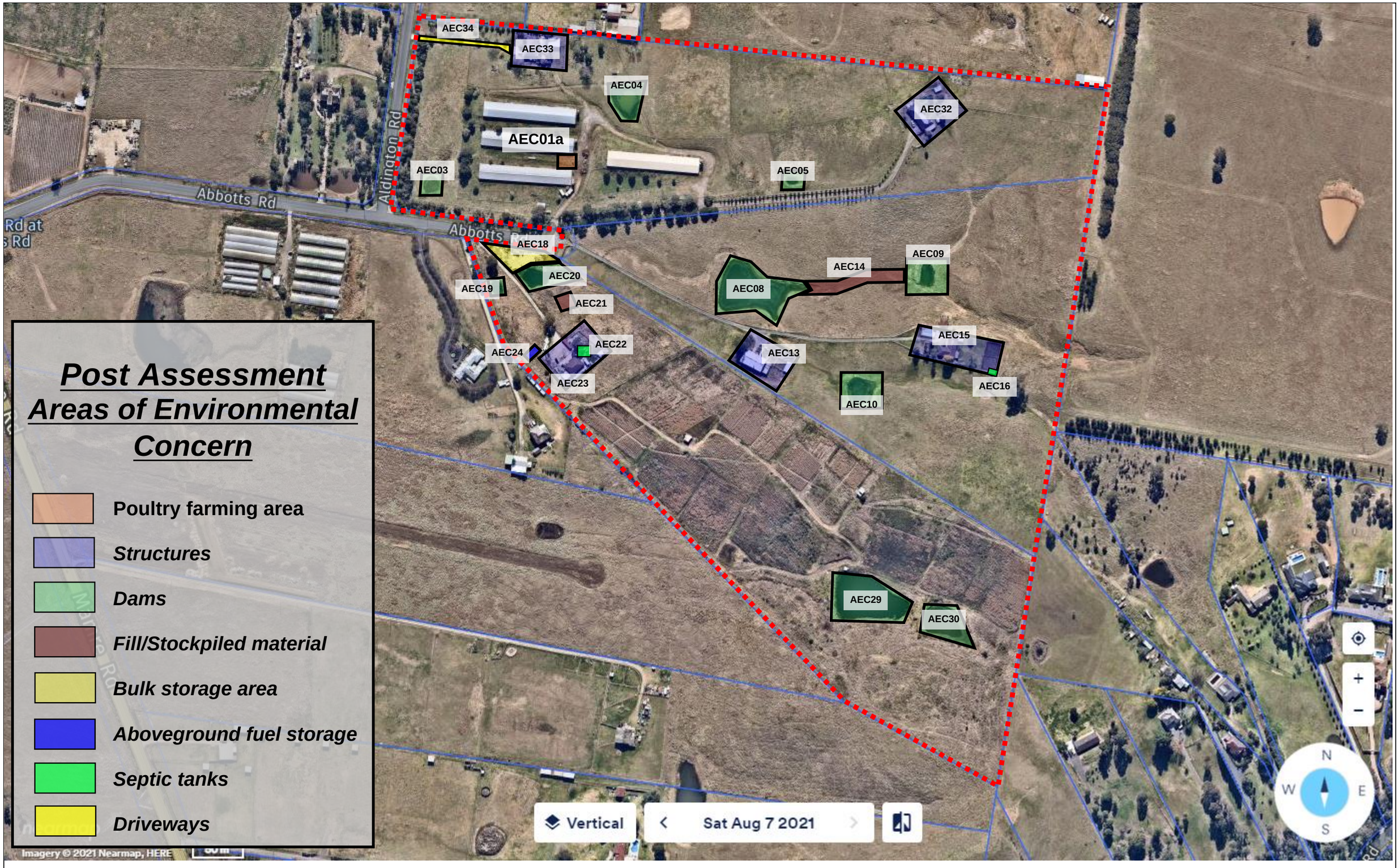
Sampling Plan

alliance	Client Name:	ESR Australia	Figure / Drawing Number:	4c	N
	Project Name:	Detailed Site Investigation	Figure / Drawing Date:	30/09/2021	
	Project Location:	290-308 Aldington Road and 59-63 Abbotts Road, Kemps Creek NSW	Report Number:	13546-ER-2-1	



Soil and Water Exceedances

alliance	Client Name:	ESR Australia	Figure / Drawing Number:	
	Project Name:	Detailed Site Investigation	Figure / Drawing Date:	23/11/2021
	Project Location:	290-308 Aldington Road and 59-63 Abbotts Road, Kemps Creek NSW	Report Number:	13546-ER-2-1



Post Assessment Areas of Environmental Concern

- Poultry farming area
- *Structures*
- *Dams*
- *Fill/Stockpiled material*
- *Bulk storage area*
- *Aboveground fuel storage*
- *Septic tanks*
- *Driveways*

Post Assessment Areas of Environmental Concern

Client Name:	ESR Australia	Figure / Drawing Number:	6
Project Name:	Detailed Site Investigation	Figure / Drawing Date:	23/11/2021
Project Location:	290-308 Aldington Road and 59-63 Abbotts Road, Kemps Creek NSW	Report Number:	13546-ER-2-1

TABLES

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Table 1
Asbestos Soil Quantification Results
13546-ER-1-1

Sample ID	Date Sampled	Asbestos Health Screening Level NEPM ASC 2013 (% w/w) HIL A - FA/AF	Asbestos Health Screening Level NEPM ASC 2013 (% w/w) HIL A - Bonded ACM	Laboratory Results			On-site gravimetric results			
				Asbestos Detected/ Non-Detected	Percentage of AF/FA <7mm, %w/w	Percentage of Bonded ACM >7mm (500ml), %w/w	Weight of Sample (10L), kg	Onsite weight of ACM fragment >7mm, kg	Laboratory weight of ACM fragment >7mm, kg	Percentage of Bonded ACM >7mm (10L), %w/w
TP1 0.0-0.1	6/10/2021	0.001%	0.05%	No asbestos detected.	-	-	16.5	-	-	-
TP2 0.0-0.1	6/10/2021	0.001%	0.05%	No asbestos detected.	-	-	16.8	-	-	-
TP3 0.0-0.1	6/10/2021	0.001%	0.05%	No asbestos detected.	-	-	17.7	-	-	-
TP4 0.0-0.1	6/10/2021	0.001%	0.05%	No asbestos detected.	-	-	17.8	-	-	-
TP5 0.0-0.1	6/10/2021	0.001%	0.05%	No asbestos detected.	-	-	15.9	-	-	-
TP6 0.0-0.1	6/10/2021	0.001%	0.05%	No asbestos detected.	-	-	14.1	-	-	-
TP7 0.0-0.1	6/10/2021	0.001%	0.05%	No asbestos detected.	-	-	14.8	-	-	-
TP8 0.0-0.1	6/10/2021	0.001%	0.05%	No asbestos detected.	-	-	15.1	-	-	-
TP9 0.0-0.1	6/10/2021	0.001%	0.05%	**Chrysotile asbestos detected.**	-	-	14.7	0.056	-	0.0571%
TP10 0.0-0.1	6/10/2021	0.001%	0.05%	No asbestos detected.	-	-	17.9	-	-	-
TP11 0.0-0.1	6/10/2021	0.001%	0.05%	No asbestos detected.	-	-	17.2	-	-	-
TP12 0.0-0.1	6/10/2021	0.001%	0.05%	No asbestos detected.	-	-	14.4	-	-	-
TP14 0.0-0.1	6/10/2021	0.001%	0.05%	No asbestos detected.	-	-	16.1	-	-	-
TP15 0.0-0.1	6/10/2021	0.001%	0.05%	No asbestos detected.	-	-	17.2	-	-	-
TP16 0.0-0.1	6/10/2021	0.001%	0.05%	No asbestos detected.	-	-	14.7	-	-	-
TP17 0.0-0.1	6/10/2021	0.001%	0.05%	No asbestos detected.	-	-	17.4	-	-	-
TP18 0.0-0.1	6/10/2021	0.001%	0.05%	No asbestos detected.	-	-	15.2	-	-	-
TP19 0.0-0.1	7/10/2021	0.001%	0.05%	No asbestos detected.	-	-	17.2	-	-	-
TP20 0.0-0.1	7/10/2021	0.001%	0.05%	No asbestos detected.	-	-	6.8	-	-	-
TP21 0.0-0.1	7/10/2021	0.001%	0.05%	No asbestos detected.	-	-	16.5	-	-	-
TP22 0.0-0.1	6/10/2021	0.001%	0.05%	No asbestos detected.	-	-	13.8	-	-	-
TP23 0.0-0.1	7/10/2021	0.001%	0.05%	No asbestos detected.	-	-	13.6	-	-	-
TP24 0.0-0.1	7/10/2021	0.001%	0.05%	No asbestos detected.	-	-	14.4	-	-	-
TP25 0.0-0.1	7/10/2021	0.001%	0.05%	No asbestos detected.	-	-	14.4	-	-	-
TP26 0.0-0.1	7/10/2021	0.001%	0.05%	No asbestos detected.	-	-	15.8	-	-	-
DR01 0.0-0.1	6/10/2021	0.001%	0.05%	No asbestos detected.	-	-	17.5	-	-	-
DR02 0.0-0.1	6/10/2021	0.001%	0.05%	No asbestos detected.	-	-	16.9	-	-	-
DR03 0.0-0.1	6/10/2021	0.001%	0.05%	No asbestos detected.	-	-	17.5	-	-	-
DR04 0.0-0.1	7/10/2021	0.001%	0.05%	No asbestos detected.	-	-	16.8	-	-	-
DR05 0.0-0.1	7/10/2021	0.001%	0.05%	No asbestos detected.	-	-	16.2	-	-	-
DR06 0.0-0.1	7/10/2021	0.001%	0.05%	No asbestos detected.	-	-	17.2	-	-	-
DR07 0.0-0.1	7/10/2021	0.001%	0.05%	No asbestos detected.	-	-	16.6	-	-	-
DR08 0.0-0.1	7/10/2021	0.001%	0.05%	No asbestos detected.	-	-	16.5	-	-	-
SP1-1	7/10/2021	0.001%	0.05%	No asbestos detected.	-	-	7.6	-	-	-

Legend

Highlighted concentration exceeds the adopted site criteria - Asbestos Health Screening Level (w/w) - NEPM ASC 2013 AF/FA

Highlighted concentration exceeds the adopted site criteria - Asbestos Health Screening Level (w/w) - NEPM ASC 2013 Bonded ACM

ACM Asbestos Containing Material

FA and AF Fibrous Asbestos and Asbestos Fines

- No published criteria or sample not analysed

NL Not Limiting

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Table 1
Asbestos Soil Quantification Results
13546-ER-1-1

Sample ID	Date Sampled	Asbestos Health Screening Level NEPM ASC 2013 (% w/w) HIL A - FA/AF	Asbestos Health Screening Level NEPM ASC 2013 (% w/w) HIL A - Bonded ACM	Laboratory Results			On-site gravimetric results			
				Asbestos Detected/ Non-Detected	Percentage of AF/FA <7mm, %w/w	Percentage of Bonded ACM >7mm (500ml), %w/w	Weight of Sample (10L), kg	Onsite weight of ACM fragment >7mm, kg	Laboratory weight of ACM fragment >7mm, kg	Percentage of Bonded ACM >7mm (10L), %w/w
TP13-0.0-0.1	8/10/2021	0.001%	0.05%	No asbestos detected.			15.6			
TP27-0.0-0.1	8/10/2021	0.001%	0.05%	No asbestos detected.	-	-	16.1	-	-	-
TP28-0.0-0.1	8/10/2021	0.001%	0.05%	No asbestos detected.	-	-	15.3	-	-	-
TP29-0.0-0.1	8/10/2021	0.001%	0.05%	No asbestos detected.	-	-	16.2	-	-	-
TP30-0.0-0.1	8/10/2021	0.001%	0.05%	No asbestos detected.	-	-	16.8	-	-	-
TP31-0.0-0.1	8/10/2021	0.001%	0.05%	No asbestos detected.	-	-	12.6	-	-	-
TP32-0.0-0.1	8/10/2021	0.001%	0.05%	No asbestos detected.	-	-	15.3	-	-	-
TP33-0.0-0.1	8/10/2021	0.001%	0.05%	No asbestos detected.	-	-	11.2	-	-	-
TP34-0.0-0.1	8/10/2021	0.001%	0.05%	No asbestos detected.	-	-	17.1	-	-	-
TP35-0.0-0.1	8/10/2021	0.001%	0.05%	No asbestos detected.	-	-	16.2	-	-	-
TP36-0.0-0.1	8/10/2021	0.001%	0.05%	No asbestos detected.	-	-	16.3	-	-	-
TP37-0.0-0.1	8/10/2021	0.001%	0.05%	No asbestos detected.	-	-	15.4	-	-	-
TP38-0.0-0.1	8/10/2021	0.001%	0.05%	No asbestos detected.	-	-	14.3	-	-	-
TP39-0.0-0.1	8/10/2021	0.001%	0.05%	No asbestos detected.	-	-	13.8	-	-	-
TP40-0.0-0.1	8/10/2021	0.001%	0.05%	No asbestos detected.	-	-	12.2	-	-	-
TP41 0.0-0.1	12/10/2021	0.001%	0.05%	No asbestos detected.	-	-	14.3	-	-	-
TP42 0.0-0.1	12/10/2021	0.001%	0.05%	No asbestos detected.	-	-	14.4	-	-	-
TP43 0.0-0.1	12/10/2021	0.001%	0.05%	No asbestos detected.	-	-	16.0	-	-	-
TP44 0.0-0.1	12/10/2021	0.001%	0.05%	No asbestos detected.	-	-	13.9	-	-	-
DR11 0.0-0.1	13/10/2021	0.001%	0.05%	No asbestos detected.	-	-	17.1	-	-	-
DR12 0.0-0.1	13/10/2021	0.001%	0.05%	No asbestos detected.	-	-	17.5	-	-	-
DR13 0.0-0.1	13/10/2021	0.001%	0.05%	No asbestos detected.	-	-	15.6	-	-	-
DR14 0.0-0.1	13/10/2021	0.001%	0.05%	No asbestos detected.	-	-	16.9	-	-	-
ASB10 0.0-0.1	15/10/2021	0.001%	0.05%	No asbestos detected.	-	-	17.2	-	-	-
TP50 0.0-0.1	15/10/2021	0.001%	0.05%	No asbestos detected.	-	-	17.6	-	-	-
TP50 0.1-0.4	15/10/2021	0.001%	0.05%	No asbestos detected.	-	-	16.3	-	-	-
ASB11 0.0-0.1	15/10/2021	0.001%	0.05%	No asbestos detected.	-	-	15.6	-	-	-
TP51 0.0-0.1	15/10/2021	0.001%	0.05%	No asbestos detected.	-	-	13.6	-	-	-
TP51 0.1-1.0	15/10/2021	0.001%	0.05%	No asbestos detected.	-	-	13.9	-	-	-
TP51 1.0-2.0	15/10/2021	0.001%	0.05%	No asbestos detected.	-	-	14.2	-	-	-
TP51 2.0-2.5	15/10/2021	0.001%	0.05%	**Chrysotile asbestos detected.**	-	-	17.1	0.22	-	0.1930%
ASB12 0.0-0.1	15/10/2021	0.001%	0.05%	**Chrysotile and Amosite asbestos detected.**	-	1.110%	14.9	0.58	0.008	0.5839%
ASB12 0.1-1.0	15/10/2021	0.001%	0.05%	**Chrysotile and Amosite asbestos detected.**	0.0025	1.800%	14.1	1.63	0.001	1.7340%
ASB12 1.0-2.0	15/10/2021	0.001%	0.05%	**Chrysotile asbestos detected.**	0.0040	0.770%	18.0	1.25	0.007	1.0417%
ASB13 0.0-0.1	15/10/2021	0.001%	0.05%	No asbestos detected.	-	-	14.5	-	-	-
ASB13 0.1-1.0	15/10/2021	0.001%	0.05%	No asbestos detected.	-	-	15.0	-	-	-
TP52 0.0-0.1	15/10/2021	0.001%	0.05%	No asbestos detected.	-	-	14.4	-	-	-
TP52 0.1-1.0	15/10/2021	0.001%	0.05%	No asbestos detected.	-	-	15.2	-	-	-
TP52 1.0-2.0	15/10/2021	0.001%	0.05%	No asbestos detected.	-	-	15.6	-	-	-
TP52 2.0-2.5	15/10/2021	0.001%	0.05%	No asbestos detected.	-	-	16.7	-	-	-
TP53 0.0-0.1	15/10/2021	0.001%	0.05%	No asbestos detected.	-	-	13.7	-	-	-
ASB14 0.0-0.1	15/10/2021	0.001%	0.05%	No asbestos detected.	-	-	14.2	-	-	-
TP54 0.0-0.1	15/10/2021	0.001%	0.05%	No asbestos detected.	-	-	13.7	-	-	-
TP54 0.1-1.0	15/10/2021	0.001%	0.05%	No asbestos detected.	-	-	14.4	-	-	-
TP54 1.0-2.0	15/10/2021	0.001%	0.05%	No asbestos detected.	-	-	14.8	-	-	-
TP54 2.0-2.5	15/10/2021	0.001%	0.05%	No asbestos detected.	-	-	15.2	-	-	-
ASB15 0.0-0.1	15/10/2021	0.001%	0.05%	No asbestos detected.	-	-	15.3	-	-	-
ASB15 0.1-1.0	15/10/2021	0.001%	0.05%	No asbestos detected.	-	-	15.6	-	-	-
ASB15 1.0-2.0	15/10/2021	0.001%	0.05%	No asbestos detected.	-	-	14.7	-	-	-

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Table 1
Asbestos Soil Quantification Results
13546-ER-1-1

Sample ID	Date Sampled	Asbestos Health Screening Level NEPM ASC 2013 (% w/w) HIL A - FA/AF	Asbestos Health Screening Level NEPM ASC 2013 (% w/w) HIL A - Bonded ACM	Laboratory Results			On-site gravimetric results			
				Asbestos Detected/ Non-Detected	Percentage of AF/FA <7mm, %w/w	Percentage of Bonded ACM >7mm (500ml), %w/w	Weight of Sample (10L), kg	Onsite weight of ACM fragment >7mm, kg	Laboratory weight of ACM fragment >7mm, kg	Percentage of Bonded ACM >7mm (10L), %w/w
ASB15 2.0-2.5	15/10/2021	0.001%	0.05%	No asbestos detected.	-	-	14.5	-	-	-
TP61 0.0-0.1	18/10/2021	0.001%	0.05%	No asbestos detected.	-	-	14.4	-	-	-
TP61 0.1-1.0	18/10/2021	0.001%	0.05%	No asbestos detected.	-	-	14.0	-	-	-
TP62 0.0-0.1	18/10/2021	0.001%	0.05%	No asbestos detected.	-	-	13.8	-	-	-
TP63 0.0-0.1	18/10/2021	0.001%	0.05%	No asbestos detected.	-	-	15.9	-	-	-
TP64 0.0-0.1	18/10/2021	0.001%	0.05%	No asbestos detected.	-	-	15.2	-	-	-
TP65 0.0-0.1	18/10/2021	0.001%	0.05%	No asbestos detected.	-	-	16.2	-	-	-
TP66 0.0-0.1	18/10/2021	0.001%	0.05%	No asbestos detected.	-	-	13.8	-	-	-
SP3-1	18/10/2021	0.001%	0.05%	No asbestos detected.	-	-	14.7	-	-	-
SP3-2	18/10/2021	0.001%	0.05%	No asbestos detected.	-	-	15.1	-	-	-
DR15 0.0-0.1	18/10/2021	0.001%	0.05%	No asbestos detected.	-	-	15.5	-	-	-
TP141 0.0-0.1	18/10/2021	0.001%	0.05%	**Chrysotile, amosite, and crocidolite asbestos detected**	-	-	13.6	0.017	0.017	0.0188%
TP141 0.1-1.0	18/10/2021	0.001%	0.05%	No asbestos detected.	-	-	17.2	-	-	-
TP141 1.0-1.5	18/10/2021	0.001%	0.05%	No asbestos detected.	-	-	16.6	-	-	-
TP142 0.0-0.1	18/10/2021	0.001%	0.05%	No asbestos detected.	-	-	13.9	-	-	-
TP142 0.1-1.0	18/10/2021	0.001%	0.05%	No asbestos detected.	-	-	17.0	-	-	-
TP142 1.0-1.5	18/10/2021	0.001%	0.05%	No asbestos detected.	-	-	14.7	-	-	-
DR16 0.0-0.1	19/10/2021	0.001%	0.05%	No asbestos detected.	-	-	15.6	-	-	-
DR17 0.0-0.1	19/10/2021	0.001%	0.05%	No asbestos detected.	-	-	15.2	-	-	-
DW22	19/10/2021	0.001%	0.05%	No asbestos detected.	-	-	14.4	-	-	-
DW23	19/10/2021	0.001%	0.05%	**Chrysotile and amosite asbestos detected.**	-	-	14.7	0.115	0.057	0.1173%
TP70 0.0-0.1	19/10/2021	0.001%	0.05%	**Chrysotile asbestos detected.**	0.00300%	-	14.6	-	-	-
TP71 0.0-0.1	19/10/2021	0.001%	0.05%	No asbestos detected.	-	-	14.8	-	-	-
TP95 0.0-0.1	19/10/2021	0.001%	0.05%	No asbestos detected.	-	-	10.4	-	-	-
TP120 0.0-0.1	20/10/2021	0.001%	0.05%	No asbestos detected.	-	-	14.7	-	-	-
TP125 0.0-0.1	20/10/2021	0.001%	0.05%	No asbestos detected.	-	-	13.6	-	-	-
DS13	22/10/2021	0.001%	0.05%	No asbestos detected.	-	-	17.9	0.022	-	0.0184%
DS14	22/10/2021	0.001%	0.05%	No asbestos detected.	-	-	18.6	-	-	-
DS12	15/10/2021	0.001%	0.05%	No asbestos detected.	-	-	18.8	-	-	-
TP51 2.0-2.5 ASB	15/10/2021	-	-	**Chrysotile asbestos detected.**	-	-	-	0.22	-	-
ASB12 0.0-0.1 ASB	15/10/2021	-	-	**Chrysotile asbestos detected.**	-	-	-	0.58	-	-
ASB12 0.1-1.0 ASB	15/10/2021	-	-	**Chrysotile asbestos detected.**	-	-	-	1.63	-	-
ASB12 1.0-2.0 ASB	15/10/2021	-	-	**Chrysotile asbestos detected.**	-	-	-	1.25	-	-
TP61 ASB	18/10/2021	-	-	**Chrysotile asbestos detected.**	-	-	-	-	0.182	-
TP141 0.0-0.1 ASB	18/10/2021	-	-	**Chrysotile, amosite, and crocidolite asbestos detected**	-	-	-	0.017	0.017	-
DW23 ASB	19/10/2021	-	-	**Chrysotile and amosite asbestos detected.**	-	-	-	0.115	0.057	-
DS13 ASB	22/10/2021	-	-	**Chrysotile asbestos detected.**	-	-	-	0.022	0.022	
TP43 0.0-0.1 ASB	12/10/2021	-	-	No asbestos detected.	-	-	-	0.02	-	-
TP09 0.0-0.1 ASB	7/10/2021	-	-	**Chrysotile asbestos detected.**	-	-	-	0.056	-	-
TP18 0.0-0.1 ASB	7/10/2021	-	-	No asbestos detected.	-	-	-	0.02	-	-
TP22 0.0-0.1 ASB	7/10/2021	-	-	No asbestos detected.	-	-	-	0.09	-	-
TP26 0.0-0.1 ASB	7/10/2021	-	-	No asbestos detected.	-	-	-	0.01	-	-

Table 2. RPD Table 290-308 Aldington Road and 59-63 Abbotts Road, Kemps Creek NSW 13018-ER-1-1			Sample ID Reference Date Sampled Sample Matrix	DR02 0.2-0.4 S21-Oc38572 7/10/2021 SOIL	BD1 S21-Oc38475 7/10/2021 SOIL		BD1 S21-Oc38475 7/10/2021 SOIL	BT1 ES2137883001 7/10/2021 SOIL		TP23 0.0-0.1 S21-Oc38448 7/10/2021 SOIL	BD2 S21-Oc38476 7/10/2021 SOIL		BD2 S21-Oc38476 7/10/2021 SOIL	BT2 ES2137883002 7/10/2021 SOIL		TP47 0.0-0.1 S21-Oc38620 7/10/2021 SOIL	BD3 S21-Oc38492 7/10/2021 SOIL	
Group	**Analyte**	**Units**	**LOR**			**RPD (%)**			**RPD (%)**			**RPD (%)**			**RPD (%)**			**RPD (%)**
Metals	Arsenic	mg/kg	5	**11.0**	**10.0**	**10**	**10.0**	**10.0**	**0**	**15.0**	-	**n/a**	-	-	n/a	**9.5**	**15.0**	**45**
	Cadmium	mg/kg	0.4/1	< 0.4	< 0.4	n/a	< 0.4	<1	n/a	< 0.4	-	n/a	-	-	n/a	< 0.4	< 0.4	n/a
	Chromium	mg/kg	2	**23**	**23**	**0**	**23**	**21**	**9**	**25**	-	**n/a**	-	-	n/a	**29**	**36**	**22**
	Copper	mg/kg	5	**34**	**28**	**19**	**28**	**22**	**24**	**27**	-	**n/a**	-	-	n/a	**29**	**40**	**32**
	Lead	mg/kg	5	**40**	**27**	**39**	**27**	**36**	**29**	**25**	-	**n/a**	-	-	n/a	**21**	**30**	**35**
	Mercury	mg/kg	0.1	< 0.1	< 0.1	n/a	< 0.1	<0.1	n/a	< 0.1	-	n/a	-	-	n/a	< 0.1	< 0.1	n/a
	Nickel	mg/kg	2	**14**	**15**	**7**	**15**	**19**	**24**	**23**	-	**n/a**	-	-	n/a	**25**	**30**	**18**
	Zinc	mg/kg	5	**58**	**59**	**2**	**59**	**51**	**15**	**120**	-	**n/a**	-	-	n/a	**120**	**220**	**59**
TRH	TRH C6-C9 (F1)	mg/kg	10/20	<20	<20	n/a	<20	<10	n/a	<20	-	n/a	-	-	n/a	<20	<20	n/a
	TRH C10-C16 (F2)	mg/kg	50	<50	<50	n/a	<50	<50	n/a	<50	-	n/a	-	-	n/a	<50	<50	n/a
	TRH C16-C34 (F3)	mg/kg	100	<100	<100	n/a	<100	<100	n/a	<100	-	n/a	-	-	n/a	**1000**	<100	**181**
	TRH C34-C40 (F4)	mg/kg	100	<100	<100	n/a	<100	<100	n/a	<100	-	n/a	-	-	n/a	**180**	<100	**113**
BTEXN	Benzene	mg/kg	0.1/0.2	<0.1	<0.1	n/a	<0.1	<0.2	n/a	<0.1	-	n/a	-	-	n/a	<0.1	<0.1	n/a
	Toluene	mg/kg	0.1/0.5	<0.1	<0.1	n/a	<0.1	<0.5	n/a	<0.1	-	n/a	-	-	n/a	<0.1	<0.1	n/a
	Ethylbenzene	mg/kg	0.1/0.5	<0.1	<0.1	n/a	<0.1	<0.5	n/a	<0.1	-	n/a	-	-	n/a	<0.1	<0.1	n/a
	Total Xylene	mg/kg	0.3/0.5	<0.3	<0.3	n/a	<0.3	<0.5	n/a	<0.3	-	n/a	-	-	n/a	<0.3	<0.3	n/a
	Naphthalene	mg/kg	0.5/1	<0.5	<0.5	n/a	<0.5	<1	n/a	<0.5	-	n/a	-	-	n/a	<0.5	<0.5	n/a
PCB	Total PCB	mg/kg	0.1	-	-	n/a	-	-	n/a	-	<0.1	n/a	<0.1	<0.1	n/a	-	-	n/a
PAH	Naphthalene	mg/kg	0.5	<0.5	<0.5	n/a	<0.5	<0.5	n/a	<0.5	-	n/a	-	-	n/a	<0.5	<0.5	n/a
	Acenaphthylene	mg/kg	0.5	<0.5	<0.5	n/a	<0.5	<0.5	n/a	<0.5	-	n/a	-	-	n/a	<0.5	<0.5	n/a
	Acenaphthene	mg/kg	0.5	<0.5	<0.5	n/a	<0.5	<0.5	n/a	<0.5	-	n/a	-	-	n/a	<0.5	<0.5	n/a
	Fluorene	mg/kg	0.5	<0.5	<0.5	n/a	<0.5	<0.5	n/a	<0.5	-	n/a	-	-	n/a	<0.5	<0.5	n/a
	Phenanthrene	mg/kg	0.5	<0.5	<0.5	n/a	<0.5	<0.5	n/a	<0.5	-	n/a	-	-	n/a	<0.5	<0.5	n/a
	Anthracene	mg/kg	0.5	<0.5	<0.5	n/a	<0.5	<0.5	n/a	<0.5	-	n/a	-	-	n/a	<0.5	<0.5	n/a
	Fluoranthene	mg/kg	0.5	<0.5	<0.5	n/a	<0.5	<0.5	n/a	<0.5	-	n/a	-	-	n/a	<0.5	<0.5	n/a
	Pyrene	mg/kg	0.5	<0.5	<0.5	n/a	<0.5	<0.5	n/a	<0.5	-	n/a	-	-	n/a	<0.5	<0.5	n/a
	Benz(a)anthracene	mg/kg	0.5	<0.5	<0.5	n/a	<0.5	<0.5	n/a	<0.5	-	n/a	-	-	n/a	<0.5	<0.5	n/a
	Chrysene	mg/kg	0.5	<0.5	<0.5	n/a	<0.5	<0.5	n/a	<0.5	-	n/a	-	-	n/a	<0.5	<0.5	n/a
	Benzo(b+j)fluoranthene	mg/kg	0.5	<0.5	<0.5	n/a	<0.5	<0.5	n/a	<0.5	-	n/a	-	-	n/a	<0.5	<0.5	n/a
	Benzo(k)fluoranthene	mg/kg	0.5	<0.5	<0.5	n/a	<0.5	<0.5	n/a	<0.5	-	n/a	-	-	n/a	<0.5	<0.5	n/a
	Benzo(a)pyrene	mg/kg	0.5	<0.5	<0.5	n/a	<0.5	<0.5	n/a	<0.5	-	n/a	-	-	n/a	<0.5	<0.5	n/a
	Indeno(1,2,3,cd)pyrene	mg/kg	0.5	<0.5	<0.5	n/a	<0.5	<0.5	n/a	<0.5	-	n/a	-	-	n/a	<0.5	<0.5	n/a
	Dibenz(a,h)anthracene	mg/kg	0.5	<0.5	<0.5	n/a	<0.5	<0.5	n/a	<0.5	-	n/a	-	-	n/a	<0.5	<0.5	n/a
	Benzo(g,h,i)perylene	mg/kg	0.5	<0.5	<0.5	n/a	<0.5	<0.5	n/a	<0.5	-	n/a	-	-	n/a	<0.5	<0.5	n/a
	Total PAH	mg/kg	0.5	<0.5	<0.5	n/a	<0.5	<0.5	n/a	<0.5	-	n/a	-	-	n/a	<0.5	<0.5	n/a
	Benzo(a)pyrene TEQ (zero)	mg/kg	0.5	<0.5	<0.5	n/a	<0.5	<0.5	n/a	<0.5	-	n/a	-	-	n/a	<0.5	<0.5	n/a
	Benzo(a)pyrene TEQ (half LOR)	mg/kg	0.5	0.6	0.6	n/a	0.6	0.6	n/a	0.6	-	n/a	-	-	n/a	0.6	0.6	n/a
	Benzo(a)pyrene TEQ (LOR)	mg/kg	0.5	1.2	1.2	n/a	1.2	1.2	n/a	1.2	-	n/a	-	-	n/a	1.2	1.2	n/a
OCP	alpha-BHC	mg/kg	0.05/0.5	-	-	n/a	-	-	n/a	-	<0.5	n/a	<0.5	<0.05	n/a	-	-	n/a
	Hexachlorobenzene (HCB)	mg/kg	0.05/0.5	-	-	n/a	-	-	n/a	-	<0.5	n/a	<0.5	<0.05	n/a	-	-	n/a
	beta-BHC	mg/kg	0.05/0.5	-	-	n/a	-	-	n/a	-	<0.5	n/a	<0.5	<0.05	n/a	-	-	n/a
	gamma-BHC	mg/kg	0.05/0.5	-	-	n/a	-	-	n/a	-	<0.5	n/a	<0.5	<0.05	n/a	-	-	n/a
	delta-BHC	mg/kg	0.05/0.5	-	-	n/a	-	-	n/a	-	<0.5	n/a	<0.5	<0.05	n/a	-	-	n/a
	Heptachlor	mg/kg	0.05/0.5	-	-	n/a	-	-	n/a	-	<0.5	n/a	<0.5	<0.05	n/a	-	-	n/a
	Aldrin	mg/kg	0.05/0.5	-	-	n/a	-	-	n/a	-	<0.5	n/a	<0.5	<0.05	n/a	-	-	n/a
	Heptachlor epoxide	mg/kg	0.05/0.5	-	-	n/a	-	-	n/a	-	<0.5	n/a	<0.5	<0.05	n/a	-	-	n/a
	Total Chlordane (sum)	mg/kg	0.05/1	-	-	n/a	-	-	n/a	-	<1	n/a	<1	<0.05	n/a	-	-	n/a
	trans-Chlordane	mg/kg	0.05/0.5	-	-	n/a	-	-	n/a	-	<0.5	n/a	<0.5	<0.05	n/a	-	-	n/a
	alpha-Endosulfan	mg/kg	0.05/0.5	-	-	n/a	-	-	n/a	-	<0.5	n/a	<0.5	<0.05	n/a	-	-	n/a
	cis-Chlordane	mg/kg	0.05/0.5	-	-	n/a	-	-	n/a	-	<0.5	n/a	<0.5	<0.05	n/a	-	-	n/a
	Dieldrin	mg/kg	0.05/0.5	-	-	n/a	-	-	n/a	-	<0.5	n/a	<0.5	<0.05	n/a	-	-	n/a
	4,4`-DDE	mg/kg	0.05/0.5	-	-	n/a	-	-	n/a	-	<0.5	n/a	<0.5	<0.05	n/a	-	-	n/a
	Endrin	mg/kg	0.05/0.5	-	-	n/a	-	-	n/a	-	<0.5	n/a	<0.5	<0.05	n/a	-	-	n/a
	Endosulfan (sum)	mg/kg	0.05/0.5	-	-	n/a	-	-	n/a	-	<0.5	n/a	<0.5	<0.05	n/a	-	-	n/a
	beta-Endosulfan	mg/kg	0.05/0.5	-	-	n/a	-	-	n/a	-	<0.5	n/a	<0.5	<0.05	n/a	-	-	n/a
	4,4`-DDD	mg/kg	0.05/0.5	-	-	n/a	-	-	n/a	-	<0.5	n/a	<0.5	<0.05	n/a	-	-	n/a
	Endrin aldehyde	mg/kg	0.05/0.5	-	-	n/a	-	-	n/a	-	<0.5	n/a	<0.5	<0.05	n/a	-	-	n/a
	Endosulfan sulfate	mg/kg	0.05/0.5	-	-	n/a	-	-	n/a	-	<0.5	n/a	<0.5	<0.05	n/a	-	-	n/a
	4,4`-DDT	mg/kg	0.2/0.5	-	-	n/a	-	-	n/a	-	<0.5	n/a	<0.5	<0.2	n/a	-	-	n/a
	Endrin ketone	mg/kg	0.05/0.5	-	-	n/a	-	-	n/a	-	<0.5	n/a	<0.5	<0.05	n/a	-	-	n/a
	Methoxychlor	mg/kg	0.2/0.5	-	-	n/a	-	-	n/a	-	<0.5	n/a	<0.5	<0.2	n/a	-	-	n/a
	Sum of DDD + DDE + DDT	mg/kg	0.05/0.5	-	-	n/a	-	-	n/a	-	<0.5	n/a	<0.5	<0.05	n/a	-	-	n/a
	Sum of Aldrin + Dieldrin	mg/kg	0.05/0.5	-	-	n/a	-	-	n/a	-	<0.5	n/a	<0.5	<0.05	n/a	-	-	n/a

RPD exceeding criteria

\- Not analysed

Table 2. RPD Table 290-308 Aldington Road and 59-63 Abbotts Road, Kemps Creek NSW 13018-ER-1-1			Sample ID Reference Date Sampled Sample Matrix	BD3 S21-Oc38492 7/10/2021 SOIL	BT3 ES2137883003 7/10/2021 SOIL		TP63 0.0-0.1 S21-No36962 18/10/2021 SOIL	BD4 S21-No02584 18/10/2021 SOIL		BD4 S21-No02584 18/10/2021 SOIL	BT4 ES2139759001 18/10/2021 SOIL		TP120 0.0-0.1 S21-No02632 21/10/2021 SOIL	BD5 S21-No02657 21/10/2021 SOIL		BD5 21/10/2021 SOIL	BT5 ES2139759002 21/10/2021 SOIL	
Group	Analyte	Units	LOR			RPD (%)			RPD (%)			RPD (%)			RPD (%)			RPD (%)
Metals	Arsenic	mg/kg	5	**15.0**	<5	**143**	**8**	**11**	**38**	**11**	**9.0**	**20**	**5**	-	n/a	-	-	n/a
	Cadmium	mg/kg	0.4/1	< 0.4	<1	n/a	< 0.4	< 0.4	n/a	< 0.4	<1	n/a	< 0.4	-	n/a	-	-	n/a
	Chromium	mg/kg	2	**36**	**4**	**160**	**21**	**23**	**9**	**23**	**19**	**19**	**12**	-	n/a	-	-	n/a
	Copper	mg/kg	5	**40**	<5	**176**	**33**	**36**	**9**	**36**	**34**	**6**	**26**	-	n/a	-	-	n/a
	Lead	mg/kg	5	**30**	<5	**169**	**24**	**28**	**15**	**28**	**25**	**11**	**16**	-	n/a	-	-	n/a
	Mercury	mg/kg	0.1	< 0.1	<0.1	n/a	< 0.1	< 0.1	n/a	< 0.1	<0.1	n/a	< 0.1	-	n/a	-	-	n/a
	Nickel	mg/kg	2	**30**	<2	**187**	**17**	**20**	**16**	**20**	**17**	**16**	**9**	-	n/a	-	-	n/a
	Zinc	mg/kg	5	**220**	**11**	**181**	**66**	**71**	**24**	**71**	**53**	**29**	**360**	-	n/a	-	-	n/a
TRH	TRH C6-C9 (F1)	mg/kg	10/20	<20	<10	n/a	<20	<10	n/a	<10	<10	n/a	<10	-	n/a	-	-	n/a
	TRH C10-C16 (F2)	mg/kg	50	<50	<50	n/a	<50	<50	n/a	<50	<50	n/a	<50	-	n/a	-	-	n/a
	TRH C16-C34 (F3)	mg/kg	100	<100	<100	n/a	<100	<100	n/a	<100	<100	n/a	<100	-	n/a	-	-	n/a
	TRH C34-C40 (F4)	mg/kg	100	<100	<100	n/a	<100	<100	n/a	<100	<100	n/a	<100	-	n/a	-	-	n/a
BTEXN	Benzene	mg/kg	0.1/0.2	<0.1	<0.2	n/a	<0.1	<0.2	n/a	<0.2	<0.2	n/a	<0.2	-	n/a	-	-	n/a
	Toluene	mg/kg	0.1/0.5	<0.1	<0.5	n/a	<0.1	<0.5	n/a	<0.5	<0.5	n/a	<0.5	-	n/a	-	-	n/a
	Ethylbenzene	mg/kg	0.1/0.5	<0.1	<0.5	n/a	<0.1	<0.5	n/a	<0.5	<0.5	n/a	<0.5	-	n/a	-	-	n/a
	Total Xylene	mg/kg	0.3/0.5	<0.3	<0.5	n/a	<0.3	<0.5	n/a	<0.5	<0.5	n/a	<0.5	-	n/a	-	-	n/a
	Naphthalene	mg/kg	0.5/1	<0.5	<1	n/a	<0.5	<1	n/a	<1	<1	n/a	<1	-	n/a	-	-	n/a
PCB	Total PCB	mg/kg	0.1	-	<0.1	n/a	-	-	n/a	-	-	n/a	<0.1	<0.1	n/a	<0.1	<0.1	n/a
PAH	Naphthalene	mg/kg	0.5	<0.5	<0.5	n/a	<0.5	<0.5	n/a	<0.5	<0.5	n/a	<0.5	-	n/a	-	-	n/a
	Acenaphthylene	mg/kg	0.5	<0.5	<0.5	n/a	<0.5	<0.5	n/a	<0.5	<0.5	n/a	<0.5	-	n/a	-	-	n/a
	Acenaphthene	mg/kg	0.5	<0.5	<0.5	n/a	<0.5	<0.5	n/a	<0.5	<0.5	n/a	<0.5	-	n/a	-	-	n/a
	Fluorene	mg/kg	0.5	<0.5	<0.5	n/a	<0.5	<0.5	n/a	<0.5	<0.5	n/a	<0.5	-	n/a	-	-	n/a
	Phenanthrene	mg/kg	0.5	<0.5	<0.5	n/a	<0.5	<0.5	n/a	<0.5	<0.5	n/a	<0.5	-	n/a	-	-	n/a
	Anthracene	mg/kg	0.5	<0.5	<0.5	n/a	<0.5	<0.5	n/a	<0.5	<0.5	n/a	<0.5	-	n/a	-	-	n/a
	Fluoranthene	mg/kg	0.5	<0.5	<0.5	n/a	<0.5	<0.5	n/a	<0.5	<0.5	n/a	<0.5	-	n/a	-	-	n/a
	Pyrene	mg/kg	0.5	<0.5	<0.5	n/a	<0.5	<0.5	n/a	<0.5	<0.5	n/a	<0.5	-	n/a	-	-	n/a
	Benz(a)anthracene	mg/kg	0.5	<0.5	<0.5	n/a	<0.5	<0.5	n/a	<0.5	<0.5	n/a	<0.5	-	n/a	-	-	n/a
	Chrysene	mg/kg	0.5	<0.5	<0.5	n/a	<0.5	<0.5	n/a	<0.5	<0.5	n/a	<0.5	-	n/a	-	-	n/a
	Benzo(b+j)fluoranthene	mg/kg	0.5	<0.5	<0.5	n/a	<0.5	<0.5	n/a	<0.5	<0.5	n/a	<0.5	-	n/a	-	-	n/a
	Benzo(k)fluoranthene	mg/kg	0.5	<0.5	<0.5	n/a	<0.5	<0.5	n/a	<0.5	<0.5	n/a	<0.5	-	n/a	-	-	n/a
	Benzo(a)pyrene	mg/kg	0.5	<0.5	<0.5	n/a	<0.5	<0.5	n/a	<0.5	<0.5	n/a	<0.5	-	n/a	-	-	n/a
	Indeno(1.2.3.cd)pyrene	mg/kg	0.5	<0.5	<0.5	n/a	<0.5	<0.5	n/a	<0.5	<0.5	n/a	<0.5	-	n/a	-	-	n/a
	Dibenz(a.h)anthracene	mg/kg	0.5	<0.5	<0.5	n/a	<0.5	<0.5	n/a	<0.5	<0.5	n/a	<0.5	-	n/a	-	-	n/a
	Benzo(g.h.i)perylene	mg/kg	0.5	<0.5	<0.5	n/a	<0.5	<0.5	n/a	<0.5	<0.5	n/a	<0.5	-	n/a	-	-	n/a
	Total PAH	mg/kg	0.5	<0.5	<0.5	n/a	<0.5	<0.5	n/a	<0.5	<0.5	n/a	<0.5	-	n/a	-	-	n/a
	Benzo(a)pyrene TEQ (zero)	mg/kg	0.5	<0.5	<0.5	n/a	<0.5	<0.5	n/a	<0.5	<0.5	n/a	<0.5	-	n/a	-	-	n/a
	Benzo(a)pyrene TEQ (half LOR)	mg/kg	0.5	0.6	0.6	n/a	0.6	0.6	n/a	0.6	0.6	n/a	0.6	-	n/a	-	-	n/a
	Benzo(a)pyrene TEQ (LOR)	mg/kg	0.5	1.2	1.2	n/a	1.2	1.2	n/a	1.2	1.2	n/a	1.2	-	n/a	-	-	n/a
OCP	alpha-BHC	mg/kg	0.05/0.5	-	<0.05	n/a	-	-	n/a	-	-	n/a	<0.05	<0.05	n/a	<0.05	<0.05	n/a
	Hexachlorobenzene (HCB)	mg/kg	0.05/0.5	-	<0.05	n/a	-	-	n/a	-	-	n/a	<0.05	<0.05	n/a	<0.05	<0.05	n/a
	beta-BHC	mg/kg	0.05/0.5	-	<0.05	n/a	-	-	n/a	-	-	n/a	<0.05	<0.05	n/a	<0.05	<0.05	n/a
	gamma-BHC	mg/kg	0.05/0.5	-	<0.05	n/a	-	-	n/a	-	-	n/a	<0.05	<0.05	n/a	<0.05	<0.05	n/a
	delta-BHC	mg/kg	0.05/0.5	-	<0.05	n/a	-	-	n/a	-	-	n/a	<0.05	<0.05	n/a	<0.05	<0.05	n/a
	Heptachlor	mg/kg	0.05/0.5	-	<0.05	n/a	-	-	n/a	-	-	n/a	<0.05	<0.05	n/a	<0.05	<0.05	n/a
	Aldrin	mg/kg	0.05/0.5	-	<0.05	n/a	-	-	n/a	-	-	n/a	<0.05	<0.05	n/a	<0.05	<0.05	n/a
	Heptachlor epoxide	mg/kg	0.05/0.5	-	<0.05	n/a	-	-	n/a	-	-	n/a	<0.05	<0.05	n/a	<0.05	<0.05	n/a
	Total Chlordane (sum)	mg/kg	0.05/1	-	<0.05	n/a	-	-	n/a	-	-	n/a	<0.1	<0.1	n/a	<0.1	<0.05	n/a
	trans-Chlordane	mg/kg	0.05/0.5	-	<0.05	n/a	-	-	n/a	-	-	n/a	<0.05	<0.05	n/a	<0.05	<0.05	n/a
	alpha-Endosulfan	mg/kg	0.05/0.5	-	<0.05	n/a	-	-	n/a	-	-	n/a	<0.05	<0.05	n/a	<0.05	<0.05	n/a
	cis-Chlordane	mg/kg	0.05/0.5	-	<0.05	n/a	-	-	n/a	-	-	n/a	<0.05	<0.05	n/a	<0.05	<0.05	n/a
	Dieldrin	mg/kg	0.05/0.5	-	<0.05	n/a	-	-	n/a	-	-	n/a	<0.05	<0.05	n/a	<0.05	<0.05	n/a
	4.4'-DDE	mg/kg	0.05/0.5	-	<0.05	n/a	-	-	n/a	-	-	n/a	<0.05	<0.05	n/a	<0.05	<0.05	n/a
	Endrin	mg/kg	0.05/0.5	-	<0.05	n/a	-	-	n/a	-	-	n/a	<0.05	<0.05	n/a	<0.05	<0.05	n/a
	Endosulfan (sum)	mg/kg	0.05/0.5	-	<0.05	n/a	-	-	n/a	-	-	n/a	<0.05	<0.05	n/a	<0.05	<0.05	n/a
	beta-Endosulfan	mg/kg	0.05/0.5	-	<0.05	n/a	-	-	n/a	-	-	n/a	<0.05	<0.05	n/a	<0.05	<0.05	n/a
	4.4'-DDD	mg/kg	0.05/0.5	-	<0.05	n/a	-	-	n/a	-	-	n/a	<0.05	<0.05	n/a	<0.05	<0.05	n/a
	Endrin aldehyde	mg/kg	0.05/0.5	-	<0.05	n/a	-	-	n/a	-	-	n/a	<0.05	<0.05	n/a	<0.05	<0.05	n/a
	Endosulfan sulfate	mg/kg	0.05/0.5	-	<0.05	n/a	-	-	n/a	-	-	n/a	<0.05	<0.05	n/a	<0.05	<0.05	n/a
	4.4'-DDT	mg/kg	0.2/0.5	-	<0.2	n/a	-	-	n/a	-	-	n/a	<0.05	<0.05	n/a	<0.05	<0.2	n/a
	Endrin ketone	mg/kg	0.05/0.5	-	<0.05	n/a	-	-	n/a	-	-	n/a	<0.05	<0.05	n/a	<0.05	<0.05	n/a
	Methoxychlor	mg/kg	0.2/0.5	-	<0.2	n/a	-	-	n/a	-	-	n/a	<0.05	<0.05	n/a	<0.05	<0.2	n/a
	Sum of DDD + DDE + DDT	mg/kg	0.05/0.5	-	<0.05	n/a	-	-	n/a	-	-	n/a	<0.05	<0.05	n/a	<0.05	<0.05	n/a
	Sum of Aldrin + Dieldrin	mg/kg	0.05/0.5	-	<0.05	n/a	-	-	n/a	-	-	n/a	<0.05	<0.05	n/a	<0.05	<0.05	n/a

RPD exceeding criteria

\- Not analysed

Table 2. RPD Table 290-308 Aldington Road and 59-63 Abbotts Road, Kemps Creek NSW 13018-ER-1-1			Sample ID Reference Date Sampled Sample Matrix	TP27-0.0-0.2 S21-Oc38511 8/10/2021 SOIL	BD6 S21-Oc49312 22/11/2021 SOIL		BD6 S21-Oc49312 22/11/2021 SOIL	BT6 ES2138446001 22/10/2021 SOIL		SP1-1 S21-Oc38460 7/10/2021 SOIL	BD7 S21-Oc49313 22/10/2021 SOIL		BD7 S21-Oc49313 22/10/2021 SOIL	BT7 ES2138446002 22/10/2021 SOIL		TP50 0.0-0.1 S21-No02560 15/10/2021 SOIL	BD8 S21-Oc49314 22/10/2021 SOIL	
Group	Analyte	Units	LOR			RPD (%)			RPD (%)			RPD (%)			RPD (%)			RPD (%)
Metals	Arsenic	mg/kg	5	**9.9**	**6.6**	**40**	**6.6**	**7.0**	**6**	**3.3**	-	**n/a**	-	-	n/a	**11**	**6.5**	**51**
	Cadmium	mg/kg	0.4/1	< 0.4	< 0.4	n/a	< 0.4	<1	n/a	< 0.4	-	n/a	-	-	n/a	< 0.4	< 0.4	n/a
	Chromium	mg/kg	2	**20**	**15**	**29**	**15**	**16**	**6**	**10**	-	**n/a**	-	-	n/a	**25**	**14**	**56**
	Copper	mg/kg	5	**36**	**42**	**15**	**42**	**52**	**21**	**260**	-	**n/a**	-	-	n/a	**42**	**22**	**63**
	Lead	mg/kg	5	**25**	**20**	**22**	**20**	**22**	**10**	**12**	-	**n/a**	-	-	n/a	**34**	**19**	**57**
	Mercury	mg/kg	0.1	< 0.1	< 0.1	n/a	< 0.1	<0.1	n/a	< 0.1	-	n/a	-	-	n/a	< 0.1	< 0.1	n/a
	Nickel	mg/kg	2	**21**	**16**	**27**	**16**	**17**	**6**	**15**	-	**n/a**	-	-	n/a	**20**	**11**	**58**
	Zinc	mg/kg	5	**120**	**120**	**0**	**120**	**122**	**2**	**1000**	-	**n/a**	-	-	n/a	**170**	**70**	**83**
TRH	TRH C6-C9 (F1)	mg/kg	10/20	<20	<20	n/a	<20	<10	n/a	<20	-	n/a	-	-	n/a	<20	<20	n/a
	TRH C10-C16 (F2)	mg/kg	50	<50	<50	n/a	<50	<50	n/a	<50	-	n/a	-	-	n/a	<50	<50	n/a
	TRH C16-C34 (F3)	mg/kg	100	<100	**200.00**	**120**	**200.00**	<100	**120**	**430.00**	-	**n/a**	-	-	n/a	**170**	<100	n/a
	TRH C34-C40 (F4)	mg/kg	100	<100	<100	n/a	<100	<100	n/a	**180.00**	-	**n/a**	-	-	n/a	**190**	<100	n/a
BTEXN	Benzene	mg/kg	0.1/0.2	<0.1	<0.1	n/a	<0.1	<0.2	n/a	<0.1	-	n/a	-	-	n/a	<0.1	<0.1	n/a
	Toluene	mg/kg	0.1/0.5	<0.1	<0.1	n/a	<0.1	<0.5	n/a	<0.1	-	n/a	-	-	n/a	<0.1	<0.1	n/a
	Ethylbenzene	mg/kg	0.1/0.5	<0.1	<0.1	n/a	<0.1	<0.5	n/a	<0.1	-	n/a	-	-	n/a	<0.1	<0.1	n/a
	Total Xylene	mg/kg	0.3/0.5	<0.3	<0.3	n/a	<0.3	<0.5	n/a	<0.3	-	n/a	-	-	n/a	<0.3	<0.3	n/a
	Naphthalene	mg/kg	0.5/1	<0.5	<0.5	n/a	<0.5	<1	n/a	<0.5	-	n/a	-	-	n/a	<0.5	<0.5	n/a
PCB	Total PCB	mg/kg	0.1	-	-	n/a	-	-	n/a	<1	<1	n/a	<1	<0.1	n/a	<0.1	-	n/a
PAH	Naphthalene	mg/kg	0.5	<0.5	<0.5	n/a	<0.5	<0.5	n/a	<0.5	-	n/a	-	-	n/a	<0.5	<0.5	n/a
	Acenaphthylene	mg/kg	0.5	<0.5	<0.5	n/a	<0.5	<0.5	n/a	<0.5	-	n/a	-	-	n/a	<0.5	<0.5	n/a
	Acenaphthene	mg/kg	0.5	<0.5	<0.5	n/a	<0.5	<0.5	n/a	<0.5	-	n/a	-	-	n/a	<0.5	<0.5	n/a
	Fluorene	mg/kg	0.5	<0.5	<0.5	n/a	<0.5	<0.5	n/a	<0.5	-	n/a	-	-	n/a	<0.5	<0.5	n/a
	Phenanthrene	mg/kg	0.5	<0.5	<0.5	n/a	<0.5	<0.5	n/a	<0.5	-	n/a	-	-	n/a	<0.5	<0.5	n/a
	Anthracene	mg/kg	0.5	<0.5	<0.5	n/a	<0.5	<0.5	n/a	<0.5	-	n/a	-	-	n/a	<0.5	<0.5	n/a
	Fluoranthene	mg/kg	0.5	<0.5	<0.5	n/a	<0.5	<0.5	n/a	<0.5	-	n/a	-	-	n/a	<0.5	<0.5	n/a
	Pyrene	mg/kg	0.5	<0.5	<0.5	n/a	<0.5	<0.5	n/a	<0.5	-	n/a	-	-	n/a	<0.5	<0.5	n/a
	Benz(a)anthracene	mg/kg	0.5	<0.5	<0.5	n/a	<0.5	<0.5	n/a	<0.5	-	n/a	-	-	n/a	<0.5	<0.5	n/a
	Chrysene	mg/kg	0.5	<0.5	<0.5	n/a	<0.5	<0.5	n/a	<0.5	-	n/a	-	-	n/a	<0.5	<0.5	n/a
	Benzo(b+j)fluoranthene	mg/kg	0.5	<0.5	<0.5	n/a	<0.5	<0.5	n/a	<0.5	-	n/a	-	-	n/a	<0.5	<0.5	n/a
	Benzo(k)fluoranthene	mg/kg	0.5	<0.5	<0.5	n/a	<0.5	<0.5	n/a	<0.5	-	n/a	-	-	n/a	<0.5	<0.5	n/a
	Benzo(a)pyrene	mg/kg	0.5	<0.5	<0.5	n/a	<0.5	<0.5	n/a	<0.5	-	n/a	-	-	n/a	<0.5	<0.5	n/a
	Indeno(1.2.3.cd)pyrene	mg/kg	0.5	<0.5	<0.5	n/a	<0.5	<0.5	n/a	<0.5	-	n/a	-	-	n/a	<0.5	<0.5	n/a
	Dibenz(a.h)anthracene	mg/kg	0.5	<0.5	<0.5	n/a	<0.5	<0.5	n/a	<0.5	-	n/a	-	-	n/a	<0.5	<0.5	n/a
	Benzo(g.h.i)perylene	mg/kg	0.5	<0.5	<0.5	n/a	<0.5	<0.5	n/a	<0.5	-	n/a	-	-	n/a	<0.5	<0.5	n/a
	Total PAH	mg/kg	0.5	<0.5	<0.5	n/a	<0.5	<0.5	n/a	<0.5	-	n/a	-	-	n/a	<0.5	<0.5	n/a
	Benzo(a)pyrene TEQ (zero)	mg/kg	0.5	<0.5	<0.5	n/a	<0.5	<0.5	n/a	<0.5	-	n/a	-	-	n/a	<0.5	<0.5	n/a
	Benzo(a)pyrene TEQ (half LOR)	mg/kg	0.5	0.6	0.6	n/a	0.6	0.6	n/a	0.6	-	n/a	-	-	n/a	0.6	0.6	n/a
	Benzo(a)pyrene TEQ (LOR)	mg/kg	0.5	1.2	1.2	n/a	1.2	1.2	n/a	1.2	-	n/a	-	-	n/a	1.2	1.2	n/a
OCP	alpha-BHC	mg/kg	0.05/0.5	-	-	n/a	-	-	n/a	<0.5	<0.05	n/a	<0.5	<0.05	n/a	<0.5	-	n/a
	Hexachlorobenzene (HCB)	mg/kg	0.05/0.5	-	-	n/a	-	-	n/a	<0.5	<0.05	n/a	<0.5	<0.05	n/a	<0.5	-	n/a
	beta-BHC	mg/kg	0.05/0.5	-	-	n/a	-	-	n/a	<0.5	<0.05	n/a	<0.5	<0.05	n/a	<0.5	-	n/a
	gamma-BHC	mg/kg	0.05/0.5	-	-	n/a	-	-	n/a	<0.5	<0.05	n/a	<0.5	<0.05	n/a	<0.5	-	n/a
	delta-BHC	mg/kg	0.05/0.5	-	-	n/a	-	-	n/a	<0.5	<0.05	n/a	<0.5	<0.05	n/a	<0.5	-	n/a
	Heptachlor	mg/kg	0.05/0.5	-	-	n/a	-	-	n/a	<0.5	<0.05	n/a	<0.5	<0.05	n/a	<0.5	-	n/a
	Aldrin	mg/kg	0.05/0.5	-	-	n/a	-	-	n/a	<0.5	<0.05	n/a	<0.5	<0.05	n/a	<0.5	-	n/a
	Heptachlor epoxide	mg/kg	0.05/0.5	-	-	n/a	-	-	n/a	<0.5	<0.05	n/a	<0.5	<0.05	n/a	<0.5	-	n/a
	Total Chlordane (sum)	mg/kg	0.05/1	-	-	n/a	-	-	n/a	<1	<0.05	n/a	<1	<0.05	n/a	<1	-	n/a
	trans-Chlordane	mg/kg	0.05/0.5	-	-	n/a	-	-	n/a	<0.5	<0.05	n/a	<0.5	<0.05	n/a	<0.5	-	n/a
	alpha-Endosulfan	mg/kg	0.05/0.5	-	-	n/a	-	-	n/a	<0.5	<0.05	n/a	<0.5	<0.05	n/a	<0.5	-	n/a
	cis-Chlordane	mg/kg	0.05/0.5	-	-	n/a	-	-	n/a	<0.5	<0.05	n/a	<0.5	<0.05	n/a	<0.5	-	n/a
	Dieldrin	mg/kg	0.05/0.5	-	-	n/a	-	-	n/a	<0.5	<0.05	n/a	<0.5	<0.05	n/a	<0.5	-	n/a
	4.4'-DDE	mg/kg	0.05/0.5	-	-	n/a	-	-	n/a	<0.5	<0.05	n/a	<0.5	<0.05	n/a	<0.5	-	n/a
	Endrin	mg/kg	0.05/0.5	-	-	n/a	-	-	n/a	<0.5	<0.05	n/a	<0.5	<0.05	n/a	<0.5	-	n/a
	Endosulfan (sum)	mg/kg	0.05/0.5	-	-	n/a	-	-	n/a	<0.5	<0.05	n/a	<0.5	<0.05	n/a	<0.5	-	n/a
	beta-Endosulfan	mg/kg	0.05/0.5	-	-	n/a	-	-	n/a	<0.5	<0.05	n/a	<0.5	<0.05	n/a	<0.5	-	n/a
	4.4'-DDD	mg/kg	0.05/0.5	-	-	n/a	-	-	n/a	<0.5	<0.05	n/a	<0.5	<0.05	n/a	<0.5	-	n/a
	Endrin aldehyde	mg/kg	0.05/0.5	-	-	n/a	-	-	n/a	<0.5	<0.05	n/a	<0.5	<0.05	n/a	<0.5	-	n/a
	Endosulfan sulfate	mg/kg	0.05/0.5	-	-	n/a	-	-	n/a	<0.5	<0.05	n/a	<0.5	<0.05	n/a	<0.5	-	n/a
	4.4'-DDT	mg/kg	0.2/0.5	-	-	n/a	-	-	n/a	<0.5	<0.2	n/a	<0.5	<0.2	n/a	<0.5	-	n/a
	Endrin ketone	mg/kg	0.05/0.5	-	-	n/a	-	-	n/a	<0.5	<0.05	n/a	<0.5	<0.05	n/a	<0.5	-	n/a
	Methoxychlor	mg/kg	0.2/0.5	-	-	n/a	-	-	n/a	<0.5	<0.2	n/a	<0.5	<0.2	n/a	<0.5	-	n/a
	Sum of DDD + DDE + DDT	mg/kg	0.05/0.5	-	-	n/a	-	-	n/a	<0.5	<0.05	n/a	<0.5	<0.05	n/a	<0.5	-	n/a
	Sum of Aldrin + Dieldrin	mg/kg	0.05/0.5	-	-	n/a	-	-	n/a	<0.5	<0.05	n/a	<0.5	<0.05	n/a	<0.5	-	n/a

RPD exceeding criteria

- Not analysed

Table 2. RPD Table
290-308 Aldington Road and 59-63 Abbotts Road, Kemps Creek NSW
13018-ER-1-1

			Sample ID	BD8	BT8		TP54 0.0-0.1	BD9		BD9	BT9		TP125 0.0-0.1	BD10		BD10	BT10	
			Reference	S21-Oc49314	ES2138446003		S21-No02569	S21-Oc49315		S21-Oc49315	ES2138446004		S21-No02635	S21-Oc49316		S21-Oc49316	ES2138446005	
			Date Sampled	22/10/2021	22/10/2021		15/10/2021	22/10/2021		22/10/2021	22/10/2021		20/10/2021	22/10/2021		22/10/2021	22/10/2021	
			Sample Matrix	SOIL	SOIL		SOIL	SOIL		SOIL	SOIL		SOIL	SOIL		SOIL	SOIL	
Group	Analyte	Units	LOR			RPD (%)			RPD (%)			RPD (%)			RPD (%)			RPD (%)
Metals	Arsenic	mg/kg	5	**6.5**	**8.0**	**21**	**10**	-	n/a	-	-	n/a	**14**	**10.0**	**33**	**10.0**	**11.0**	**10**
	Cadmium	mg/kg	0.4/1	< 0.4	<1	n/a	< 0.4	-	n/a	-	-	n/a	< 0.4	< 0.4	n/a	< 0.4	<1	n/a
	Chromium	mg/kg	2	**14**	**17**	**19**	**17**	-	n/a	-	-	n/a	**21**	**16**	**27**	**16**	**16**	**0**
	Copper	mg/kg	5	**22**	**32**	**37**	**25**	-	n/a	-	-	n/a	**31**	**21**	**38**	**21**	**26**	**21**
	Lead	mg/kg	5	**19**	**24**	**23**	**22**	-	n/a	-	-	n/a	**25**	**17**	**38**	**17**	**20**	**16**
	Mercury	mg/kg	0.1	< 0.1	<0.1	n/a	< 0.1	-	n/a	-	-	n/a	< 0.1	< 0.1	n/a	< 0.1	<0.1	n/a
	Nickel	mg/kg	2	**11**	**13**	**17**	**14**	-	n/a	-	-	n/a	**23**	**15**	**42**	**15**	**18**	**18**
	Zinc	mg/kg	5	**70**	**82**	**16**	**69**	-	n/a	-	-	n/a	**63**	**39**	**47**	**39**	**42**	**7**
TRH	TRH C6-C9 (F1)	mg/kg	10/20	<20	<10	n/a	<20	-	n/a	-	-	n/a	<20	<20	n/a	<20	<10	n/a
	TRH C10-C16 (F2)	mg/kg	50	<50	<50	n/a	<50	-	n/a	-	-	n/a	<50	<50	n/a	<50	<50	n/a
	TRH C16-C34 (F3)	mg/kg	100	<100	<100	n/a	<100	-	n/a	-	-	n/a	<100	<100	n/a	<100	<100	n/a
	TRH C34-C40 (F4)	mg/kg	100	<100	<100	n/a	<100	-	n/a	-	-	n/a	<100	<100	n/a	<100	<100	n/a
BTEXN	Benzene	mg/kg	0.1/0.2	<0.1	<0.2	n/a	<0.1	-	n/a	-	-	n/a	<0.1	<0.1	n/a	<0.1	<0.2	n/a
	Toluene	mg/kg	0.1/0.5	<0.1	<0.5	n/a	<0.1	-	n/a	-	-	n/a	<0.1	<0.1	n/a	<0.1	<0.5	n/a
	Ethylbenzene	mg/kg	0.1/0.5	<0.1	<0.5	n/a	<0.1	-	n/a	-	-	n/a	<0.1	<0.1	n/a	<0.1	<0.5	n/a
	Total Xylene	mg/kg	0.3/0.5	<0.3	<0.5	n/a	<0.3	-	n/a	-	-	n/a	<0.3	<0.3	n/a	<0.3	<0.5	n/a
	Naphthalene	mg/kg	0.5/1	<0.5	<0.5	n/a	<0.5	-	n/a	-	-	n/a	<0.5	<0.5	n/a	<0.5	<0.1	n/a
PCB	Total PCB	mg/kg	0.1	-	-	n/a	<0.1	<0.1	n/a	<0.1	<0.1	n/a	<0.1	-	n/a	-	-	n/a
PAH	Naphthalene	mg/kg	0.5	<0.5	<0.5	n/a	<0.5	-	n/a	-	-	n/a	<0.5	<0.5	n/a	<0.5	<0.5	n/a
	Acenaphthylene	mg/kg	0.5	<0.5	<0.5	n/a	<0.5	-	n/a	-	-	n/a	<0.5	<0.5	n/a	<0.5	<0.5	n/a
	Acenaphthene	mg/kg	0.5	<0.5	<0.5	n/a	<0.5	-	n/a	-	-	n/a	<0.5	<0.5	n/a	<0.5	<0.5	n/a
	Fluorene	mg/kg	0.5	<0.5	<0.5	n/a	<0.5	-	n/a	-	-	n/a	<0.5	<0.5	n/a	<0.5	<0.5	n/a
	Phenanthrene	mg/kg	0.5	<0.5	<0.5	n/a	<0.5	-	n/a	-	-	n/a	<0.5	<0.5	n/a	<0.5	<0.5	n/a
	Anthracene	mg/kg	0.5	<0.5	<0.5	n/a	<0.5	-	n/a	-	-	n/a	<0.5	<0.5	n/a	<0.5	<0.5	n/a
	Fluoranthene	mg/kg	0.5	<0.5	<0.5	n/a	<0.5	-	n/a	-	-	n/a	<0.5	<0.5	n/a	<0.5	<0.5	n/a
	Pyrene	mg/kg	0.5	<0.5	<0.5	n/a	<0.5	-	n/a	-	-	n/a	<0.5	<0.5	n/a	<0.5	<0.5	n/a
	Benz(a)anthracene	mg/kg	0.5	<0.5	<0.5	n/a	<0.5	-	n/a	-	-	n/a	<0.5	<0.5	n/a	<0.5	<0.5	n/a
	Chrysene	mg/kg	0.5	<0.5	<0.5	n/a	<0.5	-	n/a	-	-	n/a	<0.5	<0.5	n/a	<0.5	<0.5	n/a
	Benzo(b+j)fluoranthene	mg/kg	0.5	<0.5	<0.5	n/a	<0.5	-	n/a	-	-	n/a	<0.5	<0.5	n/a	<0.5	<0.5	n/a
	Benzo(k)fluoranthene	mg/kg	0.5	<0.5	<0.5	n/a	<0.5	-	n/a	-	-	n/a	<0.5	<0.5	n/a	<0.5	<0.5	n/a
	Benzo(a)pyrene	mg/kg	0.5	<0.5	<0.5	n/a	<0.5	-	n/a	-	-	n/a	<0.5	<0.5	n/a	<0.5	<0.5	n/a
	Indeno(1.2.3.cd)pyrene	mg/kg	0.5	<0.5	<0.5	n/a	<0.5	-	n/a	-	-	n/a	<0.5	<0.5	n/a	<0.5	<0.5	n/a
	Dibenz(a.h)anthracene	mg/kg	0.5	<0.5	<0.5	n/a	<0.5	-	n/a	-	-	n/a	<0.5	<0.5	n/a	<0.5	<0.5	n/a
	Benzo(g.h.i)perylene	mg/kg	0.5	<0.5	<0.5	n/a	<0.5	-	n/a	-	-	n/a	<0.5	<0.5	n/a	<0.5	<0.5	n/a
	Total PAH	mg/kg	0.5	<0.5	<0.5	n/a	<0.5	-	n/a	-	-	n/a	<0.5	<0.5	n/a	<0.5	<0.5	n/a
	Benzo(a)pyrene TEQ (zero)	mg/kg	0.5	<0.5	<0.5	n/a	<0.5	-	n/a	-	-	n/a	<0.5	<0.5	n/a	<0.5	<0.5	n/a
	Benzo(a)pyrene TEQ (half LOR)	mg/kg	0.5	0.6	0.6	n/a	0.6	-	n/a	-	-	n/a	0.6	0.6	n/a	0.6	0.6	n/a
	Benzo(a)pyrene TEQ (LOR)	mg/kg	0.5	1.2	1.2	n/a	1.2	-	n/a	-	-	n/a	1.2	1.2	n/a	1.2	1.2	n/a
OCP	alpha-BHC	mg/kg	0.05/0.5	-	-	n/a	<0.05	<0.05	n/a	<0.05	<0.05	n/a	<0.05	-	n/a	-	-	n/a
	Hexachlorobenzene (HCB)	mg/kg	0.05/0.5	-	-	n/a	<0.05	<0.05	n/a	<0.05	<0.05	n/a	<0.05	-	n/a	-	-	n/a
	beta-BHC	mg/kg	0.05/0.5	-	-	n/a	<0.05	<0.05	n/a	<0.05	<0.05	n/a	<0.05	-	n/a	-	-	n/a
	gamma-BHC	mg/kg	0.05/0.5	-	-	n/a	<0.05	<0.05	n/a	<0.05	<0.05	n/a	<0.05	-	n/a	-	-	n/a
	delta-BHC	mg/kg	0.05/0.5	-	-	n/a	<0.05	<0.05	n/a	<0.05	<0.05	n/a	<0.05	-	n/a	-	-	n/a
	Heptachlor	mg/kg	0.05/0.5	-	-	n/a	<0.05	<0.05	n/a	<0.05	<0.05	n/a	<0.05	-	n/a	-	-	n/a
	Aldrin	mg/kg	0.05/0.5	-	-	n/a	<0.05	<0.05	n/a	<0.05	<0.05	n/a	<0.05	-	n/a	-	-	n/a
	Heptachlor epoxide	mg/kg	0.05/0.5	-	-	n/a	<0.05	<0.05	n/a	<0.05	<0.05	n/a	<0.05	-	n/a	-	-	n/a
	Total Chlordane (sum)	mg/kg	0.05/1	-	-	n/a	<0.05	<0.05	n/a	<0.05	<0.05	n/a	<0.05	-	n/a	-	-	n/a
	trans-Chlordane	mg/kg	0.05/0.5	-	-	n/a	<0.05	<0.05	n/a	<0.05	<0.05	n/a	<0.05	-	n/a	-	-	n/a
	alpha-Endosulfan	mg/kg	0.05/0.5	-	-	n/a	<0.05	<0.05	n/a	<0.05	<0.05	n/a	<0.05	-	n/a	-	-	n/a
	cis-Chlordane	mg/kg	0.05/0.5	-	-	n/a	<0.05	<0.05	n/a	<0.05	<0.05	n/a	<0.05	-	n/a	-	-	n/a
	Dieldrin	mg/kg	0.05/0.5	-	-	n/a	<0.05	<0.05	n/a	<0.05	<0.05	n/a	<0.05	-	n/a	-	-	n/a
	4.4'-DDE	mg/kg	0.05/0.5	-	-	n/a	<0.05	<0.05	n/a	<0.05	<0.05	n/a	<0.05	-	n/a	-	-	n/a
	Endrin	mg/kg	0.05/0.5	-	-	n/a	<0.05	<0.05	n/a	<0.05	<0.05	n/a	<0.05	-	n/a	-	-	n/a
	Endosulfan (sum)	mg/kg	0.05/0.5	-	-	n/a	<0.05	<0.05	n/a	<0.05	<0.05	n/a	<0.05	-	n/a	-	-	n/a
	beta-Endosulfan	mg/kg	0.05/0.5	-	-	n/a	<0.05	<0.05	n/a	<0.05	<0.05	n/a	<0.05	-	n/a	-	-	n/a
	4.4'-DDD	mg/kg	0.05/0.5	-	-	n/a	<0.05	<0.05	n/a	<0.05	<0.05	n/a	<0.05	-	n/a	-	-	n/a
	Endrin aldehyde	mg/kg	0.05/0.5	-	-	n/a	<0.05	**0.08**	**105**	**0.08**	<0.05	**105**	<0.05	-	n/a	-	-	n/a
	Endosulfan sulfate	mg/kg	0.05/0.5	-	-	n/a	<0.05	<0.05	n/a	<0.05	<0.05	n/a	<0.05	-	n/a	-	-	n/a
	4.4'-DDT	mg/kg	0.2/0.5	-	-	n/a	<0.2	<0.2	n/a	<0.2	<0.2	n/a	<0.2	-	n/a	-	-	n/a
	Endrin ketone	mg/kg	0.05/0.5	-	-	n/a	<0.05	<0.05	n/a	<0.05	<0.05	n/a	<0.05	-	n/a	-	-	n/a
	Methoxychlor	mg/kg	0.2/0.5	-	-	n/a	<0.2	<0.2	n/a	<0.2	<0.2	n/a	<0.2	-	n/a	-	-	n/a
	Sum of DDD + DDE + DDT	mg/kg	0.05/0.5	-	-	n/a	<0.05	<0.05	n/a	<0.05	<0.05	n/a	<0.05	-	n/a	-	-	n/a
	Sum of Aldrin + Dieldrin	mg/kg	0.05/0.5	-	-	n/a	<0.05	<0.05	n/a	<0.05	<0.05	n/a	<0.05	-	n/a	-	-	n/a

RPD exceeding criteria
\- Not analysed

Table 3. Dam Water Analysis
290-308 Aldington Road and 59-63 Abbotts Road, Kemps Creek NSW
Water Results & Adopted Site Criteria
13546-ER-2-1

							Sample ID	SW01	SW02	SW03	SW04	SW05	SW06	SW07	SW08	SW09	SW10	SW11	SW12	SW13	SW14	SW15	SW16	SW17	SW18	SW19	SW20
							Reference	S21-Oc38469	S21-Oc38470	S21-Oc38471	S21-Oc38472	S21-Oc38473	S21-Oc38474	S21-Oc38508	S21-Oc38509	S21-No02556	S21-No02557	S21-No02572	S21-No02573	S21-No02593	S21-No02594	S21-No02603	S21-No02604	S21-No02649	S21-No02650	S21-No02651	S21-No02652
							Date Sampled	7/10/2021	7/10/2021	7/10/2021	7/10/2021	7/10/2021	7/10/2021	13/10/2021	13/10/2021	15/10/2021	15/10/2021	18/10/2021	18/10/2021	18/10/2021	18/10/2021	19/10/2021	19/10/2021	21/10/2021	21/10/2021	21/10/2021	21/10/2021
							Sample Matrix	Water	Water	Water	Water	Water	Water	Water	Water	Water	Water	Water	Water	Water	Water	Water	Water	Water	Water	Water	Water
Group	Analyte	Units	PQL	Australian & New Zealand Guidelines for Fresh & Marine Water Quality (2000) 95% Level of Species Protection Guideline Value	ANZECC & ARMCANZ (2000) Recreational Water Quality (Secondary Contact)	Australian & New Zealand Guidelines for Fresh & Marine Water Quality (2000) Primary Industries — Rationale and Background Information	Data Set Minimum	Data Set Maximum																				
Metals	Arsenic, As	ug/L	1	13	-	-	2	31	4	22	6	13	2	6	9	12	3	29	13	31	3	3	2	3	31	7	2	6
	Cadmium, Cd	ug/L	0.2	0.2	-	-	<0.2	0.8	0.2	0.5	<0.2	<0.2	<0.2	0.3	<0.2	<0.2	<0.2	0.3	<0.2	0.4	<0.2	<0.2	<0.2	<0.2	0.8	<0.2	<0.2	<0.2
	Chromium, Cr	ug/L	1	1	-	-	1	130	14	100	17	53	2	24	18	23	6	92	50	110	3	3	2	1	130	7	2	8
	Copper, Cu	ug/L	1	1.4	-	-	6	240	41	180	36	87	7	61	36	57	10	210	110	200	11	7	7	6	240	20	7	21
	Lead, Pb	ug/L	1	3.4	-	-	4	230	35	140	30	75	5	90	35	60	6	180	93	170	7	4	6	6	230	21	5	15
	Mercury (Inorganic)	ug/L	0.1	0.6	-	-	<0.1	0.5	<0.1	0.4	<0.1	0.2	<0.1	0.1	<0.1	<0.1	<0.1	0.1	<0.1	0.2	<0.1	<0.1	<0.1	<0.1	0.5	<0.1	<0.1	<0.1
	Nickel, Ni	ug/L	1	11	-	-	3	110	12	64	15	42	4	32	21	28	6	78	68	100	7	4	3	3	110	10	2	12
	Zinc, Zn	ug/L	1	8	-	-	10	1000	91	520	68	180	19	150	69	120	20	520	220	1500	25	20	24	21	510	38	10	44
PAH	Acenaphthene	ug/L	1	-	-	-	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
	Acenaphthylene	ug/L	1	-	-	-	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
	Anthracene	ug/L	1	0.4	-	-	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
	Benzo(a)anthracene	ug/L	1	-	-	-	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
	Benzo(a)pyrene	ug/L	1	0.2	-	-	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
	Benzo(bkj)fluoranthene	ug/L	1	-	-	-	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
	Benzo(ghi)perylene	ug/L	1	-	-	-	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
	Benzo(k)fluoranthene	ug/L	1	-	-	-	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
	Chrysene	ug/L	1	-	-	-	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
	Dibenzo(ah)anthracene	ug/L	1	-	-	-	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
	Fluoranthene	ug/L	1	1.4	-	-	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
	Fluorene	ug/L	1	-	-	-	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
	Indeno(1,2,3-cd)pyrene	ug/L	1	-	-	-	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
	Naphthalene	ug/L	1	16	-	-	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
	Phenanthrene	ug/L	1	2	-	-	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
	Pyrene	ug/L	1	-	-	-	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
	Total PAH	ug/L	1	-	-	-	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
TRH	TRH >C10-C16	mg/L	0.05	-	-	-	< 0.05	0.91	0.91	0.27	0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	0.45	< 0.05	0.18	0.16	< 0.05	< 0.05	0.07
	TRH >C10-C16 less Naphthalene (F2)	mg/L	0.05	-	-	-	< 0.05	0.91	0.91	0.27	0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	0.45	< 0.05	0.18	0.16	< 0.05	< 0.05	0.07
	TRH >C10-C40 (total)*	mg/L	0.10	-	-	-	< 0.1	1.61	1.61	0.87	0.65	0.6	0.1	0.1	0.2	< 0.1	< 0.1	0.3	< 0.1	< 0.1	0.1	1.05	0.2	0.48	0.76	0.2	< 0.1	0.27
	TRH >C16-C34	mg/L	0.10	-	-	-	< 0.1	0.6	0.6	0.5	0.5	0.4	0.1	0.1	0.2	< 0.1	< 0.1	0.2	< 0.1	< 0.1	0.1	0.6	0.2	0.3	0.6	0.2	< 0.1	0.2
	TRH >C34-C40	mg/L	0.10	-	-	-	< 0.1	0.2	0.1	0.1	0.1	0.2	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
	TRH C10-C14	mg/L	0.05	-	-	-	< 0.05	0.41	0.12	0.07	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	0.41	< 0.05	0.19	0.21	< 0.05	< 0.05	0.11
	TRH C10-C36 (Total)	mg/L	0.05	-	-	-	< 0.05	1.42	1.42	0.67	0.6	0.2	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	0.3	< 0.1	< 0.1	0.1	1.21	0.3	0.59	0.91	0.2	< 0.1	0.21
	TRH C15-C28	mg/L	0.10	-	-	-	< 0.1	1.1	1.1	0.5	0.4	0.2	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	0.1	< 0.1	< 0.1	< 0.1	0.6	0.2	0.2	0.4	0.2	< 0.1	0.1
	TRH C29-C36	mg/L	0.10	-	-	-	< 0.1	0.2	0.2	0.1	0.2	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	0.2	< 0.1	< 0.1	0.1	0.2	0.1	0.2	0.2	< 0.1	< 0.1	< 0.1
	TRH C6-C10	mg/L	0.02	-	-	-	< 0.02	0.03	< 0.02	0.03	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02
	TRH C6-C10 less BTEX (F1)	mg/L	0.02	-	-	-	< 0.02	0.03	< 0.02	0.03	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02
	TRH C6-C9	mg/L	0.02	-	-	-	< 0.02	0.03	< 0.02	0.03	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02
BTEX	Benzene	ug/L	1	950	-	-	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
	Ethylbenzene	ug/L	1	80	-	-	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
	m/p-xylene	ug/L	2	275	-	-	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
	o-xylene	ug/L	1	350	-	-	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
	Toluene	ug/L	1	180	-	-	<1	2	2	2	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
	Total Xylenes	ug/L	3	-	-	-	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3
OCP	4,4 - DDD	ug/L	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	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
	4,4 - DDE	ug/L	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	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
	4,4 - DDT	ug/L	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	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
	a - BHC	ug/L	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	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
	Aldrin	ug/L	0.2	1	-	-	<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	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
	Aldrin + Dieldrin (total)	ug/L	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	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
	b - BHC	ug/L	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	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
	Chlordanes (total)	ug/L	0.2	80	-	-	<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	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
	d - BHC	ug/L	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	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
	DDT + DDE + DDD (total)	ug/L	2	-	-	-	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
	Dieldrin	ug/L	0.2	10	-	-	<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	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
	Endosulfan 1	ug/L	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	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
	Endosulfan 2	ug/L	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	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
	Endosulfan sulphate	ug/L	0.2	200	-	-	<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	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
	Endrin	ug/L	0.2	200	-	-	<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	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
	Endrin Aldehyde	ug/L	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	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
	Endrin Ketone	ug/L	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	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
	g-BHC (Lindane)	ug/L	0.2	200	-	-	<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	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
	Heptachlor	ug/L	0.2	90	-	-	<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	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
	Heptachlor epoxide	ug/L	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	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
	Hexachlorobenzene	ug/L	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	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
	Methoxychlor	ug/L	0.2	5	-	-	<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	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
	Toxaphene	ug/L	5	200	-	-	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
	Vic EPA WRG 621 OCP (total)	ug/L	2	-	-	-	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
	Vic EPA WRG 621 Other OCP (total)	ug/L	2	-	-	-	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
PCB	Aroclor-1016	ug/L	0.005	-	-	-	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
	Aroclor-1221	ug/L	0.005	-	-	-	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
	Aroclor-1232	ug/L	0.005	-	-	-	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
	Aroclor-1242	ug/L	0.005	600	-	-	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
	Aroclor-1248	ug/L	0.005	-	-	-	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
	Aroclor-1254	ug/L	0.005	30	-	-	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
	Aroclor-1260	ug/L	0.005	-	-	-	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
	Total PCB*	ug/L	0.005	-	-	-	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
Microbiological	Total coliforms	mpn/100ml	100	-	-	-	1700	1700	17000	1700	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	E. Coli	mpn/100ml	100	-	230	-	<100	<100	<100	<100	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Thermotolerant coliforms	mpn/100ml	100	-	1000	-	<100	<100	<100	<100	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Nutrients	Ammonia (as N)	mg/L	0.01	0.9	-	-	0.11	0.13	0.13	0.11	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Nitrate & Nitrite (as N)	mg/L	0.05	-	-	100	0.1	0.11	0.11	0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Nitrate (as N)	mg/L	0.02	-	-	100	0.1	0.1	0.1	0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Nitrite (as N)	mg/L	0.02	-	-	0.1	< 0.02	< 0.02	< 0.02	< 0.02	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Phosphate total (as P)	mg/L	0.01	-	-	0.1	0.52	1.5	1.5	0.82	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Total Kjeldahl Nitrogen (as N)	mg/L	0.20	-	-	-	4.7	12	12	4.7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Total Nitrogen (as N)*	mg/L	0.20	-	-	125	4.8	12.11	12.11	4.8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Highlighted concentration exceeds the adopted site criteria - Australian & New Zealand Guidelines for Fresh & Marine Water Quality (2019) 95% species protection guideline value
Highlighted concentration exceeds the adopted site criteria - ANZECC & ARMCANZ (2000) Recreational Water Quality (Secondary Contact)
Highlighted concentration exceeds the adopted site criteria - Australian and New Zealand Guidelines for Fresh and Marine Water Quality - Primary Industries — Rationale and Background Information
- No published criteria or sample not analysed
NL Not Limiting

Table 4. Soil Analysis
290-308 Aldington Road and 59-63 Abbotts Road, Kemps Creek NSW
Soil Results & Adopted Site Criteria
13546-ER-2-1

Group	Analyte	Units	PQL	Screening Levels for Direct Contact (mg/kg) - CRC Care 2011: HSL - D Commercial/Industrial	Inhalation / Vapour Intrusion HSLs (mg/kg) - NEPC 2013 (CLAY): HSL - D Commercial/Industrial 0 m to <1 m	Management Limits for TPH Fractions F1 - F4 in soil (mg/Kg) - NEPC 2013: Commercial and Industrial (fine)	Health Investigation Levels for Soil Contaminants - NEPM 2013: Commercial/Industrial D	Use and Disposal of Biosolids Products (NSW EPA 2000): Stabilisation Grade A Microbiological Standards	Data Set Minimum	Data Set Maximum
Metals	Arsenic, As	mg/kg	2	-	-	-	3000	-	2.8	18
	Cadmium, Cd	mg/kg	0.4	-	-	-	900	-	<0.4	<0.4
	Chromium, Cr	mg/kg	5	-	-	-	3600	-	6.5	34
	Copper, Cu	mg/kg	5	-	-	-	240000	-	11	84
	Lead, Pb	mg/kg	5	-	-	-	1500	-	8.5	44
	Mercury (inorganic)	mg/kg	0.1	-	-	-	730	-	<0.1	<0.1
	Nickel, Ni	mg/kg	5	-	-	-	6000	-	8.5	32
	Zinc, Zn	mg/kg	5	-	-	-	400000	-	30	590
PAH	Acenaphthene	mg/kg	0.5	-	-	-	-	-	<0.5	0.8
	Acenaphthylene	mg/kg	0.5	-	-	-	-	-	<0.5	0.6
	Anthracene	mg/kg	0.5	-	-	-	-	-	<0.5	0.7
	Benzo(a)anthracene	mg/kg	0.5	-	-	-	-	-	<0.5	0.6
	Benzo(a)pyrene	mg/kg	0.5	-	-	-	-	-	<0.5	<0.5
	Benzo(a)pyrene TEQ (lower bound)	mg/kg	0.5	-	-	-	40	-	<0.5	<0.5
	Benzo(a)pyrene TEQ (medium bound)	mg/kg	0.6	-	-	-	40	-	0.6	0.7
	Benzo(a)pyrene TEQ (upper bound)	mg/kg	1.2	-	-	-	40	-	1.2	1.3
	Benzo(b&j)fluoranthene	mg/kg	0.5	-	-	-	-	-	<0.5	0.5
	Benzo(ghi)perylene	mg/kg	0.5	-	-	-	-	-	<0.5	<0.5
	Benzo(k)fluoranthene	mg/kg	0.5	-	-	-	-	-	<0.5	0.8
	Chrysene	mg/kg	0.5	-	-	-	-	-	<0.5	1
	Dibenzo(ah)anthracene	mg/kg	0.5	-	-	-	-	-	<0.5	<0.5
	Fluoranthene	mg/kg	0.5	-	-	-	-	-	<0.5	0.7
	Fluorene	mg/kg	0.5	-	-	-	-	-	<0.5	0.8
	Indeno(1,2,3-cd)pyrene	mg/kg	0.5	-	-	-	-	-	<0.5	0.6
	Naphthalene	mg/kg	0.5	11,000	-	-	-	-	<0.5	0.5
	Phenanthrene	mg/kg	0.5	-	-	-	-	-	<0.5	0.7
	Pyrene	mg/kg	0.5	-	-	-	-	-	<0.5	0.8
	Total PAH	mg/kg	0.5	-	-	-	4000	-	<0.5	8.3
TRH	TRH >C10-C16	mg/kg	50	-	-	-	-	-	<50	51
	TRH >C10-C16 less Naphthalene (F2)	mg/kg	50	20000	NL	1000	-	-	<50	51
	TRH >C10-C40 (total)*	mg/kg	100	-	-	-	-	-	<100	1350
	TRH >C16-C34 (F3)	mg/kg	100	27000	-	5000	-	-	<100	560
	TRH >C34-C40 (F4)	mg/kg	100	38,000	-	10000	-	-	<100	790
	TRH C10-C14	mg/kg	20	-	-	-	-	-	<20	<20
	TRH C10-C36 (Total)	mg/kg	50	-	-	-	-	-	<50	730
	TRH C15-C28	mg/kg	50	-	-	-	-	-	<50	210
	TRH C29-C36	mg/kg	50	-	-	-	-	-	<50	520
	TRH C6-C10	mg/kg	20	26,000	-	-	-	-	<20	<20
	TRH C6-C10 less BTEX (F1)	mg/kg	20	-	310	800	-	-	<20	<20
	TRH C6-C9	mg/kg	20	-	-	-	-	-	<20	<20
BTEX	Benzene	mg/kg	0.1	430	4	-	-	-	<0.1	<0.1
	Ethylbenzene	mg/kg	0.1	27000	NL	-	-	-	<0.1	<0.1
	m/p-xylene	mg/kg	0.2	-	-	-	-	-	<0.2	<0.2
	o-xylene	mg/kg	0.1	-	-	-	-	-	<0.1	<0.1
	Toluene	mg/kg	0.1	99000	NL	-	-	-	<0.1	<0.1
	Total Xylenes	mg/kg	0.3	81000	NL	-	-	-	<0.3	<0.3
OCP	4.4 - DDD	mg/kg	0.05	-	-	-	-	-	<0.05	<0.05
	4.4 - DDE	mg/kg	0.05	-	-	-	-	-	<0.05	<0.05
	4.4 - DDT	mg/kg	0.05	-	-	-	-	-	<0.05	<0.05
	a - BHC	mg/kg	0.05	-	-	-	-	-	<0.05	<0.05
	Aldrin	mg/kg	0.05	-	-	-	-	-	<0.05	<0.05
	Aldrin + Dieldrin (total)	mg/kg	0.05	-	-	-	45	-	<0.05	<0.05
	b - BHC	mg/kg	0.05	-	-	-		-	<0.05	<0.05
	Chlordanes (total)	mg/kg	0.1	-	-	-	530	-	<0.1	<0.1
	d - BHC	mg/kg	0.05	-	-	-		-	<0.05	<0.05
	DDT + DDE + DDD (total)	mg/kg	0.05	-	-	-	3600	-	<0.05	<0.05
	Dieldrin	mg/kg	0.05	-	-	-		-	<0.05	<0.05
	Endosulfan 1	mg/kg	0.05	-	-	-	2000	-	<0.05	<0.05
	Endosulfan 2	mg/kg	0.05	-	-	-	2000	-	<0.05	<0.05
	Endosulfan sulphate	mg/kg	0.05	-	-	-	2000	-	<0.05	<0.05
	Endrin	mg/kg	0.05	-	-	-	100	-	<0.05	<0.05
	Endrin Aldehyde	mg/kg	0.05	-	-	-	-	-	<0.05	<0.05
	Endrin Ketone	mg/kg	0.05	-	-	-	-	-	<0.05	<0.05
	g-BHC (Lindane)	mg/kg	0.05	-	-	-	-	-	<0.05	<0.05
	Heptachlor	mg/kg	0.05	-	-	-	50	-	<0.05	<0.05
	Heptachlor epoxide	mg/kg	0.05	-	-	-	-	-	<0.05	<0.05
	Hexachlorobenzene	mg/kg	0.05	-	-	-	80	-	<0.05	<0.05
	Methoxychlor	mg/kg	0.05	-	-	-	-	-	<0.05	<0.05
	Toxaphene	mg/kg	0.5	-	-	-	160	-	<0.5	<0.5
	Vic EPA IWRG 621 OCP 9total)	mg/kg	0.1	-	-	-	-	-	<0.1	<0.1
	Vic EPA IWRG 621 Other OCP (total)	mg/kg	0.1	-	-	-	-	-	<0.1	<0.1
PCB	Aroclor-1016	mg/kg	0.1	-	-	-	-	-	<0.1	<0.1
	Aroclor-1221	mg/kg	0.1	-	-	-	-	-	<0.1	<0.1
	Aroclor-1232	mg/kg	0.1	-	-	-	-	-	<0.1	<0.1
	Aroclor-1242	mg/kg	0.1	-	-	-	-	-	<0.1	<0.1
	Aroclor-1248	mg/kg	0.1	-	-	-	-	-	<0.1	<0.1
	Aroclor-1254	mg/kg	0.1	-	-	-	-	-	<0.1	<0.1
	Aroclor-1260	mg/kg	0.1	-	-	-	-	-	<0.1	<0.1
	Total PCB*	mg/kg	0.1	-	-	-	7	-	<0.1	<0.1
Microbiological	Total coliforms	MPN/g	10	-	-	-	-	1000	<10	>24000
	E. Coli	MPN/g	10	-	-	-	-	100	<10	<10
	Thermotolerant coliforms	MPN/g	10	-	-	-	-	1000	<10	10
Nutrients	Ammonia (as N)	mg/kg	5	-	-	-	-	-	<5	3300
	Nitrate & Nitrite (as N)	mg/kg	5	-	-	-	-	-	5	11000
	Nitrate (as N)	mg/kg	5	-	-	-	-	-	<5	11000
	Nitrite (as N)	mg/kg	5	-	-	-	-	-	<5	<5
	Phosphate total (as P)	mg/kg	5	-	-	-	-	-	460	11000
	Total Kjeldahl Nitrogen (as N)	mg/kg	10	-	-	-	-	-	32	4600
	Total Nitrogen (as N)*	mg/kg	10	-	-	-	-	-	38.8	12700

Sample ID	TP01 0.0-0.2	TP02 0.0-0.2	TP03 0.0-0.2	TP04 0.0-0.1	TP05 0.0-0.1	TP06 0.0-0.2	TP07 0.0-0.2	TP08 0.0-0.2	TP09 0.0-0.2	TP10 0.0-0.2	TP11 0.0-0.1	TP12 0.0-0.1	TP13-0.0-0.2	TP14 0.0-0.2	TP15 0.0-0.2
Reference	S21-Oc38427	S21-Oc38428	S21-Oc38429	S21-Oc38430	S21-Oc38431	S21-Oc38432	S21-Oc38433	S21-Oc38434	S21-Oc38435	S21-Oc38436	S21-Oc38437	S21-Oc38438	S21-Oc38510	S21-Oc38439	S21-Oc38440
Date Sampled	6/10/2021	6/10/2021	6/10/2021	6/10/2021	6/10/2021	6/10/2021	6/10/2021	6/10/2021	6/10/2021	6/10/2021	6/10/2021	6/10/2021	8/10/2021	6/10/2021	6/10/2021
Sample Matrix	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil
Arsenic, As	9.5	9.8	8.1	9.8	10	9.7	6	8.8	4	3.7	8.2	6.4	11	9.1	17
Cadmium, Cd	< 0.4	< 0.4	< 0.4	< 0.4	< 0.4	< 0.4	< 0.4	< 0.4	< 0.4	< 0.4	< 0.4	< 0.4	< 0.4	< 0.4	< 0.4
Chromium, Cr	21	21	22	17	28	19	14	18	10	16	24	18	19	23	15
Copper, Cu	32	31	18	46	36	32	17	22	18	11	33	40	25	58	44
Lead, Pb	20	20	26	28	15	23	19	24	15	15	20	16	22	27	29
Mercury (inorganic)	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Nickel, Ni	22	22	10	25	24	22	9.5	15	8.5	8.9	19	16	11	23	31
Zinc, Zn	89	83	39	92	78	99	590	95	130	30	63	74	67	180	100
Acenaphthene	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Acenaphthylene	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Anthracene	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Benzo(a)anthracene	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Benzo(a)pyrene	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Benzo(a)pyrene TEQ (lower bound)	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Benzo(a)pyrene TEQ (medium bound)	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6
Benzo(a)pyrene TEQ (upper bound)	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2
Benzo(b&j)fluoranthene	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Benzo(ghi)perylene	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Benzo(k)fluoranthene	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Chrysene	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Dibenzo(ah)anthracene	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Fluoranthene	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Fluorene	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Indeno(1,2,3-cd)pyrene	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Naphthalene	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Phenanthrene	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Pyrene	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Total PAH	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
TRH >C10-C16	< 50	< 50	< 50	< 50	< 50	< 50	< 50	< 50	< 50	51	< 50	< 50	< 50	< 50	< 50
TRH >C10-C16 less Naphthalene (F2)	< 50	< 50	< 50	< 50	< 50	< 50	< 50	< 50	< 50	51	< 50	< 50	< 50	< 50	< 50
TRH >C10-C40 (total)*	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	351	< 100	< 100	< 100	120	< 100
TRH >C16-C34 (F3)	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	190	< 100	< 100	< 100	120	< 100
TRH >C34-C40 (F4)	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	110	< 100	< 100	< 100	< 100	< 100
TRH C10-C14	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20
TRH C10-C36 (Total)	< 50	< 50	< 50	< 50	< 50	< 50	< 50	< 50	< 50	258	< 50	< 50	< 50	145	< 50
TRH C15-C28	< 50	< 50	< 50	< 50	< 50	< 50	< 50	< 50	< 50	160	< 50	< 50	< 50	63	< 50
TRH C29-C36	< 50	< 50	< 50	< 50	< 50	< 50	< 50	< 50	< 50	98	< 50	< 50	< 50	82	< 50
TRH C6-C10	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20
TRH C6-C10 less BTEX (F1)	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20
TRH C6-C9	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20
Benzene	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Ethylbenzene	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
m/p-xylene	<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	<0.2	<0.2
o-xylene	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Toluene	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Total Xylenes	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3
4.4 - DDD	< 0.05	-	-	< 0.05	< 0.05	< 0.05	-	-	< 0.05	-	< 0.05	< 0.05	-	-	< 0.05
4.4 - DDE	< 0.05	-	-	< 0.05	< 0.05	< 0.05	-	-	< 0.05	-	< 0.05	< 0.05	-	-	< 0.05
4.4 - DDT	< 0.05	-	-	< 0.05	< 0.05	< 0.05	-	-	< 0.05	-	< 0.05	< 0.05	-	-	< 0.05
a - BHC	< 0.05	-	-	< 0.05	< 0.05	< 0.05	-	-	< 0.05	-	< 0.05	< 0.05	-	-	< 0.05
Aldrin	< 0.05	-	-	< 0.05	< 0.05	< 0.05	-	-	< 0.05	-	< 0.05	< 0.05	-	-	< 0.05
Aldrin + Dieldrin (total)	< 0.05	-	-	< 0.05	< 0.05	< 0.05	-	-	< 0.05	-	< 0.05	< 0.05	-	-	< 0.05
b - BHC	< 0.05	-	-	< 0.05	< 0.05	< 0.05	-	-	< 0.05	-	< 0.05	< 0.05	-	-	< 0.05
Chlordanes (total)	< 0.1	-	-	< 0.1	< 0.1	< 0.1	-	-	< 0.1	-	< 0.1	< 0.1	-	-	< 0.1
d - BHC	< 0.05	-	-	< 0.05	< 0.05	< 0.05	-	-	< 0.05	-	< 0.05	< 0.05	-	-	< 0.05
DDT + DDE + DDD (total)	< 0.05	-	-	< 0.05	< 0.05	< 0.05	-	-	< 0.05	-	< 0.05	< 0.05	-	-	< 0.05
Dieldrin	< 0.05	-	-	< 0.05	< 0.05	< 0.05	-	-	< 0.05	-	< 0.05	< 0.05	-	-	< 0.05
Endosulfan 1	< 0.05	-	-	< 0.05	< 0.05	< 0.05	-	-	< 0.05	-	< 0.05	< 0.05	-	-	< 0.05
Endosulfan 2	< 0.05	-	-	< 0.05	< 0.05	< 0.05	-	-	< 0.05	-	< 0.05	< 0.05	-	-	< 0.05
Endosulfan sulphate	< 0.05	-	-	< 0.05	< 0.05	< 0.05	-	-	< 0.05	-	< 0.05	< 0.05	-	-	< 0.05
Endrin	< 0.05	-	-	< 0.05	< 0.05	< 0.05	-	-	< 0.05	-	< 0.05	< 0.05	-	-	< 0.05
Endrin Aldehyde	< 0.05	-	-	< 0.05	< 0.05	< 0.05	-	-	< 0.05	-	< 0.05	< 0.05	-	-	< 0.05
Endrin Ketone	< 0.05	-	-	< 0.05	< 0.05	< 0.05	-	-	< 0.05	-	< 0.05	< 0.05	-	-	< 0.05
g-BHC (Lindane)	< 0.05	-	-	< 0.05	< 0.05	< 0.05	-	-	< 0.05	-	< 0.05	< 0.05	-	-	< 0.05
Heptachlor	< 0.05	-	-	< 0.05	< 0.05	< 0.05	-	-	< 0.05	-	< 0.05	< 0.05	-	-	< 0.05
Heptachlor epoxide	< 0.05	-	-	< 0.05	< 0.05	< 0.05	-	-	< 0.05	-	< 0.05	< 0.05	-	-	< 0.05
Hexachlorobenzene	< 0.05	-	-	< 0.05	< 0.05	< 0.05	-	-	< 0.05	-	< 0.05	< 0.05	-	-	< 0.05
Methoxychlor	< 0.05	-	-	< 0.05	< 0.05	< 0.05	-	-	< 0.05	-	< 0.05	< 0.05	-	-	< 0.05
Toxaphene	< 0.5	-	-	< 0.5	< 0.5	< 0.5	-	-	< 0.5	-	< 0.5	< 0.5	-	-	< 0.5
Vic EPA IWRG 621 OCP 9total)	< 0.1	-	-	< 0.1	< 0.1	< 0.1	-	-	< 0.1	-	< 0.1	< 0.1	-	-	< 0.1
Vic EPA IWRG 621 Other OCP (total)	< 0.1	-	-	< 0.1	< 0.1	< 0.1	-	-	< 0.1	-	< 0.1	< 0.1	-	-	< 0.1
Aroclor-1016	< 0.1	-	-	< 0.1	< 0.1	< 0.1	-	-	< 0.1	-	< 0.1	< 0.1	-	-	< 0.1
Aroclor-1221	< 0.1	-	-	< 0.1	< 0.1	< 0.1	-	-	< 0.1	-	< 0.1	< 0.1	-	-	< 0.1
Aroclor-1232	< 0.1	-	-	< 0.1	< 0.1	< 0.1	-	-	< 0.1	-	< 0.1	< 0.1	-	-	< 0.1
Aroclor-1242	< 0.1	-	-	< 0.1	< 0.1	< 0.1	-	-	< 0.1	-	< 0.1	< 0.1	-	-	< 0.1
Aroclor-1248	< 0.1	-	-	< 0.1	< 0.1	< 0.1	-	-	< 0.1	-	< 0.1	< 0.1	-	-	< 0.1
Aroclor-1254	< 0.1	-	-	< 0.1	< 0.1	< 0.1	-	-	< 0.1	-	< 0.1	< 0.1	-	-	< 0.1
Aroclor-1260	< 0.1	-	-	< 0.1	< 0.1	< 0.1	-	-	< 0.1	-	< 0.1	< 0.1	-	-	< 0.1
Total PCB*	< 0.1	-	-	< 0.1	< 0.1	< 0.1	-	-	< 0.1	-	< 0.1	< 0.1	-	-	< 0.1
Total coliforms	-	-	-	24000	<10	1500	-	-	-	-	<10	>24000	20000	-	-
E. Coli	-	-	-	<10	<10	<10	-	-	-	-	<10	<10	<10	-	-
Thermotolerant coliforms	-	-	-	<10	<10	10	-	-	-	-	<10	<10	<10	-	-
Ammonia (as N)	-	-	-	1400	20	< 5	-	-	-	-	1700	2000	7.3	-	-
Nitrate & Nitrite (as N)	-	-	-	3500	69	6.8	-	-	-	-	2000	3100	5	-	-
Nitrate (as N)	-	-	-	3500	69	6.8	-	-	-	-	2000	3100	< 5	-	-
Nitrite (as N)	-	-	-	< 5	< 5	< 5	-	-	-	-	< 5	< 5	< 5	-	-
Phosphate total (as P)	-	-	-	580	460	910	-	-	-	-	780	600	1300	-	-
Total Kjeldahl Nitrogen (as N)	-	-	-	1200	370	32	-	-	-	-	2900	3400	2200	-	-
Total Nitrogen (as N)*	-	-	-	4700	439	38.8	-	-	-	-	4900	6500	2205	-	-

Sample ID	TP16 0.0-0.2	TP17 0.0-0.2	TP18 0.0-0.2	TP19 0.0-0.1	TP20 0.0-0.1	TP21 0.0-0.2	TP22 0.0-0.1	TP23 0.0-0.1	TP24 0.0-0.1	TP25 0.0-0.1	TP26 1.0-1.2	TP27-0.0-0.2	TP28-0.0-0.1	TP29-0.0-0.2	TP30-0.0-0.2
Reference	S21-Oc38441	S21-Oc38442	S21-Oc38443	S21-Oc38444	S21-Oc38445	S21-Oc38446	S21-Oc38447	S21-Oc38448	S21-Oc38449	S21-Oc38450	S21-Oc38451	S21-Oc38511	S21-Oc38512	S21-Oc38513	S21-Oc38514
Date Sampled	6/10/2021	6/10/2021	6/10/2021	6/10/2021	6/10/2021	6/10/2021	7/10/2021	7/10/2021	7/10/2021	7/10/2021	7/10/2021	8/10/2021	8/10/2021	8/10/2021	8/10/2021
Sample Matrix	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil
Arsenic, As	3	2.8	3.8	13	8.2	15	15	15	18	12	14	9.9	6.5	9.1	9
Cadmium, Cd	< 0.4	< 0.4	< 0.4	< 0.4	< 0.4	< 0.4	< 0.4	< 0.4	< 0.4	< 0.4	< 0.4	< 0.4	< 0.4	< 0.4	< 0.4
Chromium, Cr	14	26	34	17	6.5	25	19	25	33	20	30	20	14	16	18
Copper, Cu	64	41	54	34	84	45	46	27	29	23	38	36	32	47	46
Lead, Pb	13	11	14	18	8.5	30	26	25	44	35	35	25	20	21	26
Mercury (inorganic)	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Nickel, Ni	16	18	32	22	18	18	21	23	15	9.6	22	21	15	22	20
Zinc, Zn	84	95	170	100	300	120	180	120	63	84	86	120	84	93	79
Acenaphthene	0.8	0.6	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
Acenaphthylene	< 0.5	< 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
Anthracene	0.7	0.6	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
Benzo(a)anthracene	< 0.5	0.6	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
Benzo(a)pyrene	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Benzo(a)pyrene TEQ (lower bound)	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Benzo(a)pyrene TEQ (medium bound)	0.7	0.7	0.7	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6
Benzo(a)pyrene TEQ (upper bound)	1.2	1.3	1.3	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2
Benzo(b&j)fluoranthene	< 0.5	< 0.5	0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Benzo(ghi)perylene	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Benzo(k)fluoranthene	0.7	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
Chrysene	0.8	0.9	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
Dibenzo(ah)anthracene	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Fluoranthene	0.7	0.7	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
Fluorene	0.8	0.8	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
Indeno(1,2,3-cd)pyrene	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
Naphthalene	< 0.5	< 0.5	0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Phenanthrene	0.6	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
Pyrene	0.6	0.8	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
Total PAH	6.2	6.9	8.3	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
TRH >C10-C16	< 100	< 100	< 50	< 50	< 50	< 50	< 50	< 50	< 50	< 50	< 50	< 50	< 50	< 50	< 50
TRH >C10-C16 less Naphthalene (F2)	< 100	< 100	< 50	< 50	< 50	< 50	< 50	< 50	< 50	< 50	< 50	< 50	< 50	< 50	< 50
TRH >C10-C40 (total)*	1350	1110	510	< 100	< 100	< 100	< 100	< 100	< 100	110	120	< 100	< 100	< 100	< 100
TRH >C16-C34 (F3)	560	510	250	< 100	< 100	< 100	< 100	< 100	< 100	110	< 100	< 100	< 100	< 100	< 100
TRH >C34-C40 (F4)	790	600	260	< 100	< 100	< 100	< 100	< 100	< 100	< 100	120	< 100	< 100	< 100	< 100
TRH C10-C14	< 40	< 40	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20
TRH C10-C36 (Total)	730	660	330	< 50	72	57	< 50	54	< 50	110	87	< 50	< 50	< 50	< 50
TRH C15-C28	210	170	110	< 50	< 50	< 50	< 50	< 50	< 50	< 50	< 50	< 50	< 50	< 50	< 50
TRH C29-C36	520	490	220	< 50	72	57	< 50	54	< 50	110	87	< 50	< 50	< 50	< 50
TRH C6-C10	< 20	< 20	< 20	< 20	< 100	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20
TRH C6-C10 less BTEX (F1)	< 20	< 20	< 20	< 20	< 100	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20
TRH C6-C9	< 20	< 20	< 20	< 20	< 100	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20
Benzene	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Ethylbenzene	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
m/p-xylene	<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	<0.2	<0.2
o-xylene	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Toluene	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Total Xylenes	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3
4.4 - DDD	-	-	-	< 0.05	< 0.05	< 0.05	< 0.05	-	-	< 0.05	-	-	-	< 0.05	< 0.05
4.4 - DDE	-	-	-	< 0.05	< 0.05	< 0.05	< 0.05	-	-	< 0.05	-	-	-	< 0.05	< 0.05
4.4 - DDT	-	-	-	< 0.05	< 0.05	< 0.05	< 0.05	-	-	< 0.05	-	-	-	< 0.05	< 0.05
a - BHC	-	-	-	< 0.05	< 0.05	< 0.05	< 0.05	-	-	< 0.05	-	-	-	< 0.05	< 0.05
Aldrin	-	-	-	< 0.05	< 0.05	< 0.05	< 0.05	-	-	< 0.05	-	-	-	< 0.05	< 0.05
Aldrin + Dieldrin (total)	-	-	-	< 0.05	< 0.05	< 0.05	< 0.05	-	-	< 0.05	-	-	-	< 0.05	< 0.05
b - BHC	-	-	-	< 0.05	< 0.05	< 0.05	< 0.05	-	-	< 0.05	-	-	-	< 0.05	< 0.05
Chlordanes (total)	-	-	-	< 0.1	< 0.1	< 0.1	< 0.1	-	-	< 0.1	-	-	-	< 0.1	< 0.1
d - BHC	-	-	-	< 0.05	< 0.05	< 0.05	< 0.05	-	-	< 0.05	-	-	-	< 0.05	< 0.05
DDT + DDE + DDD (total)	-	-	-	< 0.05	< 0.05	< 0.05	< 0.05	-	-	< 0.05	-	-	-	< 0.05	< 0.05
Dieldrin	-	-	-	< 0.05	< 0.05	< 0.05	< 0.05	-	-	< 0.05	-	-	-	< 0.05	< 0.05
Endosulfan 1	-	-	-	< 0.05	< 0.05	< 0.05	< 0.05	-	-	< 0.05	-	-	-	< 0.05	< 0.05
Endosulfan 2	-	-	-	< 0.05	< 0.05	< 0.05	< 0.05	-	-	< 0.05	-	-	-	< 0.05	< 0.05
Endosulfan sulphate	-	-	-	< 0.05	< 0.05	< 0.05	< 0.05	-	-	< 0.05	-	-	-	< 0.05	< 0.05
Endrin	-	-	-	< 0.05	< 0.05	< 0.05	< 0.05	-	-	< 0.05	-	-	-	< 0.05	< 0.05
Endrin Aldehyde	-	-	-	< 0.05	< 0.05	< 0.05	< 0.05	-	-	< 0.05	-	-	-	< 0.05	< 0.05
Endrin Ketone	-	-	-	< 0.05	< 0.05	< 0.05	< 0.05	-	-	< 0.05	-	-	-	< 0.05	< 0.05
g-BHC (Lindane)	-	-	-	< 0.05	< 0.05	< 0.05	< 0.05	-	-	< 0.05	-	-	-	< 0.05	< 0.05
Heptachlor	-	-	-	< 0.05	< 0.05	< 0.05	< 0.05	-	-	< 0.05	-	-	-	< 0.05	< 0.05
Heptachlor epoxide	-	-	-	< 0.05	< 0.05	< 0.05	< 0.05	-	-	< 0.05	-	-	-	< 0.05	< 0.05
Hexachlorobenzene	-	-	-	< 0.05	< 0.05	< 0.05	< 0.05	-	-	< 0.05	-	-	-	< 0.05	< 0.05
Methoxychlor	-	-	-	< 0.05	< 0.05	< 0.05	< 0.05	-	-	< 0.05	-	-	-	< 0.05	< 0.05
Toxaphene	-	-	-	< 0.5	< 0.5	< 0.5	< 0.5	-	-	< 0.5	-	-	-	< 0.5	< 0.5
Vic EPA IWRG 621 OCP 9total)	-	-	-	< 0.1	< 0.1	< 0.1	< 0.1	-	-	< 0.1	-	-	-	< 0.1	< 0.1
Vic EPA IWRG 621 Other OCP (total)	-	-	-	< 0.1	< 0.1	< 0.1	< 0.1	-	-	< 0.1	-	-	-	< 0.1	< 0.1
Aroclor-1016	-	-	-	< 0.1	< 0.1	< 0.1	< 0.1	-	-	< 0.1	-	-	-	< 0.1	< 0.1
Aroclor-1221	-	-	-	< 0.1	< 0.1	< 0.1	< 0.1	-	-	< 0.1	-	-	-	< 0.1	< 0.1
Aroclor-1232	-	-	-	< 0.1	< 0.1	< 0.1	< 0.1	-	-	< 0.1	-	-	-	< 0.1	< 0.1
Aroclor-1242	-	-	-	< 0.1	< 0.1	< 0.1	< 0.1	-	-	< 0.1	-	-	-	< 0.1	< 0.1
Aroclor-1248	-	-	-	< 0.1	< 0.1	< 0.1	< 0.1	-	-	< 0.1	-	-	-	< 0.1	< 0.1
Aroclor-1254	-	-	-	< 0.1	< 0.1	< 0.1	< 0.1	-	-	< 0.1	-	-	-	< 0.1	< 0.1
Aroclor-1260	-	-	-	< 0.1	< 0.1	< 0.1	< 0.1	-	-	< 0.1	-	-	-	< 0.1	< 0.1
Total PCB*	-	-	-	< 0.1	< 0.1	< 0.1	< 0.1	-	-	< 0.1	-	-	-	< 0.1	< 0.1
Total coliforms	-	-	-	<10	<10	7300	-	-	-	-	-	-	-	<10	<10
E. Coli	-	-	-	<10	<10	<10	-	-	-	-	-	-	-	<10	<10
Thermotolerant coliforms	-	-	-	<10	<10	<10	-	-	-	-	-	-	-	<10	<10
Ammonia (as N)	-	-	-	2200	3300	< 5	-	-	-	-	-	-	-	1600	3100
Nitrate & Nitrite (as N)	-	-	-	4500	11000	5.2	-	-	-	-	-	-	-	1200	2400
Nitrate (as N)	-	-	-	4500	11000	< 5	-	-	-	-	-	-	-	1200	2400
Nitrite (as N)	-	-	-	< 5	< 5	< 5	-	-	-	-	-	-	-	< 5	< 5
Phosphate total (as P)	-	-	-	840	11000	860	-	-	-	-	-	-	-	1800	490
Total Kjeldahl Nitrogen (as N)	-	-	-	2100	1700	2500	-	-	-	-	-	-	-	3200	4600
Total Nitrogen (as N)*	-	-	-	6600	12700	2505.2	-	-	-	-	-	-	-	4400	7000

Highlighted concentration exceeds the adopted site criteria - Screening Levels for Direct Contact (mg/kg) - CRC Care 2011
Highlighted concentration exceeds the adopted site criteria - Inhalation / Vapour Intrusion HSLs (mg/kg) - NEPC 2013 (CLAY)
Highlighted concentration exceeds the adopted site criteria - Management Limits for TPH Fractions F1 - F4 in soil (mg/Kg) - NEPC 2013
Highlighted concentration exceeds the adopted site criteria - Health Investigation Levels for Soil Contaminants - NEPC 2013
Highlighted concentration exceeds the adopted site criteria - Stabilisation Grade A Microbiological Standards (NSW EPA 2000)

- No published criteria or sample not analysed
NL Not Limiting

Table 4. Soil Analysis
290-308 Aldington Road and 59-63 Abbotts Road, Kemps Creek NSW
Soil Results & Adopted Site Criteria
13546-ER-2-1

Group	Analyte	Units	PQL	Screening Levels for Direct Contact (mg/kg) - CRC Care 2011: HSL - D Commercial/Industrial	Inhalation / Vapour Intrusion HSLs (mg/kg) - NEPC 2013 (CLAY): HSL - D Commercial/Industrial 0 m to <1 m	Management Limits for TPH Fractions F1 - F4 in soil (mg/Kg) - NEPC 2013: Commercial and Industrial (fine)	Health Investigation Levels for Soil Contaminants - NEPM 2013: Commercial/Industrial D	Use and Disposal of Biosolids Products (NSW EPA 2000): Stabilisation Grade A Microbiological Standards	Data Set Minimum	Data Set Maximum
Metals	Arsenic, As	mg/kg	2	-	-	-	3000	-	2.7	21
	Cadmium, Cd	mg/kg	0.4	-	-	-	900	-	<0.4	0.5
	Chromium, Cr	mg/kg	5	-	-	-	3600	-	5.6	31
	Copper, Cu	mg/kg	5	-	-	-	240000	-	8	68
	Lead, Pb	mg/kg	5	-	-	-	1500	-	8.9	57
	Mercury (inorganic)	mg/kg	0.1	-	-	-	730	-	<0.1	0.6
	Nickel, Ni	mg/kg	5	-	-	-	6000	-	6.3	27
	Zinc, Zn	mg/kg	5	-	-	-	400000	-	26	280
PAH	Acenaphthene	mg/kg	0.5	-	-	-	-	-	<0.5	<0.5
	Acenaphthylene	mg/kg	0.5	-	-	-	-	-	<0.5	<0.5
	Anthracene	mg/kg	0.5	-	-	-	-	-	<0.5	<0.5
	Benzo(a)anthracene	mg/kg	0.5	-	-	-	-	-	<0.5	<0.5
	Benzo(a)pyrene	mg/kg	0.5	-	-	-	-	-	<0.5	<0.5
	Benzo(a)pyrene TEQ (lower bound)	mg/kg	0.5	-	-	-	40	-	<0.5	<0.5
	Benzo(a)pyrene TEQ (medium bound)	mg/kg	0.6	-	-	-	40	-	0.6	0.6
	Benzo(a)pyrene TEQ (upper bound)	mg/kg	1.2	-	-	-	40	-	1.2	1.2
	Benzo(b&j)fluoranthene	mg/kg	0.5	-	-	-	-	-	<0.5	<0.5
	Benzo(ghi)perylene	mg/kg	0.5	-	-	-	-	-	<0.5	<0.5
	Benzo(k)fluoranthene	mg/kg	0.5	-	-	-	-	-	<0.5	<0.5
	Chrysene	mg/kg	0.5	-	-	-	-	-	<0.5	<0.5
	Dibenzo(ah)anthracene	mg/kg	0.5	-	-	-	-	-	<0.5	<0.5
	Fluoranthene	mg/kg	0.5	-	-	-	-	-	<0.5	<0.5
	Fluorene	mg/kg	0.5	-	-	-	-	-	<0.5	<0.5
	Indeno(1,2,3-cd)pyrene	mg/kg	0.5	-	-	-	-	-	<0.5	<0.5
	Naphthalene	mg/kg	0.5	11,000	-	-	-	-	<0.5	<0.5
	Phenanthrene	mg/kg	0.5	-	-	-	-	-	<0.5	<0.5
	Pyrene	mg/kg	0.5	-	-	-	-	-	<0.5	<0.5
	Total PAH	mg/kg	0.5	-	-	-	4000	-	<0.5	<0.5
TRH	TRH >C10-C16	mg/kg	50	-	-	-	-	-	<50	<50
	TRH >C10-C16 less Naphthalene (F2)	mg/kg	50	20000	NL	1000	-	-	<50	<50
	TRH >C10-C40 (total)*	mg/kg	100	-	-	-	-	-	<100	530
	TRH >C16-C34 (F3)	mg/kg	100	27000	-	5000	-	-	<100	320
	TRH >C34-C40 (F4)	mg/kg	100	38,000	-	10000	-	-	<100	210
	TRH C10-C14	mg/kg	20	-	-	-	-	-	<20	23
	TRH C10-C36 (Total)	mg/kg	50	-	-	-	-	-	<50	313
	TRH C15-C28	mg/kg	50	-	-	-	-	-	<50	100
	TRH C29-C36	mg/kg	50	-	-	-	-	-	<50	230
	TRH C6-C10	mg/kg	20	26,000	-	-	-	-	<20	<20
	TRH C6-C10 less BTEX (F1)	mg/kg	20	-	310	800	-	-	<20	<20
	TRH C6-C9	mg/kg	20	-	-	-	-	-	<20	<20
BTEX	Benzene	mg/kg	0.1	430	4	-	-	-	<0.1	<0.1
	Ethylbenzene	mg/kg	0.1	27000	NL	-	-	-	<0.1	<0.1
	m/p-xylene	mg/kg	0.2	-	-	-	-	-	<0.2	<0.2
	o-xylene	mg/kg	0.1	-	-	-	-	-	<0.1	<0.1
	Toluene	mg/kg	0.1	99000	NL	-	-	-	<0.1	<0.1
	Total Xylenes	mg/kg	0.3	81000	NL	-	-	-	<0.3	<0.3
OCP	4.4 - DDD	mg/kg	0.05	-	-	-	-	-	<0.05	<0.05
	4.4 - DDE	mg/kg	0.05	-	-	-	-	-	<0.05	<0.05
	4.4 - DDT	mg/kg	0.05	-	-	-	-	-	<0.05	<0.05
	a - BHC	mg/kg	0.05	-	-	-	-	-	<0.05	<0.05
	Aldrin	mg/kg	0.05	-	-	-	-	-	<0.05	0.13
	Aldrin + Dieldrin (total)	mg/kg	0.05	-	-	-	45	-	<0.05	2.13
	b - BHC	mg/kg	0.05	-	-	-		-	<0.05	<0.05
	Chlordanes (total)	mg/kg	0.1	-	-	-	530	-	<0.1	<0.1
	d - BHC	mg/kg	0.05	-	-	-		-	<0.05	<0.05
	DDT + DDE + DDD (total)	mg/kg	0.05	-	-	-	3600	-	<0.05	<0.05
	Dieldrin	mg/kg	0.05	-	-	-	-	-	<0.05	2
	Endosulfan 1	mg/kg	0.05	-	-	-	2000	-	<0.05	<0.05
	Endosulfan 2	mg/kg	0.05	-	-	-	2000	-	<0.05	<0.05
	Endosulfan sulphate	mg/kg	0.05	-	-	-	2000	-	<0.05	<0.05
	Endrin	mg/kg	0.05	-	-	-	100	-	<0.05	<0.05
	Endrin Aldehyde	mg/kg	0.05	-	-	-	-	-	<0.05	<0.05
	Endrin Ketone	mg/kg	0.05	-	-	-	-	-	<0.05	<0.05
	g-BHC (Lindane)	mg/kg	0.05	-	-	-	-	-	<0.05	<0.05
	Heptachlor	mg/kg	0.05	-	-	-	50	-	<0.05	<0.05
	Heptachlor epoxide	mg/kg	0.05	-	-	-	-	-	<0.05	<0.05
	Hexachlorobenzene	mg/kg	0.05	-	-	-	80	-	<0.05	<0.05
	Methoxychlor	mg/kg	0.05	-	-	-	-	-	<0.05	<0.05
	Toxaphene	mg/kg	0.5	-	-	-	160	-	<0.5	<0.5
	Vic EPA IWRG 621 OCP 9total)	mg/kg	0.1	-	-	-	-	-	<0.1	2.13
	Vic EPA IWRG 621 Other OCP (total)	mg/kg	0.1	-	-	-	-	-	<0.1	<0.1
PCB	Aroclor-1016	mg/kg	0.1	-	-	-	-	-	<0.1	<0.1
	Aroclor-1221	mg/kg	0.1	-	-	-	-	-	<0.1	<0.1
	Aroclor-1232	mg/kg	0.1	-	-	-	-	-	<0.1	<0.1
	Aroclor-1242	mg/kg	0.1	-	-	-	-	-	<0.1	<0.1
	Aroclor-1248	mg/kg	0.1	-	-	-	-	-	<0.1	<0.1
	Aroclor-1254	mg/kg	0.1	-	-	-	-	-	<0.1	<0.1
	Aroclor-1260	mg/kg	0.1	-	-	-	-	-	<0.1	<0.1
	Total PCB*	mg/kg	0.1	-	-	-	7	-	<0.1	<0.1
Microbiological	Total coliforms	MPN/g	10	-	-	-	-	1000	8700	8700
	E. Coli	MPN/g	10	-	-	-	-	100	<10	<10
	Thermotolerant coliforms	MPN/g	10	-	-	-	-	1000	<10	<10
Nutrients	Ammonia (as N)	mg/kg	5	-	-	-	-	-	<5	<5
	Nitrate & Nitrite (as N)	mg/kg	5	-	-	-	-	-	<5	<5
	Nitrate (as N)	mg/kg	5	-	-	-	-	-	<5	<5
	Nitrite (as N)	mg/kg	5	-	-	-	-	-	<5	<5
	Phosphate total (as P)	mg/kg	5	-	-	-	-	-	1000	1000
	Total Kjeldahl Nitrogen (as N)	mg/kg	10	-	-	-	-	-	510	510
	Total Nitrogen (as N)*	mg/kg	10	-	-	-	-	-	510	510

Sample ID	TP31-0.0.-0.2	TP32-0.0-0.2	TP33-0.0-0.1	TP34-0.0-0.2	TP35-0.0-0.2	TP36-0.0-0.1	TP37-0.0-0.1	TP38-0.0-0.2	TP39-0.0-0.1	TP40-0.0-0.1	TP41 0.0-0.1	TP42 0.0-0.1	TP43 0.0-0.1	TP44 0.0-0.1
Reference	S21-Oc38515	S21-Oc38516	S21-Oc38517	S21-Oc38518	S21-Oc38519	S21-Oc38520	S21-Oc38521	S21-Oc38522	S21-Oc38523	S21-Oc38524	S21-No17421	S21-No17422	S21-No17423	S21-No17424
Date Sampled	8/10/2021	8/10/2021	8/10/2021	8/10/2021	8/10/2021	8/10/2021	8/10/2021	8/10/2021	8/10/2021	8/10/2021	12/10/2021	12/10/2021	12/10/2021	12/10/2021
Sample Matrix	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil
Arsenic, As	21	11	11	9.5	9.8	6.6	4	8.3	2.8	12	5.2	7.7	9.6	4.7
Cadmium, Cd	< 0.4	< 0.4	< 0.4	< 0.4	< 0.4	< 0.4	< 0.4	< 0.4	< 0.4	< 0.4	< 0.4	0.5	< 0.4	< 0.4
Chromium, Cr	20	23	26	19	23	17	9.7	17	7.9	24	15	18	21	13
Copper, Cu	46	49	39	37	26	68	20	46	44	23	21	36	35	19
Lead, Pb	26	28	30	25	26	18	9.4	20	8.9	28	17	21	23	15
Mercury (inorganic)	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Nickel, Ni	27	24	21	16	18	19	6.3	20	6.6	11	12	15	22	9.4
Zinc, Zn	110	110	79	79	59	280	26	90	200	59	61	89	95	81
Acenaphthene	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Acenaphthylene	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Anthracene	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Benzo(a)anthracene	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Benzo(a)pyrene	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Benzo(a)pyrene TEQ (lower bound)	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Benzo(a)pyrene TEQ (medium bound)	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6
Benzo(a)pyrene TEQ (upper bound)	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2
Benzo(b&j)fluoranthene	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Benzo(ghi)perylene	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Benzo(k)fluoranthene	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Chrysene	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Dibenzo(ah)anthracene	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Fluoranthene	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Fluorene	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Indeno(1,2,3-cd)pyrene	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Naphthalene	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Phenanthrene	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Pyrene	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Total PAH	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
TRH >C10-C16	< 50	< 50	< 50	< 50	< 50	< 50	< 50	< 50	< 50	< 50	< 50	< 50	< 50	< 50
TRH >C10-C16 less Naphthalene (F2)	< 50	< 50	< 50	< 50	< 50	< 50	< 50	< 50	< 50	< 50	< 50	< 50	< 50	< 50
TRH >C10-C40 (total)*	< 100	< 100	< 100	140	< 100	280	< 100	100	400	< 100	< 100	< 100	< 100	530
TRH >C16-C34 (F3)	< 100	< 100	< 100	140	< 100	160	< 100	< 100	260	< 100	< 100	< 100	< 100	320
TRH >C34-C40 (F4)	< 100	< 100	< 100	< 100	< 100	120	< 100	100	140	< 100	< 100	< 100	< 100	210
TRH C10-C14	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20
TRH C10-C36 (Total)	< 50	< 50	< 50	176	< 50	195	74	91	313	61	54	< 50	< 50	250
TRH C15-C28	< 50	< 50	< 50	66	< 50	55	< 50	< 50	83	< 50	< 50	< 50	< 50	100
TRH C29-C36	< 50	< 50	< 50	110	< 50	140	74	91	230	61	54	< 50	< 50	150
TRH C6-C10	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20
TRH C6-C10 less BTEX (F1)	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20
TRH C6-C9	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20
Benzene	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Ethylbenzene	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
m/p-xylene	<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	<0.2
o-xylene	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Toluene	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Total Xylenes	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3
4.4 - DDD	< 0.05	-	< 0.05	-	-	< 0.05	-	-	-	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
4.4 - DDE	< 0.05	-	< 0.05	-	-	< 0.05	-	-	-	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
4.4 - DDT	< 0.05	-	< 0.05	-	-	< 0.05	-	-	-	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
a - BHC	< 0.05	-	< 0.05	-	-	< 0.05	-	-	-	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Aldrin	< 0.05	-	< 0.05	-	-	< 0.05	-	-	-	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Aldrin + Dieldrin (total)	< 0.05	-	< 0.05	-	-	< 0.05	-	-	-	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
b - BHC	< 0.05	-	< 0.05	-	-	< 0.05	-	-	-	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Chlordanes (total)	< 0.1	-	< 0.1	-	-	< 0.1	-	-	-	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
d - BHC	< 0.05	-	< 0.05	-	-	< 0.05	-	-	-	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
DDT + DDE + DDD (total)	< 0.05	-	< 0.05	-	-	< 0.05	-	-	-	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Dieldrin	< 0.05	-	< 0.05	-	-	< 0.05	-	-	-	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Endosulfan 1	< 0.05	-	< 0.05	-	-	< 0.05	-	-	-	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Endosulfan 2	< 0.05	-	< 0.05	-	-	< 0.05	-	-	-	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Endosulfan sulphate	< 0.05	-	< 0.05	-	-	< 0.05	-	-	-	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Endrin	< 0.05	-	< 0.05	-	-	< 0.05	-	-	-	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Endrin Aldehyde	< 0.05	-	< 0.05	-	-	< 0.05	-	-	-	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Endrin Ketone	< 0.05	-	< 0.05	-	-	< 0.05	-	-	-	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
g-BHC (Lindane)	< 0.05	-	< 0.05	-	-	< 0.05	-	-	-	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Heptachlor	< 0.05	-	< 0.05	-	-	< 0.05	-	-	-	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Heptachlor epoxide	< 0.05	-	< 0.05	-	-	< 0.05	-	-	-	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Hexachlorobenzene	< 0.05	-	< 0.05	-	-	< 0.05	-	-	-	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Methoxychlor	< 0.05	-	< 0.05	-	-	< 0.05	-	-	-	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Toxaphene	< 0.5	-	< 0.5	-	-	< 0.5	-	-	-	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Vic EPA IWRG 621 OCP 9total)	< 0.1	-	< 0.1	-	-	< 0.1	-	-	-	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Vic EPA IWRG 621 Other OCP (total)	< 0.1	-	< 0.1	-	-	< 0.1	-	-	-	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Aroclor-1016	< 0.1	-	< 0.1	-	-	< 0.1	-	-	-	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Aroclor-1221	< 0.1	-	< 0.1	-	-	< 0.1	-	-	-	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Aroclor-1232	< 0.1	-	< 0.1	-	-	< 0.1	-	-	-	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Aroclor-1242	< 0.1	-	< 0.1	-	-	< 0.1	-	-	-	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Aroclor-1248	< 0.1	-	< 0.1	-	-	< 0.1	-	-	-	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Aroclor-1254	< 0.1	-	< 0.1	-	-	< 0.1	-	-	-	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Aroclor-1260	< 0.1	-	< 0.1	-	-	< 0.1	-	-	-	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Total PCB*	< 0.1	-	< 0.1	-	-	< 0.1	-	-	-	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Total coliforms	8700	-	-	-	-	-	-	-	-	-	-	-	-	-
E. Coli	<10	-	-	-	-	-	-	-	-	-	-	-	-	-
Thermotolerant coliforms	<10	-	-	-	-	-	-	-	-	-	-	-	-	-
Ammonia (as N)	< 5	-	-	-	-	-	-	-	-	-	-	-	-	-
Nitrate & Nitrite (as N)	< 5	-	-	-	-	-	-	-	-	-	-	-	-	-
Nitrate (as N)	< 5	-	-	-	-	-	-	-	-	-	-	-	-	-
Nitrite (as N)	< 5	-	-	-	-	-	-	-	-	-	-	-	-	-
Phosphate total (as P)	1000	-	-	-	-	-	-	-	-	-	-	-	-	-
Total Kjeldahl Nitrogen (as N)	510	-	-	-	-	-	-	-	-	-	-	-	-	-
Total Nitrogen (as N)*	510	-	-	-	-	-	-	-	-	-	-	-	-	-

Sample ID	TP50_0.0-0.1	TP51_0.0-0.1	TP52_0.0-0.1	TP53_0.0-0.1	TP54_0.0-0.1	TP61_0.0-0.1	TP62_0.0-0.1	TP63 0.0-0.1	TP64_0.0-0.1	TP65_0.0-0.1	TP66_0.0-0.1	TP70_0.0-0.1	TP71_0.0-0.1	TP78_0.0-0.1	TP80_0.0-0.1	TP82_0.0-0.1
Reference	S21-No02560	S21-No02561	S21-No02562	S21-No02568	S21-No02569	S21-No02574	S21-No02575	S21-No36962	S21-No02581	S21-No02582	S21-No02583	S21-No02601	S21-No02602	S21-No02609	S21-No02610	S21-No02611
Date Sampled	15/10/2021	15/10/2021	15/10/2021	15/10/2021	15/10/2021	18/10/2021	18/10/2021	18/10/2021	18/10/2021	18/10/2021	18/10/2021	19/10/2021	19/10/2021	19/10/2021	19/10/2021	19/10/2021
Sample Matrix	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil
Arsenic, As	11	12	14	9.1	10	5.4	17	7.7	8.6	7.6	2.7	7.6	7.9	5.5	9.1	7
Cadmium, Cd	< 0.4	< 0.4	< 0.4	< 0.4	< 0.4	< 0.4	< 0.4	< 0.4	-	-	-	< 0.4	< 0.4	< 0.4	< 0.4	< 0.4
Chromium, Cr	25	31	17	19	17	11	25	21	22	19	5.6	18	20	12	18	18
Copper, Cu	42	27	22	22	25	15	32	33	39	31	8	32	31	19	26	25
Lead, Pb	34	54	41	25	22	16	41	24	-	-	-	57	37	33	22	18
Mercury (inorganic)	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	0.6	0.3	< 0.1	-	-	-	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Nickel, Ni	20	15	21	13	14	7.1	16	17	-	-	-	16	16	8.6	12	9.2
Zinc, Zn	170	150	58	54	69	44	65	56	-	-	-	110	69	140	48	35
Acenaphthene	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	-	-	< 0.5	-	-	-	-	-	-	-	-
Acenaphthylene	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	-	-	< 0.5	-	-	-	-	-	-	-	-
Anthracene	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	-	-	< 0.5	-	-	-	-	-	-	-	-
Benzo(a)anthracene	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	-	-	< 0.5	-	-	-	-	-	-	-	-
Benzo(a)pyrene	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	-	-	< 0.5	-	-	-	-	-	-	-	-
Benzo(a)pyrene TEQ (lower bound)	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	-	-	< 0.5	-	-	-	-	-	-	-	-
Benzo(a)pyrene TEQ (medium bound)	0.6	0.6	0.6	0.6	0.6	-	-	0.6	-	-	-	-	-	-	-	-
Benzo(a)pyrene TEQ (upper bound)	1.2	1.2	1.2	1.2	1.2	-	-	1.2	-	-	-	-	-	-	-	-
Benzo(b&j)fluoranthene	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	-	-	< 0.5	-	-	-	-	-	-	-	-
Benzo(ghi)perylene	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	-	-	< 0.5	-	-	-	-	-	-	-	-
Benzo(k)fluoranthene	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	-	-	< 0.5	-	-	-	-	-	-	-	-
Chrysene	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	-	-	< 0.5	-	-	-	-	-	-	-	-
Dibenzo(ah)anthracene	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	-	-	< 0.5	-	-	-	-	-	-	-	-
Fluoranthene	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	-	-	< 0.5	-	-	-	-	-	-	-	-
Fluorene	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	-	-	< 0.5	-	-	-	-	-	-	-	-
Indeno(1,2,3-cd)pyrene	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	-	-	< 0.5	-	-	-	-	-	-	-	-
Naphthalene	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	-	-	< 0.5	-	-	-	-	-	-	-	-
Phenanthrene	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	-	-	< 0.5	-	-	-	-	-	-	-	-
Pyrene	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	-	-	< 0.5	-	-	-	-	-	-	-	-
Total PAH	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	-	-	< 0.5	-	-	-	-	-	-	-	-
TRH >C10-C16	< 50	< 50	< 50	< 50	< 50	< 50	< 50	< 50	-	-	-	< 50	< 50	-	-	-
TRH >C10-C16 less Naphthalene (F2)	< 50	< 50	< 50	< 50	< 50	< 50	< 50	< 50	-	-	-	< 50	< 50	-	-	-
TRH >C10-C40 (total)*	360	230	100	110	< 100	< 100	< 100	< 100	-	-	-	< 100	< 100	-	-	-
TRH >C16-C34 (F3)	170	110	< 100	110	< 100	< 100	< 100	< 100	-	-	-	< 100	< 100	-	-	-
TRH >C34-C40 (F4)	190	120	100	< 100	< 100	< 100	< 100	< 100	-	-	-	< 100	< 100	-	-	-
TRH C10-C14	< 20	< 20	< 20	23	< 20	< 20	< 20	< 20	-	-	-	< 20	< 20	-	-	-
TRH C10-C36 (Total)	202	< 50	89	< 50	56	< 50	< 50	< 50	-	-	-	65	< 50	-	-	-
TRH C15-C28	52	< 50	< 50	< 50	< 50	< 50	< 50	< 50	-	-	-	< 50	< 50	-	-	-
TRH C29-C36	150	< 50	89	< 50	56	< 50	< 50	< 50	-	-	-	65	< 50	-	-	-
TRH C6-C10	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	-	-	-	< 20	< 20	-	-	-
TRH C6-C10 less BTEX (F1)	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	-	-	-	< 20	< 20	-	-	-
TRH C6-C9	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	-	-	-	< 20	< 20	-	-	-
Benzene	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	-	-	-	-	-	-	-	-
Ethylbenzene	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	-	-	-	-	-	-	-	-
m/p-xylene	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	-	-	-	-	-	-	-	-
o-xylene	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	-	-	-	-	-	-	-	-
Toluene	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	-	-	-	-	-	-	-	-
Total Xylenes	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	-	-	-	-	-	-	-	-
4.4 - DDD	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	-	-	-	-	-	-	-	-	< 0.05	< 0.05	< 0.05
4.4 - DDE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	-	-	-	-	-	-	-	-	< 0.05	< 0.05	< 0.05
4.4 - DDT	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	-	-	-	-	-	-	-	-	< 0.05	< 0.05	< 0.05
a - BHC	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	-	-	-	-	-	-	-	-	< 0.05	< 0.05	< 0.05
Aldrin	< 0.05	0.13	< 0.05	< 0.05	< 0.05	-	-	-	-	-	-	-	-	< 0.05	< 0.05	< 0.05
Aldrin + Dieldrin (total)	< 0.05	2.13	< 0.05	< 0.05	< 0.05	-	-	-	-	-	-	-	-	< 0.05	< 0.05	< 0.05
b - BHC	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	-	-	-	-	-	-	-	-	< 0.05	< 0.05	< 0.05
Chlordanes (total)	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	-	-	-	-	-	-	-	-	< 0.1	< 0.1	< 0.1
d - BHC	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	-	-	-	-	-	-	-	-	< 0.05	< 0.05	< 0.05
DDT + DDE + DDD (total)	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	-	-	-	-	-	-	-	-	< 0.05	< 0.05	< 0.05
Dieldrin	< 0.05	2	< 0.05	< 0.05	< 0.05	-	-	-	-	-	-	-	-	< 0.05	< 0.05	< 0.05
Endosulfan 1	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	-	-	-	-	-	-	-	-	< 0.05	< 0.05	< 0.05
Endosulfan 2	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	-	-	-	-	-	-	-	-	< 0.05	< 0.05	< 0.05
Endosulfan sulphate	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	-	-	-	-	-	-	-	-	< 0.05	< 0.05	< 0.05
Endrin	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	-	-	-	-	-	-	-	-	< 0.05	< 0.05	< 0.05
Endrin Aldehyde	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	-	-	-	-	-	-	-	-	< 0.05	< 0.05	< 0.05
Endrin Ketone	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	-	-	-	-	-	-	-	-	< 0.05	< 0.05	< 0.05
g-BHC (Lindane)	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	-	-	-	-	-	-	-	-	< 0.05	< 0.05	< 0.05
Heptachlor	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	-	-	-	-	-	-	-	-	< 0.05	< 0.05	< 0.05
Heptachlor epoxide	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	-	-	-	-	-	-	-	-	< 0.05	< 0.05	< 0.05
Hexachlorobenzene	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	-	-	-	-	-	-	-	-	< 0.05	< 0.05	< 0.05
Methoxychlor	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	-	-	-	-	-	-	-	-	< 0.05	< 0.05	< 0.05
Toxaphene	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	-	-	-	-	-	-	-	-	< 0.5	< 0.5	< 0.5
Vic EPA IWRG 621 OCP 9total)	< 0.1	2.13	< 0.1	< 0.1	< 0.1	-	-	-	-	-	-	-	-	< 0.1	< 0.1	< 0.1
Vic EPA IWRG 621 Other OCP (total)	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	-	-	-	-	-	-	-	-	< 0.1	< 0.1	< 0.1
Aroclor-1016	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	-	-	-	-	-	-	-	-	-	-	-
Aroclor-1221	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	-	-	-	-	-	-	-	-	-	-	-
Aroclor-1232	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	-	-	-	-	-	-	-	-	-	-	-
Aroclor-1242	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	-	-	-	-	-	-	-	-	-	-	-
Aroclor-1248	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	-	-	-	-	-	-	-	-	-	-	-
Aroclor-1254	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	-	-	-	-	-	-	-	-	-	-	-
Aroclor-1260	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	-	-	-	-	-	-	-	-	-	-	-
Total PCB*	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	-	-	-	-	-	-	-	-	-	-	-
Total coliforms	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
E. Coli	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Thermotolerant coliforms	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ammonia (as N)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Nitrate & Nitrite (as N)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Nitrate (as N)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Nitrite (as N)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Phosphate total (as P)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Total Kjeldahl Nitrogen (as N)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Total Nitrogen (as N)*	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Highlighted concentration exceeds the adopted site criteria - Screening Levels for Direct Contact (mg/kg) - CRC Care 2011
Highlighted concentration exceeds the adopted site criteria - Inhalation / Vapour Intrusion HSLs (mg/kg) - NEPC 2013 (CLAY)
Highlighted concentration exceeds the adopted site criteria - Management Limits for TPH Fractions F1 - F4 in soil (mg/Kg) - NEPC 2013
Highlighted concentration exceeds the adopted site criteria - Health Investigation Levels for Soil Contaminants - NEPC 2013
Highlighted concentration exceeds the adopted site criteria - Stabilisation Grade A Microbiological Standards (NSW EPA 2000)

- No published criteria or sample not analysed
NL Not Limiting

Table 4. Soil Analysis
290-308 Aldington Road and 59-63 Abbotts Road, Kemps Creek NSW
Soil Results & Adopted Site Criteria
13546-ER-2-1

Group	Analyte	Units	PQL	Screening Levels for Direct Contact (mg/kg) - CRC Care 2011: HSL - D Commercial/Industrial	Inhalation / Vapour Intrusion HSLs (mg/kg) - NEPC 2013 (CLAY): HSL - D Commercial/Industrial 0 m to <1 m	Management Limits for TPH Fractions F1 - F4 in soil (mg/Kg) - NEPC 2013: Commercial and Industrial (fine)	Health Investigation Levels for Soil Contaminants - NEPM 2013: Commercial/Industrial D	Use and Disposal of Biosolids Products (NSW EPA 2000): Stabilisation Grade A Microbiological Standards	Data Set Minimum	Data Set Maximum
Metals	Arsenic, As	mg/kg	2	-	-	-	3000	-	4.7	16
	Cadmium, Cd	mg/kg	0.4	-	-	-	900	-	<0.4	<0.4
	Chromium, Cr	mg/kg	5	-	-	-	3600	-	12	27
	Copper, Cu	mg/kg	5	-	-	-	240000	-	19	47
	Lead, Pb	mg/kg	5	-	-	-	1500	-	13	42
	Mercury (inorganic)	mg/kg	0.1	-	-	-	730	-	<0.1	<0.1
	Nickel, Ni	mg/kg	5	-	-	-	6000	-	9.2	28
	Zinc, Zn	mg/kg	5	-	-	-	400000	-	37	360
PAH	Acenaphthene	mg/kg	0.5	-	-	-	-	-	<0.5	<0.5
	Acenaphthylene	mg/kg	0.5	-	-	-	-	-	<0.5	<0.5
	Anthracene	mg/kg	0.5	-	-	-	-	-	<0.5	<0.5
	Benzo(a)anthracene	mg/kg	0.5	-	-	-	-	-	<0.5	<0.5
	Benzo(a)pyrene	mg/kg	0.5	-	-	-	-	-	<0.5	<0.5
	Benzo(a)pyrene TEQ (lower bound)	mg/kg	0.5	-	-	-	40	-	<0.5	<0.5
	Benzo(a)pyrene TEQ (medium bound)	mg/kg	0.6	-	-	-	40	-	0.6	0.6
	Benzo(a)pyrene TEQ (upper bound)	mg/kg	1.2	-	-	-	40	-	1.2	1.2
	Benzo(b&j)fluoranthene	mg/kg	0.5	-	-	-	-	-	<0.5	<0.5
	Benzo(ghi)perylene	mg/kg	0.5	-	-	-	-	-	<0.5	<0.5
	Benzo(k)fluoranthene	mg/kg	0.5	-	-	-	-	-	<0.5	<0.5
	Chrysene	mg/kg	0.5	-	-	-	-	-	<0.5	<0.5
	Dibenzo(ah)anthracene	mg/kg	0.5	-	-	-	-	-	<0.5	<0.5
	Fluoranthene	mg/kg	0.5	-	-	-	-	-	<0.5	<0.5
	Fluorene	mg/kg	0.5	-	-	-	-	-	<0.5	<0.5
	Indeno(1,2,3-cd)pyrene	mg/kg	0.5	-	-	-	-	-	<0.5	<0.5
	Naphthalene	mg/kg	0.5	11,000	-	-	-	-	<0.5	<0.5
	Phenanthrene	mg/kg	0.5	-	-	-	-	-	<0.5	<0.5
	Pyrene	mg/kg	0.5	-	-	-	-	-	<0.5	<0.5
	Total PAH	mg/kg	0.5	-	-	-	4000	-	<0.5	<0.5
TRH	TRH >C10-C16	mg/kg	50	-	-	-	-	-	<50	94
	TRH >C10-C16 less Naphthalene (F2)	mg/kg	50	20000	NL	1000	-	-	<50	94
	TRH >C10-C40 (total)*	mg/kg	100	-	-	-	-	-	<100	274
	TRH >C16-C34 (F3)	mg/kg	100	27000	-	5000	-	-	<100	180
	TRH >C34-C40 (F4)	mg/kg	100	38,000	-	10000	-	-	<100	<100
	TRH C10-C14	mg/kg	20	-	-	-	-	-	<20	22
	TRH C10-C36 (Total)	mg/kg	50	-	-	-	-	-	<50	302
	TRH C15-C28	mg/kg	50	-	-	-	-	-	<50	170
	TRH C29-C36	mg/kg	50	-	-	-	-	-	<50	110
	TRH C6-C10	mg/kg	20	26,000	-	-	-	-	<20	<20
	TRH C6-C10 less BTEX (F1)	mg/kg	20	-	310	800	-	-	<20	<20
	TRH C6-C9	mg/kg	20	-	-	-	-	-	<20	<20
BTEX	Benzene	mg/kg	0.1	430	4	-	-	-	<0.1	<0.1
	Ethylbenzene	mg/kg	0.1	27000	NL	-	-	-	<0.1	<0.1
	m/p-xylene	mg/kg	0.2	-	-	-	-	-	<0.2	<0.2
	o-xylene	mg/kg	0.1	-	-	-	-	-	<0.1	<0.1
	Toluene	mg/kg	0.1	99000	NL	-	-	-	<0.1	<0.1
	Total Xylenes	mg/kg	0.3	81000	NL	-	-	-	<0.3	<0.3
OCP	4.4 - DDD	mg/kg	0.05	-	-	-	-	-	<0.05	<0.05
	4.4 - DDE	mg/kg	0.05	-	-	-	-	-	<0.05	<0.05
	4.4 - DDT	mg/kg	0.05	-	-	-	-	-	<0.05	<0.05
	a - BHC	mg/kg	0.05	-	-	-	-	-	<0.05	<0.05
	Aldrin	mg/kg	0.05	-	-	-	-	-	<0.05	<0.05
	Aldrin + Dieldrin (total)	mg/kg	0.05	-	-	-	45	-	<0.05	<0.05
	b - BHC	mg/kg	0.05	-	-	-		-	<0.05	<0.05
	Chlordanes (total)	mg/kg	0.1	-	-	-	530	-	<0.1	<0.1
	d - BHC	mg/kg	0.05	-	-	-		-	<0.05	<0.05
	DDT + DDE + DDD (total)	mg/kg	0.05	-	-	-	3600	-	<0.05	<0.05
	Dieldrin	mg/kg	0.05	-	-	-		-	<0.05	<0.05
	Endosulfan 1	mg/kg	0.05	-	-	-	2000	-	<0.05	<0.05
	Endosulfan 2	mg/kg	0.05	-	-	-	2000	-	<0.05	<0.05
	Endosulfan sulphate	mg/kg	0.05	-	-	-	2000	-	<0.05	<0.05
	Endrin	mg/kg	0.05	-	-	-	100	-	<0.05	<0.05
	Endrin Aldehyde	mg/kg	0.05	-	-	-	-	-	<0.05	<0.05
	Endrin Ketone	mg/kg	0.05	-	-	-	-	-	<0.05	<0.05
	g-BHC (Lindane)	mg/kg	0.05	-	-	-	-	-	<0.05	<0.05
	Heptachlor	mg/kg	0.05	-	-	-	50	-	<0.05	<0.05
	Heptachlor epoxide	mg/kg	0.05	-	-	-	-	-	<0.05	<0.05
	Hexachlorobenzene	mg/kg	0.05	-	-	-	80	-	<0.05	<0.05
	Methoxychlor	mg/kg	0.05	-	-	-	-	-	<0.05	<0.05
	Toxaphene	mg/kg	0.5	-	-	-	160	-	<0.5	<0.5
	Vic EPA IWRG 621 OCP 9total)	mg/kg	0.1	-	-	-	-	-	<0.1	<0.1
	Vic EPA IWRG 621 Other OCP (total)	mg/kg	0.1	-	-	-	-	-	<0.1	<0.1
PCB	Aroclor-1016	mg/kg	0.1	-	-	-	-	-	<0.1	<0.1
	Aroclor-1221	mg/kg	0.1	-	-	-	-	-	<0.1	<0.1
	Aroclor-1232	mg/kg	0.1	-	-	-	-	-	<0.1	<0.1
	Aroclor-1242	mg/kg	0.1	-	-	-	-	-	<0.1	<0.1
	Aroclor-1248	mg/kg	0.1	-	-	-	-	-	<0.1	<0.1
	Aroclor-1254	mg/kg	0.1	-	-	-	-	-	<0.1	<0.1
	Aroclor-1260	mg/kg	0.1	-	-	-	-	-	<0.1	<0.1
	Total PCB*	mg/kg	0.1	-	-	-	7	-	<0.1	<0.1
Microbiological	Total coliforms	MPN/g	10	-	-	-	-	1000	-	-
	E. Coli	MPN/g	10	-	-	-	-	100	-	-
	Thermotolerant coliforms	MPN/g	10	-	-	-	-	1000	-	-
Nutrients	Ammonia (as N)	mg/kg	5	-	-	-	-	-	-	-
	Nitrate & Nitrite (as N)	mg/kg	5	-	-	-	-	-	-	-
	Nitrate (as N)	mg/kg	5	-	-	-	-	-	-	-
	Nitrite (as N)	mg/kg	5	-	-	-	-	-	-	-
	Phosphate total (as P)	mg/kg	5	-	-	-	-	-	-	-
	Total Kjeldahl Nitrogen (as N)	mg/kg	10	-	-	-	-	-	-	-
	Total Nitrogen (as N)*	mg/kg	10	-	-	-	-	-	-	-

Sample ID	TP84_0.0-0.1	TP86_0.0-0.1	TP88_0.0-0.1	TP90_0.0-0.1	TP92_0.0-0.1	TP94_0.0-0.1	TP95_0.0-0.1	TP96_0.0-0.1	TP98_0.0-0.1	TP100_0.0-0.1
Reference	S21-No02612	S21-No02613	S21-No02614	S21-No02615	S21-No02616	S21-No02617	S21-No02618	S21-No02619	S21-No02620	S21-No02621
Date Sampled	19/10/2021	19/10/2021	19/10/2021	19/10/2021	19/10/2021	19/10/2021	19/10/2021	20/10/2021	20/10/2021	20/10/2021
Sample Matrix	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil
Arsenic, As	8.8	7.3	7.2	9.8	9.3	7.2	10	16	15	6.8
Cadmium, Cd	< 0.4	< 0.4	< 0.4	< 0.4	< 0.4	< 0.4	< 0.4	< 0.4	< 0.4	< 0.4
Chromium, Cr	21	19	14	20	27	18	15	22	20	22
Copper, Cu	31	26	19	41	34	32	24	39	31	41
Lead, Pb	20	24	17	23	27	17	22	42	30	20
Mercury (inorganic)	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Nickel, Ni	11	17	14	15	15	12	12	18	20	16
Zinc, Zn	46	59	44	64	52	41	66	69	66	56
Acenaphthene	-	-	-	-	-	-	< 0.5	-	-	-
Acenaphthylene	-	-	-	-	-	-	< 0.5	-	-	-
Anthracene	-	-	-	-	-	-	< 0.5	-	-	-
Benzo(a)anthracene	-	-	-	-	-	-	< 0.5	-	-	-
Benzo(a)pyrene	-	-	-	-	-	-	< 0.5	-	-	-
Benzo(a)pyrene TEQ (lower bound)	-	-	-	-	-	-	< 0.5	-	-	-
Benzo(a)pyrene TEQ (medium bound)	-	-	-	-	-	-	0.6	-	-	-
Benzo(a)pyrene TEQ (upper bound)	-	-	-	-	-	-	1.2	-	-	-
Benzo(b&j)fluoranthene	-	-	-	-	-	-	< 0.5	-	-	-
Benzo(ghi)perylene	-	-	-	-	-	-	< 0.5	-	-	-
Benzo(k)fluoranthene	-	-	-	-	-	-	< 0.5	-	-	-
Chrysene	-	-	-	-	-	-	< 0.5	-	-	-
Dibenzo(ah)anthracene	-	-	-	-	-	-	< 0.5	-	-	-
Fluoranthene	-	-	-	-	-	-	< 0.5	-	-	-
Fluorene	-	-	-	-	-	-	< 0.5	-	-	-
Indeno(1,2,3-cd)pyrene	-	-	-	-	-	-	< 0.5	-	-	-
Naphthalene	-	-	-	-	-	-	< 0.5	-	-	-
Phenanthrene	-	-	-	-	-	-	< 0.5	-	-	-
Pyrene	-	-	-	-	-	-	< 0.5	-	-	-
Total PAH	-	-	-	-	-	-	< 0.5	-	-	-
TRH >C10-C16	-	-	-	-	-	-	94	-	-	-
TRH >C10-C16 less Naphthalene (F2)	-	-	-	-	-	-	94	-	-	-
TRH >C10-C40 (total)*	-	-	-	-	-	-	274	-	-	-
TRH >C16-C34 (F3)	-	-	-	-	-	-	180	-	-	-
TRH >C34-C40 (F4)	-	-	-	-	-	-	< 100	-	-	-
TRH C10-C14	-	-	-	-	-	-	22	-	-	-
TRH C10-C36 (Total)	-	-	-	-	-	-	302	-	-	-
TRH C15-C28	-	-	-	-	-	-	170	-	-	-
TRH C29-C36	-	-	-	-	-	-	110	-	-	-
TRH C6-C10	-	-	-	-	-	-	< 20	-	-	-
TRH C6-C10 less BTEX (F1)	-	-	-	-	-	-	< 20	-	-	-
TRH C6-C9	-	-	-	-	-	-	< 20	-	-	-
Benzene	-	-	-	-	-	-	<0.1	-	-	-
Ethylbenzene	-	-	-	-	-	-	<0.1	-	-	-
m/p-xylene	-	-	-	-	-	-	<0.2	-	-	-
o-xylene	-	-	-	-	-	-	<0.1	-	-	-
Toluene	-	-	-	-	-	-	<0.1	-	-	-
Total Xylenes	-	-	-	-	-	-	<0.3	-	-	-
4.4 - DDD	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
4.4 - DDE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
4.4 - DDT	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
a - BHC	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Aldrin	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Aldrin + Dieldrin (total)	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
b - BHC	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Chlordanes (total)	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
d - BHC	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
DDT + DDE + DDD (total)	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Dieldrin	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Endosulfan 1	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Endosulfan 2	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Endosulfan sulphate	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Endrin	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Endrin Aldehyde	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Endrin Ketone	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
g-BHC (Lindane)	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Heptachlor	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Heptachlor epoxide	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Hexachlorobenzene	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Methoxychlor	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Toxaphene	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Vic EPA IWRG 621 OCP 9total)	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Vic EPA IWRG 621 Other OCP (total)	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Aroclor-1016	-	-	-	-	-	-	< 0.1	-	-	-
Aroclor-1221	-	-	-	-	-	-	< 0.1	-	-	-
Aroclor-1232	-	-	-	-	-	-	< 0.1	-	-	-
Aroclor-1242	-	-	-	-	-	-	< 0.1	-	-	-
Aroclor-1248	-	-	-	-	-	-	< 0.1	-	-	-
Aroclor-1254	-	-	-	-	-	-	< 0.1	-	-	-
Aroclor-1260	-	-	-	-	-	-	< 0.1	-	-	-
Total PCB*	-	-	-	-	-	-	< 0.1	-	-	-
Total coliforms	-	-	-	-	-	-	-	-	-	-
E. Coli	-	-	-	-	-	-	-	-	-	-
Thermotolerant coliforms	-	-	-	-	-	-	-	-	-	-
Ammonia (as N)	-	-	-	-	-	-	-	-	-	-
Nitrate & Nitrite (as N)	-	-	-	-	-	-	-	-	-	-
Nitrate (as N)	-	-	-	-	-	-	-	-	-	-
Nitrite (as N)	-	-	-	-	-	-	-	-	-	-
Phosphate total (as P)	-	-	-	-	-	-	-	-	-	-
Total Kjeldahl Nitrogen (as N)	-	-	-	-	-	-	-	-	-	-
Total Nitrogen (as N)*	-	-	-	-	-	-	-	-	-	-

Sample ID	TP102_0.0-0.1	TP104_0.0-0.1	TP106_0.0-0.1	TP108_0.0-0.1	TP110_0.0-0.1	TP112_0.0-0.1	TP114_0.0-0.1	TP116_0.0-0.1	TP118_0.0-0.1
Reference	S21-No02623	S21-No02624	S21-No02625	S21-No02626	S21-No02627	S21-No02628	S21-No02629	S21-No02630	S21-No02631
Date Sampled	20/10/2021	20/10/2021	20/10/2021	20/10/2021	20/10/2021	20/10/2021	20/10/2021	20/10/2021	20/10/2021
Sample Matrix	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil
Arsenic, As	7.3	4.7	7.4	14	9.8	7.8	6	11	9.2
Cadmium, Cd	< 0.4	< 0.4	< 0.4	< 0.4	< 0.4	< 0.4	< 0.4	< 0.4	< 0.4
Chromium, Cr	23	21	17	24	16	27	23	17	18
Copper, Cu	36	29	26	36	26	47	38	26	26
Lead, Pb	20	15	15	36	16	23	19	18	19
Mercury (inorganic)	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Nickel, Ni	17	16	13	28	17	23	19	15	17
Zinc, Zn	50	43	43	92	51	86	70	47	52
Acenaphthene	-	-	-	-	-	-	-	-	-
Acenaphthylene	-	-	-	-	-	-	-	-	-
Anthracene	-	-	-	-	-	-	-	-	-
Benzo(a)anthracene	-	-	-	-	-	-	-	-	-
Benzo(a)pyrene	-	-	-	-	-	-	-	-	-
Benzo(a)pyrene TEQ (lower bound)	-	-	-	-	-	-	-	-	-
Benzo(a)pyrene TEQ (medium bound)	-	-	-	-	-	-	-	-	-
Benzo(a)pyrene TEQ (upper bound)	-	-	-	-	-	-	-	-	-
Benzo(b&j)fluoranthene	-	-	-	-	-	-	-	-	-
Benzo(ghi)perylene	-	-	-	-	-	-	-	-	-
Benzo(k)fluoranthene	-	-	-	-	-	-	-	-	-
Chrysene	-	-	-	-	-	-	-	-	-
Dibenzo(ah)anthracene	-	-	-	-	-	-	-	-	-
Fluoranthene	-	-	-	-	-	-	-	-	-
Fluorene	-	-	-	-	-	-	-	-	-
Indeno(1,2,3-cd)pyrene	-	-	-	-	-	-	-	-	-
Naphthalene	-	-	-	-	-	-	-	-	-
Phenanthrene	-	-	-	-	-	-	-	-	-
Pyrene	-	-	-	-	-	-	-	-	-
Total PAH	-	-	-	-	-	-	-	-	-
TRH >C10-C16	-	-	-	-	-	-	-	-	-
TRH >C10-C16 less Naphthalene (F2)	-	-	-	-	-	-	-	-	-
TRH >C10-C40 (total)*	-	-	-	-	-	-	-	-	-
TRH >C16-C34 (F3)	-	-	-	-	-	-	-	-	-
TRH >C34-C40 (F4)	-	-	-	-	-	-	-	-	-
TRH C10-C14	-	-	-	-	-	-	-	-	-
TRH C10-C36 (Total)	-	-	-	-	-	-	-	-	-
TRH C15-C28	-	-	-	-	-	-	-	-	-
TRH C29-C36	-	-	-	-	-	-	-	-	-
TRH C6-C10	-	-	-	-	-	-	-	-	-
TRH C6-C10 less BTEX (F1)	-	-	-	-	-	-	-	-	-
TRH C6-C9	-	-	-	-	-	-	-	-	-
Benzene	-	-	-	-	-	-	-	-	-
Ethylbenzene	-	-	-	-	-	-	-	-	-
m/p-xylene	-	-	-	-	-	-	-	-	-
o-xylene	-	-	-	-	-	-	-	-	-
Toluene	-	-	-	-	-	-	-	-	-
Total Xylenes	-	-	-	-	-	-	-	-	-
4.4 - DDD	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
4.4 - DDE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
4.4 - DDT	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
a - BHC	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Aldrin	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Aldrin + Dieldrin (total)	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
b - BHC	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Chlordanes (total)	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
d - BHC	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
DDT + DDE + DDD (total)	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Dieldrin	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Endosulfan 1	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Endosulfan 2	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Endosulfan sulphate	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Endrin	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Endrin Aldehyde	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Endrin Ketone	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
g-BHC (Lindane)	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Heptachlor	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Heptachlor epoxide	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Hexachlorobenzene	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Methoxychlor	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Toxaphene	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Vic EPA IWRG 621 OCP 9total)	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Vic EPA IWRG 621 Other OCP (total)	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Aroclor-1016	-	-	-	-	-	-	-	-	-
Aroclor-1221	-	-	-	-	-	-	-	-	-
Aroclor-1232	-	-	-	-	-	-	-	-	-
Aroclor-1242	-	-	-	-	-	-	-	-	-
Aroclor-1248	-	-	-	-	-	-	-	-	-
Aroclor-1254	-	-	-	-	-	-	-	-	-
Aroclor-1260	-	-	-	-	-	-	-	-	-
Total PCB*	-	-	-	-	-	-	-	-	-
Total coliforms	-	-	-	-	-	-	-	-	-
E. Coli	-	-	-	-	-	-	-	-	-
Thermotolerant coliforms	-	-	-	-	-	-	-	-	-
Ammonia (as N)	-	-	-	-	-	-	-	-	-
Nitrate & Nitrite (as N)	-	-	-	-	-	-	-	-	-
Nitrate (as N)	-	-	-	-	-	-	-	-	-
Nitrite (as N)	-	-	-	-	-	-	-	-	-
Phosphate total (as P)	-	-	-	-	-	-	-	-	-
Total Kjeldahl Nitrogen (as N)	-	-	-	-	-	-	-	-	-
Total Nitrogen (as N)*	-	-	-	-	-	-	-	-	-

Sample ID	TP120_0.0-0.1	TP120_0.5-0.6	TP122_0.0-0.1	TP124_0.0-0.1	TP125_0.0-0.1	TP126_0.0-0.1	TP128_0.0-0.1	TP130_0.0-0.1	TP132_0.0-0.1	TP134_0.0-0.1	TP136_0.0-0.1
Reference	S21-No02632	S21-No02646	S21-No02633	S21-No02634	S21-No02635	S21-No02636	S21-No02637	S21-No02638	S21-No02639	S21-No02640	S21-No02641
Date Sampled	20/10/2021	20/10/2021	20/10/2021	20/10/2021	20/10/2021	20/10/2021	21/10/2021	21/10/2021	21/10/2021	21/10/2021	21/10/2021
Sample Matrix	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil
Arsenic, As	5	-	9.3	10	14	12	12	9.3	14	12	11
Cadmium, Cd	< 0.4	-	< 0.4	< 0.4	< 0.4	< 0.4	< 0.4	< 0.4	< 0.4	< 0.4	< 0.4
Chromium, Cr	12	-	15	19	21	20	14	21	19	19	21
Copper, Cu	26	-	22	28	31	27	36	36	25	26	26
Lead, Pb	16	-	13	24	25	27	14	18	20	22	23
Mercury (inorganic)	< 0.1	-	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Nickel, Ni	9.2	-	12	19	23	21	21	18	24	18	20
Zinc, Zn	360	-	37	58	63	68	150	57	66	49	56
Acenaphthene	< 0.5	-	-	-	< 0.5	-	-	-	-	-	-
Acenaphthylene	< 0.5	-	-	-	< 0.5	-	-	-	-	-	-
Anthracene	< 0.5	-	-	-	< 0.5	-	-	-	-	-	-
Benzo(a)anthracene	< 0.5	-	-	-	< 0.5	-	-	-	-	-	-
Benzo(a)pyrene	< 0.5	-	-	-	< 0.5	-	-	-	-	-	-
Benzo(a)pyrene TEQ (lower bound)	< 0.5	-	-	-	< 0.5	-	-	-	-	-	-
Benzo(a)pyrene TEQ (medium bound)	0.6	-	-	-	0.6	-	-	-	-	-	-
Benzo(a)pyrene TEQ (upper bound)	1.2	-	-	-	1.2	-	-	-	-	-	-
Benzo(b&j)fluoranthene	< 0.5	-	-	-	< 0.5	-	-	-	-	-	-
Benzo(ghi)perylene	< 0.5	-	-	-	< 0.5	-	-	-	-	-	-
Benzo(k)fluoranthene	< 0.5	-	-	-	< 0.5	-	-	-	-	-	-
Chrysene	< 0.5	-	-	-	< 0.5	-	-	-	-	-	-
Dibenzo(ah)anthracene	< 0.5	-	-	-	< 0.5	-	-	-	-	-	-
Fluoranthene	< 0.5	-	-	-	< 0.5	-	-	-	-	-	-
Fluorene	< 0.5	-	-	-	< 0.5	-	-	-	-	-	-
Indeno(1,2,3-cd)pyrene	< 0.5	-	-	-	< 0.5	-	-	-	-	-	-
Naphthalene	< 0.5	-	-	-	< 0.5	-	-	-	-	-	-
Phenanthrene	< 0.5	-	-	-	< 0.5	-	-	-	-	-	-
Pyrene	< 0.5	-	-	-	< 0.5	-	-	-	-	-	-
Total PAH	< 0.5	-	-	-	< 0.5	-	-	-	-	-	-
TRH >C10-C16	< 50	-	-	-	< 50	-	-	-	-	-	-
TRH >C10-C16 less Naphthalene (F2)	< 50	-	-	-	< 50	-	-	-	-	-	-
TRH >C10-C40 (total)*	< 100	-	-	-	< 100	-	-	-	-	-	-
TRH >C16-C34 (F3)	< 100	-	-	-	< 100	-	-	-	-	-	-
TRH >C34-C40 (F4)	< 100	-	-	-	< 100	-	-	-	-	-	-
TRH C10-C14	< 20	-	-	-	< 20	-	-	-	-	-	-
TRH C10-C36 (Total)	< 50	-	-	-	< 50	-	-	-	-	-	-
TRH C15-C28	< 50	-	-	-	< 50	-	-	-	-	-	-
TRH C29-C36	< 50	-	-	-	< 50	-	-	-	-	-	-
TRH C6-C10	< 20	-	-	-	< 20	-	-	-	-	-	-
TRH C6-C10 less BTEX (F1)	< 20	-	-	-	< 20	-	-	-	-	-	-
TRH C6-C9	< 20	-	-	-	< 20	-	-	-	-	-	-
Benzene	<0.1	-	-	-	<0.1	-	-	-	-	-	-
Ethylbenzene	<0.1	-	-	-	<0.1	-	-	-	-	-	-
m/p-xylene	<0.2	-	-	-	<0.2	-	-	-	-	-	-
o-xylene	<0.1	-	-	-	<0.1	-	-	-	-	-	-
Toluene	<0.1	-	-	-	<0.1	-	-	-	-	-	-
Total Xylenes	<0.3	-	-	-	<0.3	-	-	-	-	-	-
4.4 - DDD	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
4.4 - DDE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
4.4 - DDT	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
a - BHC	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Aldrin	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Aldrin + Dieldrin (total)	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
b - BHC	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Chlordanes (total)	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
d - BHC	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
DDT + DDE + DDD (total)	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Dieldrin	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Endosulfan 1	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Endosulfan 2	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Endosulfan sulphate	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Endrin	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Endrin Aldehyde	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Endrin Ketone	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
g-BHC (Lindane)	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Heptachlor	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Heptachlor epoxide	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Hexachlorobenzene	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Methoxychlor	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Toxaphene	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Vic EPA IWRG 621 OCP 9total)	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Vic EPA IWRG 621 Other OCP (total)	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Aroclor-1016	< 0.1	< 0.1	-	-	< 0.1	-	-	-	-	-	-
Aroclor-1221	< 0.1	< 0.1	-	-	< 0.1	-	-	-	-	-	-
Aroclor-1232	< 0.1	< 0.1	-	-	< 0.1	-	-	-	-	-	-
Aroclor-1242	< 0.1	< 0.1	-	-	< 0.1	-	-	-	-	-	-
Aroclor-1248	< 0.1	< 0.1	-	-	< 0.1	-	-	-	-	-	-
Aroclor-1254	< 0.1	< 0.1	-	-	< 0.1	-	-	-	-	-	-
Aroclor-1260	< 0.1	< 0.1	-	-	< 0.1	-	-	-	-	-	-
Total PCB*	< 0.1	< 0.1	-	-	< 0.1	-	-	-	-	-	-
Total coliforms	-	-	-	-	-	-	-	-	-	-	-
E. Coli	-	-	-	-	-	-	-	-	-	-	-
Thermotolerant coliforms	-	-	-	-	-	-	-	-	-	-	-
Ammonia (as N)	-	-	-	-	-	-	-	-	-	-	-
Nitrate & Nitrite (as N)	-	-	-	-	-	-	-	-	-	-	-
Nitrate (as N)	-	-	-	-	-	-	-	-	-	-	-
Nitrite (as N)	-	-	-	-	-	-	-	-	-	-	-
Phosphate total (as P)	-	-	-	-	-	-	-	-	-	-	-
Total Kjeldahl Nitrogen (as N)	-	-	-	-	-	-	-	-	-	-	-
Total Nitrogen (as N)*	-	-	-	-	-	-	-	-	-	-	-

Highlighted concentration exceeds the adopted site criteria - Screening Levels for Direct Contact (mg/kg) - CRC Care 2011
Highlighted concentration exceeds the adopted site criteria - Inhalation / Vapour Intrusion HSLs (mg/kg) - NEPC 2013 (CLAY)
Highlighted concentration exceeds the adopted site criteria - Management Limits for TPH Fractions F1 - F4 in soil (mg/Kg) - NEPC 2013
Highlighted concentration exceeds the adopted site criteria - Health Investigation Levels for Soil Contaminants - NEPC 2013
Highlighted concentration exceeds the adopted site criteria - Stabilisation Grade A Microbiological Standards (NSW EPA 2000)

- No published criteria or sample not analysed
NL Not Limiting

Table 4. Soil Analysis
290-308 Aldington Road and 59-63 Abbotts Road, Kemps Creek NSW
Soil Results & Adopted Site Criteria
13546-ER-2-1

Group	Analyte	Units	PQL	Screening Levels for Direct Contact (mg/kg) - CRC Care 2011	Inhalation / Vapour Intrusion HSLs (mg/kg) - NEPC 2013 (CLAY)	Management Limits for TPH Fractions F1 - F4 in soil (mg/Kg) - NEPC 2013	Health Investigation Levels for Soil Contaminants - NEPM 2013	Use and Disposal of Biosolids Products (NSW EPA 2000)	Sample ID	TP138_0.0-0.1	TP141_0.0-0.1	TP142_0.5-0.6	PP1	PP2 0.0-0.1	PP3 0.0-0.1	PP4 0.0-0.1	PP5 0.0-0.1	PP6 0.0-0.1	PP7 0.0-0.1	PP8 0.0-0.1	PP9	PP10	PP11	PP12	DR01 0.0-0.2	DR02 0.0-0.2	DR03 0.0-0.2	DR04 0.0-0.1	DR05 0.0-0.1	DR06 0.0-0.1	DR07 0.0-0.1	DR08 0.0-0.1	DR11 0.0-0.1	DR12 0.0-0.1	DR13 0.0-0.1	DR14 0.0-0.1	DR15 0.0-0.1	DR16 0.0-0.1	DR17 0.0-0.1
									Reference	S21-No02643	S21-No02597	S21-No02598	S21-No02589	S21-Oc38493	S21-Oc38494	S21-Oc38495	S21-Oc38496	S21-Oc38497	S21-Oc38498	S21-Oc38499	S21-No02587	S21-No02590	S21-No02591	S21-No02592	S21-Oc38452	S21-Oc38453	S21-Oc38454	S21-Oc38455	S21-Oc38456	S21-Oc38457	S21-Oc38458	S21-Oc38459	S21-Oc38500	S21-Oc38501	S21-Oc38502	S21-Oc38503	S21-No02588	S21-No02599	S21-No02600
									Date Sampled	21/10/2021	18/10/2021	18/10/2021	18/10/2021	13/10/2021	13/10/2021	12/10/2021	13/10/2021	12/10/2021	12/10/2021	12/10/2021	18/10/2021	18/10/2021	18/10/2021	18/10/2021	6/10/2021	6/10/2021	6/10/2021	7/10/2021	7/10/2021	7/10/2021	7/10/2021	7/10/2021	13/10/2021	13/10/2021	13/10/2021	13/10/2021	18/10/2021	19/10/2021	19/10/2021
									Sample Matrix	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil
				HSL - D Commercial/Industrial	HSL - D Commercial/Industrial 0 m to <1 m	Commercial and Industrial (fine)	Commercial/Industrial D	Stabilisation Grade A Microbiological Standards	Data Set Minimum	Data Set Maximum																														
Metals	Arsenic, As	mg/kg	2	-	-	-	3000	-	<2	39	11	27	7	3.7	20	39	13	9.9	39	4.9	7	8.9	16	8	7.4	4.3	3.2	3	3.4	4.8	12	3.7	6.3	< 2	17	12	7.8	9	2.8	4.6
	Cadmium, Cd	mg/kg	0.4	-	-	-	900	-	<0.4	<0.4	< 0.4	< 0.4	< 0.4	< 0.4	< 0.4	< 0.4	< 0.4	< 0.4	< 0.4	< 0.4	< 0.4	< 0.4			< 0.4	< 0.4	< 0.4	< 0.4	< 0.4	< 0.4	< 0.4	< 0.4	< 0.4	< 0.4	< 0.4	< 0.4	< 0.4	< 0.4	< 0.4	< 0.4
	Chromium, Cr	mg/kg	5	-	-	-	3600	-	<5	59	21	13	13	7.5	25	21	23	16	23	10	13	19	30	17	18	24	19	17	14	89	33	18	13	< 5	26	21	21	17	13	13
	Copper, Cu	mg/kg	5	-	-	-	240000	-	<5	62	28	28	62	11	26	24	30	21	41	19	29	33	47	28	22	34	21	52	41	14	35	9.3	8.4	< 5	52	19	36	19	8.7	13
	Lead, Pb	mg/kg	5	-	-	-	1500	-	<5	160	23	160	30	-	-	-	-	-	-	-	-	-	-	-	-	21	13	15	13	17	26	14	14	< 5	37	24	18	36	160	24
	Mercury (inorganic)	mg/kg	0.1	-	-	-	730	-	<0.1	0.2	< 0.1	0.2	< 0.1	-	-	-	-	-	-	-	-	-	-	-	-	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	0.1	< 0.1
	Nickel, Ni	mg/kg	5	-	-	-	6000	-	<5	37	19	15	7.5	-	-	-	-	-	-	-	-	-	-	-	-	22	16	15	14	21	28	21	6.3	< 5	37	14	26	8.6	7.6	5.3
	Zinc, Zn	mg/kg	5	-	-	-	400000	-	<5	290	59	180	73	-	-	-	-	-	-	-	-	-	-	-	-	84	48	46	93	37	95	34	21	< 5	110	44	64	71	290	92
PAH	Acenaphthene	mg/kg	0.5	-	-	-	-	-	<0.5	<0.5	< 0.5	< 0.5	< 0.5	-	-	-	-	-	-	-	-	-	-	-	-	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
	Acenaphthylene	mg/kg	0.5	-	-	-	-	-	<0.5	<0.5	< 0.5	< 0.5	< 0.5	-	-	-	-	-	-	-	-	-	-	-	-	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
	Anthracene	mg/kg	0.5	-	-	-	-	-	<0.5	<0.5	< 0.5	< 0.5	< 0.5	-	-	-	-	-	-	-	-	-	-	-	-	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
	Benzo(a)anthracene	mg/kg	0.5	-	-	-	-	-	<0.5	<0.5	< 0.5	< 0.5	< 0.5	-	-	-	-	-	-	-	-	-	-	-	-	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
	Benzo(a)pyrene	mg/kg	0.5	-	-	-	-	-	<0.5	0.6	< 0.5	< 0.5	< 0.5	-	-	-	-	-	-	-	-	-	-	-	-	< 0.5	< 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
	Benzo(a)pyrene TEQ (lower bound)	mg/kg	0.5	-	-	-	40	-	<0.5	0.7	< 0.5	< 0.5	< 0.5	-	-	-	-	-	-	-	-	-	-	-	-	< 0.5	< 0.5	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
	Benzo(a)pyrene TEQ (medium bound)	mg/kg	0.6	-	-	-	40	-	0.6	1	-	0.6	0.6	-	-	-	-	-	-	-	-	-	-	-	-	0.6	0.6	1	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6
	Benzo(a)pyrene TEQ (upper bound)	mg/kg	1.2	-	-	-	40	-	1.2	1.3	-	1.2	1.2	-	-	-	-	-	-	-	-	-	-	-	-	1.2	1.2	1.3	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2
	Benzo(b&j)fluoranthene	mg/kg	0.5	-	-	-	-	-	<0.5	<0.5	< 0.5	< 0.5	< 0.5	-	-	-	-	-	-	-	-	-	-	-	-	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
	Benzo(ghi)perylene	mg/kg	0.5	-	-	-	-	-	<0.5	1.4	< 0.5	< 0.5	< 0.5	-	-	-	-	-	-	-	-	-	-	-	-	< 0.5	< 0.5	1.4	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
	Benzo(k)fluoranthene	mg/kg	0.5	-	-	-	-	-	<0.5	<0.5	< 0.5	< 0.5	< 0.5	-	-	-	-	-	-	-	-	-	-	-	-	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
	Chrysene	mg/kg	0.5	-	-	-	-	-	<0.5	<0.5	< 0.5	< 0.5	< 0.5	-	-	-	-	-	-	-	-	-	-	-	-	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
	Dibenzo(ah)anthracene	mg/kg	0.5	-	-	-	-	-	<0.5	<0.5	< 0.5	< 0.5	< 0.5	-	-	-	-	-	-	-	-	-	-	-	-	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
	Fluoranthene	mg/kg	0.5	-	-	-	-	-	<0.5	0.6	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
	Fluorene	mg/kg	0.5	-	-	-	-	-	<0.5	<0.5	< 0.5	< 0.5	< 0.5	-	-	-	-	-	-	-	-	-	-	-	-	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
	Indeno(1,2,3-cd)pyrene	mg/kg	0.5	-	-	-	-	-	<0.5	0.7	< 0.5	< 0.5	< 0.5	-	-	-	-	-	-	-	-	-	-	-	-	< 0.5	< 0.5	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
	Naphthalene	mg/kg	0.5	11,000	-	-	-	-	<0.5	<0.5	< 0.5	< 0.5	< 0.5	-	-	-	-	-	-	-	-	-	-	-	-	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
	Phenanthrene	mg/kg	0.5	-	-	-	-	-	<0.5	<0.5	< 0.5	< 0.5	< 0.5	-	-	-	-	-	-	-	-	-	-	-	-	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
	Pyrene	mg/kg	0.5	-	-	-	-	-	<0.5	0.5	0.5	< 0.5	< 0.5	-	-	-	-	-	-	-	-	-	-	-	-	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
	Total PAH	mg/kg	0.5	-	-	-	4000	-	<0.5	2.7	1.1	< 0.5	< 0.5	-	-	-	-	-	-	-	-	-	-	-	-	< 0.5	< 0.5	2.7	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
TRH	TRH >C10-C16	mg/kg	50	-	-	-	-	-	<50	<50	< 50	< 50	< 50	-	-	-	-	-	-	-	-	-	-	-	-	< 50	< 50	< 250	< 50	< 50	< 100	< 50	< 50	< 50	< 50	< 50	< 50	< 50	< 50	< 50
	TRH >C10-C16 less Naphthalene (F2)	mg/kg	50	20000	-	NL	1000	-	<50	<50	< 50	< 50	< 50	-	-	-	-	-	-	-	-	-	-	-	-	< 50	< 50	< 250	< 50	< 50	< 100	< 50	< 50	< 50	< 50	< 50	< 50	< 50	< 50	< 50
	TRH >C10-C40 (total)*	mg/kg	100	-	-	-	-	-	<100	1980	< 100	110	530	-	-	-	-	-	-	-	-	-	-	-	-	430	100	1980	340	< 100	< 200	< 100	< 100	< 100	110	< 100	< 100	< 100	110	< 100
	TRH >C16-C34 (F3)	mg/kg	100	27000	-	-	5000	-	<100	880	< 100	110	530	-	-	-	-	-	-	-	-	-	-	-	-	200	< 100	880	170	< 100	< 200	< 100	< 100	< 100	110	< 100	< 100	< 100	110	< 100
	TRH >C34-C40 (F4)	mg/kg	100	38,000	-	-	10000	-	<100	1100	< 100	< 100	< 100	-	-	-	-	-	-	-	-	-	-	-	-	230	100	1100	170	< 100	< 200	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100
	TRH C10-C14	mg/kg	20	-	-	-	-	-	<20	25	< 20	25	-	-	-	-	-	-	-	-	-	-	-	-	-	< 20	< 20	< 100	< 20	< 20	< 40	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20
	TRH C10-C36 (Total)	mg/kg	50	-	-	-	-	-	<50	1160	-	131	485	-	-	-	-	-	-	-	-	-	-	-	-	259	66	1160	215	53	130	< 50	< 50	< 50	137	< 50	< 50	< 50	85	< 50
	TRH C15-C28	mg/kg	50	-	-	-	-	-	<50	390	-	73	210	-	-	-	-	-	-	-	-	-	-	-	-	79	< 50	300	65	< 50	< 100	< 50	< 50	< 50	60	< 50	< 50	< 50	< 50	< 50
	TRH C29-C36	mg/kg	50	-	-	-	-	-	<50	860	-	58	250	-	-	-	-	-	-	-	-	-	-	-	-	180	66	860	150	53	130	< 50	< 50	< 50	77	< 50	< 50	< 50	85	< 50
	TRH C6-C10	mg/kg	20	26,000	-	-	-	-	<20	<20	< 20	< 20	< 20	-	-	-	-	-	-	-	-	-	-	-	-	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20
	TRH C6-C10 less BTEX (F1)	mg/kg	20	-	-	310	800	-	<20	<20	< 20	< 20	< 20	-	-	-	-	-	-	-	-	-	-	-	-	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20
	TRH C6-C9	mg/kg	20	-	-	-	-	-	<20	<20	< 20	< 20	< 20	-	-	-	-	-	-	-	-	-	-	-	-	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20
BTEX	Benzene	mg/kg	0.1	430	-	-	-	-	<0.1	<0.1	<0.1	<0.1	<0.1	-	-	-	-	-	-	-	-	-	-	-	-	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
	Ethylbenzene	mg/kg	0.1	27000	-	NL	-	-	<0.1	<0.1	<0.1	<0.1	<0.1	-	-	-	-	-	-	-	-	-	-	-	-	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
	m/p-xylene	mg/kg	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	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
	o-xylene	mg/kg	0.1	-	-	-	-	-	<0.1	<0.1	<0.1	<0.1	<0.1	-	-	-	-	-	-	-	-	-	-	-	-	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
	Toluene	mg/kg	0.1	99000	NL	-	-	-	<0.1	<0.1	-	<0.1	<0.1	-	-	-	-	-	-	-	-	-	-	-	-	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
	Total Xylenes	mg/kg	0.3	81000	NL	-	-	-	<0.3	<0.3	-	<0.3	<0.3	-	-	-	-	-	-	-	-	-	-	-	-	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3
OCP	4,4 - DDD	mg/kg	0.05	-	-	-	-	-	<0.05	<0.05	< 0.05	< 0.05	< 0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	4,4 - DDE	mg/kg	0.05	-	-	-	-	-	<0.05	<0.05	< 0.05	< 0.05	< 0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	4,4 - DDT	mg/kg	0.05	-	-	-	-	-	<0.05	<0.05	< 0.05	< 0.05	< 0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	a - BHC	mg/kg	0.05	-	-	-	-	-	<0.05	<0.05	< 0.05	< 0.05	< 0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Aldrin	mg/kg	0.05	-	-	-	-	-	<0.05	<0.05	< 0.05	< 0.05	< 0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Aldrin + Dieldrin (total)	mg/kg	0.05	-	-	-	45	-	<0.05	<0.05	< 0.05	< 0.05	< 0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	b - BHC	mg/kg	0.05	-	-	-	-	-	<0.05	<0.05	< 0.05	< 0.05	< 0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Chlordanes (total)	mg/kg	0.1	-	-	-	530	-	<0.1	<0.1	< 0.1	< 0.1	< 0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	d - BHC	mg/kg	0.05	-	-	-	-	-	<0.05	<0.05	< 0.05	< 0.05	< 0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	DDT + DDE + DDD (total)	mg/kg	0.05	-	-	-	3600	-	<0.05	<0.05	< 0.05	< 0.05	< 0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Dieldrin	mg/kg	0.05	-	-	-	-	-	<0.05	0.13	< 0.05	0.13	< 0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Endosulfan 1	mg/kg	0.05	-	-	-	2000	-	<0.05	<0.05	< 0.05	< 0.05	< 0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Endosulfan 2	mg/kg	0.05	-	-	-	2000	-	<0.05	<0.05	< 0.05	< 0.05	< 0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Endosulfan sulphate	mg/kg	0.05	-	-	-	2000	-	<0.05	<0.05	< 0.05	< 0.05	< 0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Endrin	mg/kg	0.05	-	-	-	100	-	<0.05	<0.05	< 0.05	< 0.05	< 0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Endrin Aldehyde	mg/kg	0.05	-	-	-	-	-	<0.05	<0.05	< 0.05	< 0.05	< 0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Endrin Ketone	mg/kg	0.05	-	-	-	-	-	<0.05	<0.05	< 0.05	< 0.05	< 0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	g-BHC (Lindane)	mg/kg	0.05	-	-	-	-	-	<0.05	<0.05	< 0.05	< 0.05	< 0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Heptachlor	mg/kg	0.05	-	-	-	50	-	<0.05	<0.05	< 0.05	< 0.05	< 0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Heptachlor epoxide	mg/kg	0.05	-	-	-	-	-	<0.05	<0.05	< 0.05	< 0.05	< 0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Hexachlorobenzene	mg/kg	0.05	-	-	-	80	-	<0.05	<0.05	< 0.05	< 0.05	< 0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Methoxychlor	mg/kg	0.05	-	-	-	-	-	<0.05	<0.05	< 0.05	< 0.05	< 0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Toxaphene	mg/kg	0.5	-	-	-	160	-	<0.5	<0.5	< 0.5	< 0.5	< 0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Vic EPA IWRG 621 OCP (total)	mg/kg	0.1	-	-	-	-	-	<0.1	0.13	< 0.1	0.13	< 0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Vic EPA IWRG 621 Other OCP (total)	mg/kg	0.1	-	-	-	-	-	<0.1	<0.1	< 0.1	< 0.1	< 0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
PCB	Aroclor-1016	mg/kg	0.1	-	-	-	-	-	<0.1	<0.1	-	< 0.1	< 0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Aroclor-1221	mg/kg	0.1	-	-	-	-	-	<0.1	<0.1	-	< 0.1	< 0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Aroclor-1232	mg/kg	0.1	-	-	-	-	-	<0.1	<0.1	-	< 0.1	< 0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Aroclor-1242	mg/kg	0.1	-	-	-	-	-	<0.1	<0.1	-	< 0.1	< 0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Aroclor-1248	mg/kg	0.1	-	-	-	-	-	<0.1	<0.1	+	< 0.1	< 0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Aroclor-1254	mg/kg	0.1	-	-	-	-	-	<0.1	<0.1	-	< 0.1	< 0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Aroclor-1260	mg/kg	0.1	-	-	-	-	-	<0.1	<0.1	-	< 0.1	< 0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Total PCB*	mg/kg	0.1	-	-	-	7	-	<0.1	<0.1	-	< 0.1	< 0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Microbiological	Total coliforms	MPN/g	10	-	-	-	-	1000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	E. Coli	MPN/g	10	-	-	-	-	100	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Thermotolerant coliforms	MPN/g	10	-	-	-	-	1000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Nutrients	Ammonia (as N)	mg/kg	5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Nitrate & Nitrite (as N)	mg/kg	5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Nitrate (as N)	mg/kg	5	-	-	-	-	-	+	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Nitrite (as N)	mg/kg	5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Phosphate total (as P)	mg/kg	5	-	-	-	-	-	+	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Total Kjeldahl Nitrogen (as N)	mg/kg	10	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Total Nitrogen (as N)*	mg/kg	10	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Highlighted concentration exceeds the adopted site criteria - Screening Levels for Direct Contact (mg/kg) - CRC Care 2011
Highlighted concentration exceeds the adopted site criteria - Inhalation / Vapour Intrusion HSLs (mg/kg) - NEPC 2013 (CLAY)
Highlighted concentration exceeds the adopted site criteria - Management Limits for TPH Fractions F1 - F4 in soil (mg/Kg) - NEPC 2013
Highlighted concentration exceeds the adopted site criteria - Health Investigation Levels for Soil Contaminants - NEPC 2013
Highlighted concentration exceeds the adopted site criteria - Stabilisation Grade A Microbiological Standards (NSW EPA 2000)

- No published criteria or sample not analysed
NL Not Limiting

Table 4. Soil Analysis
290-308 Aldington Road and 59-63 Abbotts Road, Kemps Creek NSW
Soil Results & Adopted Site Criteria
13546-ER-2-1

Group	Analyte	Units	PQL	Screening Levels for Direct Contact (mg/kg) - CRC Care 2011: HSL - D Commercial/Industrial	Inhalation / Vapour Intrusion HSLs (mg/kg) - NEPC 2013 (CLAY): HSL - D Commercial/Industrial 0 m to <1 m	Management Limits for TPH Fractions F1 - F4 in soil (mg/Kg) - NEPC 2013: Commercial and Industrial (fine)	Health Investigation Levels for Soil Contaminants - NEPM 2013: Commercial/Industrial D	Use and Disposal of Biosolids Products (NSW EPA 2000): Stabilisation Grade A Microbiological Standards	Data Set Minimum	Data Set Maximum
Metals	Arsenic, As	mg/kg	2	-	-	-	3000	-	3.3	30
	Cadmium, Cd	mg/kg	0.4	-	-	-	900	-	<0.4	<0.4
	Chromium, Cr	mg/kg	5	-	-	-	3600	-	9.8	35
	Copper, Cu	mg/kg	5	-	-	-	240000	-	13	260
	Lead, Pb	mg/kg	5	-	-	-	1500	-	12	58
	Mercury (inorganic)	mg/kg	0.1	-	-	-	730	-	<0.1	0.5
	Nickel, Ni	mg/kg	5	-	-	-	6000	-	6.3	30
	Zinc, Zn	mg/kg	5	-	-	-	400000	-	28	1000
PAH	Acenaphthene	mg/kg	0.5	-	-	-	-	-	<0.5	<0.5
	Acenaphthylene	mg/kg	0.5	-	-	-	-	-	<0.5	<0.5
	Anthracene	mg/kg	0.5	-	-	-	-	-	<0.5	<0.5
	Benzo(a)anthracene	mg/kg	0.5	-	-	-	-	-	<0.5	<0.5
	Benzo(a)pyrene	mg/kg	0.5	-	-	-	-	-	<0.5	<0.5
	Benzo(a)pyrene TEQ (lower bound)	mg/kg	0.5	-	-	-	40	-	<0.5	<0.5
	Benzo(a)pyrene TEQ (medium bound)	mg/kg	0.6	-	-	-	40	-	0.6	0.6
	Benzo(a)pyrene TEQ (upper bound)	mg/kg	1.2	-	-	-	40	-	1.2	1.2
	Benzo(b&j)fluoranthene	mg/kg	0.5	-	-	-	-	-	<0.5	<0.5
	Benzo(ghi)perylene	mg/kg	0.5	-	-	-	-	-	<0.5	<0.5
	Benzo(k)fluoranthene	mg/kg	0.5	-	-	-	-	-	<0.5	<0.5
	Chrysene	mg/kg	0.5	-	-	-	-	-	<0.5	<0.5
	Dibenzo(ah)anthracene	mg/kg	0.5	-	-	-	-	-	<0.5	<0.5
	Fluoranthene	mg/kg	0.5	-	-	-	-	-	<0.5	<0.5
	Fluorene	mg/kg	0.5	-	-	-	-	-	<0.5	<0.5
	Indeno(1,2,3-cd)pyrene	mg/kg	0.5	-	-	-	-	-	<0.5	<0.5
	Naphthalene	mg/kg	0.5	11,000	-	-	-	-	<0.5	<0.5
	Phenanthrene	mg/kg	0.5	-	-	-	-	-	<0.5	<0.5
	Pyrene	mg/kg	0.5	-	-	-	-	-	<0.5	<0.5
	Total PAH	mg/kg	0.5	-	-	-	4000	-	<0.5	<0.5
TRH	TRH >C10-C16	mg/kg	50	-	-	-	-	-	<50	<50
	TRH >C10-C16 less Naphthalene (F2)	mg/kg	50	20000	NL	1000	-	-	<50	<50
	TRH >C10-C40 (total)*	mg/kg	100	-	-	-	-	-	<100	610
	TRH >C16-C34 (F3)	mg/kg	100	27000	-	5000	-	-	<100	590
	TRH >C34-C40 (F4)	mg/kg	100	38,000	-	10000	-	-	<100	180
	TRH C10-C14	mg/kg	20	-	-	-	-	-	<20	<20
	TRH C10-C36 (Total)	mg/kg	50	-	-	-	-	-	<50	660
	TRH C15-C28	mg/kg	50	-	-	-	-	-	<50	270
	TRH C29-C36	mg/kg	50	-	-	-	-	-	<50	390
	TRH C6-C10	mg/kg	20	26,000	-	-	-	-	<20	<20
	TRH C6-C10 less BTEX (F1)	mg/kg	20	-	310	800	-	-	<20	<20
	TRH C6-C9	mg/kg	20	-	-	-	-	-	<20	<20
BTEX	Benzene	mg/kg	0.1	430	4	-	-	-	<0.1	<0.1
	Ethylbenzene	mg/kg	0.1	27000	NL	-	-	-	<0.1	<0.1
	m/p-xylene	mg/kg	0.2	-	-	-	-	-	<0.2	<0.2
	o-xylene	mg/kg	0.1	-	-	-	-	-	<0.1	<0.1
	Toluene	mg/kg	0.1	99000	NL	-	-	-	<0.1	<0.1
	Total Xylenes	mg/kg	0.3	81000	NL	-	-	-	<0.3	<0.3
OCP	4.4 - DDD	mg/kg	0.05	-	-	-	-	-	<0.05	<0.05
	4.4 - DDE	mg/kg	0.05	-	-	-	-	-	<0.05	<0.05
	4.4 - DDT	mg/kg	0.05	-	-	-	-	-	<0.05	<0.05
	a - BHC	mg/kg	0.05	-	-	-	-	-	<0.05	<0.05
	Aldrin	mg/kg	0.05	-	-	-	-	-	<0.05	<0.05
	Aldrin + Dieldrin (total)	mg/kg	0.05	-	-	-	45	-	<0.05	<0.05
	b - BHC	mg/kg	0.05	-	-	-		-	<0.05	<0.05
	Chlordanes (total)	mg/kg	0.1	-	-	-	530	-	<0.1	<0.1
	d - BHC	mg/kg	0.05	-	-	-		-	<0.05	<0.05
	DDT + DDE + DDD (total)	mg/kg	0.05	-	-	-	3600	-	<0.05	<0.05
	Dieldrin	mg/kg	0.05	-	-	-	-	-	<0.05	<0.05
	Endosulfan 1	mg/kg	0.05	-	-	-	2000	-	<0.05	<0.05
	Endosulfan 2	mg/kg	0.05	-	-	-	2000	-	<0.05	<0.05
	Endosulfan sulphate	mg/kg	0.05	-	-	-	2000	-	<0.05	<0.05
	Endrin	mg/kg	0.05	-	-	-	100	-	<0.05	<0.05
	Endrin Aldehyde	mg/kg	0.05	-	-	-	-	-	<0.05	<0.05
	Endrin Ketone	mg/kg	0.05	-	-	-	-	-	<0.05	<0.05
	g-BHC (Lindane)	mg/kg	0.05	-	-	-	-	-	<0.05	<0.05
	Heptachlor	mg/kg	0.05	-	-	-	50	-	<0.05	<0.05
	Heptachlor epoxide	mg/kg	0.05	-	-	-	-	-	<0.05	<0.05
	Hexachlorobenzene	mg/kg	0.05	-	-	-	80	-	<0.05	<0.05
	Methoxychlor	mg/kg	0.05	-	-	-	-	-	<0.05	<0.05
	Toxaphene	mg/kg	0.5	-	-	-	160	-	<0.5	<0.5
	Vic EPA IWRG 621 OCP 9total)	mg/kg	0.1	-	-	-	-	-	<0.1	<0.1
	Vic EPA IWRG 621 Other OCP (total)	mg/kg	0.1	-	-	-	-	-	<0.1	<0.1
PCB	Aroclor-1016	mg/kg	0.1	-	-	-	-	-	<0.1	<0.1
	Aroclor-1221	mg/kg	0.1	-	-	-	-	-	<0.1	<0.1
	Aroclor-1232	mg/kg	0.1	-	-	-	-	-	<0.1	<0.1
	Aroclor-1242	mg/kg	0.1	-	-	-	-	-	<0.1	<0.1
	Aroclor-1248	mg/kg	0.1	-	-	-	-	-	<0.1	<0.1
	Aroclor-1254	mg/kg	0.1	-	-	-	-	-	<0.1	<0.1
	Aroclor-1260	mg/kg	0.1	-	-	-	-	-	<0.1	<0.1
	Total PCB*	mg/kg	0.1	-	-	-	7	-	<0.1	<0.1
Microbiological	Total coliforms	MPN/g	10	-	-	-	-	1000	180	430
	E. Coli	MPN/g	10	-	-	-	-	100	<10	<10
	Thermotolerant coliforms	MPN/g	10	-	-	-	-	1000	<10	<10
Nutrients	Ammonia (as N)	mg/kg	5	-	-	-	-	-	<5	13
	Nitrate & Nitrite (as N)	mg/kg	5	-	-	-	-	-	<5	1800
	Nitrate (as N)	mg/kg	5	-	-	-	-	-	<5	1800
	Nitrite (as N)	mg/kg	5	-	-	-	-	-	<5	<5
	Phosphate total (as P)	mg/kg	5	-	-	-	-	-	650	14000
	Total Kjeldahl Nitrogen (as N)	mg/kg	10	-	-	-	-	-	1700	24000
	Total Nitrogen (as N)*	mg/kg	10	-	-	-	-	-	1700	25800

Sample ID	DW22	DW23	DS01	DS02	DS03	DS04	DS05	DS06	DS07	DS08
Reference	S21-No02607	S21-No02608	S21-Oc38463	S21-Oc38464	S21-Oc38465	S21-Oc38466	S21-Oc38467	S21-Oc38468	S21-Oc38504	S21-Oc38505
Date Sampled	19/10/2021	19/10/2021	7/10/2021	7/10/2021	7/10/2021	7/10/2021	7/10/2021	7/10/2021	13/10/2021	13/10/2021
Sample Matrix	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil
Arsenic, As	12	9.6	18	4.4	8	7.2	9.5	16	18	16
Cadmium, Cd	< 0.4	< 0.4	< 0.4	< 0.4	< 0.4	< 0.4	< 0.4	< 0.4	< 0.4	< 0.4
Chromium, Cr	22	17	30	10	21	21	21	27	16	18
Copper, Cu	24	20	48	13	32	31	26	26	16	18
Lead, Pb	43	25	38	13	22	22	13	41	20	18
Mercury (inorganic)	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Nickel, Ni	11	10	24	6.3	15	17	17	16	15	13
Zinc, Zn	98	60	110	30	51	52	49	71	51	54
Acenaphthene	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Acenaphthylene	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Anthracene	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Benzo(a)anthracene	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Benzo(a)pyrene	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Benzo(a)pyrene TEQ (lower bound)	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Benzo(a)pyrene TEQ (medium bound)	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6
Benzo(a)pyrene TEQ (upper bound)	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2
Benzo(b&j)fluoranthene	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Benzo(ghi)perylene	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Benzo(k)fluoranthene	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Chrysene	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Dibenzo(ah)anthracene	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Fluoranthene	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Fluorene	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Indeno(1,2,3-cd)pyrene	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Naphthalene	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Phenanthrene	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Pyrene	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Total PAH	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
TRH >C10-C16	< 50	< 50	< 50	< 50	< 50	< 50	< 50	< 50	< 50	< 50
TRH >C10-C16 less Naphthalene (F2)	< 50	< 50	< 50	< 50	< 50	< 50	< 50	< 50	< 50	< 50
TRH >C10-C40 (total)*	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100
TRH >C16-C34 (F3)	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100
TRH >C34-C40 (F4)	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100
TRH C10-C14	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20
TRH C10-C36 (Total)	< 50	< 50	< 50	< 50	56	< 50	< 50	< 50	< 50	< 50
TRH C15-C28	< 50	< 50	< 50	< 50	< 50	< 50	< 50	< 50	< 50	< 50
TRH C29-C36	< 50	< 50	< 50	< 50	56	< 50	< 50	< 50	< 50	< 50
TRH C6-C10	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20
TRH C6-C10 less BTEX (F1)	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20
TRH C6-C9	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20
Benzene	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Ethylbenzene	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
m/p-xylene	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
o-xylene	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Toluene	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Total Xylenes	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3
4.4 - DDD	< 0.05	< 0.05	< 0.05	< 0.05	-	-	-	-	< 0.05	< 0.05
4.4 - DDE	< 0.05	< 0.05	< 0.05	< 0.05	-	-	-	-	< 0.05	< 0.05
4.4 - DDT	< 0.05	< 0.05	< 0.05	< 0.05	-	-	-	-	< 0.05	< 0.05
a - BHC	< 0.05	< 0.05	< 0.05	< 0.05	-	-	-	-	< 0.05	< 0.05
Aldrin	< 0.05	< 0.05	< 0.05	< 0.05	-	-	-	-	< 0.05	< 0.05
Aldrin + Dieldrin (total)	< 0.05	< 0.05	< 0.05	< 0.05	-	-	-	-	< 0.05	< 0.05
b - BHC	< 0.05	< 0.05	< 0.05	< 0.05	-	-	-	-	< 0.05	< 0.05
Chlordanes (total)	< 0.1	< 0.1	< 0.1	< 0.1	-	-	-	-	< 0.1	< 0.1
d - BHC	< 0.05	< 0.05	< 0.05	< 0.05	-	-	-	-	< 0.05	< 0.05
DDT + DDE + DDD (total)	< 0.05	< 0.05	< 0.05	< 0.05	-	-	-	-	< 0.05	< 0.05
Dieldrin	< 0.05	< 0.05	< 0.05	< 0.05	-	-	-	-	< 0.05	< 0.05
Endosulfan 1	< 0.05	< 0.05	< 0.05	< 0.05	-	-	-	-	< 0.05	< 0.05
Endosulfan 2	< 0.05	< 0.05	< 0.05	< 0.05	-	-	-	-	< 0.05	< 0.05
Endosulfan sulphate	< 0.05	< 0.05	< 0.05	< 0.05	-	-	-	-	< 0.05	< 0.05
Endrin	< 0.05	< 0.05	< 0.05	< 0.05	-	-	-	-	< 0.05	< 0.05
Endrin Aldehyde	< 0.05	< 0.05	< 0.05	< 0.05	-	-	-	-	< 0.05	< 0.05
Endrin Ketone	< 0.05	< 0.05	< 0.05	< 0.05	-	-	-	-	< 0.05	< 0.05
g-BHC (Lindane)	< 0.05	< 0.05	< 0.05	< 0.05	-	-	-	-	< 0.05	< 0.05
Heptachlor	< 0.05	< 0.05	< 0.05	< 0.05	-	-	-	-	< 0.05	< 0.05
Heptachlor epoxide	< 0.05	< 0.05	< 0.05	< 0.05	-	-	-	-	< 0.05	< 0.05
Hexachlorobenzene	< 0.05	< 0.05	< 0.05	< 0.05	-	-	-	-	< 0.05	< 0.05
Methoxychlor	< 0.05	< 0.05	< 0.05	< 0.05	-	-	-	-	< 0.05	< 0.05
Toxaphene	< 0.5	< 0.5	< 0.5	< 0.5	-	-	-	-	< 0.5	< 0.5
Vic EPA IWRG 621 OCP 9total)	< 0.1	< 0.1	< 0.1	< 0.1	-	-	-	-	< 0.1	< 0.1
Vic EPA IWRG 621 Other OCP (total)	< 0.1	< 0.1	< 0.1	< 0.1	-	-	-	-	< 0.1	< 0.1
Aroclor-1016	< 0.1	< 0.1	< 0.1	< 0.1	-	-	-	-	< 0.1	< 0.1
Aroclor-1221	< 0.1	< 0.1	< 0.1	< 0.1	-	-	-	-	< 0.1	< 0.1
Aroclor-1232	< 0.1	< 0.1	< 0.1	< 0.1	-	-	-	-	< 0.1	< 0.1
Aroclor-1242	< 0.1	< 0.1	< 0.1	< 0.1	-	-	-	-	< 0.1	< 0.1
Aroclor-1248	< 0.1	< 0.1	< 0.1	< 0.1	-	-	-	-	< 0.1	< 0.1
Aroclor-1254	< 0.1	< 0.1	< 0.1	< 0.1	-	-	-	-	< 0.1	< 0.1
Aroclor-1260	< 0.1	< 0.1	< 0.1	< 0.1	-	-	-	-	< 0.1	< 0.1
Total PCB*	< 0.1	< 0.1	< 0.1	< 0.1	-	-	-	-	< 0.1	< 0.1
Total coliforms	-	-	180	430	-	-	-	-	-	-
E. Coli	-	-	<10	<10	-	-	-	-	-	-
Thermotolerant coliforms	-	-	<10	<10	-	-	-	-	-	-
Ammonia (as N)	-	-	13	12	-	-	-	-	-	-
Nitrate & Nitrite (as N)	-	-	< 5	< 5	-	-	-	-	-	-
Nitrate (as N)	-	-	< 5	< 5	-	-	-	-	-	-
Nitrite (as N)	-	-	< 5	< 5	-	-	-	-	-	-
Phosphate total (as P)	-	-	650	730	-	-	-	-	-	-
Total Kjeldahl Nitrogen (as N)	-	-	2200	1700	-	-	-	-	-	-
Total Nitrogen (as N)*	-	-	2200	1700	-	-	-	-	-	-

Sample ID	DS09	DS10	DS11	DS12	DS13	DS14	DS15	DS16	DS17	DS18
Reference	S21-Oc38506	S21-Oc38507	S21-No02558	S21-No02559	S21-No02570	S21-No02571	S21-No02595	S21-No02596	S21-No02605	S21-No02606
Date Sampled	13/10/2021	13/10/2021	15/10/2021	15/10/2021	18/10/2021	18/10/2021	18/10/2021	18/10/2021	19/10/2021	19/10/2021
Sample Matrix	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil
Arsenic, As	9.1	13	12	10	18	30	14	15	17	7.1
Cadmium, Cd	< 0.4	< 0.4	< 0.4	< 0.4	< 0.4	< 0.4	< 0.4	< 0.4	< 0.4	< 0.4
Chromium, Cr	16	19	26	22	23	35	22	22	29	14
Copper, Cu	27	23	33	39	20	41	24	29	27	19
Lead, Pb	18	22	28	26	30	58	26	30	47	16
Mercury (inorganic)	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Nickel, Ni	16	20	16	19	30	25	16	15	13	11
Zinc, Zn	59	71	53	93	79	1000	54	57	110	39
Acenaphthene	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Acenaphthylene	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Anthracene	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Benzo(a)anthracene	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Benzo(a)pyrene	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Benzo(a)pyrene TEQ (lower bound)	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Benzo(a)pyrene TEQ (medium bound)	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6
Benzo(a)pyrene TEQ (upper bound)	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2
Benzo(b&j)fluoranthene	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Benzo(ghi)perylene	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Benzo(k)fluoranthene	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Chrysene	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Dibenzo(ah)anthracene	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Fluoranthene	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Fluorene	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Indeno(1,2,3-cd)pyrene	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Naphthalene	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Phenanthrene	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Pyrene	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Total PAH	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
TRH >C10-C16	< 50	< 50	< 50	< 50	< 50	< 50	< 50	< 50	< 50	< 50
TRH >C10-C16 less Naphthalene (F2)	< 50	< 50	< 50	< 50	< 50	< 50	< 50	< 50	< 50	< 50
TRH >C10-C40 (total)*	< 100	< 100	330	< 100	< 100	< 100	< 100	< 100	< 100	< 100
TRH >C16-C34 (F3)	< 100	< 100	160	< 100	< 100	< 100	< 100	< 100	< 100	< 100
TRH >C34-C40 (F4)	< 100	< 100	170	< 100	< 100	< 100	< 100	< 100	< 100	< 100
TRH C10-C14	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20
TRH C10-C36 (Total)	61	51	153	< 50	< 50	< 50	< 50	< 50	56	< 50
TRH C15-C28	< 50	< 50	55	< 50	< 50	< 50	< 50	< 50	< 50	< 50
TRH C29-C36	61	51	98	< 50	< 50	< 50	< 50	< 50	56	< 50
TRH C6-C10	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20
TRH C6-C10 less BTEX (F1)	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20
TRH C6-C9	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20
Benzene	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Ethylbenzene	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
m/p-xylene	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
o-xylene	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Toluene	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Total Xylenes	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3
4.4 - DDD	< 0.05	< 0.05	-	-	-	-	-	-	-	-
4.4 - DDE	< 0.05	< 0.05	-	-	-	-	-	-	-	-
4.4 - DDT	< 0.05	< 0.05	-	-	-	-	-	-	-	-
a - BHC	< 0.05	< 0.05	-	-	-	-	-	-	-	-
Aldrin	< 0.05	< 0.05	-	-	-	-	-	-	-	-
Aldrin + Dieldrin (total)	< 0.05	< 0.05	-	-	-	-	-	-	-	-
b - BHC	< 0.05	< 0.05	-	-	-	-	-	-	-	-
Chlordanes (total)	< 0.1	< 0.1	-	-	-	-	-	-	-	-
d - BHC	< 0.05	< 0.05	-	-	-	-	-	-	-	-
DDT + DDE + DDD (total)	< 0.05	< 0.05	-	-	-	-	-	-	-	-
Dieldrin	< 0.05	< 0.05	-	-	-	-	-	-	-	-
Endosulfan 1	< 0.05	< 0.05	-	-	-	-	-	-	-	-
Endosulfan 2	< 0.05	< 0.05	-	-	-	-	-	-	-	-
Endosulfan sulphate	< 0.05	< 0.05	-	-	-	-	-	-	-	-
Endrin	< 0.05	< 0.05	-	-	-	-	-	-	-	-
Endrin Aldehyde	< 0.05	< 0.05	-	-	-	-	-	-	-	-
Endrin Ketone	< 0.05	< 0.05	-	-	-	-	-	-	-	-
g-BHC (Lindane)	< 0.05	< 0.05	-	-	-	-	-	-	-	-
Heptachlor	< 0.05	< 0.05	-	-	-	-	-	-	-	-
Heptachlor epoxide	< 0.05	< 0.05	-	-	-	-	-	-	-	-
Hexachlorobenzene	< 0.05	< 0.05	-	-	-	-	-	-	-	-
Methoxychlor	< 0.05	< 0.05	-	-	-	-	-	-	-	-
Toxaphene	< 0.5	< 0.5	-	-	-	-	-	-	-	-
Vic EPA IWRG 621 OCP 9total)	< 0.1	< 0.1	-	-	-	-	-	-	-	-
Vic EPA IWRG 621 Other OCP (total)	< 0.1	< 0.1	-	-	-	-	-	-	-	-
Aroclor-1016	< 0.1	< 0.1	-	-	-	-	-	-	-	-
Aroclor-1221	< 0.1	< 0.1	-	-	-	-	-	-	-	-
Aroclor-1232	< 0.1	< 0.1	-	-	-	-	-	-	-	-
Aroclor-1242	< 0.1	< 0.1	-	-	-	-	-	-	-	-
Aroclor-1248	< 0.1	< 0.1	-	-	-	-	-	-	-	-
Aroclor-1254	< 0.1	< 0.1	-	-	-	-	-	-	-	-
Aroclor-1260	< 0.1	< 0.1	-	-	-	-	-	-	-	-
Total PCB*	< 0.1	< 0.1	-	-	-	-	-	-	-	-
Total coliforms	-	-	-	-	-	-	-	-	-	-
E. Coli	-	-	-	-	-	-	-	-	-	-
Thermotolerant coliforms	-	-	-	-	-	-	-	-	-	-
Ammonia (as N)	-	-	-	-	-	-	-	-	-	-
Nitrate & Nitrite (as N)	-	-	-	-	-	-	-	-	-	-
Nitrate (as N)	-	-	-	-	-	-	-	-	-	-
Nitrite (as N)	-	-	-	-	-	-	-	-	-	-
Phosphate total (as P)	-	-	-	-	-	-	-	-	-	-
Total Kjeldahl Nitrogen (as N)	-	-	-	-	-	-	-	-	-	-
Total Nitrogen (as N)*	-	-	-	-	-	-	-	-	-	-

Sample ID	DS19	DS20	DS21	DS22	SP1-1	SP1-2	SP1-3	SP3-1	SP3-2
Reference	S21-No02653	S21-No02654	S21-No02655	S21-No02656	S21-Oc38460	S21-Oc38461	S21-Oc38462	S21-No02585	S21-No02586
Date Sampled	21/10/2021	21/10/2021	21/10/2021	21/10/2021	7/10/2021	7/10/2021	7/10/2021	18/10/2021	18/10/2021
Sample Matrix	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil
Arsenic, As	11	6.9	10	20	3.3	4.8	5.9	8.9	8.2
Cadmium, Cd	< 0.4	< 0.4	< 0.4	< 0.4	< 0.4	< 0.4	< 0.4	< 0.4	< 0.4
Chromium, Cr	21	18	18	18	9.8	14	18	16	16
Copper, Cu	21	31	21	28	260	120	150	30	22
Lead, Pb	24	18	15	18	12	16	24	48	22
Mercury (inorganic)	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	0.5	< 0.1
Nickel, Ni	14	15	11	19	15	15	22	18	8.4
Zinc, Zn	73	68	55	53	1000	380	640	160	28
Acenaphthene	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Acenaphthylene	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Anthracene	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Benzo(a)anthracene	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Benzo(a)pyrene	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Benzo(a)pyrene TEQ (lower bound)	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Benzo(a)pyrene TEQ (medium bound)	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6
Benzo(a)pyrene TEQ (upper bound)	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2
Benzo(b&j)fluoranthene	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Benzo(ghi)perylene	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Benzo(k)fluoranthene	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Chrysene	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Dibenzo(ah)anthracene	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Fluoranthene	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Fluorene	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Indeno(1,2,3-cd)pyrene	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Naphthalene	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Phenanthrene	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Pyrene	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Total PAH	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
TRH >C10-C16	< 50	< 50	< 50	< 50	< 50	< 100	< 100	< 50	< 50
TRH >C10-C16 less Naphthalene (F2)	< 50	< 50	< 50	< 50	< 50	< 100	< 100	< 50	< 50
TRH >C10-C40 (total)*	< 100	< 100	< 100	< 100	610	< 200	590	150	< 100
TRH >C16-C34 (F3)	< 100	< 100	< 100	< 100	430	< 200	590	150	< 100
TRH >C34-C40 (F4)	< 100	< 100	< 100	< 100	180	< 200	< 200	< 100	< 100
TRH C10-C14	< 20	< 20	< 20	< 20	< 20	< 40	< 40	< 20	< 20
TRH C10-C36 (Total)	< 50	< 50	51	< 50	490	160	660	178	< 50
TRH C15-C28	< 50	< 50	< 50	< 50	210	< 100	270	68	< 50
TRH C29-C36	< 50	< 50	51	< 50	280	160	390	110	< 50
TRH C6-C10	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20
TRH C6-C10 less BTEX (F1)	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20
TRH C6-C9	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20
Benzene	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Ethylbenzene	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
m/p-xylene	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
o-xylene	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Toluene	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Total Xylenes	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3
4.4 - DDD	-	-	-	-	< 0.5	< 0.5	< 0.5	< 0.05	< 0.05
4.4 - DDE	-	-	-	-	< 0.5	< 0.5	< 0.5	< 0.05	< 0.05
4.4 - DDT	-	-	-	-	< 0.5	< 0.5	< 0.5	< 0.05	< 0.05
a - BHC	-	-	-	-	< 0.5	< 0.5	< 0.5	< 0.05	< 0.05
Aldrin	-	-	-	-	< 0.5	< 0.5	< 0.5	< 0.05	< 0.05
Aldrin + Dieldrin (total)	-	-	-	-	< 0.5	< 0.5	< 0.5	< 0.05	< 0.05
b - BHC	-	-	-	-	< 0.5	< 0.5	< 0.5	< 0.05	< 0.05
Chlordanes (total)	-	-	-	-	< 1	< 1	< 1	< 0.1	< 0.1
d - BHC	-	-	-	-	< 0.5	< 0.5	< 0.5	< 0.05	< 0.05
DDT + DDE + DDD (total)	-	-	-	-	< 0.5	< 0.5	< 0.5	< 0.05	< 0.05
Dieldrin	-	-	-	-	< 0.5	< 0.5	< 0.5	< 0.05	< 0.05
Endosulfan 1	-	-	-	-	< 0.5	< 0.5	< 0.5	< 0.05	< 0.05
Endosulfan 2	-	-	-	-	< 0.5	< 0.5	< 0.5	< 0.05	< 0.05
Endosulfan sulphate	-	-	-	-	< 0.5	< 0.5	< 0.5	< 0.05	< 0.05
Endrin	-	-	-	-	< 0.5	< 0.5	< 0.5	< 0.05	< 0.05
Endrin Aldehyde	-	-	-	-	< 0.5	< 0.5	< 0.5	< 0.05	< 0.05
Endrin Ketone	-	-	-	-	< 0.5	< 0.5	< 0.5	< 0.05	< 0.05
g-BHC (Lindane)	-	-	-	-	< 0.5	< 0.5	< 0.5	< 0.05	< 0.05
Heptachlor	-	-	-	-	< 0.5	< 0.5	< 0.5	< 0.05	< 0.05
Heptachlor epoxide	-	-	-	-	< 0.5	< 0.5	< 0.5	< 0.05	< 0.05
Hexachlorobenzene	-	-	-	-	< 0.5	< 0.5	< 0.5	< 0.05	< 0.05
Methoxychlor	-	-	-	-	< 0.5	< 0.5	< 0.5	< 0.05	< 0.05
Toxaphene	-	-	-	-	< 10	< 10	< 10	< 0.5	< 0.5
Vic EPA IWRG 621 OCP 9total)	-	-	-	-	< 1	< 1	< 1	< 0.1	< 0.1
Vic EPA IWRG 621 Other OCP (total)	-	-	-	-	< 1	< 1	< 1	< 0.1	< 0.1
Aroclor-1016	-	-	-	-	< 1	< 1	< 1	< 0.1	< 0.1
Aroclor-1221	-	-	-	-	< 1	< 1	< 1	< 0.1	< 0.1
Aroclor-1232	-	-	-	-	< 1	< 1	< 1	< 0.1	< 0.1
Aroclor-1242	-	-	-	-	< 1	< 1	< 1	< 0.1	< 0.1
Aroclor-1248	-	-	-	-	< 1	< 1	< 1	< 0.1	< 0.1
Aroclor-1254	-	-	-	-	< 1	< 1	< 1	< 0.1	< 0.1
Aroclor-1260	-	-	-	-	< 1	< 1	< 1	< 0.1	< 0.1
Total PCB*	-	-	-	-	< 1	< 1	< 1	< 0.1	< 0.1
Total coliforms	-	-	-	-	-	-	-	-	-
E. Coli	-	-	-	-	-	-	-	-	-
Thermotolerant coliforms	-	-	-	-	-	-	-	-	-
Ammonia (as N)	-	-	-	-	< 250	< 5	5.4	-	-
Nitrate & Nitrite (as N)	-	-	-	-	1800	750	760	-	-
Nitrate (as N)	-	-	-	-	1800	750	760	-	-
Nitrite (as N)	-	-	-	-	< 5	< 5	< 5	-	-
Phosphate total (as P)	-	-	-	-	14000	13000	12000	-	-
Total Kjeldahl Nitrogen (as N)	-	-	-	-	24000	12000	23000	-	-
Total Nitrogen (as N)*	-	-	-	-	25800	12750	23760	-	-

Highlighted concentration exceeds the adopted site criteria - Screening Levels for Direct Contact (mg/kg) - CRC Care 2011
Highlighted concentration exceeds the adopted site criteria - Inhalation / Vapour Intrusion HSLs (mg/kg) - NEPC 2013 (CLAY)
Highlighted concentration exceeds the adopted site criteria - Management Limits for TPH Fractions F1 - F4 in soil (mg/Kg) - NEPC 2013
Highlighted concentration exceeds the adopted site criteria - Health Investigation Levels for Soil Contaminants - NEPC 2013
Highlighted concentration exceeds the adopted site criteria - Stabilisation Grade A Microbiological Standards (NSW EPA 2000)

- No published criteria or sample not analysed
NL Not Limiting

APPENDIX A – Logs

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Test Pit No: TP01
Sheet: 1 of 1
Job No: 13546

Test Pit Log

Client: ESR Australia Pty Ltd
Project: Detailed Site Investigation
Location: 290-308 Aldington Road and 59-63 Abbotts Road **Hole Location:** Refer to Figure 3.

Started: 6/10/2021
Finished: 6/10/2021
Test Pit Size: 0.3 m

Rig Type: **Hole Coordinates** E, N **Driller:** **Logged:** SJ
RL Surface: m **Contractor:** Alliance **Bearing:** --- **Checked:** JW

Method	Water	RL (m)	Depth (m)	Graphic Log	Classification Symbol	Material Description	Samples Tests Remarks	Moisture Condition	Consistency/ Density Index	Additional Observations
						Gravelly sandy CLAY, brown, low plasticity, soft moist	0-0.02(PID:2.4ppm)	M		No potential asbestos containing materials, no odours or staining
			0.5			Clayey SHALE with gravels and cobbles, dark grey, well graded, fine to course grained, sub-angular, slightly moist	.4-0.6(PID:4.0ppm)	M		No potential asbestos containing materials, no odours or staining
			1.0							

Test Pit TP01 terminated at 1m

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Test Pit No: TP02
Sheet: 1 of 1
Job No: 13546

Test Pit Log

Client: ESR Australia Pty Ltd
Project: Detailed Site Investigation
Location: 290-308 Aldington Road and 59-63 Abbotts Road **Hole Location:** Refer to Figure 3.

Started: 6/10/2021
Finished: 6/10/2021
Test Pit Size: 0.3 m

Rig Type: **Hole Coordinates** E, N **Driller:** **Logged:** SJ
RL Surface: m **Contractor:** Alliance **Bearing:** --- **Checked:**

Method	Water	RL (m)	Depth (m)	Graphic Log	Classification Symbol	Material Description	Samples Tests Remarks	Moisture Condition	Consistency/ Density Index	Additional Observations
						Silty CLAY with minor gravels, brown, medium to high plasticity moist	.0-0.2(PID:2.2ppm)	M		No potential asbestos containing material, no odours or staining
			0.5			Test Pit TP02 terminated at 0.4m				
			1.0							
			1.5							
			2.0							

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Test Pit No: TP03
Sheet: 1 of 1
Job No: 13546

Test Pit Log

Client: ESR Australia Pty Ltd
Project: Detailed Site Investigation
Location: 290-308 Aldington Road and 59-63 Abbotts Road **Hole Location:** Refer to Figure 3.

Started: 6/10/2021
Finished: 6/10/2021
Test Pit Size: 0.3 m

Rig Type: **Hole Coordinates** E, N **Driller:** **Logged:** SJ
RL Surface: m **Contractor:** Alliance **Bearing:** --- **Checked:**

Method	Water	RL (m)	Depth (m)	Graphic Log	Classification Symbol	Material Description	Samples Tests Remarks	Moisture Condition	Consistency/ Density Index	Additional Observations
						Gravelly sand with cobbles, light brown, well graded, fine to course grained,sub angular, moist	.0-0.2(PID:2.6ppm)	M		No potential asbestos containing material, no odours or staining
			0.5			Silty CLAY with fine gravels, dark brown, low plasticity, slightly moist	.4-0.6(PID:4.5ppm)	M		No potential asbestos containing material, no odours or staining
			1.0			Test Pit TP03 terminated at 0.6m				
			1.5							
			2.0							

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Test Pit No: TP04
Sheet: 1 of 1
Job No: 13546

Test Pit Log

Client: ESR Australia Pty Ltd
Project: Detailed Site Investigation
Location: 290-308 Aldington Road and 59-63 Abbotts Road **Hole Location:** Refer to Figure 3.

Started: 6/10/2021
Finished: 6/10/2021
Test Pit Size: 0.3 m

Rig Type: **Hole Coordinates** E, N **Driller:** **Logged:** SJ
RL Surface: m **Contractor:** Alliance **Bearing:** --- **Checked:**

Method	Water	RL (m)	Depth (m)	Graphic Log	Classification Symbol	Material Description	Samples Tests Remarks	Moisture Condition	Consistency/ Density Index	Additional Observations
						Clayey SHALE with gravels and cobbles, dark grey, well graded, fine to course grained, sub-angular, slightly moist	0.0-0.1(PID:0.2ppm)	SM		No potential asbestos containing material, no odours or staining
			0.5			Test Pit TP04 terminated at 0.1m				
			1.0							
			1.5							
			2.0							

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Test Pit No: TP05
Sheet: 1 of 1
Job No: 13546

Test Pit Log

Client: ESR Australia Pty Ltd
Project: Detailed Site Investigation
Location: 290-308 Aldington Road and 59-63 Abbotts Road **Hole Location:** Refer to Figure 3.

Started: 6/10/2021
Finished: 6/10/2021
Test Pit Size: 0.3 m

Rig Type: **Hole Coordinates** E, N **Driller:** **Logged:** SJ
RL Surface: m **Contractor:** Alliance **Bearing:** --- **Checked:**

Method	Water	RL (m)	Depth (m)	Graphic Log	Classification Symbol	Material Description	Samples Tests Remarks	Moisture Condition	Consistency/ Density Index	Additional Observations
						Silty CLAY, dark brown/orange,high plasticity, mosit	0.0-0.1(PID:1.8ppm)	M		No potential asbestos containing material, no odours or staining
			0.5			Test Pit TP05 terminated at 0.1m				
			1.0							
			1.5							
			2.0							

1. NON CORED BOREHOLE ENVIROLOGS.GPJ GINT STD AUSTRALIA.GDT 11/23/21

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Test Pit No: TP06
Sheet: 1 of 1
Job No: 13546

Test Pit Log

Client: ESR Australia Pty Ltd
Project: Detailed Site Investigation
Location: 290-308 Aldington Road and 59-63 Abbotts Road **Hole Location:** Refer to Figure 3.

Started: 6/10/2021
Finished: 6/10/2021
Test Pit Size: 0.3 m

Rig Type: **Hole Coordinates** E, N **Driller:** **Logged:** SJ
RL Surface: m **Contractor:** Alliance **Bearing:** --- **Checked:**

Method	Water	RL (m)	Depth (m)	Graphic Log	Classification Symbol	Material Description	Samples Tests Remarks	Moisture Condition	Consistency/ Density Index	Additional Observations
						Gravelly silty SAND with cobbles, brown, well graded, fine to course grained,sub-angular, moist	.0-0.2(PID:0.1ppm)	M		No potential asbestos containing material, no odours or staining
			0.5			Gravelly sandy CLAY, light brown, medium plasticity, moist		M		No potential asbestos containing material, no odours or staining
			1.0				.8-1.0(PID:0.4ppm)			
						Silty CLAY with fine gravels, dark brown, high plasticity, moist	.0-1.2(PID:0.2ppm)	M		No potential asbestos containing material, no odours or staining
						CLAY, orange/red, high plasticty, moist	.2-1.4(PID:0.2ppm)	M		No potential asbestos containing material, no odours or staining
			1.5			Test Pit TP06 terminated at 1.5m				
			2.0							

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Test Pit No: TP07
Sheet: 1 of 1
Job No: 13546

Test Pit Log

Client: ESR Australia Pty Ltd
Project: Detailed Site Investigation
Location: 290-308 Aldington Road and 59-63 Abbotts Road **Hole Location:** Refer to Figure 3.

Started: 6/10/2021
Finished: 6/10/2021
Test Pit Size: 0.3 m

Rig Type: **Hole Coordinates** E, N **Driller:** **Logged:** SJ
RL Surface: m **Contractor:** Alliance **Bearing:** --- **Checked:**

Method	Water	RL (m)	Depth (m)	Graphic Log	Classification Symbol	Material Description	Samples Tests Remarks	Moisture Condition	Consistency/ Density Index	Additional Observations
						Gravelly silty SAND with cobbles, brown, well graded, fine to course grained,sub-angular, moist	.0-0.2(PID:0.2ppm)	M		No potential asbestos containing material, no odours or staining
			0.5			CLAY, light orange with grey mottling, low to medium plasticity, moist	.5-0.7(PID:0.3ppm)	M		No potential asbestos containing material, no odours or staining
						Test Pit TP07 terminated at 0.7m				
			1.0							
			1.5							
			2.0							

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Test Pit No: TP08
Sheet: 1 of 1
Job No: 13546

Test Pit Log

Client: ESR Australia Pty Ltd
Project: Detailed Site Investigation
Location: 290-308 Aldington Road and 59-63 Abbotts Road **Hole Location:** Refer to Figure 3.

Started: 6/10/2021
Finished: 6/10/2021
Test Pit Size: 0.3 m

Rig Type: **Hole Coordinates** E, N **Driller:** **Logged:** SJ
RL Surface: m **Contractor:** Alliance **Bearing:** --- **Checked:**

Method	Water	RL (m)	Depth (m)	Graphic Log	Classification Symbol	Material Description	Samples Tests Remarks	Moisture Condition	Consistency/ Density Index	Additional Observations
						Gravelly silty SAND with cobbles, brown, well graded, fine to course grained,sub-angular, moist	.0-0.2(PID:0.6ppm)	M		No potential asbestos containing materials, no odours or staining
			0.5			CLAY, light brown with orange mottling, high plasticity	.4-0.6(PID:0.2ppm)	M		No potential asbestos containing materials, no odours or staining
						Test Pit TP08 terminated at 0.6m				
			1.0							
			1.5							
			2.0							

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Test Pit No: TP09
Sheet: 1 of 1
Job No: 13546

Test Pit Log

Client: ESR Australia Pty Ltd
Project: Detailed Site Investigation
Location: 290-308 Aldington Road and 59-63 Abbotts Road **Hole Location:** Refer to Figure 3.

Started: 6/10/2021
Finished: 6/10/2021
Test Pit Size: 0.3 m

Rig Type: **Hole Coordinates** E, N **Driller:** **Logged:** SJ
RL Surface: m **Contractor:** Alliance **Bearing:** --- **Checked:**

Method	Water	RL (m)	Depth (m)	Graphic Log	Classification Symbol	Material Description	Samples Tests Remarks	Moisture Condition	Consistency/ Density Index	Additional Observations
						Gravelly silty SAND with cobbles, brown, well graded, fine to course grained,sub-angular, moist	0.0-0.2, 0.0-0.2ASB (PID:0.4ppm)	M		No potential asbestos containing materials, no odours or staining
			0.5			CLAY, light brown with orange mottling, high plasticity	0.4-0.6(PID:0.2ppm)	M		No potential asbestos containing materials, no odours or staining
						Test Pit TP09 terminated at 0.6m				
			1.0							
			1.5							
			2.0							

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Test Pit No: TP10
Sheet: 1 of 1
Job No: 13546

Test Pit Log

Client: ESR Australia Pty Ltd
Project: Detailed Site Investigation
Location: 290-308 Aldington Road and 59-63 Abbotts Road **Hole Location:** Refer to Figure 3.

Started: 6/10/2021
Finished: 6/10/2021
Test Pit Size: 0.3 m

Rig Type: **Hole Coordinates** E, N **Driller:** **Logged:** SJ
RL Surface: m **Contractor:** Alliance **Bearing:** --- **Checked:**

Method	Water	RL (m)	Depth (m)	Graphic Log	Classification Symbol	Material Description	Samples Tests Remarks	Moisture Condition	Consistency/ Density Index	Additional Observations
						Gravelly sand with cobbles, brown, well graded, fine to course grained,sub angular, moist	.0-0.2(PID:0.1ppm)	SM		No potential asbestos containing materials, no odours or staining
						CLAY, light brown, high plasticity, moist	.3-0.4(PID:0.6ppm)	M		No potential asbestos containing materials, no odours or staining
			0.5			Test Pit TP10 terminated at 0.4m				
			1.0							
			1.5							
			2.0							

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Test Pit No: TP11
Sheet: 1 of 1
Job No: 13546

Test Pit Log

Client: ESR Australia Pty Ltd
Project: Detailed Site Investigation
Location: 290-308 Aldington Road and 59-63 Abbotts Road **Hole Location:** Refer to Figure 3.

Started: 6/10/2021
Finished: 6/10/2021
Test Pit Size: 0.3 m

Rig Type: **Hole Coordinates** E, N **Driller:** **Logged:** SJ
RL Surface: m **Contractor:** Alliance **Bearing:** --- **Checked:**

Method	Water	RL (m)	Depth (m)	Graphic Log	Classification Symbol	Material Description	Samples Tests Remarks	Moisture Condition	Consistency/ Density Index	Additional Observations
						Shaley CLAY, brown, low plasticity, slightly moist	0.0-0.1(PID:0.2ppm)	SM		No potential asbestos containing materials, no odours or staining
			0.5			Test Pit TP11 terminated at 0.1m				
			1.0							
			1.5							
			2.0							

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Test Pit No: TP12
Sheet: 1 of 1
Job No: 13546

Test Pit Log

Client: ESR Australia Pty Ltd
Project: Detailed Site Investigation
Location: 290-308 Aldington Road and 59-63 Abbotts Road **Hole Location:** Refer to Figure 3.

Started: 6/10/2021
Finished: 6/10/2021
Test Pit Size: 0.3 m

Rig Type: **Hole Coordinates** E, N **Driller:** **Logged:** SJ
RL Surface: m **Contractor:** Alliance **Bearing:** --- **Checked:**

Method	Water	RL (m)	Depth (m)	Graphic Log	Classification Symbol	Material Description	Samples Tests Remarks	Moisture Condition	Consistency/ Density Index	Additional Observations
						Shaley CLAY, brown, low plasticity, slightly moist	0.0-0.1(PID:0.2ppm)	SM		No potential asbestos containing materials, no odours or staining
			0.5			Test Pit TP12 terminated at 0.1m				
			1.0							
			1.5							
			2.0							

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TP No: TP13
Sheet: 1 of 1
Job No: 13546

Test Pit Log

Client: ESR Australia
Project: Detailed Site Investigation
Location: 290-308 Aldington Road & 59-63 Abbotts Road, Kemps Creek, NSW
Started:
Finished:
Test Pit Size: m

Rig Type: 5t Hydraulic Track Mounted Excavator
Hole Coordinates E, N
Driller:
Logged: SJ

RL Surface: m
Contractor: O' Hara Brothers
Bearing: ---
Checked:

Method	Water	RL (m)	Depth (m)	Graphic Log	Classification Symbol	Material Description	Samples Tests Remarks	Moisture Condition	Consistency/ Density Index	Additional Observations
Excavation					-	FILL: Sandy CLAY: brown.	ES ES	M	St	FILL
			0.5		-	CLAY: red brown.	ES	M	VSt	-
			1.0			NATURAL Test Pit TP13 terminated at 1m				
			1.5							
			2.0							
			2.5							
			3.0							
			3.5							

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Test Pit No: TP14
Sheet: 1 of 1
Job No: 13546

Test Pit Log

Client: ESR Australia Pty Ltd
Project: Detailed Site Investigation
Location: 290-308 Aldington Road and 59-63 Abbotts Road **Hole Location:** Refer to Figure 3.

Started: 6/10/2021
Finished: 6/10/2021
Test Pit Size: 0.3 m

Rig Type: **Hole Coordinates** E, N **Driller:** **Logged:** SJ
RL Surface: m **Contractor:** Alliance **Bearing:** --- **Checked:**

Method	Water	RL (m)	Depth (m)	Graphic Log	Classification Symbol	Material Description	Samples Tests Remarks	Moisture Condition	Consistency/ Density Index	Additional Observations
						Gravelly silty SAND, brown,well graded,fine to course grained, sub-angular, slightly moist	.0-0.2(PID:0.2ppm)	SM		No potential asbestos containing materials, no odours or staining
			0.5			CLAY, light brown with orange mottling, high plasticty, moist	.5-0.7(PID:0.3ppm)	M		No potential asbestos containing materials, no odours or staining
			1.0			Test Pit TP14 terminated at 1m				
			1.5							
			2.0							

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Test Pit No: TP15
Sheet: 1 of 1
Job No: 13546

Test Pit Log

Client: ESR Australia Pty Ltd
Project: Detailed Site Investigation
Location: 290-308 Aldington Road and 59-63 Abbotts Road **Hole Location:** Refer to Figure 3.

Started: 6/10/2021
Finished: 6/10/2021
Test Pit Size: 0.3 m

Rig Type: **Hole Coordinates** E, N **Driller:** **Logged:** SJ
RL Surface: m **Contractor:** Alliance **Bearing:** --- **Checked:**

Method	Water	RL (m)	Depth (m)	Graphic Log	Classification Symbol	Material Description	Samples Tests Remarks	Moisture Condition	Consistency/ Density Index	Additional Observations
						Sandy GRAVEL, dark grey to black,well graded, fine to course grained, sub angular, slightly moist	.0-0.2(PID:0.7ppm)	SM		No potential asbestos containing materials, no odours or staining
						CLAY, light brown with orange mottling, high plasticity, moist	.2-0.4(PID:0.7ppm)	M		No potential asbestos containing materials, no odours or staining
			0.5							
			1.0			Test Pit TP15 terminated at 1m				
			1.5							
			2.0							

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Test Pit No: TP16
Sheet: 1 of 1
Job No: 13546

Test Pit Log

Client: ESR Australia Pty Ltd
Project: Detailed Site Investigation
Location: 290-308 Aldington Road and 59-63 Abbotts Road **Hole Location:** Refer to Figure 3.

Started: 6/10/2021
Finished: 6/10/2021
Test Pit Size: 0.3 m

Rig Type: **Hole Coordinates** E, N **Driller:** **Logged:** SJ
RL Surface: m **Contractor:** Alliance **Bearing:** --- **Checked:**

Method	Water	RL (m)	Depth (m)	Graphic Log	Classification Symbol	Material Description	Samples Tests Remarks	Moisture Condition	Consistency/ Density Index	Additional Observations
						Gravelly silty SAND, brown, well graded, fine to course grained, sub angular, slightly moist				No potential asbestos containing materials, no odours or staining
			0.5			CLAY, light brown with orange mottling, high plasticity, moist				No potential asbestos containing materials, no odours or staining
			1.0			Test Pit TP16 terminated at 1m				
			1.5							
			2.0							

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Test Pit No: TP17
Sheet: 1 of 1
Job No: 13546

Test Pit Log

Client: ESR Australia Pty Ltd
Project: Detailed Site Investigation
Location: 290-308 Aldington Road and 59-63 Abbotts Road **Hole Location:** Refer to Figure 3.

Started: 6/10/2021
Finished: 6/10/2021
Test Pit Size: 0.3 m

Rig Type: **Hole Coordinates** E, N **Driller:** **Logged:** SJ
RL Surface: m **Contractor:** Alliance **Bearing:** --- **Checked:**

Method	Water	RL (m)	Depth (m)	Graphic Log	Classification Symbol	Material Description	Samples Tests Remarks	Moisture Condition	Consistency/ Density Index	Additional Observations
						Gravelly SAND, brown, well graded, fine to course grained, sub angular, slightly moist	.0-0.2(PID:0.7ppm)	SM		No potential asbestos containing material, no odours or staining
			0.5			CLAY, light brown/orange with grey mottling, high plasticity, moist	.3-0.5(PID:0.6ppm)	M		No potential asbestos containing material, no odours or staining
			1.0			Test Pit TP17 terminated at 1m				
			1.5							
			2.0							

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Test Pit No: TP18
Sheet: 1 of 1
Job No: 13546

Test Pit Log

Client: ESR Australia Pty Ltd
Project: Detailed Site Investigation
Location: 290-308 Aldington Road and 59-63 Abbotts Road **Hole Location:** Refer to Figure 3.

Started: 6/10/2021
Finished: 6/10/2021
Test Pit Size: 0.3 m

Rig Type: **Hole Coordinates** E, N **Driller:** **Logged:** SJ
RL Surface: m **Contractor:** Alliance **Bearing:** --- **Checked:**

Method	Water	RL (m)	Depth (m)	Graphic Log	Classification Symbol	Material Description	Samples Tests Remarks	Moisture Condition	Consistency/ Density Index	Additional Observations
			0.5			Silty SAND with minor gravels, light brown, well graded, fine to course grained, sub angular, slightly moist	0.0-0.2, 0.0-0.2ASB (PID0.4ppm)	SM		No potential asbestos containing material, no odours or staining
			1.0			CLAY with fine gravels, brown/orange, high plasticity	.5-0.7(PID:0.7ppm)	M		No potential asbestos containing material, no odours or staining
			1.5			Test Pit TP18 terminated at 1m				
			2.0							

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Test Pit No: TP19
Sheet: 1 of 1
Job No: 13546

Test Pit Log

Client: ESR Australia Pty Ltd
Project: Detailed Site Investigation
Location: 290-308 Aldington Road and 59-63 Abbotts Road **Hole Location:** Refer to Figure 3.

Started: 7/10/2021
Finished: 7/10/2021
Test Pit Size: 0.3 m

Rig Type: **Hole Coordinates** E, N **Driller:** **Logged:** SJ
RL Surface: m **Contractor:** Alliance **Bearing:** --- **Checked:**

Method	Water	RL (m)	Depth (m)	Graphic Log	Classification Symbol	Material Description	Samples Tests Remarks	Moisture Condition	Consistency/ Density Index	Additional Observations
						Clayey gravelly SHALE, brown with orange mottling, well graded, fine to course grained, sub angular	0.0-0.1(PID:2.0ppm)	SM		No potential asbestos containing material, no odours or staining
			0.5							
			1.0			Test Pit TP19 terminated at 1m				
			1.5							
			2.0							

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Test Pit No: TP20
Sheet: 1 of 1
Job No: 13546

Test Pit Log

Client: ESR Australia Pty Ltd
Project: Detailed Site Investigation
Location: 290-308 Aldington Road and 59-63 Abbotts Road **Hole Location:** Refer to Figure 3.

Started: 7/10/2021
Finished: 7/10/2021
Test Pit Size: 0.3 m

Rig Type: **Hole Coordinates** E, N **Driller:** **Logged:** SJ
RL Surface: m **Contractor:** Alliance **Bearing:** --- **Checked:**

Method	Water	RL (m)	Depth (m)	Graphic Log	Classification Symbol	Material Description	Samples Tests Remarks	Moisture Condition	Consistency/ Density Index	Additional Observations
						Silty SAND with fine mulch, brown, well graded, fine to course grained, sub angular, dry	0.0-0.1(PID:0.9ppm)	D		No potential asbestos containing material, no odours or staining
			0.5							
			1.0			Test Pit TP20 terminated at 1m				
			1.5							
			2.0							

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Test Pit No: TP21
Sheet: 1 of 1
Job No: 13546

Test Pit Log

Client: ESR Australia Pty Ltd
Project: Detailed Site Investigation
Location: 290-308 Aldington Road and 59-63 Abbotts Road **Hole Location:** Refer to Figure 3.

Started: 6/10/2021
Finished: 6/10/2021
Test Pit Size: 0.3 m

Rig Type: **Hole Coordinates** E, N **Driller:** **Logged:** SJ
RL Surface: m **Contractor:** Alliance **Bearing:** --- **Checked:**

Method	Water	RL (m)	Depth (m)	Graphic Log	Classification Symbol	Material Description	Samples Tests Remarks	Moisture Condition	Consistency/ Density Index	Additional Observations
			0.5			Sandy CLAY, brown, low plasticity, slightly moist	.0-0.2(PID:1.0ppm)	SM		No potential asbestos containing material, no odours or staining
			1.0				.0-1.2(PID:2.0ppm)			
			1.5			CLAY, light brown with orange mottling, high plasticity, moist	.3-1.5(PID:1.3ppm)	M		No potential asbestos containing material, no odours or staining
			2.0			Test Pit TP21 terminated at 1m				

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Test Pit No: TP22
Sheet: 1 of 1
Job No: 13546

Test Pit Log

Client: ESR Australia Pty Ltd
Project: Detailed Site Investigation
Location: 290-308 Aldington Road and 59-63 Abbotts Road **Hole Location:** Refer to Figure 3.

Started: 7/10/2021
Finished: 7/10/2021
Test Pit Size: 0.3 m

Rig Type: **Hole Coordinates** E, N **Driller:** **Logged:** SJ
RL Surface: m **Contractor:** Alliance **Bearing:** --- **Checked:**

Method	Water	RL (m)	Depth (m)	Graphic Log	Classification Symbol	Material Description	Samples Tests Remarks	Moisture Condition	Consistency/ Density Index	Additional Observations
						Silty CLAY with gravels, brown, low to medium plasticity, moist	0.0-0.1, 0.0-0.1ASB (PID:1.6ppm)	M		No potential asbestos containing material, no odours or staining
			0.5			Gravelly CLAY, light brown with orange mottling, high plasticity mosit		M		No potential asbestos containing material, no odours or staining
			1.0				.0-1.2(PID:3.0ppm)			
						CLAY with minor gravels, dark brown, high plasticity moist		M		No potential asbestos containing material, no odours or staining
			1.5							
							.8-2.0(PID:1.5ppm)			
			2.0							

Test Pit TP22 terminated at 1m

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Test Pit No: TP23
Sheet: 1 of 1
Job No: 13546

Test Pit Log

Client: ESR Australia Pty Ltd
Project: Detailed Site Investigation
Location: 290-308 Aldington Road and 59-63 Abbotts Road **Hole Location:** Refer to Figure 3.

Started: 7/10/2021
Finished: 7/10/2021
Test Pit Size: 0.3 m

Rig Type: **Hole Coordinates** E, N **Driller:** **Logged:** SJ
RL Surface: m **Contractor:** Alliance **Bearing:** --- **Checked:**

Method	Water	RL (m)	Depth (m)	Graphic Log	Classification Symbol	Material Description	Samples Tests Remarks	Moisture Condition	Consistency/ Density Index	Additional Observations
						Gravelly silty CLAY, light brown, low plasticity, slightly moist	0.0-0.1, BD2, BT2 (PID:1.6ppm)	SM		No potential asbestos containing material, no odours or staining
			0.5			CLAY with minor gravels, dark brown, high plasticity moist		M		No potential asbestos containing material, no odours or staining
			1.0				1.0-1.2 (PID:1.4ppm)			
			1.5			CLAY, light brown with orange mottling,high plasticity	.5-1.7(PID:7.1ppm)	M		No potential asbestos containing material, no odours or staining
			2.0							

Test Pit TP23 terminated at 1m

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Test Pit No: TP24
Sheet: 1 of 1
Job No: 13546

Test Pit Log

Client: ESR Australia Pty Ltd
Project: Detailed Site Investigation
Location: 290-308 Aldington Road and 59-63 Abbotts Road **Hole Location:** Refer to Figure 3.

Started: 7/10/2021
Finished: 7/10/2021
Test Pit Size: 0.3 m

Rig Type: **Hole Coordinates** E, N **Driller:** **Logged:** SJ
RL Surface: m **Contractor:** Alliance **Bearing:** --- **Checked:**

Method	Water	RL (m)	Depth (m)	Graphic Log	Classification Symbol	Material Description	Samples Tests Remarks	Moisture Condition	Consistency/ Density Index	Additional Observations
						Gravelly silty CLAY, light brown, low plasticity, slightly moist	.0-0.1(PID:4.4ppm)	M		No potential asbestos containing material, no odours or staining
										No potential asbestos containing material, no odours or staining
			0.5			CLAY, light brown/orange, medium to high plasticity, moist	.5-0.7(PID:9.2ppm)	M		
			1.0			Test Pit TP24 terminated at 1m				
			1.5							
			2.0							

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Test Pit No: TP25
Sheet: 1 of 1
Job No: 13546

Test Pit Log

Client: ESR Australia Pty Ltd
Project: Detailed Site Investigation
Location: 290-308 Aldington Road and 59-63 Abbotts Road **Hole Location:** Refer to Figure 3.

Started: 7/10/2021
Finished: 7/10/2021
Test Pit Size: 0.3 m

Rig Type: **Hole Coordinates** E, N **Driller:** **Logged:** SJ
RL Surface: m **Contractor:** Alliance **Bearing:** --- **Checked:**

Method	Water	RL (m)	Depth (m)	Graphic Log	Classification Symbol	Material Description	Samples Tests Remarks	Moisture Condition	Consistency/ Density Index	Additional Observations
			0.5			Gravelly silty CLAY, light brown/grey, low plasticity, moist	.0-0.1(PID:5.2ppm)	D		No potential asbestos containing material, no odours or staining
			1.0			CLAY with fine gravels, brown/orange, low plasticity	.5-0.6(PID:7.1ppm)	SM		No potential asbestos containing material, no odours or staining
			1.5			Test Pit TP25 terminated at 1m				
			2.0							

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Test Pit No: TP26
Sheet: 1 of 1
Job No: 13546

Test Pit Log

Client: ESR Australia Pty Ltd
Project: Detailed Site Investigation
Location: 290-308 Aldington Road and 59-63 Abbotts Road **Hole Location:** Refer to Figure 3.

Started:
Finished:
Test Pit Size: 0.3 m

Rig Type: **Hole Coordinates** E, N **Driller:** **Logged:** SJ
RL Surface: m **Contractor:** Alliance **Bearing:** --- **Checked:**

Method	Water	RL (m)	Depth (m)	Graphic Log	Classification Symbol	Material Description	Samples Tests Remarks	Moisture Condition	Consistency/ Density Index	Additional Observations
			0.5			Silty gravelly CLAY, brown, low plasticity	0.0-0.1, 0.0-0.1ASB (PID:7.9ppm)	SM		No potential asbestos containing materials, no odours or staining
			1.0				.0-1.2(PID:8.2ppm)			
			1.5			Silty CLAY with minor gravels, dark brown, medium to high plasticity		M		No potential asbestos containing materials, no odours or staining
			2.0				.8-2.0(PID:3.8ppm)			

Test Pit TP26 terminated at 1m

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TP No: TP27
Sheet: 1 of 1
Job No: 13546

Test Pit Log

Client: ESR Australia
Project: Detailed Site Investigation
Location: 290-308 Aldington Road & 59-63 Abbotts Road, Kemps Creek, NSW
Hole Location
Started:
Finished:
Test Pit Size: m

Rig Type: 5t Hydraulic Track Mounted Excavator
Hole Coordinates E, N
Driller:
Logged: SJ

RL Surface: m
Contractor: O' Hara Brothers
Bearing: ---
Checked:

Method	Water	RL (m)	Depth (m)	Graphic Log	Classification Symbol	Material Description	Samples Tests Remarks	Moisture Condition	Consistency/ Density Index	Additional Observations
Excavation			0.5		-	FILL: Sandy CLAY: brown (potentially reworked natural).	ES ES	M	S	FILL
			1.0		-	CLAY: brown/red, trace silt.	ES	M	VSt	NATURAL
			1.5			Test Pit TP27 terminated at 1.5m				
			2.0							
			2.5							
			3.0							
			3.5							

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TP No: TP28
Sheet: 1 of 1
Job No: 13546

Test Pit Log

Client: ESR Australia
Project: Detailed Site Investigation
Location: 290-308 Aldington Road & 59-63 Abbotts Road, Kemps Creek, NSW
Started:
Finished:
Test Pit Size: m

Rig Type: 5t Hydraulic Track Mounted Excavator
Hole Coordinates E, N
Driller:
Logged: SJ
RL Surface: m
Contractor: O' Hara Brothers
Bearing: ---
Checked:

Method	Water	RL (m)	Depth (m)	Graphic Log	Classification Symbol	Material Description	Samples Tests Remarks	Moisture Condition	Consistency/ Density Index	Additional Observations
Excavation					-	FILL: Silty CLAY: brown.	ES	M	VSt	FILL
					-	CLAY: red brown.	ES	M	VSt	NATURAL
			0.5							
						Test Pit TP28 terminated at 0.6m				
			1.0							
			1.5							
			2.0							
			2.5							
			3.0							
			3.5							

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TP No: TP29
Sheet: 1 of 1
Job No: 13546

Test Pit Log

Client: ESR Australia
Project: Detailed Site Investigation
Location: 290-308 Aldington Road & 59-63 Abbotts Road, Kemps Creek, NSW
Hole Location
Started:
Finished:
Test Pit Size: m

Rig Type: 5t Hydraulic Track Mounted Excavator
Hole Coordinates E, N
Driller:
Logged: SJ

RL Surface: m
Contractor: O' Hara Brothers
Bearing: ---
Checked:

Method	Water	RL (m)	Depth (m)	Graphic Log	Classification Symbol	Material Description	Samples Tests Remarks	Moisture Condition	Consistency/ Density Index	Additional Observations
Excavation					-	FILL: Silty CLAY: brown.	ES	D	H	FILL
							ES			
					-	CLAY: orange/brown.	ES	D	H	NATURAL
			0.5							
			1.0			Test Pit TP29 terminated at 1m				
			1.5							
			2.0							
			2.5							
			3.0							
			3.5							

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TP No: TP30
Sheet: 1 of 1
Job No: 13546

Test Pit Log

Client: ESR Australia
Project: Detailed Site Investigation
Location: 290-308 Aldington Road & 59-63 Abbotts Road, Kemps Creek, NSW
Hole Location
Started:
Finished:
Test Pit Size: m

Rig Type: 5t Hydraulic Track Mounted Excavator
Hole Coordinates E, N
Driller:
Logged: SJ

RL Surface: m
Contractor: O' Hara Brothers
Bearing: ---
Checked:

Method	Water	RL (m)	Depth (m)	Graphic Log	Classification Symbol	Material Description	Samples Tests Remarks	Moisture Condition	Consistency/ Density Index	Additional Observations
Excavation			0.5		-	FILL: Silty CLAY: brown.	ES ES	D	H	FILL
			1.0		-	CLAY: orange/brown.	ES	D	H	NATURAL
			1.5			Test Pit TP30 terminated at 1m				
			2.0							
			2.5							
			3.0							
			3.5							

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TP No: TP31
Sheet: 1 of 1
Job No: 13546

Test Pit Log

Client: ESR Australia
Project: Detailed Site Investigation
Location: 290-308 Aldington Road & 59-63 Abbotts Road, Kemps Creek, NSW
Hole Location
Started:
Finished:
Test Pit Size: m
Rig Type: 5t Hydraulic Track Mounted Excavator
Hole Coordinates E, N
Driller:
Logged: SJ
RL Surface: m
Contractor: O' Hara Brothers
Bearing: ---
Checked:

Method	Water	RL (m)	Depth (m)	Graphic Log	Classification Symbol	Material Description	Samples Tests Remarks	Moisture Condition	Consistency/ Density Index	Additional Observations
Excavation			0.5		-	FILL: Silty CLAY: brown, shale gravels (irrigation piping?).	ES	M	St	FILL
							ES			
			1.0			0.9m, becoming moist with depth				
					-	FILL: CLAY: brown/red, trace silt (potentially reworked natural?).		M	VSt	
			1.5				ES			
			2.0							
							ES			
			2.5			Excavator Reached limit Test Pit TP31 terminated at 2.3m				
			3.0							
			3.5							

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TP No: TP32
Sheet: 1 of 1
Job No: 13546

Test Pit Log

Client: ESR Australia
Project: Detailed Site Investigation
Location: 290-308 Aldington Road & 59-63 Abbotts Road, Kemps Creek, NSW
Hole Location
Started:
Finished:
Test Pit Size: m

Rig Type: 5t Hydraulic Track Mounted Excavator
Hole Coordinates E, N
Driller:
Logged: SJ

RL Surface: m
Contractor: O' Hara Brothers
Bearing: ---
Checked:

Method	Water	RL (m)	Depth (m)	Graphic Log	Classification Symbol	Material Description	Samples Tests Remarks	Moisture Condition	Consistency/ Density Index	Additional Observations
Excavation			0.5		-	Silty CLAY: brown (irrigation piping?).	ES	M	St	
							ES			
			1.0				ES			
			1.5		-	CLAY: brown/red, trace silt.	ES	M	VSt	
			2.0			Test Pit TP32 terminated at 2m				
			2.5							
			3.0							
			3.5							

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TP No: TP33
Sheet: 1 of 1
Job No: 13546

Test Pit Log

Client: ESR Australia
Project: Detailed Site Investigation
Location: 290-308 Aldington Road & 59-63 Abbotts Road, Kemps Creek, NSW
Hole Location
Started:
Finished:
Test Pit Size: m

Rig Type: 5t Hydraulic Track Mounted Excavator
Hole Coordinates E, N
Driller:
Logged: SJ

RL Surface: m
Contractor: O' Hara Brothers
Bearing: ---
Checked:

Method	Water	RL (m)	Depth (m)	Graphic Log	Classification Symbol	Material Description	Samples Tests Remarks	Moisture Condition	Consistency/ Density Index	Additional Observations
Excavation					-	FILL: Sandy CLAY: brown (potentially reworked natural).	ES	M	S	FILL
					-	CLAY: brown/red, trace silt.	ES	M	VSt	NATURAL
			0.5							
						Test Pit TP33 terminated at 0.6m				
			1.0							
			1.5							
			2.0							
			2.5							
			3.0							
			3.5							

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TP No: TP34
Sheet: 1 of 1
Job No: 13546

Test Pit Log

Client: ESR Australia
Started:
Project: Detailed Site Investigation
Finished:
Location: 290-308 Aldington Road & 59-63 Abbotts Road, Kemps Creek, NSW
Hole Location:
Test Pit Size: m
Rig Type: 5t Hydraulic Track Mounted Excavator
Hole Coordinates E, N
Driller:
Logged: SJ
RL Surface: m
Contractor: O' Hara Brothers
Bearing: ---
Checked:

Method	Water	RL (m)	Depth (m)	Graphic Log	Classification Symbol	Material Description	Samples Tests Remarks	Moisture Condition	Consistency/ Density Index	Additional Observations
Excavation			0.5		-	FILL: Sandy CLAY: brown (potentially reworked natural).	ES ES	M	S	FILL
			1.0		-	CLAY: brown/red, trace silt.	ES	M	VSt	NATURAL
			1.5			Test Pit TP34 terminated at 1.2m				
			2.0							
			2.5							
			3.0							
			3.5							

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TP No: TP35
Sheet: 1 of 1
Job No: 13546

Test Pit Log

Client: ESR Australia
Project: Detailed Site Investigation
Location: 290-308 Aldington Road & 59-63 Abbotts Road, Kemps Creek, NSW
Hole Location:
Started:
Finished:
Test Pit Size: m

Rig Type: 5t Hydraulic Track Mounted Excavator
Hole Coordinates E, N
Driller:
Logged: SJ

RL Surface: m
Contractor: O' Hara Brothers
Bearing: ---
Checked:

Method	Water	RL (m)	Depth (m)	Graphic Log	Classification Symbol	Material Description	Samples Tests Remarks	Moisture Condition	Consistency/ Density Index	Additional Observations
Excavation			0.5		-	FILL: Sandy CLAY: brown (potentially reworked natural).	ES ES	M	S	FILL
			1.0		-	CLAY: brown/red, trace silt.	ES	M	VSt	NATURAL
			1.5			Test Pit TP35 terminated at 1.1m				
			2.0							
			2.5							
			3.0							
			3.5							

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TP No: TP36
Sheet: 1 of 1
Job No: 13546

Test Pit Log

Client: ESR Australia
Project: Detailed Site Investigation
Location: 290-308 Aldington Road & 59-63 Abbotts Road, Kemps Creek, NSW
Started:
Finished:
Test Pit Size: m

Rig Type: 5t Hydraulic Track Mounted Excavator **Hole Coordinates** E, N
Driller:
Logged: SJ

RL Surface: m **Contractor:** O' Hara Brothers
Bearing: ---
Checked:

Method	Water	RL (m)	Depth (m)	Graphic Log	Classification Symbol	Material Description	Samples Tests Remarks	Moisture Condition	Consistency/ Density Index	Additional Observations
Excavation					-	Sandy CLAY.	ES	-	-	
					-	CLAY: with shale gravels.	ES	-	-	
			0.5			Test Pit TP36 terminated at 0.5m				
			1.0							
			1.5							
			2.0							
			2.5							
			3.0							
			3.5							

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TP No: TP37
Sheet: 1 of 1
Job No: 13546

Test Pit Log

Client: ESR Australia
Project: Detailed Site Investigation
Location: 290-308 Aldington Road & 59-63 Abbotts Road, Kemps Creek, NSW
Hole Location
Started:
Finished:
Test Pit Size: m

Rig Type: 5t Hydraulic Track Mounted Excavator
Hole Coordinates E, N
Driller:
Logged: SJ

RL Surface: m
Contractor: O' Hara Brothers
Bearing: ---
Checked:

Method	Water	RL (m)	Depth (m)	Graphic Log	Classification Symbol	Material Description	Samples Tests Remarks	Moisture Condition	Consistency/ Density Index	Additional Observations
Excavation					-	FILL: Sandy CLAY: brown, some gravels, tile fragments (potentially reworked natural).	ES	M	S	FILL
					-	CLAY: brown/red, trace silt.		M	VSt	NATURAL
			0.5				ES			
						Test Pit TP37 terminated at 0.8m				
			1.0							
			1.5							
			2.0							
			2.5							
			3.0							
			3.5							

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TP No: TP38
Sheet: 1 of 1
Job No: 13546

Test Pit Log

Client: ESR Australia
Project: Detailed Site Investigation
Location: 290-308 Aldington Road & 59-63 Abbotts Road, Kemps Creek, NSW
Hole Location
Started:
Finished:
Test Pit Size: m

Rig Type: 5t Hydraulic Track Mounted Excavator
Hole Coordinates E, N
Driller:
Logged: SJ

RL Surface: m
Contractor: O' Hara Brothers
Bearing: ---
Checked:

Method	Water	RL (m)	Depth (m)	Graphic Log	Classification Symbol	Material Description	Samples Tests Remarks	Moisture Condition	Consistency/ Density Index	Additional Observations
Excavation					-	FILL: Sandy CLAY: brown, some gravels (potentially reworked natural).	ES	M	S	FILL
							ES			
			0.5		-	CLAY: brown/red, trace silt.	ES	M	VSt	NATURAL
						Test Pit TP38 terminated at 0.8m				
			1.0							
			1.5							
			2.0							
			2.5							
			3.0							
			3.5							

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TP No: TP39
Sheet: 1 of 1
Job No: 13546

Test Pit Log

Client: ESR Australia
Project: Detailed Site Investigation
Location: 290-308 Aldington Road & 59-63 Abbotts Road, Kemps Creek, NSW
Hole Location
Started:
Finished:
Test Pit Size: m

Rig Type: 5t Hydraulic Track Mounted Excavator
Hole Coordinates E, N
Driller:
Logged: SJ

RL Surface: m
Contractor: O' Hara Brothers
Bearing: ---
Checked:

Method	Water	RL (m)	Depth (m)	Graphic Log	Classification Symbol	Material Description	Samples Tests Remarks	Moisture Condition	Consistency/ Density Index	Additional Observations
Excavation					-	FILL: Sandy CLAY: brown (potentially reworked natural).	ES	M	S	FILL
					-	CLAY: brown/red, trace silt.	ES	M	VSt	NATURAL
			0.5							
						Test Pit TP39 terminated at 0.6m				
			1.0							
			1.5							
			2.0							
			2.5							
			3.0							
			3.5							

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TP No: TP40
Sheet: 1 of 1
Job No: 13546

Test Pit Log

Client: ESR Australia
Project: Detailed Site Investigation
Location: 290-308 Aldington Road & 59-63 Abbotts Road, Kemps Creek, NSW
Hole Location
Started:
Finished:
Test Pit Size: m

Rig Type: 5t Hydraulic Track Mounted Excavator
Hole Coordinates E, N
Driller:
Logged: SJ

RL Surface: m
Contractor: O' Hara Brothers
Bearing: ---
Checked:

Method	Water	RL (m)	Depth (m)	Graphic Log	Classification Symbol	Material Description	Samples Tests Remarks	Moisture Condition	Consistency/ Density Index	Additional Observations
Excavation					-	FILL: Sandy CLAY: brown (potentially reworked natural).	ES	M	S	FILL
					-	CLAY: brown/red, trace silt.	ES	M	VSt	NATURAL
			0.5							
						Test Pit TP40 terminated at 0.6m				
			1.0							
			1.5							
			2.0							
			2.5							
			3.0							
			3.5							

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Test Pit No: TP41
Sheet: 1 of 1
Job No: 13546

Test Pit Log

Client: ESR Australia Pty Ltd
Project: Detailed Site Investigation
Location: 290-308 Aldington Road and 59-63 Abbotts Road **Hole Location:** Refer to Figure 3.

Started:
Finished:
Test Pit Size: 0.3 m

Rig Type: **Hole Coordinates** E, N **Driller:** **Logged:** SJ
RL Surface: m **Contractor:** Alliance **Bearing:** --- **Checked:**

Method	Water	RL (m)	Depth (m)	Graphic Log	Classification Symbol	Material Description	Samples Tests Remarks	Moisture Condition	Consistency/ Density Index	Additional Observations
			0.5			Silty SAND, brown, well graded, fine to course grained, sub angular moist	0.0-0.1 (PID:1.5ppm)	M		No potential asbestos containing materials, no odours or staining
			1.0			CLAY, light brown/beige with orange and grey mottling, high plasticity	.9-1.0(PID:1.5ppm)	M		No potential asbestos containing materials, no odours or staining
			1.5			Test Pit TP41 terminated at 1m				
			2.0							

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Test Pit No: TP42
Sheet: 1 of 1
Job No: 13546

Test Pit Log

Client: ESR Australia Pty Ltd
Project: Detailed Site Investigation
Location: 290-308 Aldington Road and 59-63 Abbotts Road **Hole Location:** Refer to Figure 3.

Started:
Finished:
Test Pit Size: 0.3 m

Rig Type: **Hole Coordinates** E, N **Driller:** **Logged:** SJ
RL Surface: m **Contractor:** Alliance **Bearing:** --- **Checked:**

Method	Water	RL (m)	Depth (m)	Graphic Log	Classification Symbol	Material Description	Samples Tests Remarks	Moisture Condition	Consistency/ Density Index	Additional Observations
			0.5			Silty SAND, brown, well graded, fine to course grained, sub angular moist with brick and terracotta rubble	.0-0.1(PID:3.2ppm)	M		No potential asbestos containing materials, no odours or staining
			1.0				.0-1.1(PID:1.0ppm)			
			1.5			Silty CLAY, light brown with orange mottling, low plasticity, moist	.4-1.5(PID:1.7ppm)	M		No potential asbestos containing materials, no odours or staining
			2.0			Test Pit TP42 terminated at 1m				

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Test Pit No: TP43
Sheet: 1 of 1
Job No: 13546

Test Pit Log

Client: ESR Australia Pty Ltd
Project: Detailed Site Investigation
Location: 290-308 Aldington Road and 59-63 Abbotts Road **Hole Location:** Refer to Figure 3.

Started:
Finished:
Test Pit Size: 0.3 m

Rig Type: **Hole Coordinates** E, N **Driller:** **Logged:** SJ
RL Surface: m **Contractor:** Alliance **Bearing:** --- **Checked:**

Method	Water	RL (m)	Depth (m)	Graphic Log	Classification Symbol	Material Description	Samples Tests Remarks	Moisture Condition	Consistency/ Density Index	Additional Observations
			0.5			Gravelly silty CLAY, dark brown, medium plasticity, moist	0.0-0.1, 0.0-0.1ASB (PID:2.9ppm)	M		No potential asbestos containing materials, no odours or staining
			1.0				1.0-1.1(PID:2.ppm)			
			1.5			Silty CLAY, light orang/brown, medium to high plasticity	.2-1.3(PID:2.7ppm)	M		No potential asbestos containing materials, no odours or staining
			2.0			Test Pit TP43 terminated at 1m				

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Test Pit No: TP44
Sheet: 1 of 2
Job No: 13546

Test Pit Log

Client: ESR Australia Pty Ltd
Project: Detailed Site Investigation
Location: 290-308 Aldington Road and 59-63 Abbotts Road **Hole Location:** Refer to Figure 3.

Started:
Finished:
Test Pit Size: 0.3 m

Rig Type: **Hole Coordinates** E, N **Driller:** **Logged:** SJ
RL Surface: m **Contractor:** Alliance **Bearing:** --- **Checked:**

Method	Water	RL (m)	Depth (m)	Graphic Log	Classification Symbol	Material Description	Samples Tests Remarks	Moisture Condition	Consistency/ Density Index	Additional Observations
			0.5			Sandy CLAY with gravels, low to medium plasticity, moist	.0-0.1(PID:2.1ppm) .4-0.5(PID:1.0ppm)	M		No potential asbestos containting materials, no odours or staining
			1.0				.0-1.1(PID2.9ppm)			
			1.5			Silty CLAY, light orang/brown, medium to high plasticity, moist	.4-1.5(PID:1.5ppm)	M		No potential asbestos containting materials, no odours or staining
			2.0							

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Test Pit No: TP44
Sheet: 2 of 2
Job No: 13546

Test Pit Log

Client: ESR Australia Pty Ltd
Project: Detailed Site Investigation
Location: 290-308 Aldington Road and 59-63 Abbotts Road **Hole Location:** Refer to Figure 3.

Started:
Finished:
Test Pit Size: 0.3 m

Rig Type: **Hole Coordinates** E, N **Driller:** **Logged:** SJ
RL Surface: m **Contractor:** Alliance **Bearing:** --- **Checked:**

Method	Water	RL (m)	Depth (m)	Graphic Log	Classification Symbol	Material Description	Samples Tests Remarks	Moisture Condition	Consistency/ Density Index	Additional Observations
						Silty CLAY, light orang/brown, medium to high plasticity, moist *(continued)*	2.0-2.1PID:1.7ppm)	M		
			2.5				2.4-2.5(PID:5.2ppm)			
						Test Pit TP44 terminated at 1m				
			3.0							
			3.5							
			4.0							

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Test Pit No: TP50
Sheet: 1 of 1
Job No: 13546

Test Pit Log

Client: ESR Australia Pty Ltd
Project: Detailed Site Investigation
Location: 290-308 Aldington Road and 59-63 Abbotts Road **Hole Location:** Refer to Figure 3.

Started:
Finished:
Test Pit Size: 0.3 m

Rig Type: **Hole Coordinates** E, N **Driller:** **Logged:** SJ
RL Surface: m **Contractor:** Alliance **Bearing:** --- **Checked:**

Method	Water	RL (m)	Depth (m)	Graphic Log	Classification Symbol	Material Description	Samples Tests Remarks	Moisture Condition	Consistency/ Density Index	Additional Observations
						Silty CLAY, dark grey, high plasticity, wet	0.0-0.1(PID:0.6ppm)	W		No potential asbestos containing materials, no odours or staining
			0.5			Shaley CLAY, light brown/orange with grey mottling, medium plasticity	0.5-0.6(PID:3.4ppm)	W		No potential asbestos containing materials, no odours or staining
			1.0			Test Pit TP50 terminated at 1m				
			1.5							
			2.0							

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Test Pit No: TP51
Sheet: 1 of 2
Job No: 13546

Test Pit Log

Client: ESR Australia Pty Ltd
Project: Detailed Site Investigation
Location: 290-308 Aldington Road and 59-63 Abbotts Road **Hole Location:** Refer to Figure 3.

Started:
Finished:
Test Pit Size: 0.3 m

Rig Type: **Hole Coordinates** E, N **Driller:** **Logged:** SJ
RL Surface: m **Contractor:** Alliance **Bearing:** --- **Checked:**

Method	Water	RL (m)	Depth (m)	Graphic Log	Classification Symbol	Material Description	Samples Tests Remarks	Moisture Condition	Consistency/ Density Index	Additional Observations
			0.5			Gravelly sandy CLAY, brown, low to medium plasticity, moist, water at 2.0m brick, tile and PACM observed at 2.0m	.0-0.1(PID:1.7ppm)	W		Potential asbestos containing materials observed, no odours or staining
			1.0				.0-1.1(PID:1.0ppm)			
			1.5							
			2.0							

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Test Pit No: TP51
Sheet: 2 of 2
Job No: 13546

Test Pit Log

Client: ESR Australia Pty Ltd
Project: Detailed Site Investigation
Location: 290-308 Aldington Road and 59-63 Abbotts Road **Hole Location:** Refer to Figure 3.

Started:
Finished:
Test Pit Size: 0.3 m

Rig Type: **Hole Coordinates** E, N **Driller:** **Logged:** SJ
RL Surface: m **Contractor:** Alliance **Bearing:** --- **Checked:**

Method	Water	RL (m)	Depth (m)	Graphic Log	Classification Symbol	Material Description	Samples Tests Remarks	Moisture Condition	Consistency/ Density Index	Additional Observations
						Gravelly sandy CLAY, brown, low to medium plasticity, moist, water at 2.0m brick, tile and PACM observed at 2.0m *(continued)*	2.0-2.1, 2.0-2.1ASB (PID:0.9ppm)	W		
							2.3-2.4(PID:13ppm)			
			2.5			Test Pit TP51 terminated at 1m				
			3.0							
			3.5							
			4.0							

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Test Pit No: TP52
Sheet: 1 of 2
Job No: 13546

Test Pit Log

Client: ESR Australia Pty Ltd
Project: Detailed Site Investigation
Location: 290-308 Aldington Road and 59-63 Abbotts Road **Hole Location:** Refer to Figure 3.

Started:
Finished:
Test Pit Size: 0.3 m

Rig Type: **Hole Coordinates** E, N **Driller:** **Logged:** SJ
RL Surface: m **Contractor:** Alliance **Bearing:** --- **Checked:**

Method	Water	RL (m)	Depth (m)	Graphic Log	Classification Symbol	Material Description	Samples Tests Remarks	Moisture Condition	Consistency/ Density Index	Additional Observations
			0.5			Silty CLAY, dark brown, medium plasticity, moist	.0-0.1(PID:0.6ppm) .5-0.6(PID:0.7ppm)	M		No potential asbestos containing materials, no odours or staining
			1.0			Silty CLAY with minor gravels, grey, high plasticity, building materials from 1.5m and water at 2.0m	.0-1.1(PID:0.9ppm) .5-1.6(PID:1.2ppm)	M		No potential asbestos containing materials, no odours or staining
			1.5							
			2.0							

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Test Pit No: TP52
Sheet: 2 of 2
Job No: 13546

Test Pit Log

Client: ESR Australia Pty Ltd
Project: Detailed Site Investigation
Location: 290-308 Aldington Road and 59-63 Abbotts Road **Hole Location:** Refer to Figure 3.

Started:
Finished:
Test Pit Size: 0.3 m

Rig Type: **Hole Coordinates** E, N **Driller:** **Logged:** SJ
RL Surface: m **Contractor:** Alliance **Bearing:** --- **Checked:**

Method	Water	RL (m)	Depth (m)	Graphic Log	Classification Symbol	Material Description	Samples Tests Remarks	Moisture Condition	Consistency/ Density Index	Additional Observations
						Silty CLAY with minor gravels, grey, high plasticity, building materials from 1.5m and water at 2.0m *(continued)*	2.0-2.1(PID:3.1ppm)	M		
			2.5				2.5-2.6(PID:0.9ppm)			
						Test Pit TP52 terminated at 1m				
			3.0							
			3.5							
			4.0							

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Test Pit No: TP53
Sheet: 1 of 1
Job No: 13546

Test Pit Log

Client: ESR Australia Pty Ltd
Project: Detailed Site Investigation
Location: 290-308 Aldington Road and 59-63 Abbotts Road **Hole Location:** Refer to Figure 3.

Started:
Finished:
Test Pit Size: 0.3 m

Rig Type: **Hole Coordinates** E, N **Driller:** **Logged:** SJ
RL Surface: m **Contractor:** Alliance **Bearing:** --- **Checked:**

Method	Water	RL (m)	Depth (m)	Graphic Log	Classification Symbol	Material Description	Samples Tests Remarks	Moisture Condition	Consistency/ Density Index	Additional Observations
						Silty CLAY, dark brown, medium plasticity, moist	0.0-0.1(PID:0.9ppm)	M		No potential asbestos containing materials, no odours or staining
						Silty CLAY, orange/brown with grey mottling, high plasticity, moist	0.3-0.4(PID:2.1ppm)	M		No potential asbestos containing materials, no odours or staining
			0.5							
			1.0			Test Pit TP53 terminated at 1m				
			1.5							
			2.0							

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Test Pit No: TP54
Sheet: 1 of 2
Job No: 13546

Test Pit Log

Client: ESR Australia Pty Ltd
Project: Detailed Site Investigation
Location: 290-308 Aldington Road and 59-63 Abbotts Road **Hole Location:** Refer to Figure 3.

Started:
Finished:
Test Pit Size: 0.3 m

Rig Type: **Hole Coordinates** E, N **Driller:** **Logged:** SJ
RL Surface: m **Contractor:** Alliance **Bearing:** --- **Checked:**

Method	Water	RL (m)	Depth (m)	Graphic Log	Classification Symbol	Material Description	Samples Tests Remarks	Moisture Condition	Consistency/ Density Index	Additional Observations
			0.5			Silty CLAY, dark brown, medium plasticity, moist, water strike at 2.0m	.0-0.1(PID:0.7ppm)	W		No potential asbestos containing materials, no odours or staining
			1.0				.0-1.1(PID:0.7ppm)			
			1.5							
			2.0							

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Test Pit No: TP54
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Job No: 13546

Test Pit Log

Client: ESR Australia Pty Ltd
Project: Detailed Site Investigation
Location: 290-308 Aldington Road and 59-63 Abbotts Road **Hole Location:** Refer to Figure 3.

Started:
Finished:
Test Pit Size: 0.3 m

Rig Type: **Hole Coordinates** E, N **Driller:** **Logged:** SJ
RL Surface: m **Contractor:** Alliance **Bearing:** --- **Checked:**

Method	Water	RL (m)	Depth (m)	Graphic Log	Classification Symbol	Material Description	Samples Tests Remarks	Moisture Condition	Consistency/ Density Index	Additional Observations
						Silty CLAY, dark brown, medium plasticity, moist, water strike at 2.0m *(continued)*	2.0-2.1(PID:0.7ppm)	W		
						Sllty CLAY, light brown with orange/grey mottling, high plasticity wet		W		No potential asbestos containing materials, no odours or staining
			2.5				2.4-2.5(PID:0.6ppm)			
						Test Pit TP54 terminated at 1m				
			3.0							
			3.5							
			4.0							

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Test Pit No: TP61
Sheet: 1 of 1
Job No: 13546

Test Pit Log

Client: ESR Australia Pty Ltd
Project: Detailed Site Investigation
Location: 290-308 Aldington Road and 59-63 Abbotts Road **Hole Location:** Refer to Figure 3.

Started:
Finished:
Test Pit Size: 0.3 m

Rig Type: **Hole Coordinates** E, N **Driller:** **Logged:** SJ
RL Surface: m **Contractor:** Alliance **Bearing:** --- **Checked:**

Method	Water	RL (m)	Depth (m)	Graphic Log	Classification Symbol	Material Description	Samples Tests Remarks	Moisture Condition	Consistency/ Density Index	Additional Observations
						Silty SAND with minor gravels, dark brown,fine to medium grained, moist	.0-0.1(PID:5.8ppm)	M		No potential asbestos containing materials, no odours or staining
						Silty CLAY, brown with orange and grey mottling, high plasticity, moist		M		No potential asbestos containing materials, no odours or staining
			0.5				5-0.6(PID:13.0ppm)			
			1.0			CLAY, brown, high plasticity, moist	.0-1.1(PID:7.2ppm)	M		No potential asbestos containing materials, no odours or staining
						Test Pit TP61 terminated at 1m				
			1.5							
			2.0							

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Test Pit No: TP62
Sheet: 1 of 1
Job No: 13546

Test Pit Log

Client: ESR Australia Pty Ltd
Project: Detailed Site Investigation
Location: 290-308 Aldington Road and 59-63 Abbotts Road **Hole Location:** Refer to Figure 3.

Started:
Finished:
Test Pit Size: 0.3 m

Rig Type: **Hole Coordinates** E, N **Driller:** **Logged:** SJ
RL Surface: m **Contractor:** Alliance **Bearing:** --- **Checked:**

Method	Water	RL (m)	Depth (m)	Graphic Log	Classification Symbol	Material Description	Samples Tests Remarks	Moisture Condition	Consistency/ Density Index	Additional Observations
						Silty SAND with minor gravels, dark brown,fine to medium grained, moist	.0-0.2(PID:7.0ppm)	M		No potential asbestos containing materials, no odours or staining
						Silty CLAY, brown with orange and grey mottling, high plasticity, moist		M		No potential asbestos containing materials, no odours or staining
			0.5				.5-0.6(PID:1.1ppm)			
			1.0			CLAY, brown, high plasticity, moist	.0-1.1(PID:6.1ppm)	M-W		No potential asbestos containing materials, no odours or staining
						Test Pit TP62 terminated at 1m				
			1.5				.5-1.6(PID:2.1ppm)			
			2.0							

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Test Pit No: TP63
Sheet: 1 of 1
Job No: 13546

Test Pit Log

Client: ESR Australia Pty Ltd
Project: Detailed Site Investigation
Location: 290-308 Aldington Road and 59-63 Abbotts Road **Hole Location:** Refer to Figure 3.

Started:
Finished:
Test Pit Size: 0.3 m

Rig Type: **Hole Coordinates** E, N **Driller:** **Logged:** SJ
RL Surface: m **Contractor:** Alliance **Bearing:** --- **Checked:**

Method	Water	RL (m)	Depth (m)	Graphic Log	Classification Symbol	Material Description	Samples Tests Remarks	Moisture Condition	Consistency/ Density Index	Additional Observations
			0.5			Silty CLAY, brown with orange and grey mottling, high plasticity, moist	.0-0.1(PID:7.6ppm)	M		No potential asbestos containing materials, no odours or staining
			1.0				.5-0.6(PID:4.9ppm)			
						CLAY, brown, high plasticity, moist	.0-1.1ppm(2.1ppm)	M		No potential asbestos containing materials, no odours or staining
			1.5			Test Pit TP63 terminated at 1m				
			2.0							

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Test Pit No: TP64
Sheet: 1 of 1
Job No: 13546

Test Pit Log

Client: ESR Australia Pty Ltd
Project: Detailed Site Investigation
Location: 290-308 Aldington Road and 59-63 Abbotts Road **Hole Location:** Refer to Figure 3.

Started:
Finished:
Test Pit Size: 0.3 m

Rig Type: **Hole Coordinates** E, N **Driller:** **Logged:** SJ
RL Surface: m **Contractor:** Alliance **Bearing:** --- **Checked:**

Method	Water	RL (m)	Depth (m)	Graphic Log	Classification Symbol	Material Description	Samples Tests Remarks	Moisture Condition	Consistency/ Density Index	Additional Observations
			0.5			Gravelly silty CLAY, brown , high plasticity, moist	.0-0.1(PID:4.1ppm)	M		No potential asbestos containing materials, no odours or staining
			1.0			Silty CLAY, dark brown, high plasticity, moist	.0-1.1(PID:3.2ppm)	M		No potential asbestos containing materials, no odours or staining
			1.5			Silty CLAY, brown with orange mottling, fine gravels, high plasticity, moist	.5-1.6(PID:3.0ppm)			No potential asbestos containing materials, no odours or staining
			2.0			Test Pit TP64 terminated at 1m				

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Test Pit No: TP65
Sheet: 1 of 2
Job No: 13546

Test Pit Log

Client: ESR Australia Pty Ltd
Project: Detailed Site Investigation
Location: 290-308 Aldington Road and 59-63 Abbotts Road **Hole Location:** Refer to Figure 3.

Started:
Finished:
Test Pit Size: 0.3 m

Rig Type: **Hole Coordinates** E, N **Driller:** **Logged:** SJ
RL Surface: m **Contractor:** Alliance **Bearing:** --- **Checked:**

Method	Water	RL (m)	Depth (m)	Graphic Log	Classification Symbol	Material Description	Samples Tests Remarks	Moisture Condition	Consistency/ Density Index	Additional Observations
						Silty gravelly SAND, dark brown, well graded, fine to course grained, sun angular, moist.	.0-0.1(PID:4.0ppm)	M		No potential asbestos containing materials, no odours or staining
						Silty CLAY, brown with orange mottling, high plasticity, moist.		M		No potential asbestos containing materials, no odours or staining
			0.5							
			1.0				.0-1.1(PID:1.1ppm)			
			1.5							
			2.0							

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Test Pit No: TP65
Sheet: 2 of 2
Job No: 13546

Test Pit Log

Client: ESR Australia Pty Ltd
Project: Detailed Site Investigation
Location: 290-308 Aldington Road and 59-63 Abbotts Road **Hole Location:** Refer to Figure 3.

Started:
Finished:
Test Pit Size: 0.3 m

Rig Type: **Hole Coordinates** E, N **Driller:** **Logged:** SJ
RL Surface: m **Contractor:** Alliance **Bearing:** --- **Checked:**

Method	Water	RL (m)	Depth (m)	Graphic Log	Classification Symbol	Material Description	Samples Tests Remarks	Moisture Condition	Consistency/ Density Index	Additional Observations
						Silty CLAY with fine gravels, brown with orange and grey mottling, high plasticity, moist, with water entering at 2.0m	2.0-2.1(PID:1.6ppm)	M		No potential asbestos containing materials, no odours or staining
						Test Pit TP65 terminated at 1m				
			2.5							
			3.0							
			3.5							
			4.0							

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Test Pit No: TP66
Sheet: 1 of 1
Job No: 13546

Test Pit Log

Client: ESR Australia Pty Ltd
Project: Detailed Site Investigation
Location: 290-308 Aldington Road and 59-63 Abbotts Road **Hole Location:** Refer to Figure 3.

Started:
Finished:
Test Pit Size: 0.3 m

Rig Type: **Hole Coordinates** E, N **Driller:** **Logged:** SJ
RL Surface: m **Contractor:** Alliance **Bearing:** --- **Checked:**

Method	Water	RL (m)	Depth (m)	Graphic Log	Classification Symbol	Material Description	Samples Tests Remarks	Moisture Condition	Consistency/ Density Index	Additional Observations
			0.5			Silty SAND with minor gravels, dark brown, fine to medium grained, sub angular, moist	0.0-0.1(PID:4.7ppm)	M		No potential asbestos containing materials, no odours or staining
						CLAY, orange/brown with grey mottling, high plasticity, moist	0.6-0.7(PID:3.1ppm)	M		No potential asbestos containing materials, no odours or staining
			1.0			Test Pit TP66 terminated at 1m				
			1.5							
			2.0							

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Test Pit No: TP67
Sheet: 1 of 1
Job No: 13546

Test Pit Log

Client: ESR Australia Pty Ltd
Started:
Project: Detailed Site Investigation
Finished:
Location: 290-308 Aldington Road and 59-63 Abbotts Road **Hole Location:** Refer to Figure 3.
Test Pit Size: 0.3 m

Rig Type: **Hole Coordinates** E, N **Driller:** **Logged:** SJ
RL Surface: m **Contractor:** Alliance **Bearing:** --- **Checked:**

Method	Water	RL (m)	Depth (m)	Graphic Log	Classification Symbol	Material Description	Samples Tests Remarks	Moisture Condition	Consistency/ Density Index	Additional Observations
			0.5							
			1.0							
			1.5							
			2.0							

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Test Pit No: TP68
Sheet: 1 of 1
Job No: 13546

Test Pit Log

Client: ESR Australia Pty Ltd
Started:
Project: Detailed Site Investigation
Finished:
Location: 290-308 Aldington Road and 59-63 Abbotts Road **Hole Location:** Refer to Figure 3.
Test Pit Size: 0.3 m

Rig Type: **Hole Coordinates** E, N **Driller:** **Logged:** SJ
RL Surface: m **Contractor:** Alliance **Bearing:** --- **Checked:**

Method	Water	RL (m)	Depth (m)	Graphic Log	Classification Symbol	Material Description	Samples Tests Remarks	Moisture Condition	Consistency/ Density Index	Additional Observations
			0.5							
			1.0							
			1.5							
			2.0							

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Test Pit No: TP69
Sheet: 1 of 1
Job No: 13546

Test Pit Log

Client: ESR Australia Pty Ltd
Started:
Project: Detailed Site Investigation
Finished:
Location: 290-308 Aldington Road and 59-63 Abbotts Road **Hole Location:** Refer to Figure 3.
Test Pit Size: 0.3 m

Rig Type: **Hole Coordinates** E, N **Driller:** **Logged:** SJ
RL Surface: m **Contractor:** Alliance **Bearing:** --- **Checked:**

Method	Water	RL (m)	Depth (m)	Graphic Log	Classification Symbol	Material Description	Samples Tests Remarks	Moisture Condition	Consistency/ Density Index	Additional Observations
			0.5							
			1.0							
			1.5							
			2.0							

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Test Pit No: TP70
Sheet: 1 of 1
Job No: 13546

Test Pit Log

Client: ESR Australia Pty Ltd
Project: Detailed Site Investigation
Location: 290-308 Aldington Road and 59-63 Abbotts Road **Hole Location:** Refer to Figure 3.

Started:
Finished:
Test Pit Size: 0.3 m

Rig Type: **Hole Coordinates** E, N **Driller:** **Logged:** SJ
RL Surface: m **Contractor:** Alliance **Bearing:** --- **Checked:**

Method	Water	RL (m)	Depth (m)	Graphic Log	Classification Symbol	Material Description	Samples Tests Remarks	Moisture Condition	Consistency/ Density Index	Additional Observations
						Silty CLAY, dark brown, medium plasticity, moist	0.0-0.1(PID:5.8ppm)	M		No potential asbestos containing materials, no odours or staining
						Silty CLAY, orange/brown with grey mottling, high plasticity, moist	0.3-0.4(PID:6.8ppm)	M		No potential asbestos containing materials, no odours or staining
			0.5							
			1.0			Test Pit TP70 terminated at 1m				
			1.5							
			2.0							

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Test Pit No: TP71
Sheet: 1 of 1
Job No: 13546

Test Pit Log

Client: ESR Australia Pty Ltd
Project: Detailed Site Investigation
Location: 290-308 Aldington Road and 59-63 Abbotts Road **Hole Location:** Refer to Figure 3.

Started:
Finished:
Test Pit Size: 0.3 m

Rig Type: **Hole Coordinates** E, N **Driller:** **Logged:** SJ
RL Surface: m **Contractor:** Alliance **Bearing:** --- **Checked:**

Method	Water	RL (m)	Depth (m)	Graphic Log	Classification Symbol	Material Description	Samples Tests Remarks	Moisture Condition	Consistency/ Density Index	Additional Observations
						Silty CLAY, dark brown, medium plasticity, moist	0.0-0.1(PID:5.8ppm)	M		No potential asbestos containing materials, no odours or staining
						Silty CLAY, orange/brown with grey mottling, high plasticity, moist	0.3-0.4(PID:6.8ppm)	M		No potential asbestos containing materials, no odours or staining
			0.5							
			1.0			Test Pit TP71 terminated at 1m				
			1.5							
			2.0							

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TP No: TP78
Sheet: 1 of 1
Job No: 13546

Test Pit Log

Client: ESR Australia
Project: Detailed Site Investigation
Location: 290-308 Aldington Road & 59-63 Abbotts Road, Kemps Creek, NSW
Started: 19/10/2021
Finished: 19/10/2021
Test Pit Size: m

Rig Type: 5t Hydraulic Track Mounted Excavator **Hole Coordinates** E, N **Driller:** **Logged:** SJ
RL Surface: m **Contractor:** O' Hara Brothers **Bearing:** --- **Checked:**

Method	Water	RL (m)	Depth (m)	Graphic Log	Classification Symbol	Material Description	Samples Tests Remarks	Moisture Condition	Consistency/ Density Index	Additional Observations
Excavation					-	TOPSOIL: Sandy SILT: brown, fine to medium grained, sub-rounded sand.	ES PID=3.6ppm	SM	-	TOPSOIL
					CL-CI	Silty CLAY: low to medium plasticity, orange-brown.	ES	M	-	NATURAL
			0.5			Test Pit TP78 terminated at 0.4m				
			1.0							
			1.5							
			2.0							
			2.5							
			3.0							
			3.5							

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TP No: TP79
Sheet: 1 of 1
Job No: 13546

Test Pit Log

Client: ESR Australia
Project: Detailed Site Investigation
Location: 290-308 Aldington Road & 59-63 Abbotts Road, Kemps Creek, NSW
Started: 19/10/2021
Finished: 19/10/2021
Test Pit Size: m

Rig Type: 5t Hydraulic Track Mounted Excavator **Hole Coordinates** E, N **Driller:** **Logged:** SJ
RL Surface: m **Contractor:** O' Hara Brothers **Bearing:** --- **Checked:**

Method	Water	RL (m)	Depth (m)	Graphic Log	Classification Symbol	Material Description	Samples Tests Remarks	Moisture Condition	Consistency/ Density Index	Additional Observations
Excavation					-	TOPSOIL: Sandy SILT: brown, fine to medium grained, sub-rounded sand.	ES PID=1.0ppm	SM	-	TOPSOIL
					CL-CI	Silty CLAY: low to medium plasticity, orange-brown.	ES	M	-	NATURAL
			0.5			Test Pit TP79 terminated at 0.4m				
			1.0							
			1.5							
			2.0							
			2.5							
			3.0							
			3.5							

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TP No: TP80
Sheet: 1 of 1
Job No: 13546

Test Pit Log

Client: ESR Australia
Project: Detailed Site Investigation
Location: 290-308 Aldington Road & 59-63 Abbotts Road, Kemps Creek, NSW
Started: 19/10/2021
Finished: 19/10/2021
Test Pit Size: m

Rig Type: 5t Hydraulic Track Mounted Excavator **Hole Coordinates** E, N
Driller:
Logged: SJ

RL Surface: m **Contractor:** O' Hara Brothers
Bearing: ---
Checked:

Method	Water	RL (m)	Depth (m)	Graphic Log	Classification Symbol	Material Description	Samples Tests Remarks	Moisture Condition	Consistency/ Density Index	Additional Observations
Excavation					-	TOPSOIL: Sandy SILT: brown, fine to medium grained, sub-rounded sand.	ES PID=2.2ppm	SM	-	TOPSOIL
					CL-CI	Silty CLAY: low to medium plasticity, orange-brown.	ES	M	-	NATURAL
			0.5			Test Pit TP80 terminated at 0.4m				
			1.0							
			1.5							
			2.0							
			2.5							
			3.0							
			3.5							

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TP No: TP81
Sheet: 1 of 1
Job No: 13546

Test Pit Log

Client: ESR Australia
Project: Detailed Site Investigation
Location: 290-308 Aldington Road & 59-63 Abbotts Road, Kemps Creek, NSW
Hole Location
Started: 19/10/2021
Finished: 19/10/2021
Test Pit Size: m

Rig Type: 5t Hydraulic Track Mounted Excavator
Hole Coordinates E, N
Driller:
Logged: SJ

RL Surface: m
Contractor: O' Hara Brothers
Bearing: ---
Checked:

Method	Water	RL (m)	Depth (m)	Graphic Log	Classification Symbol	Material Description	Samples Tests Remarks	Moisture Condition	Consistency/ Density Index	Additional Observations
Excavation					-	TOPSOIL: Silty CLAY: medium plasticity, dark brown.	ES PID=2.1ppm	M	-	TOPSOIL
					CI-CH	Silty CLAY: medium to high plasticity, orange brown.	ES	-	-	NATURAL
			0.5			Test Pit TP81 terminated at 0.4m				
			1.0							
			1.5							
			2.0							
			2.5							
			3.0							
			3.5							

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TP No: TP82
Sheet: 1 of 1
Job No: 13546

Test Pit Log

Client: ESR Australia
Project: Detailed Site Investigation
Location: 290-308 Aldington Road & 59-63 Abbotts Road, Kemps Creek, NSW
Started: 19/10/2021
Finished: 19/10/2021
Test Pit Size: m

Rig Type: 5t Hydraulic Track Mounted Excavator
Hole Coordinates E, N
Driller:
Logged: SJ
RL Surface: m
Contractor: O' Hara Brothers
Bearing: ---
Checked:

Method	Water	RL (m)	Depth (m)	Graphic Log	Classification Symbol	Material Description	Samples Tests Remarks	Moisture Condition	Consistency/ Density Index	Additional Observations
Excavation					-	TOPSOIL: Silty CLAY: medium plasticity, dark brown.	ES PID=1.3ppm	M	-	TOPSOIL
					CI-CH	Silty CLAY: medium to high plasticity, brown.	ES	-	-	NATURAL
			0.5			Test Pit TP82 terminated at 0.4m				
			1.0							
			1.5							
			2.0							
			2.5							
			3.0							
			3.5							

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TP No: TP83
Sheet: 1 of 1
Job No: 13546

Test Pit Log

Client: ESR Australia
Project: Detailed Site Investigation
Location: 290-308 Aldington Road & 59-63 Abbotts Road, Kemps Creek, NSW
Started: 19/10/2021
Finished: 19/10/2021
Test Pit Size: m

Rig Type: 5t Hydraulic Track Mounted Excavator **Hole Coordinates** E, N
Driller:
Logged: SJ
RL Surface: m **Contractor:** O' Hara Brothers
Bearing: ---
Checked:

Method	Water	RL (m)	Depth (m)	Graphic Log	Classification Symbol	Material Description	Samples Tests Remarks	Moisture Condition	Consistency/ Density Index	Additional Observations
Excavation					-	TOPSOIL: Silty CLAY: medium plasticity, dark brown.	ES PID=1.2ppm	M	-	TOPSOIL
					CI-CH	Silty CLAY: medium to high plasticity, brown.	ES	-	-	NATURAL
			0.5			Test Pit TP83 terminated at 0.4m				
			1.0							
			1.5							
			2.0							
			2.5							
			3.0							
			3.5							

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TP No: TP84
Sheet: 1 of 1
Job No: 13546

Test Pit Log

Client: ESR Australia
Project: Detailed Site Investigation
Location: 290-308 Aldington Road & 59-63 Abbotts Road, Kemps Creek, NSW
Hole Location
Started: 19/10/2021
Finished: 19/10/2021
Test Pit Size: m

Rig Type: 5t Hydraulic Track Mounted Excavator
Hole Coordinates E, N
Driller:
Logged: SJ

RL Surface: m
Contractor: O' Hara Brothers
Bearing: ---
Checked:

Method	Water	RL (m)	Depth (m)	Graphic Log	Classification Symbol	Material Description	Samples Tests Remarks	Moisture Condition	Consistency/ Density Index	Additional Observations
Excavation					-	TOPSOIL: Silty CLAY: medium plasticity, dark brown.	ES PID=1.3ppm	M	-	TOPSOIL
					CI-CH	Silty CLAY: medium to high plasticity, brown.	ES	-	-	NATURAL
			0.5			Test Pit TP84 terminated at 0.4m				
			1.0							
			1.5							
			2.0							
			2.5							
			3.0							
			3.5							

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TP No: TP85
Sheet: 1 of 1
Job No: 13546

Test Pit Log

Client: ESR Australia
Project: Detailed Site Investigation
Location: 290-308 Aldington Road & 59-63 Abbotts Road, Kemps Creek, NSW
Hole Location
Started: 19/10/2021
Finished: 19/10/2021
Test Pit Size: m

Rig Type: 5t Hydraulic Track Mounted Excavator
Hole Coordinates E, N
Driller:
Logged: SJ

RL Surface: m
Contractor: O' Hara Brothers
Bearing: ---
Checked:

Method	Water	RL (m)	Depth (m)	Graphic Log	Classification Symbol	Material Description	Samples Tests Remarks	Moisture Condition	Consistency/ Density Index	Additional Observations
Excavation					-	TOPSOIL: Silty CLAY: medium plasticity, dark brown.	ES PID=2.3ppm	M	-	TOPSOIL
					CI-CH	Silty CLAY: medium to high plasticity, brown.	ES	-	-	NATURAL
			0.5			Test Pit TP85 terminated at 0.4m				
			1.0							
			1.5							
			2.0							
			2.5							
			3.0							
			3.5							

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TP No: TP86
Sheet: 1 of 1
Job No: 13546

Test Pit Log

Client: ESR Australia
Project: Detailed Site Investigation
Location: 290-308 Aldington Road & 59-63 Abbotts Road, Kemps Creek, NSW
Hole Location:
Started: 19/10/2021
Finished: 19/10/2021
Test Pit Size: m

Rig Type: 5t Hydraulic Track Mounted Excavator
Hole Coordinates E, N
Driller:
Logged: SJ
RL Surface: m
Contractor: O' Hara Brothers
Bearing: ---
Checked:

Method	Water	RL (m)	Depth (m)	Graphic Log	Classification Symbol	Material Description	Samples Tests Remarks	Moisture Condition	Consistency/ Density Index	Additional Observations
Excavation					-	TOPSOIL: Silty CLAY: low plasticity, brown.	ES PID=1.8ppm	M	-	TOPSOIL
					CL	Silty CLAY: low plasticity, orange brown.		M	-	NATURAL
			0.5				ES			
			1.0				ES			
			1.5				ES			
					CI	Silty CLAY: medium plasticity, grey with orange.		M	-	
			2.0				ES			
			2.5				ES			
						Test Pit TP86 terminated at 2.6m				
			3.0							
			3.5							

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TP No: TP87
Sheet: 1 of 1
Job No: 13546

Test Pit Log

Client: ESR Australia
Project: Detailed Site Investigation
Location: 290-308 Aldington Road & 59-63 Abbotts Road, Kemps Creek, NSW
Hole Location
Started: 19/10/2021
Finished: 19/10/2021
Test Pit Size: m

Rig Type: 5t Hydraulic Track Mounted Excavator
Hole Coordinates E, N
Driller:
Logged: SJ

RL Surface: m
Contractor: O' Hara Brothers
Bearing: ---
Checked:

Method	Water	RL (m)	Depth (m)	Graphic Log	Classification Symbol	Material Description	Samples Tests Remarks	Moisture Condition	Consistency/ Density Index	Additional Observations
Excavation					-	TOPSOIL: Silty CLAY: low plasticity, brown.	ES PID=2.9ppm	M	-	TOPSOIL
					CH	Silty CLAY: high plasticity, orange brown.	ES	M	-	NATURAL
			0.5			Test Pit TP87 terminated at 0.4m				
			1.0							
			1.5							
			2.0							
			2.5							
			3.0							
			3.5							

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TP No: TP88
Sheet: 1 of 1
Job No: 13546

Test Pit Log

Client: ESR Australia
Project: Detailed Site Investigation
Location: 290-308 Aldington Road & 59-63 Abbotts Road, Kemps Creek, NSW
Hole Location
Started: 19/10/2021
Finished: 19/10/2021
Test Pit Size: m

Rig Type: 5t Hydraulic Track Mounted Excavator
Hole Coordinates E, N
Driller:
Logged: SJ

RL Surface: m
Contractor: O' Hara Brothers
Bearing: ---
Checked:

Method	Water	RL (m)	Depth (m)	Graphic Log	Classification Symbol	Material Description	Samples Tests Remarks	Moisture Condition	Consistency/ Density Index	Additional Observations
Excavation					-	TOPSOIL: Silty CLAY: low plasticity, brown.	ES PID=2.4ppm	M	-	TOPSOIL
					CH	Silty CLAY: high plasticity, orange brown.	ES	M	-	NATURAL
			0.5			Test Pit TP88 terminated at 0.4m				
			1.0							
			1.5							
			2.0							
			2.5							
			3.0							
			3.5							

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TP No: TP89
Sheet: 1 of 1
Job No: 13546

Test Pit Log

Client: ESR Australia
Project: Detailed Site Investigation
Location: 290-308 Aldington Road & 59-63 Abbotts Road, Kemps Creek, NSW
Hole Location
Started: 19/10/2021
Finished: 19/10/2021
Test Pit Size: m

Rig Type: 5t Hydraulic Track Mounted Excavator
Hole Coordinates E, N
Driller:
Logged: SJ

RL Surface: m
Contractor: O' Hara Brothers
Bearing: ---
Checked:

Method	Water	RL (m)	Depth (m)	Graphic Log	Classification Symbol	Material Description	Samples Tests Remarks	Moisture Condition	Consistency/ Density Index	Additional Observations
Excavation					-	TOPSOIL: Silty CLAY: low plasticity, brown.	ES PID=3.7ppm	M	-	TOPSOIL
					CH	Silty CLAY: high plasticity, orange brown.	ES	M	-	NATURAL
			0.5			Test Pit TP89 terminated at 0.4m				
			1.0							
			1.5							
			2.0							
			2.5							
			3.0							
			3.5							

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TP No: TP90
Sheet: 1 of 1
Job No: 13546

Test Pit Log

Client: ESR Australia
Project: Detailed Site Investigation
Location: 290-308 Aldington Road & 59-63 Abbotts Road, Kemps Creek, NSW
Started: 19/10/2021
Finished: 19/10/2021
Test Pit Size: m

Rig Type: 5t Hydraulic Track Mounted Excavator
Hole Location Coordinates E, N
Driller:
Logged: SJ
RL Surface: m
Contractor: O' Hara Brothers
Bearing: ---
Checked:

Method	Water	RL (m)	Depth (m)	Graphic Log	Classification Symbol	Material Description	Samples Tests Remarks	Moisture Condition	Consistency/ Density Index	Additional Observations
Excavation					-	TOPSOIL: Silty CLAY: medium plasticity, dark brown.	ES PID=3.8ppm	M	-	TOPSOIL
						Test Pit TP90 terminated at 0.1m				
			0.5							
			1.0							
			1.5							
			2.0							
			2.5							
			3.0							
			3.5							

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TP No: TP91
Sheet: 1 of 1
Job No: 13546

Test Pit Log

Client: ESR Australia
Project: Detailed Site Investigation
Location: 290-308 Aldington Road & 59-63 Abbotts Road, Kemps Creek, NSW
Started: 19/10/2021
Finished: 19/10/2021
Test Pit Size: m

Rig Type: 5t Hydraulic Track Mounted Excavator
Hole Location Coordinates E, N
Driller:
Logged: SJ
RL Surface: m
Contractor: O' Hara Brothers
Bearing: ---
Checked:

Method	Water	RL (m)	Depth (m)	Graphic Log	Classification Symbol	Material Description	Samples Tests Remarks	Moisture Condition	Consistency/ Density Index	Additional Observations
Excavation					-	TOPSOIL: Silty CLAY: medium plasticity, dark brown.	ES PID=4.4ppm	M	-	TOPSOIL
						Test Pit TP91 terminated at 0.1m				

0.5
1.0
1.5
2.0
2.5
3.0
3.5

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TP No: TP92
Sheet: 1 of 1
Job No: 13546

Test Pit Log

Client: ESR Australia
Project: Detailed Site Investigation
Location: 290-308 Aldington Road & 59-63 Abbotts Road, Kemps Creek, NSW
Started: 19/10/2021
Finished: 19/10/2021
Test Pit Size: m

Rig Type: 5t Hydraulic Track Mounted Excavator
Hole Location Coordinates E, N
Driller:
Logged: SJ
RL Surface: m
Contractor: O' Hara Brothers
Bearing: ---
Checked:

Method	Water	RL (m)	Depth (m)	Graphic Log	Classification Symbol	Material Description	Samples Tests Remarks	Moisture Condition	Consistency/ Density Index	Additional Observations
Excavation					-	TOPSOIL: Silty CLAY: medium plasticity, dark brown.	ES PID=0.7ppm	M	-	TOPSOIL
			0.5			Test Pit TP92 terminated at 0.1m				
			1.0							
			1.5							
			2.0							
			2.5							
			3.0							
			3.5							

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TP No: TP93
Sheet: 1 of 1
Job No: 13546

Test Pit Log

Client: ESR Australia
Project: Detailed Site Investigation
Location: 290-308 Aldington Road & 59-63 Abbotts Road, Kemps Creek, NSW
Started: 19/10/2021
Finished: 19/10/2021
Test Pit Size: m

Rig Type: 5t Hydraulic Track Mounted Excavator
Hole Location Coordinates E, N
Driller:
Logged: SJ
RL Surface: m
Contractor: O' Hara Brothers
Bearing: ---
Checked:

Method	Water	RL (m)	Depth (m)	Graphic Log	Classification Symbol	Material Description	Samples Tests Remarks	Moisture Condition	Consistency/ Density Index	Additional Observations
Excavation					-	TOPSOIL: Silty CLAY: medium plasticity, dark brown.	ES PID=2.0ppm	M	-	TOPSOIL
			0.5			Test Pit TP93 terminated at 0.1m				
			1.0							
			1.5							
			2.0							
			2.5							
			3.0							
			3.5							

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TP No: TP94
Sheet: 1 of 1
Job No: 13546

Test Pit Log

Client: ESR Australia
Project: Detailed Site Investigation
Location: 290-308 Aldington Road & 59-63 Abbotts Road, Kemps Creek, NSW
Hole Location
Started: 19/10/2021
Finished: 19/10/2021
Test Pit Size: m

Rig Type: 5t Hydraulic Track Mounted Excavator
Hole Coordinates E, N
Driller:
Logged: SJ

RL Surface: m
Contractor: O' Hara Brothers
Bearing: ---
Checked:

Method	Water	RL (m)	Depth (m)	Graphic Log	Classification Symbol	Material Description	Samples Tests Remarks	Moisture Condition	Consistency/ Density Index	Additional Observations
Excavation					-	TOPSOIL: Silty CLAY: medium plasticity, dark brown.	ES PID=1.0ppm	M	-	TOPSOIL
						Test Pit TP94 terminated at 0.1m				

0.5
1.0
1.5
2.0
2.5
3.0
3.5

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TP No: TP95
Sheet: 1 of 1
Job No: 13546

Test Pit Log

Client: ESR Australia
Project: Detailed Site Investigation
Location: 290-308 Aldington Road & 59-63 Abbotts Road, Kemps Creek, NSW
Started: 19/10/2021
Finished: 19/10/2021
Test Pit Size: m

Rig Type: 5t Hydraulic Track Mounted Excavator
Hole Location Coordinates E, N
Driller:
Logged: SJ
RL Surface: m
Contractor: O' Hara Brothers
Bearing: ---
Checked:

Method	Water	RL (m)	Depth (m)	Graphic Log	Classification Symbol	Material Description	Samples Tests Remarks	Moisture Condition	Consistency/ Density Index	Additional Observations
Excavation					-	TOPSOIL: Silty CLAY: medium plasticity, dark brown.	ES PID=1.0ppm	M	-	TOPSOIL
			0.5			Test Pit TP95 terminated at 0.1m				
			1.0							
			1.5							
			2.0							
			2.5							
			3.0							
			3.5							

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TP No: TP96
Sheet: 1 of 1
Job No: 13546

Test Pit Log

Client: ESR Australia
Project: Detailed Site Investigation
Location: 290-308 Aldington Road & 59-63 Abbotts Road, Kemps Creek, NSW
Started: 20/10/2021
Finished: 20/10/2021
Test Pit Size: m

Rig Type: 5t Hydraulic Track Mounted Excavator
Hole Coordinates E, N
Driller:
Logged: SJ
RL Surface: m
Contractor: O' Hara Brothers
Bearing: ---
Checked:

Method	Water	RL (m)	Depth (m)	Graphic Log	Classification Symbol	Material Description	Samples Tests Remarks	Moisture Condition	Consistency/ Density Index	Additional Observations
Excavation					-	TOPSOIL: Silty CLAY: medium plasticity, dark brown.	ES PID=3.4ppm	M	-	TOPSOIL
						Test Pit TP96 terminated at 0.1m				

0.5
1.0
1.5
2.0
2.5
3.0
3.5

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TP No: TP97
Sheet: 1 of 1
Job No: 13546

Test Pit Log

Client: ESR Australia
Project: Detailed Site Investigation
Location: 290-308 Aldington Road & 59-63 Abbotts Road, Kemps Creek, NSW
Started: 20/10/2021
Finished: 20/10/2021
Test Pit Size: m

Rig Type: 5t Hydraulic Track Mounted Excavator
Hole Location Coordinates E, N
Driller:
Logged: SJ
RL Surface: m
Contractor: O' Hara Brothers
Bearing: ---
Checked:

Method	Water	RL (m)	Depth (m)	Graphic Log	Classification Symbol	Material Description	Samples Tests Remarks	Moisture Condition	Consistency/ Density Index	Additional Observations
Excavation					-	TOPSOIL: Silty CLAY: medium plasticity, dark brown.	ES PID=1.0ppm	M	-	TOPSOIL
			0.5			Test Pit TP97 terminated at 0.1m				
			1.0							
			1.5							
			2.0							
			2.5							
			3.0							
			3.5							

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TP No: TP98
Sheet: 1 of 1
Job No: 13546

Test Pit Log

Client: ESR Australia
Project: Detailed Site Investigation
Location: 290-308 Aldington Road & 59-63 Abbotts Road, Kemps Creek, NSW
Hole Location
Started: 20/10/2021
Finished: 20/10/2021
Test Pit Size: m

Rig Type: 5t Hydraulic Track Mounted Excavator
Hole Coordinates E, N
Driller:
Logged: SJ

RL Surface: m
Contractor: O' Hara Brothers
Bearing: ---
Checked:

Method	Water	RL (m)	Depth (m)	Graphic Log	Classification Symbol	Material Description	Samples Tests Remarks	Moisture Condition	Consistency/ Density Index	Additional Observations
Excavation					-	TOPSOIL: Silty CLAY: medium plasticity, dark brown.	ES PID=1.6ppm	M	-	TOPSOIL
						Test Pit TP98 terminated at 0.1m				

0.5
1.0
1.5
2.0
2.5
3.0
3.5

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TP No: TP99
Sheet: 1 of 1
Job No: 13546

Test Pit Log

Client: ESR Australia
Project: Detailed Site Investigation
Location: 290-308 Aldington Road & 59-63 Abbotts Road, Kemps Creek, NSW
Started: 20/10/2021
Finished: 20/10/2021
Test Pit Size: m

Rig Type: 5t Hydraulic Track Mounted Excavator
Hole Location:
Coordinates E, N
Driller:
Logged: SJ
RL Surface: m
Contractor: O' Hara Brothers
Bearing: ---
Checked:

Method	Water	RL (m)	Depth (m)	Graphic Log	Classification Symbol	Material Description	Samples Tests Remarks	Moisture Condition	Consistency/ Density Index	Additional Observations
Excavation					-	TOPSOIL: Silty CLAY: medium plasticity, dark brown.	ES PID=3.1ppm	M	-	TOPSOIL
			0.5			Test Pit TP99 terminated at 0.1m				
			1.0							
			1.5							
			2.0							
			2.5							
			3.0							
			3.5							

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TP No: TP100
Sheet: 1 of 1
Job No: 13546

Test Pit Log

Client: ESR Australia
Project: Detailed Site Investigation
Location: 290-308 Aldington Road & 59-63 Abbotts Road, Kemps Creek, NSW
Started: 20/10/2021
Finished: 20/10/2021
Test Pit Size: m

Rig Type: 5t Hydraulic Track Mounted Excavator **Hole Coordinates** E, N
Driller:
Logged: SJ

RL Surface: m **Contractor:** O' Hara Brothers
Bearing: ---
Checked:

Method	Water	RL (m)	Depth (m)	Graphic Log	Classification Symbol	Material Description	Samples Tests Remarks	Moisture Condition	Consistency/ Density Index	Additional Observations
Excavation					-	TOPSOIL: Silty CLAY: medium plasticity, dark brown.	PID=1.2ppm	M	-	TOPSOIL
					CI-CH	Silty CLAY: medium to high plasticity, light brown with grey mottle.	ES	-	-	NATURAL
			0.5			Test Pit TP100 terminated at 0.4m				
			1.0							
			1.5							
			2.0							
			2.5							
			3.0							
			3.5							

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TP No: TP101
Sheet: 1 of 1
Job No: 13546

Test Pit Log

Client: ESR Australia
Project: Detailed Site Investigation
Location: 290-308 Aldington Road & 59-63 Abbotts Road, Kemps Creek, NSW
Started: 20/10/2021
Finished: 20/10/2021
Test Pit Size: m
Rig Type: 5t Hydraulic Track Mounted Excavator
Hole Coordinates E, N
Driller:
Logged: SJ
RL Surface: m
Contractor: O' Hara Brothers
Bearing: ---
Checked:

Method	Water	RL (m)	Depth (m)	Graphic Log	Classification Symbol	Material Description	Samples Tests Remarks	Moisture Condition	Consistency/ Density Index	Additional Observations
Excavation					-	TOPSOIL: Silty CLAY: medium plasticity, dark brown.	ES PID=1.9ppm	M	-	TOPSOIL
			0.5		CH	Silty CLAY: high plasticity, light brown with grey mottling.	ES	M	-	NATURAL
			1.0		CL	Sandy Gravelly CLAY: low plasticity, light brown/grey.	ES	M	-	
			1.5			Rock Refusal Test Pit TP101 terminated at 1.2m				
			2.0							
			2.5							
			3.0							
			3.5							

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TP No: TP102
Sheet: 1 of 1
Job No: 13546

Test Pit Log

Client: ESR Australia
Project: Detailed Site Investigation
Location: 290-308 Aldington Road & 59-63 Abbotts Road, Kemps Creek, NSW
Hole Location:
Started: 20/10/2021
Finished: 20/10/2021
Test Pit Size: m

Rig Type: 5t Hydraulic Track Mounted Excavator
Hole Coordinates E, N
Driller:
Logged: SJ

RL Surface: m
Contractor: O' Hara Brothers
Bearing: ---
Checked:

Method	Water	RL (m)	Depth (m)	Graphic Log	Classification Symbol	Material Description	Samples Tests Remarks	Moisture Condition	Consistency/ Density Index	Additional Observations
Excavation					-	TOPSOIL: Silty CLAY: medium plasticity, dark brown.	ES PID=1.5ppm	M	-	TOPSOIL
					CH	Silty CLAY: high plasticity, light brown.	ES	M	-	NATURAL
			0.5							
			1.0							
						Test Pit TP102 terminated at 1.2m				
			1.5							
			2.0							
			2.5							
			3.0							
			3.5							

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TP No: TP103
Sheet: 1 of 1
Job No: 13546

Test Pit Log

Client: ESR Australia
Project: Detailed Site Investigation
Location: 290-308 Aldington Road & 59-63 Abbotts Road, Kemps Creek, NSW
Hole Location
Started: 20/10/2021
Finished: 20/10/2021
Test Pit Size: m

Rig Type: 5t Hydraulic Track Mounted Excavator
Hole Coordinates E, N
Driller:
Logged: SJ

RL Surface: m
Contractor: O' Hara Brothers
Bearing: ---
Checked:

Method	Water	RL (m)	Depth (m)	Graphic Log	Classification Symbol	Material Description	Samples Tests Remarks	Moisture Condition	Consistency/ Density Index	Additional Observations
Excavation					-	TOPSOIL: Silty CLAY: medium plasticity, dark brown.	ES PID=1.0ppm	M	-	TOPSOIL
					CH	Silty CLAY: high plasticity, orange brown.	ES	M	-	NATURAL
			0.5							
			1.0							
						Test Pit TP103 terminated at 1.2m				
			1.5							
			2.0							
			2.5							
			3.0							
			3.5							

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TP No: TP104
Sheet: 1 of 1
Job No: 13546

Test Pit Log

Client: ESR Australia
Project: Detailed Site Investigation
Location: 290-308 Aldington Road & 59-63 Abbotts Road, Kemps Creek, NSW
Started: 20/10/2021
Finished: 20/10/2021
Test Pit Size: m

Rig Type: 5t Hydraulic Track Mounted Excavator **Hole Coordinates** E, N
Driller:
Logged: SJ

RL Surface: m
Contractor: O' Hara Brothers
Bearing: ---
Checked:

Method	Water	RL (m)	Depth (m)	Graphic Log	Classification Symbol	Material Description	Samples Tests Remarks	Moisture Condition	Consistency/ Density Index	Additional Observations
Excavation					-	TOPSOIL: Silty CLAY: medium plasticity, dark brown.	ES PID=1.7ppm	M	-	TOPSOIL
					CH	Silty CLAY: high plasticity, light brown with grey mottling.	ES	M	-	NATURAL
			0.5							
			1.0							
						Test Pit TP104 terminated at 1.2m				
			1.5							
			2.0							
			2.5							
			3.0							
			3.5							

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TP No: TP105
Sheet: 1 of 1
Job No: 13546

Test Pit Log

Client: ESR Australia
Project: Detailed Site Investigation
Location: 290-308 Aldington Road & 59-63 Abbotts Road, Kemps Creek, NSW
Started: 20/10/2021
Finished: 20/10/2021
Test Pit Size: m

Rig Type: 5t Hydraulic Track Mounted Excavator
Hole Coordinates E, N
Driller:
Logged: SJ

RL Surface: m
Contractor: O' Hara Brothers
Bearing: ---
Checked:

Method	Water	RL (m)	Depth (m)	Graphic Log	Classification Symbol	Material Description	Samples Tests Remarks	Moisture Condition	Consistency/ Density Index	Additional Observations
Excavation					-	TOPSOIL: Silty CLAY: medium plasticity, dark brown.	ES PID=1.8ppm	M	-	TOPSOIL
					CH	Silty CLAY: high plasticity, light brown with grey mottling.	ES	M	-	NATURAL
			0.5							
			1.0							
						Test Pit TP105 terminated at 1.2m				
			1.5							
			2.0							
			2.5							
			3.0							
			3.5							

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TP No: TP106
Sheet: 1 of 1
Job No: 13546

Test Pit Log

Client: ESR Australia
Project: Detailed Site Investigation
Location: 290-308 Aldington Road & 59-63 Abbotts Road, Kemps Creek, NSW
Started: 20/10/2021
Finished: 20/10/2021
Test Pit Size: m

Rig Type: 5t Hydraulic Track Mounted Excavator
Hole Coordinates E, N
Driller:
Logged: SJ

RL Surface: m
Contractor: O' Hara Brothers
Bearing: ---
Checked:

Method	Water	RL (m)	Depth (m)	Graphic Log	Classification Symbol	Material Description	Samples Tests Remarks	Moisture Condition	Consistency/ Density Index	Additional Observations
Excavation					-	TOPSOIL: Silty CLAY: medium plasticity, dark brown.	ES PID=4.2ppm	M	-	TOPSOIL
					CH	Silty CLAY: high plasticity, light brown with grey mottling.	ES	M	-	NATURAL
			0.5							
			1.0							
						Test Pit TP106 terminated at 1.2m				
			1.5							
			2.0							
			2.5							
			3.0							
			3.5							

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TP No: TP107
Sheet: 1 of 1
Job No: 13546

Test Pit Log

Client: ESR Australia
Project: Detailed Site Investigation
Location: 290-308 Aldington Road & 59-63 Abbotts Road, Kemps Creek, NSW
Started: 20/10/2021
Finished: 20/10/2021
Test Pit Size: m

Rig Type: 5t Hydraulic Track Mounted Excavator **Hole Coordinates** E, N **Driller:** **Logged:** SJ
RL Surface: m **Contractor:** O' Hara Brothers **Bearing:** --- **Checked:**

Method	Water	RL (m)	Depth (m)	Graphic Log	Classification Symbol	Material Description	Samples Tests Remarks	Moisture Condition	Consistency/ Density Index	Additional Observations
Excavation					-	TOPSOIL: Silty CLAY: medium plasticity, dark brown.	ES PID=2.7ppm	M	-	TOPSOIL
					CH	Silty CLAY: high plasticity, light brown with grey mottling.	ES	M	-	NATURAL
			0.5							
			1.0							
						Test Pit TP107 terminated at 1.2m				
			1.5							
			2.0							
			2.5							
			3.0							
			3.5							

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TP No: TP108
Sheet: 1 of 1
Job No: 13546

Test Pit Log

Client: ESR Australia
Project: Detailed Site Investigation
Location: 290-308 Aldington Road & 59-63 Abbotts Road, Kemps Creek, NSW
Started: 20/10/2021
Finished: 20/10/2021
Test Pit Size: m

Rig Type: 5t Hydraulic Track Mounted Excavator **Hole Coordinates** E, N
Driller:
Logged: SJ

RL Surface: m **Contractor:** O'Hara Brothers
Bearing: ---
Checked:

Method	Water	RL (m)	Depth (m)	Graphic Log	Classification Symbol	Material Description	Samples Tests Remarks	Moisture Condition	Consistency/ Density Index	Additional Observations
Excavation					-	TOPSOIL: Silty CLAY: medium plasticity, dark brown.	ES PID=2.2ppm	M	-	TOPSOIL 13.3kg
					CI-CH	Silty CLAY: medium to high plasticity, brown.	ES	M	-	NATURAL
			0.5			Test Pit TP108 terminated at 0.4m				
			1.0							
			1.5							
			2.0							
			2.5							
			3.0							
			3.5							

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TP No: TP109
Sheet: 1 of 1
Job No: 13546

Test Pit Log

Client: ESR Australia
Project: Detailed Site Investigation
Location: 290-308 Aldington Road & 59-63 Abbotts Road, Kemps Creek, NSW
Started: 20/10/2021
Finished: 20/10/2021
Test Pit Size: m

Rig Type: 5t Hydraulic Track Mounted Excavator **Hole Coordinates** E, N
Driller:
Logged: SJ

RL Surface: m **Contractor:** O'Hara Brothers
Bearing: ---
Checked:

Method	Water	RL (m)	Depth (m)	Graphic Log	Classification Symbol	Material Description	Samples Tests Remarks	Moisture Condition	Consistency/ Density Index	Additional Observations
Excavation					-	TOPSOIL: Silty CLAY: medium plasticity, dark brown.	ES PID=1.7ppm	M	-	TOPSOIL 13.0kg
					CI-CH	Silty CLAY: medium to high plasticity, orangey brown.	ES	M	-	NATURAL
			0.5			Test Pit TP109 terminated at 0.4m				
			1.0							
			1.5							
			2.0							
			2.5							
			3.0							
			3.5							

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TP No: TP110
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Job No: 13546

Test Pit Log

Client: ESR Australia
Project: Detailed Site Investigation
Location: 290-308 Aldington Road & 59-63 Abbotts Road, Kemps Creek, NSW
Hole Location
Started: 20/10/2021
Finished: 20/10/2021
Test Pit Size: m

Rig Type: 5t Hydraulic Track Mounted Excavator
Hole Coordinates E, N
Driller:
Logged: SJ

RL Surface: m
Contractor: O'Hara Brothers
Bearing: ---
Checked:

Method	Water	RL (m)	Depth (m)	Graphic Log	Classification Symbol	Material Description	Samples Tests Remarks	Moisture Condition	Consistency/ Density Index	Additional Observations
Excavation					-	TOPSOIL: Silty CLAY: medium plasticity, dark brown.	ES PID=3.8ppm	M	-	TOPSOIL 12.5kg
					CI-CH	Silty CLAY: medium to high plasticity, orangey brown.	ES	M	-	NATURAL
			0.5			Test Pit TP110 terminated at 0.4m				
			1.0							
			1.5							
			2.0							
			2.5							
			3.0							
			3.5							

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TP No: TP111
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Job No: 13546

Test Pit Log

Client: ESR Australia
Project: Detailed Site Investigation
Location: 290-308 Aldington Road & 59-63 Abbotts Road, Kemps Creek, NSW
Hole Location
Started: 20/10/2021
Finished: 20/10/2021
Test Pit Size: m

Rig Type: 5t Hydraulic Track Mounted Excavator
Hole Coordinates E, N
Driller:
Logged: SJ

RL Surface: m
Contractor: O'Hara Brothers
Bearing: ---
Checked:

Method	Water	RL (m)	Depth (m)	Graphic Log	Classification Symbol	Material Description	Samples Tests Remarks	Moisture Condition	Consistency/ Density Index	Additional Observations
Excavation					-	TOPSOIL: Silty CLAY: medium plasticity, dark brown.	ES PID=2.0ppm	M	-	TOPSOIL 12.3kg
					CI-CH	Silty CLAY: medium to high plasticity, orangey brown.	ES	M	-	NATURAL
			0.5			Test Pit TP111 terminated at 0.4m				
			1.0							
			1.5							
			2.0							
			2.5							
			3.0							
			3.5							

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TP No: TP112
Sheet: 1 of 1
Job No: 13546

Test Pit Log

Client: ESR Australia
Project: Detailed Site Investigation
Location: 290-308 Aldington Road & 59-63 Abbotts Road, Kemps Creek, NSW
Hole Location
Started: 20/10/2021
Finished: 20/10/2021
Test Pit Size: m

Rig Type: 5t Hydraulic Track Mounted Excavator
Hole Coordinates E, N
Driller:
Logged: SJ

RL Surface: m
Contractor: O'Hara Brothers
Bearing: ---
Checked:

Method	Water	RL (m)	Depth (m)	Graphic Log	Classification Symbol	Material Description	Samples Tests Remarks	Moisture Condition	Consistency/ Density Index	Additional Observations
Excavation					-	TOPSOIL: Silty CLAY: medium plasticity, dark brown.	ES PID=1.1ppm	M	-	TOPSOIL 12.6kg
					CI-CH	Silty CLAY: medium to high plasticity, orangey brown.	ES	M	-	NATURAL
			0.5			Test Pit TP112 terminated at 0.4m				
			1.0							
			1.5							
			2.0							
			2.5							
			3.0							
			3.5							

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TP No: TP113
Sheet: 1 of 1
Job No: 13546

Test Pit Log

Client: ESR Australia
Project: Detailed Site Investigation
Location: 290-308 Aldington Road & 59-63 Abbotts Road, Kemps Creek, NSW
Hole Location
Started: 20/10/2021
Finished: 20/10/2021
Test Pit Size: m

Rig Type: 5t Hydraulic Track Mounted Excavator
Hole Coordinates E, N
Driller:
Logged: SJ

RL Surface: m
Contractor: O'Hara Brothers
Bearing: ---
Checked:

Method	Water	RL (m)	Depth (m)	Graphic Log	Classification Symbol	Material Description	Samples Tests Remarks	Moisture Condition	Consistency/ Density Index	Additional Observations
Excavation					-	TOPSOIL: Silty CLAY: medium plasticity, dark brown.	ES PID=1.2ppm	M	-	TOPSOIL 12.1kg
					CI-CH	Silty CLAY: medium to high plasticity, light grey/brown.	ES	M	-	NATURAL
			0.5			Test Pit TP113 terminated at 0.4m				
			1.0							
			1.5							
			2.0							
			2.5							
			3.0							
			3.5							

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TP No: TP114
Sheet: 1 of 1
Job No: 13546

Test Pit Log

Client: ESR Australia
Project: Detailed Site Investigation
Location: 290-308 Aldington Road & 59-63 Abbotts Road, Kemps Creek, NSW
Hole Location:
Started: 20/10/2021
Finished: 20/10/2021
Test Pit Size: m

Rig Type: 5t Hydraulic Track Mounted Excavator
Hole Coordinates E, N
Driller:
Logged: SJ
RL Surface: m
Contractor: O'Hara Brothers
Bearing: ---
Checked:

Method	Water	RL (m)	Depth (m)	Graphic Log	Classification Symbol	Material Description	Samples Tests Remarks	Moisture Condition	Consistency/ Density Index	Additional Observations
Excavation					-	TOPSOIL: Silty CLAY: medium plasticity, dark brown.	ES PID=1.2ppm	M	-	TOPSOIL 12.9kg
					CI-CH	Silty CLAY: medium to high plasticity, light grey/brown.	ES	M	-	NATURAL
			0.5			Test Pit TP114 terminated at 0.4m				
			1.0							
			1.5							
			2.0							
			2.5							
			3.0							
			3.5							

1. NON CORED BOREHOLE 13546.GPJ GINT STD AUSTRALIA.GDT 30/11/21

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TP No: TP115
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Job No: 13546

Test Pit Log

Client: ESR Australia
Project: Detailed Site Investigation
Location: 290-308 Aldington Road & 59-63 Abbotts Road, Kemps Creek, NSW
Started: 20/10/2021
Finished: 20/10/2021
Test Pit Size: m

Rig Type: 5t Hydraulic Track Mounted Excavator **Hole Coordinates** E, N
Driller:
Logged: SJ

RL Surface: m **Contractor:** O'Hara Brothers
Bearing: ---
Checked:

Method	Water	RL (m)	Depth (m)	Graphic Log	Classification Symbol	Material Description	Samples Tests Remarks	Moisture Condition	Consistency/ Density Index	Additional Observations
Excavation					-	TOPSOIL: Silty CLAY: medium plasticity, dark brown.	ES PID=2.4ppm	M	-	TOPSOIL 13.2kg
					CI-CH	Silty CLAY: medium to high plasticity, orangey brown.	ES	M	-	NATURAL
			0.5			Test Pit TP115 terminated at 0.4m				
			1.0							
			1.5							
			2.0							
			2.5							
			3.0							
			3.5							

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TP No: TP116
Sheet: 1 of 1
Job No: 13546

Test Pit Log

Client: ESR Australia
Project: Detailed Site Investigation
Location: 290-308 Aldington Road & 59-63 Abbotts Road, Kemps Creek, NSW
Hole Location:
Started: 20/10/2021
Finished: 20/10/2021
Test Pit Size: m

Rig Type: 5t Hydraulic Track Mounted Excavator
Hole Coordinates E, N
Driller:
Logged: SJ
RL Surface: m
Contractor: O'Hara Brothers
Bearing: ---
Checked:

Method	Water	RL (m)	Depth (m)	Graphic Log	Classification Symbol	Material Description	Samples Tests Remarks	Moisture Condition	Consistency/ Density Index	Additional Observations
Excavation					-	TOPSOIL: Silty CLAY: medium plasticity, dark brown.	ES PID=1.3ppm	M	-	TOPSOIL 13.5kg
					CI-CH	Silty CLAY: medium to high plasticity, orangey brown.	ES	M	-	NATURAL
			0.5			Test Pit TP116 terminated at 0.4m				
			1.0							
			1.5							
			2.0							
			2.5							
			3.0							
			3.5							

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TP No: TP117
Sheet: 1 of 1
Job No: 13546

Test Pit Log

Client: ESR Australia
Project: Detailed Site Investigation
Location: 290-308 Aldington Road & 59-63 Abbotts Road, Kemps Creek, NSW
Hole Location
Started: 20/10/2021
Finished: 20/10/2021
Test Pit Size: m

Rig Type: 5t Hydraulic Track Mounted Excavator
Hole Coordinates E, N
Driller:
Logged: SJ

RL Surface: m
Contractor: O'Hara Brothers
Bearing: ---
Checked:

Method	Water	RL (m)	Depth (m)	Graphic Log	Classification Symbol	Material Description	Samples Tests Remarks	Moisture Condition	Consistency/ Density Index	Additional Observations
Excavation					-	TOPSOIL: Silty CLAY: medium plasticity, dark brown.	ES PID=3.8ppm	M	-	TOPSOIL 12.4kg
					CI-CH	Silty CLAY: medium to high plasticity, orangey brown.	ES	M	-	NATURAL
			0.5			Test Pit TP117 terminated at 0.4m				
			1.0							
			1.5							
			2.0							
			2.5							
			3.0							
			3.5							

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TP No: TP118
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Job No: 13546

Test Pit Log

Client: ESR Australia
Project: Detailed Site Investigation
Location: 290-308 Aldington Road & 59-63 Abbotts Road, Kemps Creek, NSW
Started: 20/10/2021
Finished: 20/10/2021
Test Pit Size: m

Rig Type: 5t Hydraulic Track Mounted Excavator **Hole Coordinates** E, N
Driller:
Logged: SJ

RL Surface: m **Contractor:** O'Hara Brothers
Bearing: ---
Checked:

Method	Water	RL (m)	Depth (m)	Graphic Log	Classification Symbol	Material Description	Samples Tests Remarks	Moisture Condition	Consistency/ Density Index	Additional Observations
Excavation					-	TOPSOIL: Silty CLAY: medium plasticity, dark brown.	ES PID=1.5ppm	M	-	TOPSOIL 12.1kg
					CI-CH	Silty CLAY: medium to high plasticity, orangey brown.	ES	M	-	NATURAL
			0.5			Test Pit TP118 terminated at 0.4m				
			1.0							
			1.5							
			2.0							
			2.5							
			3.0							
			3.5							

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TP No: TP119
Sheet: 1 of 1
Job No: 13546

Test Pit Log

Client: ESR Australia
Project: Detailed Site Investigation
Location: 290-308 Aldington Road & 59-63 Abbotts Road, Kemps Creek, NSW
Hole Location
Started: 20/10/2021
Finished: 20/10/2021
Test Pit Size: m

Rig Type: 5t Hydraulic Track Mounted Excavator
Hole Coordinates E, N
Driller:
Logged: SJ

RL Surface: m
Contractor: O'Hara Brothers
Bearing: ---
Checked:

Method	Water	RL (m)	Depth (m)	Graphic Log	Classification Symbol	Material Description	Samples Tests Remarks	Moisture Condition	Consistency/ Density Index	Additional Observations
Excavation					-	TOPSOIL: Silty CLAY: medium plasticity, dark brown.	ES PID=1.6ppm	M	-	TOPSOIL 13.4kg
					CI-CH	Silty CLAY: medium to high plasticity, orangey brown.	ES	M	-	NATURAL
			0.5			Test Pit TP119 terminated at 0.4m				
			1.0							
			1.5							
			2.0							
			2.5							
			3.0							
			3.5							

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TP No: TP120
Sheet: 1 of 1
Job No: 13546

Test Pit Log

Client: ESR Australia
Project: Detailed Site Investigation
Location: 290-308 Aldington Road & 59-63 Abbotts Road, Kemps Creek, NSW
Hole Location
Started: 20/10/2021
Finished: 20/10/2021
Test Pit Size: m

Rig Type: 5t Hydraulic Track Mounted Excavator
Hole Coordinates E, N
Driller:
Logged: SJ

RL Surface: m
Contractor: O'Hara Brothers
Bearing: ---
Checked:

Method	Water	RL (m)	Depth (m)	Graphic Log	Classification Symbol	Material Description	Samples Tests Remarks	Moisture Condition	Consistency/ Density Index	Additional Observations
Excavation					-	FILL: Silty CLAY: high plasticity, brown, with minor gravels.	ES PID=1.8ppm	M	-	FILL 14.7kg
					CI-CH	Silty CLAY: medium to high plasticity, grey with orange mottle.		M	-	NATURAL
			0.5				ES			
					-	Clayey SHALE: grey.		-	-	
			1.0				ES			
			1.5				ES			
			2.0				ES			
			2.5				ES			
						Test Pit TP120 terminated at 2.6m				
			3.0							
			3.5							

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TP No: TP121
Sheet: 1 of 1
Job No: 13546

Test Pit Log

Client: ESR Australia
Project: Detailed Site Investigation
Location: 290-308 Aldington Road & 59-63 Abbotts Road, Kemps Creek, NSW
Hole Location:
Started: 20/10/2021
Finished: 20/10/2021
Test Pit Size: m

Rig Type: 5t Hydraulic Track Mounted Excavator
Hole Coordinates E, N
Driller:
Logged: SJ
RL Surface: m
Contractor: O'Hara Brothers
Bearing: ---
Checked:

Method	Water	RL (m)	Depth (m)	Graphic Log	Classification Symbol	Material Description	Samples Tests Remarks	Moisture Condition	Consistency/ Density Index	Additional Observations
Excavation					-	TOPSOIL: Silty CLAY: medium plasticity, dark brown.	ES PID=1.4ppm	M	-	TOPSOIL 13.0kg
					CI-CH	Silty CLAY: medium to high plasticity, orangey brown.	ES	M	-	NATURAL
			0.5			Test Pit TP121 terminated at 0.4m				
			1.0							
			1.5							
			2.0							
			2.5							
			3.0							
			3.5							

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TP No: TP122
Sheet: 1 of 1
Job No: 13546

Test Pit Log

Client: ESR Australia
Project: Detailed Site Investigation
Location: 290-308 Aldington Road & 59-63 Abbotts Road, Kemps Creek, NSW
Hole Location
Started: 20/10/2021
Finished: 20/10/2021
Test Pit Size: m

Rig Type: 5t Hydraulic Track Mounted Excavator
Hole Coordinates E, N
Driller:
Logged: SJ

RL Surface: m
Contractor: O'Hara Brothers
Bearing: ---
Checked:

Method	Water	RL (m)	Depth (m)	Graphic Log	Classification Symbol	Material Description	Samples Tests Remarks	Moisture Condition	Consistency/ Density Index	Additional Observations
Excavation					-	TOPSOIL: Sandy CLAY: low plasticity, brown, with minor gravels.	ES PID=0.8ppm	SM	-	TOPSOIL 13.6kg
					CL	Silty CLAY: low plasticity, brown.	ES	SM	-	NATURAL
			0.5			Test Pit TP122 terminated at 0.4m				
			1.0							
			1.5							
			2.0							
			2.5							
			3.0							
			3.5							

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TP No: TP123
Sheet: 1 of 1
Job No: 13546

Test Pit Log

Client: ESR Australia
Project: Detailed Site Investigation
Location: 290-308 Aldington Road & 59-63 Abbotts Road, Kemps Creek, NSW
Hole Location
Started: 20/10/2021
Finished: 20/10/2021
Test Pit Size: m

Rig Type: 5t Hydraulic Track Mounted Excavator
Hole Coordinates E, N
Driller:
Logged: SJ

RL Surface: m
Contractor: O'Hara Brothers
Bearing: ---
Checked:

Method	Water	RL (m)	Depth (m)	Graphic Log	Classification Symbol	Material Description	Samples Tests Remarks	Moisture Condition	Consistency/ Density Index	Additional Observations
Excavation					-	TOPSOIL: Silty CLAY: medium plasticity, dark brown.	ES PID=3.0ppm	M	-	TOPSOIL 13.2kg
					CI-CH	Silty CLAY: medium to high plasticity, orangey brown.	ES	M	-	NATURAL
			0.5			Test Pit TP123 terminated at 0.4m				
			1.0							
			1.5							
			2.0							
			2.5							
			3.0							
			3.5							

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TP No: TP124
Sheet: 1 of 1
Job No: 13546

Test Pit Log

Client: ESR Australia
Project: Detailed Site Investigation
Location: 290-308 Aldington Road & 59-63 Abbotts Road, Kemps Creek, NSW
Hole Location
Started: 20/10/2021
Finished: 20/10/2021
Test Pit Size: m

Rig Type: 5t Hydraulic Track Mounted Excavator
Hole Coordinates E, N
Driller:
Logged: SJ

RL Surface: m
Contractor: O'Hara Brothers
Bearing: ---
Checked:

Method	Water	RL (m)	Depth (m)	Graphic Log	Classification Symbol	Material Description	Samples Tests Remarks	Moisture Condition	Consistency/ Density Index	Additional Observations
Excavation					-	TOPSOIL: Silty CLAY: medium plasticity, dark brown.	ES PID=4.1ppm	M	-	TOPSOIL 12.9kg
					CI-CH	Silty CLAY: medium to high plasticity, orangey brown.	ES	M	-	NATURAL
			0.5			Test Pit TP124 terminated at 0.4m				
			1.0							
			1.5							
			2.0							
			2.5							
			3.0							
			3.5							

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TP No: TP125
Sheet: 1 of 1
Job No: 13546

Test Pit Log

Client: ESR Australia
Project: Detailed Site Investigation
Location: 290-308 Aldington Road & 59-63 Abbotts Road, Kemps Creek, NSW
Hole Location
Started: 20/10/2021
Finished: 20/10/2021
Test Pit Size: m

Rig Type: 5t Hydraulic Track Mounted Excavator
Hole Coordinates E, N
Driller:
Logged: SJ

RL Surface: m
Contractor: O'Hara Brothers
Bearing: ---
Checked:

Method	Water	RL (m)	Depth (m)	Graphic Log	Classification Symbol	Material Description	Samples Tests Remarks	Moisture Condition	Consistency/ Density Index	Additional Observations
Excavation					-	TOPSOIL: Silty CLAY: medium plasticity, dark brown.	ES PID=2.2ppm	M	-	TOPSOIL 13.6kg
					CI-CH	Silty CLAY: medium to high plasticity, orangey brown.	ES	M	-	NATURAL
			0.5			Test Pit TP125 terminated at 0.4m				
			1.0							
			1.5							
			2.0							
			2.5							
			3.0							
			3.5							

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TP No: TP126
Sheet: 1 of 1
Job No: 13546

Test Pit Log

Client: ESR Australia
Project: Detailed Site Investigation
Location: 290-308 Aldington Road & 59-63 Abbotts Road, Kemps Creek, NSW
Hole Location
Started: 20/10/2021
Finished: 20/10/2021
Test Pit Size: m

Rig Type: 5t Hydraulic Track Mounted Excavator
Hole Coordinates E, N
Driller:
Logged: SJ

RL Surface: m
Contractor: O'Hara Brothers
Bearing: ---
Checked:

Method	Water	RL (m)	Depth (m)	Graphic Log	Classification Symbol	Material Description	Samples Tests Remarks	Moisture Condition	Consistency/ Density Index	Additional Observations
Excavation					-	TOPSOIL: Silty CLAY: medium plasticity, dark brown.	ES PID=1.1ppm	M	-	TOPSOIL 12.1kg
					CI-CH	Silty CLAY: medium to high plasticity, orangey brown.	ES	M	-	NATURAL
			0.5			Test Pit TP126 terminated at 0.4m				
			1.0							
			1.5							
			2.0							
			2.5							
			3.0							
			3.5							

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TP No: TP127
Sheet: 1 of 1
Job No: 13546

Test Pit Log

Client: ESR Australia
Project: Detailed Site Investigation
Location: 290-308 Aldington Road & 59-63 Abbotts Road, Kemps Creek, NSW
Hole Location
Started: 21/10/2021
Finished: 21/10/2021
Test Pit Size: m

Rig Type: 5t Hydraulic Track Mounted Excavator
Hole Coordinates E, N
Driller:
Logged: SJ

RL Surface: m
Contractor: O'Hara Brothers
Bearing: ---
Checked:

Method	Water	RL (m)	Depth (m)	Graphic Log	Classification Symbol	Material Description	Samples Tests Remarks	Moisture Condition	Consistency/ Density Index	Additional Observations
Excavation					-	TOPSOIL: Silty CLAY: low plasticity, dark brown.	ES PID=2.6ppm	SM	-	TOPSOIL 13.8kg
					CL	Silty CLAY: low plasticity, brown.	ES	SM	-	NATURAL
			0.5			Test Pit TP127 terminated at 0.4m				
			1.0							
			1.5							
			2.0							
			2.5							
			3.0							
			3.5							

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TP No: TP128
Sheet: 1 of 1
Job No: 13546

Test Pit Log

Client: ESR Australia
Project: Detailed Site Investigation
Location: 290-308 Aldington Road & 59-63 Abbotts Road, Kemps Creek, NSW
Hole Location
Started: 21/10/2021
Finished: 21/10/2021
Test Pit Size: m

Rig Type: 5t Hydraulic Track Mounted Excavator
Hole Coordinates E, N
Driller:
Logged: SJ

RL Surface: m
Contractor: O'Hara Brothers
Bearing: ---
Checked:

Method	Water	RL (m)	Depth (m)	Graphic Log	Classification Symbol	Material Description	Samples Tests Remarks	Moisture Condition	Consistency/ Density Index	Additional Observations
Excavation					-	TOPSOIL: Silty CLAY: low plasticity, dark brown.	ES PID=2.8ppm	SM	-	TOPSOIL 13.5kg
					CL	Silty CLAY: low plasticity, brown.	ES	SM	-	NATURAL
			0.5			Test Pit TP128 terminated at 0.4m				
			1.0							
			1.5							
			2.0							
			2.5							
			3.0							
			3.5							

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TP No: TP129
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Job No: 13546

Test Pit Log

Client: ESR Australia
Project: Detailed Site Investigation
Location: 290-308 Aldington Road & 59-63 Abbotts Road, Kemps Creek, NSW
Hole Location
Started: 21/10/2021
Finished: 21/10/2021
Test Pit Size: m

Rig Type: 5t Hydraulic Track Mounted Excavator
Hole Coordinates E, N
Driller:
Logged: SJ

RL Surface: m
Contractor: O'Hara Brothers
Bearing: ---
Checked:

Method	Water	RL (m)	Depth (m)	Graphic Log	Classification Symbol	Material Description	Samples Tests Remarks	Moisture Condition	Consistency/ Density Index	Additional Observations
Excavation					-	TOPSOIL: Silty CLAY: low plasticity, dark brown.	ES PID=3.4ppm	SM	-	TOPSOIL 12.9kg
					CL	Silty CLAY: low plasticity, brown.	ES	SM	-	NATURAL
			0.5			Test Pit TP129 terminated at 0.4m				
			1.0							
			1.5							
			2.0							
			2.5							
			3.0							
			3.5							

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TP No: TP130
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Job No: 13546

Test Pit Log

Client: ESR Australia
Project: Detailed Site Investigation
Location: 290-308 Aldington Road & 59-63 Abbotts Road, Kemps Creek, NSW
Started: 21/10/2021
Finished: 21/10/2021
Test Pit Size: m

Rig Type: 5t Hydraulic Track Mounted Excavator **Hole Coordinates** E, N
Driller:
Logged: SJ

RL Surface: m **Contractor:** O'Hara Brothers
Bearing: ---
Checked:

Method	Water	RL (m)	Depth (m)	Graphic Log	Classification Symbol	Material Description	Samples Tests Remarks	Moisture Condition	Consistency/ Density Index	Additional Observations
Excavation					-	TOPSOIL: Silty CLAY: low plasticity, dark brown.	ES PID=1.8ppm	SM	-	FILL 12.2kg
					CL	Silty CLAY: low plasticity, dark brown.		SM	-	NATURAL
			0.5				ES			
					-	Silty Gravelly SHALE: light brown to grey.		-	-	
			1.0				ES			
					-	Silty SHALE: grey.		-	-	
			1.5				ES			
			2.0				ES			
						Hard Refusal Test Pit TP130 terminated at 2.1m				
			2.5							
			3.0							
			3.5							

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TP No: TP131
Sheet: 1 of 1
Job No: 13546

Test Pit Log

Client: ESR Australia
Project: Detailed Site Investigation
Location: 290-308 Aldington Road & 59-63 Abbotts Road, Kemps Creek, NSW
Hole Location
Started: 21/10/2021
Finished: 21/10/2021
Test Pit Size: m

Rig Type: 5t Hydraulic Track Mounted Excavator
Hole Coordinates E, N
Driller:
Logged: SJ

RL Surface: m
Contractor: O'Hara Brothers
Bearing: ---
Checked:

Method	Water	RL (m)	Depth (m)	Graphic Log	Classification Symbol	Material Description	Samples Tests Remarks	Moisture Condition	Consistency/ Density Index	Additional Observations
Excavation					-	TOPSOIL: Silty CLAY: medium plasticity, dark brown.	ES PID=1.5ppm	M	-	FILL 13.0kg
					CI-CH	Silty CLAY: medium to high plasticity, brown.	ES	M	-	NATURAL
			0.5			Test Pit TP131 terminated at 0.4m				
			1.0							
			1.5							
			2.0							
			2.5							
			3.0							
			3.5							

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TP No: TP132
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Job No: 13546

Test Pit Log

Client: ESR Australia
Project: Detailed Site Investigation
Location: 290-308 Aldington Road & 59-63 Abbotts Road, Kemps Creek, NSW
Hole Location
Started: 21/10/2021
Finished: 21/10/2021
Test Pit Size: m

Rig Type: 5t Hydraulic Track Mounted Excavator
Hole Coordinates E, N
Driller:
Logged: SJ

RL Surface: m
Contractor: O'Hara Brothers
Bearing: ---
Checked:

Method	Water	RL (m)	Depth (m)	Graphic Log	Classification Symbol	Material Description	Samples Tests Remarks	Moisture Condition	Consistency/ Density Index	Additional Observations
Excavation					-	TOPSOIL: Silty CLAY: medium plasticity, dark brown.	ES PID=4.0ppm	M	-	FILL 12.4kg
					CI-CH	Silty CLAY: medium to high plasticity, brown.	ES	M	-	NATURAL
			0.5			Test Pit TP132 terminated at 0.4m				
			1.0							
			1.5							
			2.0							
			2.5							
			3.0							
			3.5							

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TP No: TP133
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Job No: 13546

Test Pit Log

Client: ESR Australia
Project: Detailed Site Investigation
Location: 290-308 Aldington Road & 59-63 Abbotts Road, Kemps Creek, NSW
Hole Location:
Started: 21/10/2021
Finished: 21/10/2021
Test Pit Size: m

Rig Type: 5t Hydraulic Track Mounted Excavator
Hole Coordinates E, N
Driller:
Logged: SJ
RL Surface: m
Contractor: O'Hara Brothers
Bearing: ---
Checked:

Method	Water	RL (m)	Depth (m)	Graphic Log	Classification Symbol	Material Description	Samples Tests Remarks	Moisture Condition	Consistency/ Density Index	Additional Observations
Excavation					-	TOPSOIL: Silty CLAY: medium plasticity, dark brown.	ES PID=1.4ppm	M	-	FILL 12.0kg
					CI-CH	Silty CLAY: medium to high plasticity, brown.	ES	M	-	NATURAL
			0.5			Test Pit TP133 terminated at 0.4m				
			1.0							
			1.5							
			2.0							
			2.5							
			3.0							
			3.5							

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TP No: TP134
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Job No: 13546

Test Pit Log

Client: ESR Australia
Project: Detailed Site Investigation
Location: 290-308 Aldington Road & 59-63 Abbotts Road, Kemps Creek, NSW
Hole Location
Started: 21/10/2021
Finished: 21/10/2021
Test Pit Size: m

Rig Type: 5t Hydraulic Track Mounted Excavator
Hole Coordinates E, N
Driller:
Logged: SJ

RL Surface: m
Contractor: O'Hara Brothers
Bearing: ---
Checked:

Method	Water	RL (m)	Depth (m)	Graphic Log	Classification Symbol	Material Description	Samples Tests Remarks	Moisture Condition	Consistency/ Density Index	Additional Observations
Excavation					-	TOPSOIL: Silty CLAY: medium plasticity, dark brown.	ES PID=2.2ppm	M	-	FILL 13.3kg
					CI-CH	Silty CLAY: medium to high plasticity, brown.	ES	M	-	NATURAL
			0.5			Test Pit TP134 terminated at 0.4m				
			1.0							
			1.5							
			2.0							
			2.5							
			3.0							
			3.5							

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TP No: TP135
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Job No: 13546

Test Pit Log

Client: ESR Australia
Project: Detailed Site Investigation
Location: 290-308 Aldington Road & 59-63 Abbotts Road, Kemps Creek, NSW
Hole Location:
Started: 21/10/2021
Finished: 21/10/2021
Test Pit Size: m

Rig Type: 5t Hydraulic Track Mounted Excavator
Hole Coordinates E, N
Driller:
Logged: SJ
RL Surface: m
Contractor: O'Hara Brothers
Bearing: ---
Checked:

Method	Water	RL (m)	Depth (m)	Graphic Log	Classification Symbol	Material Description	Samples Tests Remarks	Moisture Condition	Consistency/ Density Index	Additional Observations
Excavation					-	TOPSOIL: Silty CLAY: medium plasticity, dark brown.	ES PID=1.8ppm	M	-	FILL 12.8kg
					CI-CH	Silty CLAY: medium to high plasticity, brown.	ES	M	-	NATURAL
			0.5			Test Pit TP135 terminated at 0.4m				
			1.0							
			1.5							
			2.0							
			2.5							
			3.0							
			3.5							

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TP No: TP136
Sheet: 1 of 1
Job No: 13546

Test Pit Log

Client: ESR Australia
Project: Detailed Site Investigation
Location: 290-308 Aldington Road & 59-63 Abbotts Road, Kemps Creek, NSW
Hole Location
Started: 21/10/2021
Finished: 21/10/2021
Test Pit Size: m

Rig Type: 5t Hydraulic Track Mounted Excavator
Hole Coordinates E, N
Driller:
Logged: SJ

RL Surface: m
Contractor: O'Hara Brothers
Bearing: ---
Checked:

Method	Water	RL (m)	Depth (m)	Graphic Log	Classification Symbol	Material Description	Samples Tests Remarks	Moisture Condition	Consistency/ Density Index	Additional Observations
Excavation					-	TOPSOIL: Silty CLAY: medium plasticity, dark brown.	ES PID=1.7ppm	M	-	FILL 13.6kg
					CI-CH	Silty CLAY: medium to high plasticity, brown.	ES	M	-	NATURAL
			0.5			Test Pit TP136 terminated at 0.4m				
			1.0							
			1.5							
			2.0							
			2.5							
			3.0							
			3.5							

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TP No: TP137
Sheet: 1 of 1
Job No: 13546

Test Pit Log

Client: ESR Australia
Project: Detailed Site Investigation
Location: 290-308 Aldington Road & 59-63 Abbotts Road, Kemps Creek, NSW
Hole Location:
Started: 21/10/2021
Finished: 21/10/2021
Test Pit Size: m

Rig Type: 5t Hydraulic Track Mounted Excavator
Hole Coordinates E, N
Driller:
Logged: SJ

RL Surface: m
Contractor: O'Hara Brothers
Bearing: ---
Checked:

Method	Water	RL (m)	Depth (m)	Graphic Log	Classification Symbol	Material Description	Samples Tests Remarks	Moisture Condition	Consistency/ Density Index	Additional Observations
Excavation					-	TOPSOIL: Silty CLAY: medium plasticity, dark brown.	ES PID=2.5ppm	M	-	TOPSOIL 13.0kg
			0.5		CH	Silty CLAY: high plasticity, orangey brown.	ES	M	-	NATURAL
			1.0				ES			
			1.5		CH	Silty CLAY: high plasticity, orangey brown with grey mottle.	ES	M	-	
			2.0		CI	Silty CLAY: medium plasticity, grey.	ES	M	-	
			2.5				ES			
			3.0			Test Pit TP137 terminated at 2.6m				
			3.5							

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TP No: TP138
Sheet: 1 of 1
Job No: 13546

Test Pit Log

Client: ESR Australia
Project: Detailed Site Investigation
Location: 290-308 Aldington Road & 59-63 Abbotts Road, Kemps Creek, NSW
Hole Location
Started: 21/10/2021
Finished: 21/10/2021
Test Pit Size: m

Rig Type: 5t Hydraulic Track Mounted Excavator
Hole Coordinates E, N
Driller:
Logged: SJ
RL Surface: m
Contractor: O'Hara Brothers
Bearing: ---
Checked:

Method	Water	RL (m)	Depth (m)	Graphic Log	Classification Symbol	Material Description	Samples Tests Remarks	Moisture Condition	Consistency/ Density Index	Additional Observations
Excavation					-	TOPSOIL: Silty CLAY: medium plasticity, dark brown.	ES PID=5.8ppm	M	-	TOPSOIL 13.1kg
					CH	Silty CLAY: high plasticity, orangey brown.	ES	M	-	NATURAL
			0.5							
			1.0							
			1.5							
			2.0							
			2.5			Test Pit TP138 terminated at 2.6m				
			3.0							
			3.5							

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TP No: TP139
Sheet: 1 of 1
Job No: 13546

Test Pit Log

Client: ESR Australia
Project: Detailed Site Investigation
Location: 290-308 Aldington Road & 59-63 Abbotts Road, Kemps Creek, NSW
Hole Location
Started: 21/10/2021
Finished: 21/10/2021
Test Pit Size: m

Rig Type: 5t Hydraulic Track Mounted Excavator
Hole Coordinates E, N
Driller:
Logged: SJ

RL Surface: m
Contractor: O'Hara Brothers
Bearing: ---
Checked:

Method	Water	RL (m)	Depth (m)	Graphic Log	Classification Symbol	Material Description	Samples Tests Remarks	Moisture Condition	Consistency/ Density Index	Additional Observations
Excavation					-	TOPSOIL: Silty CLAY: medium plasticity, dark brown.	ES PID=3.6ppm	M	-	TOPSOIL 14.2kg
					CH	Silty CLAY: high plasticity, orangey brown.	ES	M	-	NATURAL
			0.5							
			1.0							
			1.5							
			2.0							
			2.5			Test Pit TP139 terminated at 2.6m				
			3.0							
			3.5							

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TP No: TP141
Sheet: 1 of 1
Job No: 13546

Test Pit Log

Client: ESR Australia
Project: Detailed Site Investigation
Location: 290-308 Aldington Road & 59-63 Abbotts Road, Kemps Creek, NSW
Started: 18/10/2021
Finished: 18/10/2021
Test Pit Size: m

Rig Type: 5t Hydraulic Track Mounted Excavator **Hole Coordinates** E, N
Driller:
Logged: SJ

RL Surface: m **Contractor:** O'Hara Brothers
Bearing: ---
Checked:

Method	Water	RL (m)	Depth (m)	Graphic Log	Classification Symbol	Material Description	Samples Tests Remarks	Moisture Condition	Consistency/ Density Index	Additional Observations
Excavation					-	FILL: Sandy Gravelly CLAY: low plasticity, brown.	ES PID=3.2ppm	M	-	FILL 13.6kg
			0.5		-	FILL: Gravelly CLAY: high plasticity, grey/brown with heavy black staining, geo fabric+brick throughout, mild odour.	ES PID=2.5ppm	W	-	FILL 17.2kg
			1.0							
			1.5		CI-CH	CLAY: medium to high plasticity, orangey brown, with fine gravels.	ES	M	-	NATURAL
						Test Pit TP141 terminated at 1.6m				
			2.0							
			2.5							
			3.0							
			3.5							

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TP No: TP142
Sheet: 1 of 1
Job No: 13546

Test Pit Log

Client: ESR Australia
Project: Detailed Site Investigation
Location: 290-308 Aldington Road & 59-63 Abbotts Road, Kemps Creek, NSW
Started: 18/10/2021
Finished: 18/10/2021
Test Pit Size: m

Rig Type: 5t Hydraulic Track Mounted Excavator **Hole Coordinates** E, N
Driller:
Logged: SJ

RL Surface: m **Contractor:** O'Hara Brothers
Bearing: ---
Checked:

Method	Water	RL (m)	Depth (m)	Graphic Log	Classification Symbol	Material Description	Samples Tests Remarks	Moisture Condition	Consistency/ Density Index	Additional Observations
Excavation					-	FILL: Sandy Gravelly CLAY: low plasticity, brown.	ES PID=3.9ppm	M	-	FILL 13.1kg
			0.5		-	FILL: Gravelly CLAY: high plasticity, black, geo fabric+brick throughout, mild odour.	ES PID=2.9ppm	W	-	FILL 17.0kg
			1.0							
			1.5		CI-CH	CLAY: medium to high plasticity, orangey brown, with fine gravels.	ES	M	-	NATURAL
			2.0			Test Pit TP142 terminated at 1.6m				
			2.5							
			3.0							
			3.5							

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TP No: ASB10
Sheet: 1 of 1
Job No: 13546

Test Pit Log

Client: ESR Australia
Project: Detailed Site Investigation
Location: 290-308 Aldington Road & 59-63 Abbotts Road, Kemps Creek, NSW
Hole Location
Started: 15/10/2021
Finished: 15/10/2021
Test Pit Size: m

Rig Type: 5t Hydraulic Track Mounted Excavator
Hole Coordinates E, N
Driller:
Logged: SJ

RL Surface: m
Contractor: O' Hara Brothers
Bearing: ---
Checked:

Method	Water	RL (m)	Depth (m)	Graphic Log	Classification Symbol	Material Description	Samples Tests Remarks	Moisture Condition	Consistency/ Density Index	Additional Observations
Excavation					CH	Silty CLAY: high plasticity, dark grey.	ES	W	-	Filled with water
						Test Pit ASB10 terminated at 0.1m				
			0.5							
			1.0							
			1.5							
			2.0							
			2.5							
			3.0							
			3.5							

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TP No: ASB11
Sheet: 1 of 1
Job No: 13546

Test Pit Log

Client: ESR Australia
Project: Detailed Site Investigation
Location: 290-308 Aldington Road & 59-63 Abbotts Road, Kemps Creek, NSW
Hole Location
Started: 15/10/2021
Finished: 15/10/2021
Test Pit Size: m

Rig Type: 5t Hydraulic Track Mounted Excavator
Hole Coordinates E, N
Driller:
Logged: SJ

RL Surface: m
Contractor: O' Hara Brothers
Bearing: ---
Checked:

Method	Water	RL (m)	Depth (m)	Graphic Log	Classification Symbol	Material Description	Samples Tests Remarks	Moisture Condition	Consistency/ Density Index	Additional Observations
Excavation					-	FILL: Silty Gravelly CLAY: high plasticity, brown.	ES	M	-	FILL
			0.5			NATURAL Test Pit ASB11 terminated at 0.1m				
			1.0							
			1.5							
			2.0							
			2.5							
			3.0							
			3.5							

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TP No: ASB12
Sheet: 1 of 1
Job No: 13546

Test Pit Log

Client: ESR Australia
Project: Detailed Site Investigation
Location: 290-308 Aldington Road & 59-63 Abbotts Road, Kemps Creek, NSW
Hole Location
Started: 15/10/2021
Finished: 15/10/2021
Test Pit Size: m

Rig Type: 5t Hydraulic Track Mounted Excavator
Hole Coordinates E, N
Driller:
Logged: SJ

RL Surface: m
Contractor: O' Hara Brothers
Bearing: ---
Checked:

Method	Water	RL (m)	Depth (m)	Graphic Log	Classification Symbol	Material Description	Samples Tests Remarks	Moisture Condition	Consistency/ Density Index	Additional Observations
Excavation			0.0		-	FILL: Gravelly Silty CLAY: medium to high plasticity, brown.	ES	M	-	FILL heavy PACM, construction waste, and tyres
			0.5				ES			
			1.0			1.0m, with orange mottling.		W		
			1.5				ES			
			2.0			Due to water filling hole Test Pit ASB12 terminated at 2m				
			2.5							
			3.0							
			3.5							

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TP No: ASB13
Sheet: 1 of 1
Job No: 13546

Test Pit Log

Client: ESR Australia
Project: Detailed Site Investigation
Location: 290-308 Aldington Road & 59-63 Abbotts Road, Kemps Creek, NSW
Hole Location
Started: 15/10/2021
Finished: 15/10/2021
Test Pit Size: m

Rig Type: 5t Hydraulic Track Mounted Excavator
Hole Coordinates E, N
Driller:
Logged: SJ

RL Surface: m
Contractor: O' Hara Brothers
Bearing: ---
Checked:

Method	Water	RL (m)	Depth (m)	Graphic Log	Classification Symbol	Material Description	Samples Tests Remarks	Moisture Condition	Consistency/ Density Index	Additional Observations
Excavation			0.5		CI	FILL: Silty CLAY: medium plasticity, dark brown.	ES ES	M	-	FILL
			1.0		CI	Silty CLAY: medium plasticity, dark brown.				NATURAL
			1.5			Test Pit ASB13 terminated at 1.5m				
			2.0							
			2.5							
			3.0							
			3.5							

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TP No: ASB14
Sheet: 1 of 1
Job No: 13546

Test Pit Log

Client: ESR Australia
Project: Detailed Site Investigation
Location: 290-308 Aldington Road & 59-63 Abbotts Road, Kemps Creek, NSW
Started: 15/10/2021
Finished: 15/10/2021
Test Pit Size: m

Rig Type: 5t Hydraulic Track Mounted Excavator **Hole Coordinates** E, N
Driller:
Logged: SJ

RL Surface: m
Contractor: O' Hara Brothers
Bearing: ---
Checked:

Method	Water	RL (m)	Depth (m)	Graphic Log	Classification Symbol	Material Description	Samples Tests Remarks	Moisture Condition	Consistency/ Density Index	Additional Observations
Excavation					CI	TOPSOIL: Silty CLAY: medium plasticity, dark brown.	ES	M	-	NATURAL
			0.5			NATURAL Test Pit ASB14 terminated at 0.1m				
			1.0							
			1.5							
			2.0							
			2.5							
			3.0							
			3.5							

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TP No: ASB15
Sheet: 1 of 1
Job No: 13546

Test Pit Log

Client: ESR Australia
Project: Detailed Site Investigation
Location: 290-308 Aldington Road & 59-63 Abbotts Road, Kemps Creek, NSW
Started: 15/10/2021
Finished: 15/10/2021
Test Pit Size: m
Rig Type: 5t Hydraulic Track Mounted Excavator
Hole Coordinates E, N
Driller:
Logged: SJ
RL Surface: m
Contractor: O' Hara Brothers
Bearing: ---
Checked:

Method	Water	RL (m)	Depth (m)	Graphic Log	Classification Symbol	Material Description	Samples Tests Remarks	Moisture Condition	Consistency/ Density Index	Additional Observations
Excavation					CI	Silty CLAY: medium plasticity, dark brown.	ES	M	-	NATURAL
					CH	Silty CLAY: high plasticity, dark brown.		M	-	
			0.5				ES			
			1.0							
			1.5				ES			
			2.0			2.0m, with orange mottling.	ES			
			2.5			Test Pit ASB15 terminated at 2.5m				
			3.0							
			3.5							

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TP No: DR01
Sheet: 1 of 1
Job No: 13546

Test Pit Log

Client: ESR Australia
Project: Detailed Site Investigation
Location: 290-308 Aldington Road & 59-63 Abbotts Road, Kemps Creek, NSW
Started: 06/10/2021
Finished: 06/10/2021
Test Pit Size: m

Rig Type: 5t Hydraulic Track Mounted Excavator **Hole Coordinates** E, N
Driller:
Logged: SJ

RL Surface: m **Contractor:** O' Hara Brothers
Bearing: ---
Checked:

Method	Water	RL (m)	Depth (m)	Graphic Log	Classification Symbol	Material Description	Samples Tests Remarks	Moisture Condition	Consistency/ Density Index	Additional Observations
Excavation					-	Gravelly SAND: fine to coarse grained, sub-angular, well graded, brown, with cobbles.	ES PID=1.6ppm	M	-	Concrete gravels
			0.5		-	FILL: CLAY: high plasticity, brown, with fine gravel.	ES PID=1.4ppm	M	-	FILL
			1.0		CH	CLAY: high plasticity, brown/beige with orange mottling.	ES PID=0.7ppm	M	-	NATURAL
			1.5			Test Pit DR01 terminated at 1m				
			2.0							
			2.5							
			3.0							
			3.5							

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TP No: DR02
Sheet: 1 of 1
Job No: 13546

Test Pit Log

Client: ESR Australia
Project: Detailed Site Investigation
Location: 290-308 Aldington Road & 59-63 Abbotts Road, Kemps Creek, NSW
Hole Location:
Started: 06/10/2021
Finished: 06/10/2021
Test Pit Size: m

Rig Type: 5t Hydraulic Track Mounted Excavator
Hole Coordinates E, N
Driller:
Logged: SJ
RL Surface: m
Contractor: O' Hara Brothers
Bearing: ---
Checked:

Method	Water	RL (m)	Depth (m)	Graphic Log	Classification Symbol	Material Description	Samples Tests Remarks	Moisture Condition	Consistency/ Density Index	Additional Observations
Excavation					-	Gravelly SAND: fine to coarse grained, sub-angular, well graded, light brown, with cobbles.	ES PID=0.3ppm	M	-	Concrete gravels
					-	FILL: Silty CLAY: low plasticity, dark brown, with fine gravel.	ES	SM	-	FILL
			0.5		CL-CI	CLAY: low to medium plasticity, light brown/beige, with orange and grey mottling.	ES PID=0.3ppm	M	-	NATURAL
			1.0			Test Pit DR02 terminated at 1m				
			1.5							
			2.0							
			2.5							
			3.0							
			3.5							

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TP No: DR03
Sheet: 1 of 1
Job No: 13546

Test Pit Log

Client: ESR Australia
Project: Detailed Site Investigation
Location: 290-308 Aldington Road & 59-63 Abbotts Road, Kemps Creek, NSW
Hole Location:
Started: 06/10/2021
Finished: 06/10/2021
Test Pit Size: m

Rig Type: 5t Hydraulic Track Mounted Excavator
Hole Coordinates E, N
Driller:
Logged: SJ
RL Surface: m
Contractor: O' Hara Brothers
Bearing: ---
Checked:

Method	Water	RL (m)	Depth (m)	Graphic Log	Classification Symbol	Material Description	Samples Tests Remarks	Moisture Condition	Consistency/ Density Index	Additional Observations
Excavation					-	Gravelly SAND: fine to coarse grained, sub-angular, well graded, light brown, with cobbles.	ES PID=0.3ppm	M	-	FILL Concrete gravels
					-	FILL: Sandy CLAY: low to medium plasticity, brown, with fine gravel.	ES PID=0.4ppm	M	-	
			0.5		CH	CLAY: high plasticity, light orange/red.	ES PID=0.3ppm	M	-	NATURAL
			1.0		CH	CLAY: high plasticity, light brown with orange and grey mottling.		M	-	
			1.5				ES			
			2.0			Test Pit DR03 terminated at 2m				
			2.5							
			3.0							
			3.5							

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TP No: DR04
Sheet: 1 of 1
Job No: 13546

Test Pit Log

Client: ESR Australia
Project: Detailed Site Investigation
Location: 290-308 Aldington Road & 59-63 Abbotts Road, Kemps Creek, NSW
Started: 07/10/2021
Finished: 07/10/2021
Test Pit Size: m

Rig Type: 5t Hydraulic Track Mounted Excavator **Hole Coordinates** E, N **Driller:** **Logged:** SJ
RL Surface: m **Contractor:** O' Hara Brothers **Bearing:** --- **Checked:**

Method	Water	RL (m)	Depth (m)	Graphic Log	Classification Symbol	Material Description	Samples Tests Remarks	Moisture Condition	Consistency/ Density Index	Additional Observations
Excavation					-	FILL: Silty Gravelly SAND: fine to coarse grained, sub-angular, well graded, brown.	ES PID=3.4ppm	D	-	FILL
					-	SHALE: grey.	ES	D	-	BEDROCK
			0.5			Refusal Test Pit DR04 terminated at 0.2m				
			1.0							
			1.5							
			2.0							
			2.5							
			3.0							
			3.5							

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TP No: DR05
Sheet: 1 of 1
Job No: 13546

Test Pit Log

Client: ESR Australia
Project: Detailed Site Investigation
Location: 290-308 Aldington Road & 59-63 Abbotts Road, Kemps Creek, NSW
Hole Location
Started: 07/10/2021
Finished: 07/10/2021
Test Pit Size: m

Rig Type: 5t Hydraulic Track Mounted Excavator
Hole Coordinates E, N
Driller:
Logged: SJ

RL Surface: m
Contractor: O' Hara Brothers
Bearing: ---
Checked:

Method	Water	RL (m)	Depth (m)	Graphic Log	Classification Symbol	Material Description	Samples Tests Remarks	Moisture Condition	Consistency/ Density Index	Additional Observations
Excavation					-	FILL: Silty Gravelly SAND: fine to coarse grained, sub-angular, well graded, brown.	ES PID=3.1ppm	D	-	FILL
					CL	CLAY: low plasticity, brown with orange mottling.	ES PID=4.2ppm	SM	-	NATURAL
			0.5			Test Pit DR05 terminated at 0.4m				
			1.0							
			1.5							
			2.0							
			2.5							
			3.0							
			3.5							

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TP No: DR06
Sheet: 1 of 1
Job No: 13546

Test Pit Log

Client: ESR Australia
Project: Detailed Site Investigation
Location: 290-308 Aldington Road & 59-63 Abbotts Road, Kemps Creek, NSW
Hole Location:
Started: 07/10/2021
Finished: 07/10/2021
Test Pit Size: m

Rig Type: 5t Hydraulic Track Mounted Excavator
Hole Coordinates E, N
Driller:
Logged: SJ
RL Surface: m
Contractor: O' Hara Brothers
Bearing: ---
Checked:

Method	Water	RL (m)	Depth (m)	Graphic Log	Classification Symbol	Material Description	Samples Tests Remarks	Moisture Condition	Consistency/ Density Index	Additional Observations
Excavation					-	FILL: Silty Gravelly SAND: fine to coarse grained, sub-angular, well graded, brown.	ES PID=5.2ppm	M	-	FILL
			0.5		CH	CLAY: high plasticity, brown/beige, with fine gravel.	ES PID=6.5ppm	M	-	NATURAL
						Test Pit DR06 terminated at 0.5m				
			1.0							
			1.5							
			2.0							
			2.5							
			3.0							
			3.5							

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TP No: DR07
Sheet: 1 of 1
Job No: 13546

Test Pit Log

Client: ESR Australia
Project: Detailed Site Investigation
Location: 290-308 Aldington Road & 59-63 Abbotts Road, Kemps Creek, NSW
Started: 07/10/2021
Finished: 07/10/2021
Test Pit Size: m

Rig Type: 5t Hydraulic Track Mounted Excavator **Hole Location Coordinates** E, N **Driller:** **Logged:** SJ
RL Surface: m **Contractor:** O' Hara Brothers **Bearing:** --- **Checked:**

Method	Water	RL (m)	Depth (m)	Graphic Log	Classification Symbol	Material Description	Samples Tests Remarks	Moisture Condition	Consistency/ Density Index	Additional Observations
Excavation					-	FILL: Gravelly SANDSTONE: coarse grained, sub-angular, light brown/beige.	ES PID=2.3ppm	SM	-	FILL
			0.5		CH	CLAY: high plasticity, brown/beige, with fine gravel.	ES PID=5.4ppm	M	-	NATURAL
						Test Pit DR07 terminated at 0.5m				
			1.0							
			1.5							
			2.0							
			2.5							
			3.0							
			3.5							

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TP No: DR08
Sheet: 1 of 1
Job No: 13546

Test Pit Log

Client: ESR Australia
Project: Detailed Site Investigation
Location: 290-308 Aldington Road & 59-63 Abbotts Road, Kemps Creek, NSW
Hole Location
Started: 07/10/2021
Finished: 07/10/2021
Test Pit Size: m

Rig Type: 5t Hydraulic Track Mounted Excavator
Hole Coordinates E, N
Driller:
Logged: SJ

RL Surface: m
Contractor: O' Hara Brothers
Bearing: ---
Checked:

Method	Water	RL (m)	Depth (m)	Graphic Log	Classification Symbol	Material Description	Samples Tests Remarks	Moisture Condition	Consistency/ Density Index	Additional Observations
Excavation					-	FILL: Silty Gravelly SAND: fine to coarse grained, sub-angular, well graded, brown.	ES PID=4.0ppm	SM	-	FILL
					CI	CLAY: medium plasticity, light brown/orange.	ES PID=4.0ppm	SM	-	NATURAL
						Test Pit DR08 terminated at 0.2m				
			0.5							
			1.0							
			1.5							
			2.0							
			2.5							
			3.0							
			3.5							

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TP No: DR11
Sheet: 1 of 1
Job No: 13546

Test Pit Log

Client: ESR Australia
Project: Detailed Site Investigation
Location: 290-308 Aldington Road & 59-63 Abbotts Road, Kemps Creek, NSW
Started: 13/10/2021
Finished: 13/10/2021
Test Pit Size: m

Rig Type: 5t Hydraulic Track Mounted Excavator
Hole Location Coordinates E, N
Driller:
Logged: SJ
RL Surface: m
Contractor: O' Hara Brothers
Bearing: ---
Checked:

Method	Water	RL (m)	Depth (m)	Graphic Log	Classification Symbol	Material Description	Samples Tests Remarks	Moisture Condition	Consistency/ Density Index	Additional Observations
Excavation					-	FILL: Gravelly CLAY: high plasticity, grey.	ES PID=5.9ppm	M	-	FILL
					CI-CH	CLAY: medium to high plasticity, orange brown.	ES	M	-	NATURAL
			0.5			Test Pit DR11 terminated at 0.2m				
			1.0							
			1.5							
			2.0							
			2.5							
			3.0							
			3.5							

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TP No: DR12
Sheet: 1 of 1
Job No: 13546

Test Pit Log

Client: ESR Australia
Project: Detailed Site Investigation
Location: 290-308 Aldington Road & 59-63 Abbotts Road, Kemps Creek, NSW
Started: 13/10/2021
Finished: 13/10/2021
Test Pit Size: m

Rig Type: 5t Hydraulic Track Mounted Excavator
Hole Coordinates E, N
Driller:
Logged: SJ
RL Surface: m
Contractor: O' Hara Brothers
Bearing: ---
Checked:

Method	Water	RL (m)	Depth (m)	Graphic Log	Classification Symbol	Material Description	Samples Tests Remarks	Moisture Condition	Consistency/ Density Index	Additional Observations
Excavation					-	FILL: Gravelly CLAY: high plasticity, grey.	ES PID=2.1ppm	M	-	FILL
					CI-CH	CLAY: medium to high plasticity, orange brown.	ES	M	-	NATURAL
			0.5			Test Pit DR12 terminated at 0.2m				
			1.0							
			1.5							
			2.0							
			2.5							
			3.0							
			3.5							

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TP No: DR13
Sheet: 1 of 1
Job No: 13546

Test Pit Log

Client: ESR Australia
Project: Detailed Site Investigation
Location: 290-308 Aldington Road & 59-63 Abbotts Road, Kemps Creek, NSW
Started: 13/10/2021
Finished: 13/10/2021
Test Pit Size: m

Rig Type: 5t Hydraulic Track Mounted Excavator **Hole Coordinates** E, N
Driller:
Logged: SJ

RL Surface: m **Contractor:** O' Hara Brothers
Bearing: ---
Checked:

Method	Water	RL (m)	Depth (m)	Graphic Log	Classification Symbol	Material Description	Samples Tests Remarks	Moisture Condition	Consistency/ Density Index	Additional Observations
Excavation					-	FILL: Silty Gravelly CLAY: medium to high plasticity, dark brown.	ES PID=3.2ppm	M	-	FILL
					CI-CH	CLAY: medium to high plasticity, orange brown.	ES	M	-	NATURAL
			0.5			Test Pit DR13 terminated at 0.2m				
			1.0							
			1.5							
			2.0							
			2.5							
			3.0							
			3.5							

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TP No: DR14
Sheet: 1 of 1
Job No: 13546

Test Pit Log

Client: ESR Australia
Project: Detailed Site Investigation
Location: 290-308 Aldington Road & 59-63 Abbotts Road, Kemps Creek, NSW
Hole Location
Started: 13/10/2021
Finished: 13/10/2021
Test Pit Size: m

Rig Type: 5t Hydraulic Track Mounted Excavator
Hole Coordinates E, N
Driller:
Logged: SJ

RL Surface: m
Contractor: O' Hara Brothers
Bearing: ---
Checked:

Method	Water	RL (m)	Depth (m)	Graphic Log	Classification Symbol	Material Description	Samples Tests Remarks	Moisture Condition	Consistency/ Density Index	Additional Observations
Excavation					-	FILL: Gravelly CLAY: high plasticity, dark brown.	ES PID=6.6ppm	M	-	FILL
					CH	Silty CLAY: high plasticity, brown, with fine gravel.	ES	M	-	NATURAL
			0.5			Test Pit DR14 terminated at 0.2m				
			1.0							
			1.5							
			2.0							
			2.5							
			3.0							
			3.5							

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TP No: DR15
Sheet: 1 of 1
Job No: 13546

Test Pit Log

Client: ESR Australia
Project: Detailed Site Investigation
Location: 290-308 Aldington Road & 59-63 Abbotts Road, Kemps Creek, NSW
Started: 18/10/2021
Finished: 18/10/2021
Test Pit Size: m

Rig Type: 5t Hydraulic Track Mounted Excavator
Hole Coordinates E, N
Driller:
Logged: SJ
RL Surface: m
Contractor: O' Hara Brothers
Bearing: ---
Checked:

Method	Water	RL (m)	Depth (m)	Graphic Log	Classification Symbol	Material Description	Samples Tests Remarks	Moisture Condition	Consistency/ Density Index	Additional Observations
Excavation					-	FILL: Silty Gravelly CLAY: low to medium plasticity, brown.	ES PID=1.4ppm	M	-	FILL
					CI	Silty CLAY: medium plasticity, brown/grey with orange mottling.		M	-	NATURAL
			0.5				ES			
						Test Pit DR15 terminated at 0.5m				
			1.0							
			1.5							
			2.0							
			2.5							
			3.0							
			3.5							

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TP No: DR16
Sheet: 1 of 1
Job No: 13546

Test Pit Log

Client: ESR Australia
Project: Detailed Site Investigation
Location: 290-308 Aldington Road & 59-63 Abbotts Road, Kemps Creek, NSW
Started: 19/10/2021
Finished: 19/10/2021
Test Pit Size: m

Rig Type: 5t Hydraulic Track Mounted Excavator **Hole Coordinates** E, N
Driller:
Logged: SJ

RL Surface: m **Contractor:** O' Hara Brothers
Bearing: ---
Checked:

Method	Water	RL (m)	Depth (m)	Graphic Log	Classification Symbol	Material Description	Samples Tests Remarks	Moisture Condition	Consistency/ Density Index	Additional Observations
Excavation			0.5		-	FILL: Silty Gravelly SAND: fine to coarse grained, sub-angular, light brown, well-graded, full of concrete and bricks.	ES PID=2.8ppm ES	SM	-	FILL
			1.0		-	FILL: Silty CLAY: medium plasticity, dark grey.	ES PID=2.6ppm	M	-	
			2.0		CI-CH	Silty CLAY: medium to high plasticity, light brown with grey mottling.		M	-	NATURAL Water falling from 2.0m
						Test Pit DR16 terminated at 2m				
			2.5							
			3.0							
			3.5							

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TP No: DR17
Sheet: 1 of 1
Job No: 13546

Test Pit Log

Client: ESR Australia
Project: Detailed Site Investigation
Location: 290-308 Aldington Road & 59-63 Abbotts Road, Kemps Creek, NSW
Started: 19/10/2021
Finished: 19/10/2021
Test Pit Size: m

Rig Type: 5t Hydraulic Track Mounted Excavator
Hole Coordinates E, N
Driller:
Logged: SJ

RL Surface: m
Contractor: O' Hara Brothers
Bearing: ---
Checked:

Method	Water	RL (m)	Depth (m)	Graphic Log	Classification Symbol	Material Description	Samples Tests Remarks	Moisture Condition	Consistency/ Density Index	Additional Observations
Excavation			0.5		-	FILL: Silty Gravelly SAND: fine to coarse grained, sub-angular, light brown, well-graded, full of concrete and bricks.	ES PID=2.3ppm ES	SM	-	FILL
			1.0		CH	CLAY: high plasticity, light brown with orange, red mottling.	PID=1.6ppm	M	-	NATURAL
						Test Pit DR17 terminated at 1.2m				
			1.5							
			2.0							
			2.5							
			3.0							
			3.5							

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TP No: PP1
Sheet: 1 of 1
Job No: 13546

Test Pit Log

Client: ESR Australia
Project: Detailed Site Investigation
Location: 290-308 Aldington Road & 59-63 Abbotts Road, Kemps Creek, NSW
Started: 18/10/2021
Finished: 18/10/2021
Test Pit Size: m

Rig Type: 5t Hydraulic Track Mounted Excavator
Hole Coordinates E, N
Driller:
Logged: SJ
RL Surface: m
Contractor: O' Hara Brothers
Bearing: ---
Checked:

Method	Water	RL (m)	Depth (m)	Graphic Log	Classification Symbol	Material Description	Samples Tests Remarks	Moisture Condition	Consistency/ Density Index	Additional Observations
Excavation					-	FILL: Silty Gravelly CLAY: low to medium plasticity, brown.		M	-	FILL Surface Grab
						Test Pit PP1 terminated at 0.1m				

0.5
1.0
1.5
2.0
2.5
3.0
3.5

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TP No: PP2
Sheet: 1 of 1
Job No: 13546

Test Pit Log

Client: ESR Australia
Project: Detailed Site Investigation
Location: 290-308 Aldington Road & 59-63 Abbotts Road, Kemps Creek, NSW
Started: 13/10/2021
Finished: 13/10/2021
Test Pit Size: m

Rig Type: 5t Hydraulic Track Mounted Excavator
Hole Coordinates E, N
Driller:
Logged: SJ
RL Surface: m
Contractor: O' Hara Brothers
Bearing: ---
Checked:

Method	Water	RL (m)	Depth (m)	Graphic Log	Classification Symbol	Material Description	Samples Tests Remarks	Moisture Condition	Consistency/ Density Index	Additional Observations
Excavation					CL-CI	Silty CLAY: low to medium plasticity, brown.		M	-	
						Test Pit PP2 terminated at 0.1m				
			0.5							
			1.0							
			1.5							
			2.0							
			2.5							
			3.0							
			3.5							

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TP No: PP3
Sheet: 1 of 1
Job No: 13546

Test Pit Log

Client: ESR Australia
Project: Detailed Site Investigation
Location: 290-308 Aldington Road & 59-63 Abbotts Road, Kemps Creek, NSW
Started: 13/10/2021
Finished: 13/10/2021
Test Pit Size: m

Rig Type: 5t Hydraulic Track Mounted Excavator
Hole Coordinates E, N
Driller:
Logged: SJ
RL Surface: m
Contractor: O' Hara Brothers
Bearing: ---
Checked:

Method	Water	RL (m)	Depth (m)	Graphic Log	Classification Symbol	Material Description	Samples Tests Remarks	Moisture Condition	Consistency/ Density Index	Additional Observations
Excavation					CL-CI	Silty CLAY: low to medium plasticity, brown.		M	-	
			0.5			Test Pit PP3 terminated at 0.1m				
			1.0							
			1.5							
			2.0							
			2.5							
			3.0							
			3.5							

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TP No: PP4
Sheet: 1 of 1
Job No: 13546

Test Pit Log

Client: ESR Australia
Project: Detailed Site Investigation
Location: 290-308 Aldington Road & 59-63 Abbotts Road, Kemps Creek, NSW
Started: 12/10/2021
Finished: 12/10/2021
Test Pit Size: m
Rig Type: 5t Hydraulic Track Mounted Excavator
Hole Coordinates E, N
Driller:
Logged: SJ
RL Surface: m
Contractor: O' Hara Brothers
Bearing: ---
Checked:

Method	Water	RL (m)	Depth (m)	Graphic Log	Classification Symbol	Material Description	Samples Tests Remarks	Moisture Condition	Consistency/ Density Index	Additional Observations
Excavation					-	TOPSOIL: Sandy Gravelly CLAY: low plasticity, brown.	ES PID=1.7ppm	M	-	TOPSOIL
			0.5		CI	CLAY: medium plasticity, light brown.	ES	M	-	NATURAL
			1.0		CI	CLAY: medium plasticity, grey.	ES	M	-	
			1.5		CL	Shaly CLAY: low plasticity, grey.	ES	M	-	
			2.0				ES			
			2.5			Refusal Test Pit PP4 terminated at 2.1m				
			3.0							
			3.5							

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TP No: PP5
Sheet: 1 of 1
Job No: 13546

Test Pit Log

Client: ESR Australia
Project: Detailed Site Investigation
Location: 290-308 Aldington Road & 59-63 Abbotts Road, Kemps Creek, NSW
Started: 13/10/2021
Finished: 13/10/2021
Test Pit Size: m

Rig Type: 5t Hydraulic Track Mounted Excavator **Hole Coordinates** E, N
Driller:
Logged: SJ

RL Surface: m **Contractor:** O' Hara Brothers
Bearing: ---
Checked:

Method	Water	RL (m)	Depth (m)	Graphic Log	Classification Symbol	Material Description	Samples Tests Remarks	Moisture Condition	Consistency/ Density Index	Additional Observations
Excavation					CL-CI	Silty CLAY: low to medium plasticity, brown.		M	-	
						Test Pit PP5 terminated at 0.1m				
			0.5							
			1.0							
			1.5							
			2.0							
			2.5							
			3.0							
			3.5							

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TP No: PP6
Sheet: 1 of 1
Job No: 13546

Test Pit Log

Client: ESR Australia
Project: Detailed Site Investigation
Location: 290-308 Aldington Road & 59-63 Abbotts Road, Kemps Creek, NSW
Started: 12/10/2021
Finished: 12/10/2021
Test Pit Size: m
Rig Type: 5t Hydraulic Track Mounted Excavator
Hole Coordinates E, N
Driller:
Logged: SJ
RL Surface: m
Contractor: O' Hara Brothers
Bearing: ---
Checked:

Method	Water	RL (m)	Depth (m)	Graphic Log	Classification Symbol	Material Description	Samples Tests Remarks	Moisture Condition	Consistency/ Density Index	Additional Observations
Excavation			0.0		-	FILL: Clayey SAND: fine to coarse grained, sub-rounded, well graded, brown, with minor gravel.	ES PID=1.8ppm	M	-	FILL
					-	Gravelly Sandy CLAY: low plasticity, brown.		M	-	
			0.5				ES PID=1.2ppm			
			1.0				ES PID=2.0ppm			
			1.5				ES			
			2.0				ES			
					CL-CI	CLAY: low to medium plasticity, light brown with orange and gey mottling.		SM	-	NATURAL
			2.5				ES PID=3.3ppm			
						Test Pit PP6 terminated at 2.5m				
			3.0							
			3.5							

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TP No: PP7
Sheet: 1 of 1
Job No: 13546

Test Pit Log

Client: ESR Australia
Project: Detailed Site Investigation
Location: 290-308 Aldington Road & 59-63 Abbotts Road, Kemps Creek, NSW
Started: 12/10/2021
Finished: 12/10/2021
Test Pit Size: m

Rig Type: 5t Hydraulic Track Mounted Excavator **Hole Coordinates** E, N **Driller:** **Logged:** SJ
RL Surface: m **Contractor:** O' Hara Brothers **Bearing:** --- **Checked:**

Method	Water	RL (m)	Depth (m)	Graphic Log	Classification Symbol	Material Description	Samples Tests Remarks	Moisture Condition	Consistency/ Density Index	Additional Observations
Excavation					-	TOPSOIL: Silty CLAY: medium to high plasticity, dark brown.	ES PID=2.3ppm	M	-	TOPSOIL
					CH	CLAY: high plasticity, light brown with orange and gey mottling.	ES PID=0.8ppm	M	-	NATURAL
			0.5			Test Pit PP7 terminated at 0.5m				
			1.0							
			1.5							
			2.0							
			2.5							
			3.0							
			3.5							

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TP No: PP8
Sheet: 1 of 1
Job No: 13546

Test Pit Log

Client: ESR Australia
Project: Detailed Site Investigation
Location: 290-308 Aldington Road & 59-63 Abbotts Road, Kemps Creek, NSW
Started: 12/10/2021
Finished: 12/10/2021
Test Pit Size: m

Rig Type: 5t Hydraulic Track Mounted Excavator
Hole Coordinates E, N
Driller:
Logged: SJ
RL Surface: m
Contractor: O' Hara Brothers
Bearing: ---
Checked:

Method	Water	RL (m)	Depth (m)	Graphic Log	Classification Symbol	Material Description	Samples Tests Remarks	Moisture Condition	Consistency/ Density Index	Additional Observations
Excavation					-	TOPSOIL: Silty CLAY: medium to high plasticity, dark brown.	ES PID=2.0ppm	M	-	TOPSOIL
					CI-CH	Shaly CLAY: low to medium plasticity, grey to dark grey.	ES	M	-	NATURAL
						Test Pit PP8 terminated at 0.2m				

0.5
1.0
1.5
2.0
2.5
3.0
3.5

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TP No: PP9
Sheet: 1 of 1
Job No: 13546

Test Pit Log

Client: ESR Australia
Project: Detailed Site Investigation
Location: 290-308 Aldington Road & 59-63 Abbotts Road, Kemps Creek, NSW
Started: 18/10/2021
Finished: 18/10/2021
Test Pit Size: m

Rig Type: 5t Hydraulic Track Mounted Excavator
Hole Coordinates E, N
Driller:
Logged: SJ
RL Surface: m
Contractor: O' Hara Brothers
Bearing: ---
Checked:

Method	Water	RL (m)	Depth (m)	Graphic Log	Classification Symbol	Material Description	Samples Tests Remarks	Moisture Condition	Consistency/ Density Index	Additional Observations
Excavation					CL-CI	Gravelly CLAY: low to medium plasticity, brown.		M		Surface Grab
						Test Pit PP9 terminated at 0.1m				
			0.5							
			1.0							
			1.5							
			2.0							
			2.5							
			3.0							
			3.5							

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TP No: PP10
Sheet: 1 of 1
Job No: 13546

Test Pit Log

Client: ESR Australia
Project: Detailed Site Investigation
Location: 290-308 Aldington Road & 59-63 Abbotts Road, Kemps Creek, NSW
Started: 18/10/2021
Finished: 18/10/2021
Test Pit Size: m

Rig Type: 5t Hydraulic Track Mounted Excavator
Hole Coordinates E, N
Driller:
Logged: SJ
RL Surface: m
Contractor: O' Hara Brothers
Bearing: ---
Checked:

Method	Water	RL (m)	Depth (m)	Graphic Log	Classification Symbol	Material Description	Samples Tests Remarks	Moisture Condition	Consistency/ Density Index	Additional Observations
Excavation					CI	Silty CLAY: medium plasticity, brown.		M	-	Surface Grab
						Test Pit PP10 terminated at 0.1m				
			0.5							
			1.0							
			1.5							
			2.0							
			2.5							
			3.0							
			3.5							

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TP No: PP11
Sheet: 1 of 1
Job No: 13546

Test Pit Log

Client: ESR Australia
Project: Detailed Site Investigation
Location: 290-308 Aldington Road & 59-63 Abbotts Road, Kemps Creek, NSW
Started: 18/10/2021
Finished: 18/10/2021
Test Pit Size: m

Rig Type: 5t Hydraulic Track Mounted Excavator
Hole Coordinates E, N
Driller:
Logged: SJ
RL Surface: m
Contractor: O' Hara Brothers
Bearing: ---
Checked:

Method	Water	RL (m)	Depth (m)	Graphic Log	Classification Symbol	Material Description	Samples Tests Remarks	Moisture Condition	Consistency/ Density Index	Additional Observations
Excavation					CI	Silty CLAY: medium plasticity, brown.		M	-	Surface Grab
						Test Pit PP11 terminated at 0.1m				
			0.5							
			1.0							
			1.5							
			2.0							
			2.5							
			3.0							
			3.5							

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TP No: PP12
Sheet: 1 of 1
Job No: 13546

Test Pit Log

Client: ESR Australia
Project: Detailed Site Investigation
Location: 290-308 Aldington Road & 59-63 Abbotts Road, Kemps Creek, NSW
Started: 18/10/2021
Finished: 18/10/2021
Test Pit Size: m

Rig Type: 5t Hydraulic Track Mounted Excavator
Hole Coordinates E, N
Driller:
Logged: SJ
RL Surface: m
Contractor: O' Hara Brothers
Bearing: ---
Checked:

Method	Water	RL (m)	Depth (m)	Graphic Log	Classification Symbol	Material Description	Samples Tests Remarks	Moisture Condition	Consistency/ Density Index	Additional Observations
Excavation					CI	Silty CLAY: medium plasticity, brown.		M	-	Surface Grab
			0.5			Test Pit PP12 terminated at 0.1m				
			1.0							
			1.5							
			2.0							
			2.5							
			3.0							
			3.5							

APPENDIX B – Laboratory Documentation

ALS Environmental

CERTIFICATE OF ANALYSIS

Work Order	: **ES2139759**	Page	: 1 of 7
Client	: **ALLIANCE GEOTECHNICAL**	Laboratory	: Environmental Division Sydney
Contact	: Jacob Walker	Contact	: Customer Services ES
Address	: 8/10 Welder Road, Seven Hills 2147	Address	: 277-289 Woodpark Road Smithfield NSW Australia 2164
Telephone	: ----	Telephone	: +61-2-8784 8555
Project	: 13546 - Kemps Creek	Date Samples Received	: 03-Nov-2021 14:30
Order number	: ----	Date Analysis Commenced	: 04-Nov-2021
C-O-C number	: ----	Issue Date	: 10-Nov-2021 12:35
Sampler	: SAM JONES		
Site	: ----		
Quote number	: EN/222		
No. of samples received	: 3		
No. of samples analysed	: 2		

Accreditation No. 825
Accredited for compliance with
ISO/IEC 17025 - Testing

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted, unless the sampling was conducted by ALS. This document shall not be reproduced, except in full.

This Certificate of Analysis contains the following information:

- General Comments
- Analytical Results
- Surrogate Control Limits

Additional information pertinent to this report will be found in the following separate attachments: Quality Control Report, QA/QC Compliance Assessment to assist with Quality Review and Sample Receipt Notification.

Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is carried out in compliance with procedures specified in 21 CFR Part 11.

Signatories	*Position*	*Accreditation Category*
Edwandy Fadjar	Organic Coordinator	Sydney Inorganics, Smithfield, NSW
Edwandy Fadjar	Organic Coordinator	Sydney Organics, Smithfield, NSW
Ivan Taylor	Analyst	Sydney Inorganics, Smithfield, NSW

General Comments

The analytical procedures used by ALS have been developed from established internationally recognised procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are fully validated and are often at the client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis.

Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

When sampling time information is not provided by the client, sampling dates are shown without a time component. In these instances, the time component has been assumed by the laboratory for processing purposes.

Where a result is required to meet compliance limits the associated uncertainty must be considered. Refer to the ALS Contact for details.

Key : CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.
LOR = Limit of reporting
^ = This result is computed from individual analyte detections at or above the level of reporting
ø = ALS is not NATA accredited for these tests.
~ = Indicates an estimated value.

- Benzo(a)pyrene Toxicity Equivalent Quotient (TEQ) per the NEPM (2013) is the sum total of the concentration of the eight carcinogenic PAHs multiplied by their Toxicity Equivalence Factor (TEF) relative to Benzo(a)pyrene. TEF values are provided in brackets as follows: Benz(a)anthracene (0.1), Chrysene (0.01), Benzo(b+j) & Benzo(k)fluoranthene (0.1), Benzo(a)pyrene (1.0), Indeno(1.2.3.cd)pyrene (0.1), Dibenz(a.h)anthracene (1.0), Benzo(g.h.i)perylene (0.01). Less than LOR results for 'TEQ Zero' are treated as zero, for 'TEQ 1/2LOR' are treated as half the reported LOR, and for 'TEQ LOR' are treated as being equal to the reported LOR. Note: TEQ 1/2LOR and TEQ LOR will calculate as 0.6mg/Kg and 1.2mg/Kg respectively for samples with non-detects for all of the eight TEQ PAHs.
- EP080: Where reported, Total Xylenes is the sum of the reported concentrations of m&p-Xylene and o-Xylene at or above the LOR.
- EP068: Where reported, Total Chlordane (sum) is the sum of the reported concentrations of cis-Chlordane and trans-Chlordane at or above the LOR.
- EP068: Where reported, Total OCP is the sum of the reported concentrations of all Organochlorine Pesticides at or above LOR.
- EP075(SIM): Where reported, Total Cresol is the sum of the reported concentrations of 2-Methylphenol and 3- & 4-Methylphenol at or above the LOR.
- EG005T: Poor precision was obtained for Zinc on sample ES2139655 # 001. Confirmed by redigestion and reanalysis.
- EP075(SIM): Poor duplicate precision due to sample heterogeneity. Confirmed by re-extraction and re-analysis.

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	BT4	BT5	----	----	----
			Sampling date / time	18-Oct-2021 00:00	21-Oct-2021 00:00	----	----	----
Compound	CAS Number	LOR	Unit	ES2139759-001	ES2139759-002	--------	--------	--------
				Result	Result	----	----	----
EA055: Moisture Content (Dried @ 105-110°C)								
Moisture Content	----	1.0	%	**16.4**	**13.7**	----	----	----
EG005(ED093)T: Total Metals by ICP-AES								
Arsenic	7440-38-2	5	mg/kg	**9**	----	----	----	----
Cadmium	7440-43-9	1	mg/kg	<1	----	----	----	----
Chromium	7440-47-3	2	mg/kg	**19**	----	----	----	----
Copper	7440-50-8	5	mg/kg	**34**	----	----	----	----
Lead	7439-92-1	5	mg/kg	**25**	----	----	----	----
Nickel	7440-02-0	2	mg/kg	**17**	----	----	----	----
Zinc	7440-66-6	5	mg/kg	**53**	----	----	----	----
EG035T: Total Recoverable Mercury by FIMS								
Mercury	7439-97-6	0.1	mg/kg	<0.1	----	----	----	----
EP066: Polychlorinated Biphenyls (PCB)								
Total Polychlorinated biphenyls	----	0.1	mg/kg	----	<0.1	----	----	----
EP068A: Organochlorine Pesticides (OC)								
alpha-BHC	319-84-6	0.05	mg/kg	----	<0.05	----	----	----
Hexachlorobenzene (HCB)	118-74-1	0.05	mg/kg	----	<0.05	----	----	----
beta-BHC	319-85-7	0.05	mg/kg	----	<0.05	----	----	----
gamma-BHC	58-89-9	0.05	mg/kg	----	<0.05	----	----	----
delta-BHC	319-86-8	0.05	mg/kg	----	<0.05	----	----	----
Heptachlor	76-44-8	0.05	mg/kg	----	<0.05	----	----	----
Aldrin	309-00-2	0.05	mg/kg	----	<0.05	----	----	----
Heptachlor epoxide	1024-57-3	0.05	mg/kg	----	<0.05	----	----	----
^ Total Chlordane (sum)	----	0.05	mg/kg	----	<0.05	----	----	----
trans-Chlordane	5103-74-2	0.05	mg/kg	----	<0.05	----	----	----
alpha-Endosulfan	959-98-8	0.05	mg/kg	----	<0.05	----	----	----
cis-Chlordane	5103-71-9	0.05	mg/kg	----	<0.05	----	----	----
Dieldrin	60-57-1	0.05	mg/kg	----	<0.05	----	----	----
4.4`-DDE	72-55-9	0.05	mg/kg	----	<0.05	----	----	----
Endrin	72-20-8	0.05	mg/kg	----	<0.05	----	----	----
beta-Endosulfan	33213-65-9	0.05	mg/kg	----	<0.05	----	----	----
^ Endosulfan (sum)	115-29-7	0.05	mg/kg	----	<0.05	----	----	----
4.4`-DDD	72-54-8	0.05	mg/kg	----	<0.05	----	----	----
Endrin aldehyde	7421-93-4	0.05	mg/kg	----	<0.05	----	----	----
Endosulfan sulfate	1031-07-8	0.05	mg/kg	----	<0.05	----	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	BT4	BT5	----	----	----
			Sampling date / time	18-Oct-2021 00:00	21-Oct-2021 00:00	----	----	----
Compound	CAS Number	LOR	Unit	ES2139759-001	ES2139759-002	--------	--------	--------
				Result	Result	----	----	----
EP068A: Organochlorine Pesticides (OC) - Continued								
4.4`-DDT	50-29-3	0.2	mg/kg	----	<0.2	----	----	----
Endrin ketone	53494-70-5	0.05	mg/kg	----	<0.05	----	----	----
Methoxychlor	72-43-5	0.2	mg/kg	----	<0.2	----	----	----
^ **Sum of Aldrin + Dieldrin**	309-00-2/60-57-1	0.05	mg/kg	----	<0.05	----	----	----
^ **Sum of DDD + DDE + DDT**	72-54-8/72-55-9/50-2	0.05	mg/kg	----	<0.05	----	----	----
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons								
Naphthalene	91-20-3	0.5	mg/kg	<0.5	----	----	----	----
Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	----	----	----	----
Acenaphthene	83-32-9	0.5	mg/kg	<0.5	----	----	----	----
Fluorene	86-73-7	0.5	mg/kg	<0.5	----	----	----	----
Phenanthrene	85-01-8	0.5	mg/kg	<0.5	----	----	----	----
Anthracene	120-12-7	0.5	mg/kg	<0.5	----	----	----	----
Fluoranthene	206-44-0	0.5	mg/kg	<0.5	----	----	----	----
Pyrene	129-00-0	0.5	mg/kg	<0.5	----	----	----	----
Benz(a)anthracene	56-55-3	0.5	mg/kg	<0.5	----	----	----	----
Chrysene	218-01-9	0.5	mg/kg	<0.5	----	----	----	----
Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg	<0.5	----	----	----	----
Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	<0.5	----	----	----	----
Benzo(a)pyrene	50-32-8	0.5	mg/kg	<0.5	----	----	----	----
Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	<0.5	----	----	----	----
Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	<0.5	----	----	----	----
Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	<0.5	----	----	----	----
^ **Sum of polycyclic aromatic hydrocarbons**	----	0.5	mg/kg	<0.5	----	----	----	----
^ **Benzo(a)pyrene TEQ (zero)**	----	0.5	mg/kg	<0.5	----	----	----	----
^ **Benzo(a)pyrene TEQ (half LOR)**	----	0.5	mg/kg	**0.6**	----	----	----	----
^ **Benzo(a)pyrene TEQ (LOR)**	----	0.5	mg/kg	**1.2**	----	----	----	----
EP080/071: Total Petroleum Hydrocarbons								
C6 - C9 Fraction	----	10	mg/kg	<10	----	----	----	----
C10 - C14 Fraction	----	50	mg/kg	<50	----	----	----	----
C15 - C28 Fraction	----	100	mg/kg	<100	----	----	----	----
C29 - C36 Fraction	----	100	mg/kg	<100	----	----	----	----
^ **C10 - C36 Fraction (sum)**	----	50	mg/kg	<50	----	----	----	----
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions								

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	BT4	BT5	----	----	----
			Sampling date / time	18-Oct-2021 00:00	21-Oct-2021 00:00	----	----	----
Compound	CAS Number	LOR	Unit	ES2139759-001	ES2139759-002	--------	--------	--------
				Result	Result	----	----	----
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions - Continued								
C6 - C10 Fraction	C6_C10	10	mg/kg	<10	----	----	----	----
^ C6 - C10 Fraction minus BTEX (F1)	C6_C10-BTEX	10	mg/kg	<10	----	----	----	----
>C10 - C16 Fraction	----	50	mg/kg	<50	----	----	----	----
>C16 - C34 Fraction	----	100	mg/kg	<100	----	----	----	----
>C34 - C40 Fraction	----	100	mg/kg	<100	----	----	----	----
^ >C10 - C40 Fraction (sum)	----	50	mg/kg	<50	----	----	----	----
^ >C10 - C16 Fraction minus Naphthalene (F2)	----	50	mg/kg	<50	----	----	----	----
EP080: BTEXN								
Benzene	71-43-2	0.2	mg/kg	<0.2	----	----	----	----
Toluene	108-88-3	0.5	mg/kg	<0.5	----	----	----	----
Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	----	----	----	----
meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	----	----	----	----
ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	----	----	----	----
^ Sum of BTEX	----	0.2	mg/kg	<0.2	----	----	----	----
^ Total Xylenes	----	0.5	mg/kg	<0.5	----	----	----	----
Naphthalene	91-20-3	1	mg/kg	<1	----	----	----	----
EP066S: PCB Surrogate								
Decachlorobiphenyl	2051-24-3	0.1	%	----	122	----	----	----
EP068S: Organochlorine Pesticide Surrogate								
Dibromo-DDE	21655-73-2	0.05	%	----	99.2	----	----	----
EP068T: Organophosphorus Pesticide Surrogate								
DEF	78-48-8	0.05	%	----	75.4	----	----	----
EP075(SIM)S: Phenolic Compound Surrogates								
Phenol-d6	13127-88-3	0.5	%	94.6	----	----	----	----
2-Chlorophenol-D4	93951-73-6	0.5	%	89.2	----	----	----	----
2.4.6-Tribromophenol	118-79-6	0.5	%	63.5	----	----	----	----
EP075(SIM)T: PAH Surrogates								
2-Fluorobiphenyl	321-60-8	0.5	%	106	----	----	----	----
Anthracene-d10	1719-06-8	0.5	%	110	----	----	----	----
4-Terphenyl-d14	1718-51-0	0.5	%	95.6	----	----	----	----
EP080S: TPH(V)/BTEX Surrogates								
1.2-Dichloroethane-D4	17060-07-0	0.2	%	95.4	----	----	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	BT4	BT5	----	----	----
				Sampling date / time	18-Oct-2021 00:00	21-Oct-2021 00:00	----	----	----
Compound	CAS Number	LOR	Unit		ES2139759-001	ES2139759-002	--------	--------	--------
					Result	Result	----	----	----
EP080S: TPH(V)/BTEX Surrogates - Continued									
Toluene-D8	2037-26-5	0.2	%		**103**	----	----	----	----
4-Bromofluorobenzene	460-00-4	0.2	%		**95.9**	----	----	----	----

Surrogate Control Limits

Sub-Matrix: **SOIL**

Compound	CAS Number	Recovery Limits (%) Low	High
EP066S: PCB Surrogate			
Decachlorobiphenyl	2051-24-3	39	149
EP068S: Organochlorine Pesticide Surrogate			
Dibromo-DDE	21655-73-2	49	147
EP068T: Organophosphorus Pesticide Surrogate			
DEF	78-48-8	35	143
EP075(SIM)S: Phenolic Compound Surrogates			
Phenol-d6	13127-88-3	63	123
2-Chlorophenol-D4	93951-73-6	66	122
2.4.6-Tribromophenol	118-79-6	40	138
EP075(SIM)T: PAH Surrogates			
2-Fluorobiphenyl	321-60-8	70	122
Anthracene-d10	1719-06-8	66	128
4-Terphenyl-d14	1718-51-0	65	129
EP080S: TPH(V)/BTEX Surrogates			
1.2-Dichloroethane-D4	17060-07-0	73	133
Toluene-D8	2037-26-5	74	132
4-Bromofluorobenzene	460-00-4	72	130

COPY

CHAIN OF CUSTODY RECORD

ABN 50 005 085 521

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

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

Company	ALLIANCE GEOTECHNICAL	Project №	13546	Project Manager	Jacob W
Address	10 WELDER ROAD, SEVEN HILLS NSW	Project Name	Kemps Creek	EDD Format (ESdat, EQuIS, Custom)	
Contact Name	Sam J				
Phone №	430214402				
Special Directions					
Purchase Order					
Quote ID №					

Sampler(s)	SJ	
Handed over by		
Email for Invoice	admin@allgeo.com.au	
Email for Results	samjones@allgeo.com.au, enviro@allgeo.com.au, & jacob.walker@allgeo.com.au	

Analyses (Note: Where metals are required, please specify Total or Filtered. If not, soils will be assumed to be Total and waters Filtered)

Containers

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

☐ Overnight (9am)* ☐ 1 Day* ☐ 2 Day* ☐ 3 Day* ☐ [redacted] ☐ Other ( )

№	Client Sample ID	Sampled Date/Time (dd/mm/yy hh:mm)	Matrix (Solid (S) Water (W))	Suite B7: TRH, BTEXN, PAH, Metals	Suite B13: OCP, PCB	EC and pH	L2 Aggressivity Suite	Suite BH490: Total N, TKN, NOX, NO2, NO3, NH3, Total P	E.Coli and total coliforms - thermotolerant	TRH & BTEX	VOC	HOLD	1L Plastic	250mL Plastic	125mL Amber Glass	200mL Amber Glass	40mL VOA vial	500mL PFAS Bottle	Jar (Glass or HDPE)	Other / Acetone AS1961 WA Guidelines	Sample Comments / Dangerous Goods Hazard Warning
1	DW13	15/10/21	S									X							X		
2	DW14	15/10/21	S									X							X		
3	DW15	15/10/21	S									X							X		
4	DW16	15/10/21	S									X							X		
5	SW09	15/10/21	W	X	X										X	X	X				
6	SW10	15/10/21	W	X	X										X	X	X				
7	DS11	15/10/21	S	X															X		
8	DS12	15/10/21	S	X															X		
9	TP50 0.0-0.1	15/10/21	S	X	X														X		
10	TP50 0.5-0.6	15/10/21	S									X							X		
11	TP51 0.0-0.1	15/10/21	S	X	X														X		
12	TP51 1.0-1.1	15/10/21	S									X							X		
13	TP51 2.0-2.1	15/10/21	S									X							X		
14	TP51 2.3-2.4	15/10/21	S									X							X		
15	TP52 0.0-0.1	15/10/21	S	X	X	X													X		
16	TP52 0.5-0.6	15/10/21	S			X													X		
17	TP52 1.0-1.1	15/10/21	S			X													X		
18	TP52 1.5-1.6	15/10/21	S			X													X		
19	TP52 2.0-2.1	15/10/21	S			X													X		
20	TP52 2.5-2.6	15/10/21	S			X	X												X		
21	TP53 0.0-0.1	15/10/21	S	X	X														X		
22	TP53 0.3-0.4	15/10/21	S									X							X		
	Total Counts			8	6	6	1					9			2	2	2		20		

Environmental Division Sydney
Work Order Reference
ES2139759

Telephone : +61-2-8784 8555

Method of Shipment							
☑ Courier (#)	☐ Hand Delivered	☐ Postal	Name	SJ	Signature	Date	22/10/2021	Time

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.

CHAIN OF CUSTODY RECORD

ABN 50 005 085 521

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

Company	ALLIANCE GEOTECHNICAL	Project №	13546
Address	10 WELDER ROAD, SEVEN HILLS NSW	Project Name	Kemps Creek
Contact Name	Sam J	Project Manager	Jacob W
Phone №	430214402	EDD Format (ESdat, EQuIS, Custom)	
Special Directions		Sampler(s)	SJ
Purchase Order		Handed over by	
Quote ID №		Email for Invoice	admin@allgeo.com.au
		Email for Results	samjones@allgeo.com.au, enviro@allgeo.com.au, & jacob.walker@allgeo.com.au

Analyses (Note where metals are required, please specify Total or Filtered; SUITE code must be used to attract SUITE pricing)

Containers

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

☐ Overnight (9am)* ☐ 1 Day* ☐ 2 Day* ☐ 3 Day* ☐ [redacted] ☐ Other ( )

№	Client Sample ID	Sampled Date/Time (dd/mm/yy hh:mm)	Matrix (Solid (S) Water (W))	TRH/BTEX, 8 Heavy Metals	Suite B7: TRH, BTEXN, PAH, Metals	Suite B13: OCP, PCB	EC and pH	L2 Aggressivity Suite	Suite BH19D: Total N, TKN, NOX, NO2, NO3, NH3, Total P	E.Coli and total coliforms - thermotolerant	TRH & BTEX	VOC	HOLD						1L Plastic	250mL Plastic	125mL Plastic	250mL Amber Glass	40mL VOA vial	500mL PFAS Bottle	Jar (Glass or HDPE) (Check Asbestos AS4964 WA Guidelines)	Sample Comments / Dangerous Goods Hazard Warning
23	TP54 0.0-0.1	15/10/21	S		X	X																			X	
24	TP54 1.0-1.1	15/10/21	S										X												X	
25	TP54 2.0-2.1	15/10/21	S										X												X	
26	TP54 2.4-2.5	15/10/21	S										X												X	
27	DW17	15/10/21	S										X												X	
28	DW18	15/10/21	S										X												X	
29	DW19	15/10/21	S										X												X	
30	DS13	18/10/21	S		X																				X	
31	DS14	18/10/21	S		X																				X	
32	SW11	18/10/21	w		X	X															X	X	X			
33	SW12	18/10/21	w		X	X															X	X	X			
34	TP61 0.0-0.1	18/10/21	S	X																					X	
35	TP61 0.5-0.6	18/10/21	S										X												X	
36	TP61 1.0-1.1	18/10/21	S										X												X	
37	TP62 0.0-0.1	18/10/21	S	X			X																		X	
38	TP62 0.5-0.6	18/10/21	S				X																		X	
39	TP62 1.0-1.1	18/10/21	S				X																		X	
40	TP62 1.5-1.6	18/10/21	S				X	X																	X	
41	TP62 2.0-2.1	18/10/21	S				X																		X	
42	TP62 2.5-2.6	18/10/21	S				X																		X	
43	TP63 0.0-0.1	18/10/21	S	X																					X	
44	TP63 0.5-0.6	18/10/21	S										X												X	
		Total Counts		3	5	3	6	1					9							2	2	2		20		

Method of Shipment						
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CHAIN OF CUSTODY RECORD

ABN 50 005 085 521

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

Company	ALLIANCE GEOTECHNICAL	Project №	13546	Project Manager	Jacob W	Sampler(s)	SJ
Address	10 WELDER ROAD, SEVEN HILLS NSW	Project Name	Kemps Creek	EDD Format (ESdat, EQuIS, Custom)		Handed over by	
Contact Name	Sam J					Email for Invoice	admin@allgeo.com.au
Phone №	430214402					Email for Results	samjones@allgeo.com.au, enviro@allgeo.com.au, & jacob.walker@allgeo.com.au
Special Directions							
Purchase Order							
Quote ID №							

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

Turnaround Time (TAT) Requirements (Default will be 5 days if not ticked): ☐ Overnight (9am)* ☐ 1 Day* ☐ 2 Day* ☐ 3 Day* ☐ [redacted] ☐ Other ( )

№	Client Sample ID	Sampled Date/Time (dd/mm/yy hh:mm)	Matrix (Solid (S) Water (W))	Chromium, Arsenic, Copper	Suite B7: TRH, BTEXN, PAH, Metals	Suite B13: OCP, PCB	EC and pH	L2 Aggressivity Suite	Suite BH19D: Total N, TKN, NOX, NO2, NO3, NH3, Total P	E.Coli and total coliforms - thermotolerant	TRH & BTEX	VOC	HOLD	1L Plastic	250mL Plastic	125mL Plastic	200mL Amber Glass	40mL VOA vial	500mL PFAS Bottle	Jar (Glass or HDPE)	Other (Asbestos AS4964, WA Guidelines)	Sample Comments / Dangerous Goods Hazard Warning
45	TP63 1.0-1.1	18/10/21	s										x							X		
46	TP64 0.0-0.1	18/10/21	s	x																X		
47	TP64 1.0-1.1	18/10/21	s										x							X		
48	TP64 1.5-1.6	18/10/21	s										x							X		
49	TP65 0.0-0.1	18/10/21	s	x																X		
50	TP65 1.0-1.1	18/10/21	s										x							X		
51	TP65 2.0-2.1	18/10/21	s										x							X		
52	TP66 0.0-0.1	18/10/21	s	x																X		
53	TP66 0.6-0.7	18/10/21	s										x							X		
54	BD4	18/10/21	s		x															X		
55	BT4	18/10/21	s		x															X		Please forward to ALS
56	SP3-1	18/10/21	s		x	x														X		
57	SP3-2	18/10/21	s		x	x														X		
58	PP9	18/10/21	s	x																X		
59	DR15 0.0-0.1	18/10/21	s		x															X		
60	DR15 0.4-0.5	18/10/21	s										x							X		
61	PP1	18/10/21	s	x																X		
62	PP10	18/10/21	s	x																X		
63	PP11	18/10/21	s	x																X		
64	PP12	18/10/21	s	x																X		
65	SW13	18/10/21	w		x	x										X	X	X				
66	SW14	18/10/21	w		x	x										X	X	X				
		Total Counts		8	7	4							7			2	2	2		20		

Method of Shipment	☑ Courier (#)	☐ Hand Delivered	☐ Postal	Name	SJ	Signature		Date 22/10/2021	Time

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Company	ALLIANCE GEOTECHNICAL	Project №	13546	Project Manager	Jacob W
Address	10 WELDER ROAD, SEVEN HILLS NSW	Project Name	Kemps Creek	EDD Format (ESdat, EQuIS, Custom)	
Contact Name	Sam J			Sampler(s)	SJ
Phone №	430214402			Handed over by	
Special Directions				Email for Invoice	admin@allgeo.com.au
Purchase Order				Email for Results	samjones@allgeo.com.au, enviro@allgeo.com.au, & jacob.walker@allgeo.com.au
Quote ID №					

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

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☐ Overnight (9am)* ☐ 1 Day* ☐ 2 Day* ☐ 3 Day* [redacted] ☐ Other ( )

№	Client Sample ID	Sampled Date/Time (dd/mm/yy hh:mm)	Matrix (Solid (S) Water (W))	TRH/BTEXN, 8 HM	Suite B7: TRH, BTEXN, PAH, Metals	Suite B13: OCP, PCB	EC and pH	L2 Aggressivity Suite	Suite BH19D: Total N, TKN, NOX, NO2, NO3, NH3, Total P	E.Coli and total coliforms - thermotolerant	TRH & BTEX	VOC	HOLD	1L Plastic	250mL Plastic	125mL Plastic	200mL Amber Glass	40mL VOA vial	500mL PFAS Bottle	Jar (Glass or HDPE)	Other (Asbestos AS4964, WA Guidelines)	Sample Comments / Dangerous Goods Hazard Warning
67	DS15	18/10/21	S		X															X		
68	DS16	18/10/21	S		X															X		
69	DW20	18/10/21	S										X							X		
70	DW21	18/10/21	S										X							X		
71	TP141 0.0-0.1	18/10/21	S		X	X														X		
72	TP141 0.5-0.6	18/10/21	S										X							X		
73	TP141 1.5-1.6	18/10/21	S										X							X		
74	TP142 0.0-0.1	18/10/21	S										X							X		
75	TP142 0.5-0.6	18/10/21	S		X	X														X		
76	TP142 1.5-1.6	18/10/21	S										X							X		
77	DR16 0.0-0.1	19/10/21	S		X															X		
78	DR16 1.0-1.1	19/10/21	S										X							X		
79	DR16 2.0-2.1	19/10/21	S										X							X		
80	DR17 0.0-0.1	19/10/21	S		X															X		
81	DR17 1.0-1.1	19/10/21	S										X							X		
82	TP70 0.0-0.1	19/10/21	S	X								X								X		
83	TP70 0.3-0.4	19/10/21	S										X							X		
84	TP71 0.0-0.1	19/10/21	S	X								X								X		
85	TP71 0.3-0.4	19/10/21	S										X							X		
86	SW15	19/10/21	w		X	X										X	X	X				
87	SW16	19/10/21	w		X	X										X	X	X				
88	DS17	19/10/21	S		X															X		
			Total Counts	2	9	4						2	11			2	2	2		20		

Method of Shipment	☑ Courier (#)	☐ Hand Delivered	☐ Postal	Name	SJ	Signature	(signed)	Date	22/10/2021	Time

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Company	ALLIANCE GEOTECHNICAL	Project №	13546	Project Manager	Jacob W	Sampler(s)	SJ
Address	10 WELDER ROAD, SEVEN HILLS NSW	Project Name	Kemps Creek	EDD Format (ESdat, EQuIS, Custom)		Handed over by	
Contact Name	Sam J					Email for Invoice	admin@allgeo.com.au
Phone №	430214402					Email for Results	samjones@allgeo.com.au, enviro@allgeo.com.au, & jacob.walker@allgeo.com.au
Special Directions							
Purchase Order							
Quote ID №							

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), Other (Asbestos AS4564 WA Guidelines)

Turnaround Time (TAT) Requirements (Default will be 5 days if not ticked): ☐ Overnight (9am)* ☐ 1 Day* ☐ 2 Day* ☐ 3 Day* ☐ [redacted] ☐ Other ( )

Sample Comments / Dangerous Goods Hazard Warning

№	Client Sample ID	Sampled Date/Time (dd/mm/yy hh:mm)	Matrix (Solid (S) Water (W))	OCP, 8 Heavy Metlas	Suite B7: TRH, BTEXN, PAH, Metals	Suite B13: OCP, PCB	EC and pH	L2 Aggressivity Suite	Suite BH19D: Total N, TKN, NOX, NO2, NO3, NH3, Total P	E.Coli and total coliforms - thermotolerant	TRH & BTEX	VOC	HOLD	Jar (Glass or HDPE)
89	DS18	19/10/21	S		X									X
90	DW22	19/10/21	S		X	X								X
91	DW23	19/10/21	S		X	X								X
92	TP78 0.0-0.1	19/10/21	S	X										X
93	TP79 0.0-0.1	19/10/21	S										X	X
94	TP80 0.0-0.1	19/10/21	S	X										X
95	TP81 0.0-0.1	19/10/21	S										X	X
96	TP82 0.0-0.1	19/10/21	S	X										X
97	TP83 0.0-0.1	19/10/21	S										X	X
98	TP84 0.0-0.1	19/10/21	S	X										X
99	TP85 0.0-0.1	19/10/21	S										X	X
100	TP86 0.0-0.1	19/10/21	S	X			X							X
101	TP87 0.0-0.1	19/10/21	S										X	X
102	TP88 0.0-0.1	19/10/21	S	X										X
103	TP89 0.0-0.1	19/10/21	S										X	X
104	TP90 0.0-0.1	19/10/21	S	X										X
105	TP91 0.0-0.1	19/10/21	S										X	X
106	TP92 0.0-0.1	19/10/21	S	X										X
107	TP93 0.0-0.1	19/10/21	S										X	X
108	TP94 0.0-0.1	19/10/21	S	X										X
109	TP95 0.0-0.1	19/10/21	S		X	X								X
110	TP96 0.0-0.1	20/10/21	S	X										X
	Total Counts			10	4	3	1						8	22

Method of Shipment	☑ Courier (#)	☐ Hand Delivered	☐ Postal	Name	SJ	Signature	[signature]	Date	22/10/2021	Time

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Company	ALLIANCE GEOTECHNICAL	Project №	13546	Project Manager	Jacob W
Address	10 WELDER ROAD, SEVEN HILLS NSW	Project Name	Kemps Creek	EDD Format (ESdat, EQuIS, Custom)	
Contact Name	Sam J			Sampler(s)	SJ
Phone №	430214402			Handed over by	
Special Directions				Email for Invoice	admin@allgeo.com.au
Purchase Order				Email for Results	samjones@allgeo.com.au, enviro@allgeo.com.au, & jacob.walker@allgeo.com.au
Quote ID №					

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111	TP97 0.0-0.1	20/10/21	s										x
112	TP98 0.0-0.1	20/10/21	s	x									
113	TP99 0.0-0.1	20/10/21	s										x
114	TP100 0.0-0.1	20/10/21	s	x									
115	TP101 0.0-0.1	20/10/21	s				x						x
116	TP102 0.0-0.1	20/10/21	s	x									
117	TP103 0.0-0.1	20/10/21	s										x
118	TP104 0.0-0.1	20/10/21	s	x									
119	TP105 0.0-0.1	20/10/21	s										x
120	TP106 0.0-0.1	20/10/21	s	x									
121	TP107 0.0-0.1	20/10/21	s										x
122	TP108 0.0-0.1	20/10/21	s	x									
123	TP109 0.0-0.1	20/10/21	s										x
124	TP110 0.0-0.1	20/10/21	s	x									
125	TP111 0.0-0.1	20/10/21	s										x
126	TP112 0.0-0.1	20/10/21	s	x									
127	TP113 0.0-0.1	20/10/21	s										x
128	TP114 0.0-0.1	20/10/21	s	x									
129	TP115 0.0-0.1	20/10/21	s										x
130	TP116 0.0-0.1	20/10/21	s	x									
131	TP117 0.0-0.1	20/10/21	s										x
132	TP118 0.0-0.1	20/10/21	s	x									
			Total Counts	11			1						11

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

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

☐ Overnight (9am)*
☐ 1 Day* ☐ 2 Day*
☐ 3 Day* [redacted]
☐ Other ( )

Sample Comments / Dangerous Goods Hazard Warning

Method of Shipment: ☑ Courier (#) ☐ Hand Delivered ☐ Postal | Name: SJ | Signature: [signature] | Date: 22/10/2021 | Time:

CHAIN OF CUSTODY RECORD

ABN 50 005 085 521

☑ **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	ALLIANCE GEOTECHNICAL
Address	10 WELDER ROAD, SEVEN HILLS NSW
Contact Name	Sam J
Phone №	430214402
Special Directions	
Purchase Order	
Quote ID №	
Project №	13546
Project Name	Kemps Creek
Project Manager	Jacob W
EDD Format (ESdat, EQuIS, Custom)	
Sampler(s)	SJ
Handed over by	
Email for Invoice	admin@allgeo.com.au
Email for Results	samjones@allgeo.com.au, enviro@allgeo.com.au, & jacob.walker@allgeo.com.au

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); Other (Asbestos AS4964 WA Guidelines)

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

№	Client Sample ID	Sampled Date/Time (dd/mm/yy hh:mm)	Matrix (Solid (S) Water (W))	OCP, 8 Heavy Metlas	Suite B7: TRH, BTEXN, PAH, Metals	Suite B13: OCP, PCB	EC and pH	L2 Aggressivity Suite	Suite BH19D: Total N, TKN, NOX, NO2, NO3, NH3, Total P	E.Coli and total coliforms - thermotolerant	TRH & BTEX	VOC	HOLD	Jar (Glass or HDPE)	Sample Comments / Dangerous Goods Hazard Warning
133	TP119 0.0-0.1	20/10/21	s										x	X	
134	TP120 0.0-0.1	20/10/21	s		x	x	x							X	
135	TP121 0.0-0.1	20/10/21	s										x	X	
136	TP122 0.0-0.1	20/10/21	s	x										X	
137	TP123 0.0-0.1	20/10/21	s										x	X	
138	TP124 0.0-0.1	20/10/21	s	x										X	
139	TP125 0.0-0.1	20/10/21	s		x	x								X	
140	TP126 0.0-0.1	20/10/21	s	x										X	
141	TP127 0.0-0.1	21/10/21	s										x	X	
142	TP128 0.0-0.1	21/10/21	s	x										X	
143	TP129 0.0-0.1	21/10/21	s										x	X	
144	TP130 0.0-0.1	21/10/21	s	x			x							X	
145	TP131 0.0-0.1	21/10/21	s										x	X	
146	TP132 0.0-0.1	21/10/21	s	x										X	
147	TP133 0.0-0.1	21/10/21	s										x	X	
148	TP134 0.0-0.1	21/10/21	s	x										X	
149	TP135 0.0-0.1	21/10/21	s										x	X	
150	TP136 0.0-0.1	21/10/21	s	x										X	
151	TP137 0.0-0.1	21/10/21	s				x						x	X	
152	TP138 0.0-0.1	21/10/21	s	x										X	
153	TP139 0.0-0.1	21/10/21	s										x	X	
154	TP78 0.2-0.3	19/10/21	S										x	X	
			Total Counts	9	2	2	3						11	22	

Method of Shipment	☑ Courier (#) ☐ Hand Delivered ☐ Postal	Name: SJ	Signature: [signature]
Date	22/10/2021	Time	

CHAIN OF CUSTODY RECORD

ABN 50 005 085 521

☑ 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	ALLIANCE GEOTECHNICAL	Project №	13546
Address	10 WELDER ROAD, SEVEN HILLS NSW	Project Name	Kemps Creek
Contact Name	Sam J	Project Manager	Jacob W
Phone №	430214402	EDD Format (ESdat, EQuIS, Custom)	
Special Directions		Sampler(s)	SJ
Purchase Order		Handed over by	
Quote ID №		Email for Invoice	admin@allgeo.com.au
		Email for Results	samjones@allgeo.com.au, enviro@allgeo.com.au, & jacob.walker@allgeo.com.au

Analyses (Where metals are required please specify Total or Filtered | SUITE code must be used to attract SUITE pricing)

Containers

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

☐ Overnight (9am)* ☐ 1 Day* ☐ 2 Day* ☐ 3 Day* ☐ [redacted] * [redacted] ☐ Other ( )

№	Client Sample ID	Sampled Date/Time (dd/mm/yy hh:mm)	Matrix (Solid (S) Water (W))	OCP, 8 Heavy Metlas	Suite B7: TRH, BTEXN, PAH, Metals	Suite B13: OCP, PCB	EC and pH	L2 Aggressivity Suite	Suite BH19D: Total N, TKN, NOX, NO2, NO3, NH3, Total P	E.Coli and total coliforms - thermotolerant	TRH & BTEX	VOC	HOLD						1L Plastic	250mL Plastic	125mL Plastic	200mL Amber Glass	40mL VOA vial	500mL PFAS Bottle	Jar (Glass or HDPE)	Other (Please Assesse AS1964 WA Guidelines)	Sample Comments / Dangerous Goods Hazard Warning
155	TP79 0.2-0.3	19/10/21	s										X												X		
156	TP80 0.2-0.3	19/10/21	s										X												X		
157	TP81 0.2-0.3	19/10/21	s										X												X		
158	TP82 0.2-0.3	19/10/21	s										X												X		
159	TP83 0.2-0.3	19/10/21	s										X												X		
160	TP84 0.2-0.3	19/10/21	s										X												X		
161	TP85 0.2-0.3	19/10/21	s										X												X		
162	TP86 0.5-0.6	19/10/21	s				X	X																	X		
163	TP87 0.2-0.3	19/10/21	s										X												X		
164	TP88 0.2-0.3	19/10/21	s										X												X		
165	TP89 0.2-0.3	19/10/21	s										X												X		
166	TP90 0.2-0.3	19/10/21	s										X												X		
167	TP91 0.2-0.3	19/10/21	s										X												X		
168	TP92 0.2-0.3	19/10/21	s										X												X		
169	TP93 0.2-0.3	19/10/21	s										X												X		
170	TP94 0.2-0.3	19/10/21	s										X												X		
171	TP95 0.2-0.3	19/10/21	s										X												X		
172	TP96 0.2-0.3	20/10/21	s										X												X		
173	TP97 0.2-0.3	20/10/21	s										X												X		
174	TP98 0.2-0.3	20/10/21	s										X												X		
175	TP99 0.2-0.3	20/10/21	s										X												X		
176	TP100 0.2-0.3	20/10/21	s										X												X		
	Total Counts						1	1					21												22		

Method of Shipment	☑ Courier (#)	☐ Hand Delivered	☐ Postal	Name	SJ	Signature	Date 22/10/2021	Time

CHAIN OF CUSTODY RECORD

ABN 50 005 085 521

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02 9900 8400 EnviroSampleNSW@eurofins.com

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☐ Melbourne Laboratory
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03 8564 5000 EnviroSampleVic@eurofins.com

Company	ALLIANCE GEOTECHNICAL	Project №	13546
Address	10 WELDER ROAD, SEVEN HILLS NSW	Project Name	Kemps Creek
Contact Name	Sam J	Project Manager	Jacob W
Phone №	430214402	EDD Format (ESdat, EQuIS, Custom)	
Special Directions		Sampler(s)	SJ
Purchase Order		Handed over by	
Quote ID №		Email for Invoice	admin@allgeo.com.au
		Email for Results	samjones@allgeo.com.au, enviro@allgeo.com.au, & jacob.walker@allgeo.com.au

Analyses (Note: Where results are requested preferentially Total or Filtered, SUITE pricing may not be used to attract SUITE pricing)

Containers

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

☐ Overnight (9am)* ☐ 1 Day* ☐ 2 Day* ☐ 3 Day* ☐ [redacted] ☐ Other ( )

№	Client Sample ID	Sampled Date/Time (dd/mm/yy hh:mm)	Matrix (Solid (S) Water (W))	OCP, 8 Heavy Metlas	Suite B7: TRH, BTEXN, PAH, Metals	Suite B13: OCP, PCB	EC and pH	L2 Aggressivity Suite	Suite BH19D: Total N, TKN, NOX, NO2, NO3, NH3, Total P	E.Coli and total coliforms - thermotolerant	TRH & BTEX	VOC	HOLD						1L Plastic	250mL Plastic	125mL Amber Glass	200mL Amber Glass	40mL VOA vial	500mL PFAS Bottle	Jar (Glass or HDPE)	Combo Asbestos AS4964 (WA Guidelines)	Sample Comments / Dangerous Goods Hazard Warning
177	TP101 0.5-0.6	20/10/21	S				X																		X		
178	TP102 0.2-0.3	20/10/21	S										X												X		
179	TP103 0.2-0.3	20/10/21	S										X												X		
180	TP104 0.2-0.3	20/10/21	S										X												X		
181	TP105 0.2-0.3	20/10/21	S										X												X		
182	TP106 0.2-0.3	20/10/21	S										X												X		
183	TP107 0.2-0.3	20/10/21	S										X												X		
184	TP108 0.2-0.3	20/10/21	S										X												X		
185	TP109 0.2-0.3	20/10/21	S										X												X		
186	TP110 0.2-0.3	20/10/21	S										X												X		
187	TP111 0.2-0.3	20/10/21	S										X												X		
188	TP112 0.2-0.3	20/10/21	S										X												X		
189	TP113 0.2-0.3	20/10/21	S										X												X		
190	TP114 0.2-0.3	20/10/21	S										X												X		
191	TP115 0.2-0.3	20/10/21	S										X												X		
192	TP116 0.2-0.3	20/10/21	S										X												X		
193	TP117 0.2-0.3	20/10/21	S										X												X		
194	TP118 0.2-0.3	20/10/21	S										X												X		
195	TP119 0.2-0.3	20/10/21	S										X												X		
196	TP120 0.5-0.6	20/10/21	S			X																			X		
197	TP121 0.2-0.3	20/10/21	S										X												X		
198	TP122 0.2-0.3	20/10/21	S										X												X		
	Total Counts					1	1						20												22		

Method of Shipment	☑ Courier (#)	☐ Hand Delivered	☐ Postal	Name	SJ	Signature	Date 22/10/2021	Time

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.

CHAIN OF CUSTODY RECORD

ABN 50 005 085 521

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02 9900 8400 EnviroSampleNSW@eurofins.com

☐ Brisbane Laboratory
Unit 1, 21 Smallwood Pl., Murarrie, QLD 4172
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☐ Perth Laboratory
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☐ Melbourne Laboratory
2 Kingston Town Close, Oakleigh, VIC 3166
03 8564 5000 EnviroSampleVic@eurofins.com

Company	ALLIANCE GEOTECHNICAL	Project №	13546
Address	10 WELDER ROAD, SEVEN HILLS NSW	Project Name	Kemps Creek
Contact Name	Sam J	Project Manager	Jacob W
Phone №	430214402	EDD Format (ESdat, EQuIS, Custom)	
Special Directions		Sampler(s)	SJ
Purchase Order		Handed over by	
Quote ID №		Email for Invoice	admin@allgeo.com.au
		Email for Results	samjones@allgeo.com.au, enviro@allgeo.com.au, & jacob.walker@allgeo.com.au

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

Containers

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

☐ Overnight (9am)* ☐ 1 Day* ☐ 2 Day* ☐ 3 Day* ☐ [redacted] * S[redacted] ☐ Other ( )

№	Client Sample ID	Sampled Date/Time (dd/mm/yy hh:mm)	Matrix (Solid (S) Water (W))	OCP, 8 Heavy Metlas	Suite B7: TRH, BTEXN, PAH, Metals	Suite B13: OCP, PCB	EC and pH	L2 Aggressivity Suite	Suite BH19D: Total N, TKN, NOX, NO2, NO3, NH3, Total P	E.Coli and total coliforms - thermotolerant	TRH & BTEX	VOC	HOLD						1L Plastic	250mL Plastic	125mL Plastic	250mL Amber Glass	40mL VOA vial	500mL PFAS Bottle	Jar (Glass or HDPE)	Other: Asbestos AS4964 WA Guidelines	Sample Comments / Dangerous Goods Hazard Warning
199	TP123 0.2-0.3	20/10/21	s										X												X		
200	TP124 0.2-0.3	20/10/21	s										X												X		
201	TP125 0.2-0.3	20/10/21	s										X												X		
202	TP126 0.2-0.3	20/10/21	s										X												X		
203	TP127 0.2-0.3	21/10/21	s										X												X		
204	TP128 0.2-0.3	21/10/21	s										X												X		
205	TP129 0.2-0.3	21/10/21	s										X												X		
206	TP130 0.5-0.6	21/10/21	s				X																		X		
207	TP131 0.2-0.3	21/10/21	s										X												X		
208	TP132 0.2-0.3	21/10/21	s										X												X		
209	TP133 0.2-0.3	21/10/21	s										X												X		
210	TP134 0.2-0.3	21/10/21	s										X												X		
211	TP135 0.2-0.3	21/10/21	s										X												X		
212	TP136 0.2-0.3	21/10/21	s										X												X		
213	TP137 0.5-0.6	21/10/21	s				X																		X		
214	TP138 0.2-0.3	21/10/21	s										X												X		
215	TP139 0.2-0.3	21/10/21	s										X												X		
216	SW17	21/10/21	w		X	X														X	X	X					
217	SW18	21/10/21	w		X	X														X	X	X					
218	SW19	21/10/21	w		X	X																					
219	SW20	21/10/21	w		X	X																					
220	DS19	21/10/21	s		X																				X		
		Total Counts			5	4	2						15							2	2	2			18		

Method of Shipment							
☑ Courier (#)	☐ Hand Delivered	☐ Postal	Name	SJ	Signature	Date	22/10/2021	Time

CHAIN OF CUSTODY RECORD

ABN 50 005 085 521

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Company	ALLIANCE GEOTECHNICAL	Project №	13546	Project Manager	Jacob W
Address	10 WELDER ROAD, SEVEN HILLS NSW	Project Name	Kemps Creek	EDD Format (ESdat, EQuIS, Custom)	
Contact Name	Sam J				
Phone №	430214402				
Special Directions					
Purchase Order					
Quote ID №					

Sampler(s)	SJ
Handed over by	
Email for Invoice	admin@allgeo.com.au
Email for Results	samjones@allgeo.com.au, enviro@allgeo.com.au, & jacob.walker@allgeo.com.au

Analyses (Note: Where results are requested, please specify "Suite" or "Report" by SUITE code must be used to obtain SUITE analysis)

Containers

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

☐ Overnight (9am)* ☐ 1 Day* ☐ 2 Day* ☐ 3 Day* ☐ [redacted] ☐ Other ( )

Client Sample ID	Sampled Date/Time (dd/mm/yy hh:mm)	Matrix (Solid (S) Water (W))	Suite B7: TRH, BTEXN, PAH, Metals	Suite B13: OCP, PCB	EC and pH	L2 Aggressivity Suite	Suite BH19D: Total N, TKN, NOX, NO2, NO3, NH3, Total P	E.Coli and total coliforms - thermotolerant	BTEX	VOC	HOLD	1L Plastic	250mL Plastic	125mL Plastic	200mL Amber Glass	40mL VOA vial	500mL PFAS Bottle	Jar (Glass or HDPE)	Other (Asbestos AS4964, WA Guidelines)	Sample Comments / Dangerous Goods Hazard Warning
DS20	20/10/21	s	X															X		
DS21	20/10/21	s	X															X		
DS22	20/10/21	s	X															X		
DW24	20/10/21	s									X							X		
DW25	21/10/21	s									X							X		
DW26	21/10/21	s									X							X		
DW27	21/10/21	s									X							X		
DW28	21/10/21	s									X							X		
DW29	21/10/21	s									X							X		
Trip spike & blank x 5	15,18,19,20, & 21/10/2021	S							X							X				
BD5	21/10/21	s		X														X		
BT5	21/10/21	s		X														X		Please forward to ALS
TP86 1.0-1.1	19/10/21	s			X													X		
TP86 1.5-1.6	19/10/21	s			X													X		
TP86 2.0-2.1	19/10/21	s			X													X		
TP89 2.5-2.6	19/10/21	s			X													X		
TP101 1.0-1.1	20/10/21	s			X	X												X		
TP120 1.0-1.1	20/10/21	s			X													X		
TP120 1.5-1.6	20/10/21	s			X													X		
TP120 2.0-2.1	20/10/21	s			X													X		
TP120 2.5-2.6	20/10/21	s			X	X												X		
TP130 1.0-1.1	21/10/21	s			X													X		
		Total Counts	3	2	10	2			1		6					1		21		

Method of Shipment	☑ Courier (#) ☐ Hand Delivered	☐ Postal	Name	SJ	Signature	Date	22/10/2021	Time

Relinquished by | Received by | Date/Time | Temperature Upon Receipt | Custody Seal Intact

CHAIN OF CUSTODY RECORD

ABN 50 005 085 521

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Company	ALLIANCE GEOTECHNICAL	Project №	13546	Project Manager	Jacob W
Address	10 WELDER ROAD, SEVEN HILLS NSW	Project Name	Kemps Creek	EDD Format (ESdat, EQuIS, Custom)	
Contact Name	Sam J				
Phone №	430214402				
Special Directions					
Purchase Order					
Quote ID №					

Sampler(s)	SJ	
Handed over by		
Email for Invoice	admin@allgeo.com.au	
Email for Results	samjones@allgeo.com.au, enviro@allgeo.com.au, & jacob.walker@allgeo.com.au	

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

Containers

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☐ Overnight (9am)* ☐ 1 Day* ☐ 2 Day* ☐ 3 Day* ☐ [redacted] * S[redacted] ☐ Other ( )

Client Sample ID	Sampled Date/Time (dd/mm/yy hh:mm)	Matrix (Solid (S) Water (W))	Suite B7: TRH, BTEXN, PAH, Metals	Suite B13: OCP, PCB	EC and pH	L2 Aggressivity Suite	Suite BH19D; Total N, TKN, NOX, NO2, NO3, NH3, Total P	E.Coli and total coliforms - thermotolerant	BTEX	VOC	HOLD	1L Plastic	250mL Plastic	125mL Amber Glass	20mL VOA vial	500mL PFAS Bottle	Jar (Glass or HDPE)	Other (Asbestos AS4964 WA Guidelines)	Sample Comments / Dangerous Goods Hazard Warning
TP130 1.5-1.6	21/10/21	s			X	X											X		
TP130 2.0-2.1	21/10/21	s			X												X		
TP137 1.0-1.1	21/10/21	s			X												X		
TP137 1.5-1.6	21/10/21	s			X												X		
TP137 2.0-2.1	21/10/21	s			X												X		
TP137 2.5-2.6	21/10/21	s			X	X											X		
(3) BT4	20.10.21	S																	
Total Counts					6	2											6		

Method of Shipment	☑ Courier (#)	☐ Hand Delivered	☐ Postal	Name	SJ	Signature	Date 22/10/2021 Time
Laboratory Use Only	Received By:						
	Received By:						

ALS Environmental

QA/QC Compliance Assessment to assist with Quality Review

Work Order	: **ES2139759**	Page	: 1 of 5
Client	: **ALLIANCE GEOTECHNICAL**	Laboratory	: Environmental Division Sydney
Contact	: Jacob Walker	Telephone	: +61-2-8784 8555
Project	: 13546 - Kemps Creek	Date Samples Received	: 03-Nov-2021
Site	: ----	Issue Date	: 10-Nov-2021
Sampler	: SAM JONES	No. of samples received	: 3
Order number	: ----	No. of samples analysed	: 2

This report is automatically generated by the ALS LIMS through interpretation of the ALS Quality Control Report and several Quality Assurance parameters measured by ALS. This automated reporting highlights any non-conformances, facilitates faster and more accurate data validation and is designed to assist internal expert and external Auditor review. Many components of this report contribute to the overall DQO assessment and reporting for guideline compliance.

Brief method summaries and references are also provided to assist in traceability.

Summary of Outliers

Outliers : Quality Control Samples

This report highlights outliers flagged in the Quality Control (QC) Report.

- **NO Method Blank value outliers occur.**
- **NO Laboratory Control outliers occur.**
- **NO Matrix Spike outliers occur.**
- **Duplicate outliers exist - please see following pages for full details.**
- **For all regular sample matrices, NO surrogate recovery outliers occur.**

Outliers : Analysis Holding Time Compliance

- **Analysis Holding Time Outliers exist - please see following pages for full details.**

Outliers : Frequency of Quality Control Samples

- **NO Quality Control Sample Frequency Outliers exist.**

Outliers : Quality Control Samples

Duplicates, Method Blanks, Laboratory Control Samples and Matrix Spikes

Matrix: **SOIL**

Compound Group Name	Laboratory Sample ID	Client Sample ID	Analyte	CAS Number	Data	Limits	Comment
Duplicate (DUP) RPDs							
EG005(ED093)T: Total Metals by ICP-AES	ES2139655--001	Anonymous	**Zinc**	7440-66-6	55.0 %	0% - 20%	**RPD exceeds LOR based limits**
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons	ES2137769--001	Anonymous	**Phenanthrene**	85-01-8	41.3 %	0% - 20%	**RPD exceeds LOR based limits**
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons	ES2137769--001	Anonymous	**Fluoranthene**	206-44-0	38.1 %	0% - 20%	**RPD exceeds LOR based limits**
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons	ES2137769--001	Anonymous	**Pyrene**	129-00-0	37.1 %	0% - 20%	**RPD exceeds LOR based limits**
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons	ES2137769--001	Anonymous	**Sum of polycyclic aromatic hydrocarbons**	----	34.2 %	0% - 20%	**RPD exceeds LOR based limits**

Outliers : Analysis Holding Time Compliance

Matrix: **SOIL**

Method / Container / Client Sample ID(s)	Extraction / Preparation			Analysis		
	Date extracted	Due for extraction	Days overdue	Date analysed	Due for analysis	Days overdue
EA055: Moisture Content (Dried @ 105-110°C)						
Soil Glass Jar - Unpreserved BT4	----	----	----	05-Nov-2021	01-Nov-2021	**4**
Soil Glass Jar - Unpreserved BT5	----	----	----	05-Nov-2021	04-Nov-2021	**1**
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons						
Soil Glass Jar - Unpreserved BT4	05-Nov-2021	01-Nov-2021	**4**	----	----	----
EP080/071: Total Petroleum Hydrocarbons						
Soil Glass Jar - Unpreserved BT4	05-Nov-2021	01-Nov-2021	**4**	08-Nov-2021	01-Nov-2021	**7**
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions						
Soil Glass Jar - Unpreserved BT4	05-Nov-2021	01-Nov-2021	**4**	08-Nov-2021	01-Nov-2021	**7**
EP080: BTEXN						
Soil Glass Jar - Unpreserved BT4	05-Nov-2021	01-Nov-2021	**4**	08-Nov-2021	01-Nov-2021	**7**

Analysis Holding Time Compliance

If samples are identified below as having been analysed or extracted outside of recommended holding times, this should be taken into consideration when interpreting results.

This report summarizes extraction / preparation and analysis times and compares each with ALS recommended holding times (referencing USEPA SW 846, APHA, AS and NEPM) based on the sample container provided. Dates reported represent first date of extraction or analysis and preclude subsequent dilutions and reruns. A listing of breaches (if any) is provided herein.

Holding time for leachate methods (e.g. TCLP) vary according to the analytes reported. Assessment compares the leach date with the shortest analyte holding time for the equivalent soil method. These are: organics 14 days, mercury 28 days & other metals 180 days. A recorded breach does not guarantee a breach for all non-volatile parameters.

Holding times for ***VOC in soils*** vary according to analytes of interest. Vinyl Chloride and Styrene holding time is 7 days; others 14 days. A recorded breach does not guarantee a breach for all VOC analytes and should be verified in case the reported breach is a false positive or Vinyl Chloride and Styrene are not key analytes of interest/concern.

Matrix: **SOIL**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EA055: Moisture Content (Dried @ 105-110°C)							
Soil Glass Jar - Unpreserved (EA055) BT4	**18-Oct-2021**	**----**	----	----	**05-Nov-2021**	01-Nov-2021	×
Soil Glass Jar - Unpreserved (EA055) BT5	**21-Oct-2021**	**----**	----	----	**05-Nov-2021**	04-Nov-2021	×
EG005(ED093)T: Total Metals by ICP-AES							
Soil Glass Jar - Unpreserved (EG005T) BT4	**18-Oct-2021**	**08-Nov-2021**	16-Apr-2022	✓	**08-Nov-2021**	16-Apr-2022	✓
EG035T: Total Recoverable Mercury by FIMS							
Soil Glass Jar - Unpreserved (EG035T) BT4	**18-Oct-2021**	**08-Nov-2021**	15-Nov-2021	✓	**09-Nov-2021**	15-Nov-2021	✓
EP066: Polychlorinated Biphenyls (PCB)							
Soil Glass Jar - Unpreserved (EP066) BT5	**21-Oct-2021**	**04-Nov-2021**	04-Nov-2021	✓	**05-Nov-2021**	14-Dec-2021	✓
EP068A: Organochlorine Pesticides (OC)							
Soil Glass Jar - Unpreserved (EP068) BT5	**21-Oct-2021**	**04-Nov-2021**	04-Nov-2021	✓	**05-Nov-2021**	14-Dec-2021	✓
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons							
Soil Glass Jar - Unpreserved (EP075(SIM)) BT4	**18-Oct-2021**	**05-Nov-2021**	01-Nov-2021	×	**08-Nov-2021**	15-Dec-2021	✓
EP080/071: Total Petroleum Hydrocarbons							
Soil Glass Jar - Unpreserved (EP071) BT4	**18-Oct-2021**	**05-Nov-2021**	01-Nov-2021	×	**08-Nov-2021**	15-Dec-2021	✓
Soil Glass Jar - Unpreserved (EP080) BT4	**18-Oct-2021**	**05-Nov-2021**	01-Nov-2021	×	**08-Nov-2021**	01-Nov-2021	×
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions							
Soil Glass Jar - Unpreserved (EP071) BT4	**18-Oct-2021**	**05-Nov-2021**	01-Nov-2021	×	**08-Nov-2021**	15-Dec-2021	✓
Soil Glass Jar - Unpreserved (EP080) BT4	**18-Oct-2021**	**05-Nov-2021**	01-Nov-2021	×	**08-Nov-2021**	01-Nov-2021	×
EP080: BTEXN							
Soil Glass Jar - Unpreserved (EP080) BT4	**18-Oct-2021**	**05-Nov-2021**	01-Nov-2021	×	**08-Nov-2021**	01-Nov-2021	×

Quality Control Parameter Frequency Compliance

The following report summarises the frequency of laboratory QC samples analysed within the analytical lot(s) in which the submitted sample(s) was(were) processed. Actual rate should be greater than or equal to the expected rate. A listing of breaches is provided in the Summary of Outliers.

Matrix: **SOIL**

Evaluation: × = Quality Control frequency not within specification ; ✓ = Quality Control frequency within specification.

Quality Control Sample Type		Count		Rate (%)			Quality Control Specification
Analytical Methods	*Method*	*QC*	*Regular*	***Actual***	***Expected***	*Evaluation*	
Laboratory Duplicates (DUP)							
Moisture Content	EA055	2	17	**11.76**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
PAH/Phenols (SIM)	EP075(SIM)	1	8	**12.50**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Pesticides by GCMS	EP068	1	10	**10.00**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Polychlorinated Biphenyls (PCB)	EP066	1	10	**10.00**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Mercury by FIMS	EG035T	2	20	**10.00**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Metals by ICP-AES	EG005T	2	20	**10.00**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH - Semivolatile Fraction	EP071	1	9	**11.11**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH Volatiles/BTEX	EP080	2	13	**15.38**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Laboratory Control Samples (LCS)							
PAH/Phenols (SIM)	EP075(SIM)	1	8	**12.50**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Pesticides by GCMS	EP068	1	10	**10.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Polychlorinated Biphenyls (PCB)	EP066	1	10	**10.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Mercury by FIMS	EG035T	1	20	**5.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Metals by ICP-AES	EG005T	1	20	**5.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH - Semivolatile Fraction	EP071	1	9	**11.11**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH Volatiles/BTEX	EP080	1	13	**7.69**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Method Blanks (MB)							
PAH/Phenols (SIM)	EP075(SIM)	1	8	**12.50**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Pesticides by GCMS	EP068	1	10	**10.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Polychlorinated Biphenyls (PCB)	EP066	1	10	**10.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Mercury by FIMS	EG035T	1	20	**5.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Metals by ICP-AES	EG005T	1	20	**5.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH - Semivolatile Fraction	EP071	1	9	**11.11**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH Volatiles/BTEX	EP080	1	13	**7.69**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Matrix Spikes (MS)							
PAH/Phenols (SIM)	EP075(SIM)	1	8	**12.50**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Pesticides by GCMS	EP068	1	10	**10.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Polychlorinated Biphenyls (PCB)	EP066	1	10	**10.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Mercury by FIMS	EG035T	1	20	**5.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Metals by ICP-AES	EG005T	1	20	**5.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH - Semivolatile Fraction	EP071	1	9	**11.11**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH Volatiles/BTEX	EP080	1	13	**7.69**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard

Brief Method Summaries

The analytical procedures used by the Environmental Division have been developed from established internationally recognized procedures such as those published by the US EPA, APHA, AS and NEPM. In house developed procedures are employed in the absence of documented standards or by client request. The following report provides brief descriptions of the analytical procedures employed for results reported in the Certificate of Analysis. Sources from which ALS methods have been developed are provided within the Method Descriptions.

Analytical Methods	Method	Matrix	Method Descriptions
Moisture Content	EA055	SOIL	In house: A gravimetric procedure based on weight loss over a 12 hour drying period at 105-110 degrees C. This method is compliant with NEPM Schedule B(3).
Total Metals by ICP-AES	EG005T	SOIL	In house: Referenced to APHA 3120; USEPA SW 846 - 6010. Metals are determined following an appropriate acid digestion of the soil. The ICPAES technique ionises samples in a plasma, emitting a characteristic spectrum based on metals present. Intensities at selected wavelengths are compared against those of matrix matched standards. This method is compliant with NEPM Schedule B(3)
Total Mercury by FIMS	EG035T	SOIL	In house: Referenced to AS 3550, APHA 3112 Hg - B (Flow-injection (SnCl2) (Cold Vapour generation) AAS) FIM-AAS is an automated flameless atomic absorption technique. Mercury in solids are determined following an appropriate acid digestion. Ionic mercury is reduced online to atomic mercury vapour by SnCl2 which is then purged into a heated quartz cell. Quantification is by comparing absorbance against a calibration curve. This method is compliant with NEPM Schedule B(3)
Polychlorinated Biphenyls (PCB)	EP066	SOIL	In house: Referenced to USEPA SW 846 - 8270 Extracts are analysed by Capillary GC/MS and quantification is by comparison against an established 5 point calibration curve. This method is compliant with NEPM Schedule B(3).
Pesticides by GCMS	EP068	SOIL	In house: Referenced to USEPA SW 846 - 8270 Extracts are analysed by Capillary GC/MS and quantification is by comparison against an established 5 point calibration curve. This technique is compliant with NEPM Schedule B(3).
TRH - Semivolatile Fraction	EP071	SOIL	In house: Referenced to USEPA SW 846 - 8015 Sample extracts are analysed by Capillary GC/FID and quantified against alkane standards over the range C10 - C40. Compliant with NEPM Schedule B(3).
PAH/Phenols (SIM)	EP075(SIM)	SOIL	In house: Referenced to USEPA SW 846 - 8270. Extracts are analysed by Capillary GC/MS in Selective Ion Mode (SIM) and quantification is by comparison against an established 5 point calibration curve. This method is compliant with NEPM Schedule B(3)
TRH Volatiles/BTEX	EP080	SOIL	In house: Referenced to USEPA SW 846 - 8260. Extracts are analysed by Purge and Trap, Capillary GC/MS. Quantification is by comparison against an established 5 point calibration curve. Compliant with NEPM Schedule B(3) amended.

Preparation Methods	Method	Matrix	Method Descriptions
Hot Block Digest for metals in soils sediments and sludges	EN69	SOIL	In house: Referenced to USEPA 200.2. Hot Block Acid Digestion 1.0g of sample is heated with Nitric and Hydrochloric acids, then cooled. Peroxide is added and samples heated and cooled again before being filtered and bulked to volume for analysis. Digest is appropriate for determination of selected metals in sludge, sediments, and soils. This method is compliant with NEPM Schedule B(3).
Methanolic Extraction of Soils for Purge and Trap	ORG16	SOIL	In house: Referenced to USEPA SW 846 - 5030A. 5g of solid is shaken with surrogate and 10mL methanol prior to analysis by Purge and Trap - GC/MS.
Tumbler Extraction of Solids	ORG17	SOIL	In house: Mechanical agitation (tumbler). 10g of sample, Na2SO4 and surrogate are extracted with 30mL 1:1 DCM/Acetone by end over end tumble. The solvent is decanted, dehydrated and concentrated (by KD) to the desired volume for analysis.

ALS Environmental

QUALITY CONTROL REPORT

Work Order	: **ES2139759**	Page	: 1 of 8
Client	: **ALLIANCE GEOTECHNICAL**	Laboratory	: Environmental Division Sydney
Contact	: Jacob Walker	Contact	: Customer Services ES
Address	: 8/10 Welder Road, Seven Hills 2147	Address	: 277-289 Woodpark Road Smithfield NSW Australia 2164
Telephone	: ----	Telephone	: +61-2-8784 8555
Project	: 13546 - Kemps Creek	Date Samples Received	: 03-Nov-2021
Order number	: ----	Date Analysis Commenced	: 04-Nov-2021
C-O-C number	: ----	Issue Date	: 10-Nov-2021
Sampler	: SAM JONES		
Site	: ----		
Quote number	: EN/222		
No. of samples received	: 3		
No. of samples analysed	: 2		

Accreditation No. 825
Accredited for compliance with
ISO/IEC 17025 - Testing

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted, unless the sampling was conducted by ALS. This document shall not be reproduced, except in full.

This Quality Control Report contains the following information:

- Laboratory Duplicate (DUP) Report; Relative Percentage Difference (RPD) and Acceptance Limits
- Method Blank (MB) and Laboratory Control Spike (LCS) Report; Recovery and Acceptance Limits
- Matrix Spike (MS) Report; Recovery and Acceptance Limits

Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is carried out in compliance with procedures specified in 21 CFR Part 11.

Signatories	*Position*	*Accreditation Category*
Edwandy Fadjar	Organic Coordinator	Sydney Inorganics, Smithfield, NSW
Edwandy Fadjar	Organic Coordinator	Sydney Organics, Smithfield, NSW
Ivan Taylor	Analyst	Sydney Inorganics, Smithfield, NSW

General Comments

The analytical procedures used by ALS have been developed from established internationally recognised procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are fully validated and are often at the client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis. Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

Key : Anonymous = Refers to samples which are not specifically part of this work order but formed part of the QC process lot
CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.
LOR = Limit of reporting
RPD = Relative Percentage Difference
# = Indicates failed QC

Laboratory Duplicate (DUP) Report

The quality control term Laboratory Duplicate refers to a randomly selected intralaboratory split. Laboratory duplicates provide information regarding method precision and sample heterogeneity. The permitted ranges for the Relative Percent Deviation (RPD) of Laboratory Duplicates are specified in ALS Method QWI-EN/38 and are dependent on the magnitude of results in comparison to the level of reporting: Result < 10 times LOR: No Limit; Result between 10 and 20 times LOR: 0% - 50%; Result > 20 times LOR: 0% - 20%.

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Acceptable RPD (%)
EG005(ED093)T: Total Metals by ICP-AES (QC Lot: 4000542)									
ES2139836-002	Anonymous	EG005T: Cadmium	7440-43-9	1	mg/kg	2	2	0.0	No Limit
		EG005T: Chromium	7440-47-3	2	mg/kg	545	542	0.6	0% - 20%
		EG005T: Nickel	7440-02-0	2	mg/kg	30	30	0.0	0% - 50%
		EG005T: Arsenic	7440-38-2	5	mg/kg	<5	<5	0.0	No Limit
		EG005T: Copper	7440-50-8	5	mg/kg	12	12	0.0	No Limit
		EG005T: Lead	7439-92-1	5	mg/kg	297	287	3.5	0% - 20%
ES2139655-001	Anonymous	EG005T: Cadmium	7440-43-9	1	mg/kg	<1	<1	0.0	No Limit
		EG005T: Chromium	7440-47-3	2	mg/kg	8	13	45.4	No Limit
		EG005T: Nickel	7440-02-0	2	mg/kg	11	16	39.3	No Limit
		EG005T: Arsenic	7440-38-2	5	mg/kg	9	8	0.0	No Limit
		EG005T: Copper	7440-50-8	5	mg/kg	34	54	46.1	0% - 50%
		EG005T: Lead	7439-92-1	5	mg/kg	85	89	4.5	0% - 50%
		EG005T: Zinc	7440-66-6	5	mg/kg	154	# 271	55.0	0% - 20%
EA055: Moisture Content (Dried @ 105-110°C) (QC Lot: 3998922)									
ES2139603-010	Anonymous	EA055: Moisture Content	----	0.1	%	10.4	10.9	4.5	0% - 50%
ES2139953-004	Anonymous	EA055: Moisture Content	----	0.1	%	17.0	17.1	0.7	0% - 50%
EG035T: Total Recoverable Mercury by FIMS (QC Lot: 4000543)									
ES2139655-001	Anonymous	EG035T: Mercury	7439-97-6	0.1	mg/kg	<0.1	<0.1	0.0	No Limit
ES2139924-006	Anonymous	EG035T: Mercury	7439-97-6	0.1	mg/kg	0.1	0.1	0.0	No Limit
EP066: Polychlorinated Biphenyls (PCB) (QC Lot: 3996590)									
ES2139677-001	Anonymous	EP066: Total Polychlorinated biphenyls	----	0.1	mg/kg	<0.1	<0.1	0.0	No Limit
EP068A: Organochlorine Pesticides (OC) (QC Lot: 3996589)									
ES2139677-001	Anonymous	EP068: alpha-BHC	319-84-6	0.05	mg/kg	<0.05	<0.05	0.0	No Limit

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Acceptable RPD (%)*
EP068A: Organochlorine Pesticides (OC) (QC Lot: 3996589) - continued									
ES2139677-001	Anonymous	EP068: Hexachlorobenzene (HCB)	118-74-1	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: beta-BHC	319-85-7	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: gamma-BHC	58-89-9	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: delta-BHC	319-86-8	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Heptachlor	76-44-8	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Aldrin	309-00-2	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Heptachlor epoxide	1024-57-3	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: trans-Chlordane	5103-74-2	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: alpha-Endosulfan	959-98-8	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: cis-Chlordane	5103-71-9	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Dieldrin	60-57-1	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: 4.4`-DDE	72-55-9	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Endrin	72-20-8	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: beta-Endosulfan	33213-65-9	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: 4.4`-DDD	72-54-8	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Endrin aldehyde	7421-93-4	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Endosulfan sulfate	1031-07-8	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Endrin ketone	53494-70-5	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: 4.4`-DDT	50-29-3	0.2	mg/kg	<0.2	<0.2	0.0	No Limit
		EP068: Methoxychlor	72-43-5	0.2	mg/kg	<0.2	<0.2	0.0	No Limit
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QC Lot: 3996613)									
ES2137769-001	Anonymous	EP075(SIM): Naphthalene	91-20-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Acenaphthene	83-32-9	0.5	mg/kg	0.6	0.8	32.0	No Limit
		EP075(SIM): Fluorene	86-73-7	0.5	mg/kg	0.6	0.8	31.9	No Limit
		EP075(SIM): Phenanthrene	85-01-8	0.5	mg/kg	9.7	# 14.8	41.3	0% - 20%
		EP075(SIM): Anthracene	120-12-7	0.5	mg/kg	2.5	3.8	40.9	No Limit
		EP075(SIM): Fluoranthene	206-44-0	0.5	mg/kg	15.0	# 22.1	38.1	0% - 20%
		EP075(SIM): Pyrene	129-00-0	0.5	mg/kg	12.3	# 17.8	37.1	0% - 20%
		EP075(SIM): Benz(a)anthracene	56-55-3	0.5	mg/kg	5.3	7.2	30.4	0% - 50%
		EP075(SIM): Chrysene	218-01-9	0.5	mg/kg	4.7	6.5	33.3	0% - 50%
		EP075(SIM): Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg	6.6	7.9	18.1	0% - 50%
		EP075(SIM): Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	2.1	3.1	39.2	No Limit
		EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	mg/kg	4.6	5.8	22.9	0% - 50%
		EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	2.9	4.1	31.9	No Limit
		EP075(SIM): Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	0.6	0.9	36.6	No Limit
		EP075(SIM): Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	3.6	4.8	29.1	No Limit
		EP075(SIM): Sum of polycyclic aromatic hydrocarbons	----	0.5	mg/kg	71.1	# 100	34.2	0% - 20%

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Acceptable RPD (%)*
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QC Lot: 3996613) - continued									
ES2137769-001	Anonymous	EP075(SIM): Benzo(a)pyrene TEQ (zero)	----	0.5	mg/kg	7.0	9.0	25.8	0% - 50%
EP080/071: Total Petroleum Hydrocarbons (QC Lot: 3996612)									
ES2137769-001	Anonymous	EP071: C15 - C28 Fraction	----	100	mg/kg	200	160	18.9	No Limit
		EP071: C29 - C36 Fraction	----	100	mg/kg	<100	<100	0.0	No Limit
		EP071: C10 - C14 Fraction	----	50	mg/kg	<50	<50	0.0	No Limit
EP080/071: Total Petroleum Hydrocarbons (QC Lot: 3997626)									
ES2139759-001	BT4	EP080: C6 - C9 Fraction	----	10	mg/kg	<10	<10	0.0	No Limit
ES2139953-001	Anonymous	EP080: C6 - C9 Fraction	----	10	mg/kg	<10	<10	0.0	No Limit
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QC Lot: 3996612)									
ES2137769-001	Anonymous	EP071: >C16 - C34 Fraction	----	100	mg/kg	280	220	25.2	No Limit
		EP071: >C34 - C40 Fraction	----	100	mg/kg	<100	<100	0.0	No Limit
		EP071: >C10 - C16 Fraction	----	50	mg/kg	<50	<50	0.0	No Limit
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QC Lot: 3997626)									
ES2139759-001	BT4	EP080: C6 - C10 Fraction	C6_C10	10	mg/kg	<10	<10	0.0	No Limit
ES2139953-001	Anonymous	EP080: C6 - C10 Fraction	C6_C10	10	mg/kg	<10	<10	0.0	No Limit
EP080: BTEXN (QC Lot: 3997626)									
ES2139759-001	BT4	EP080: Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	0.0	No Limit
		EP080: Toluene	108-88-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: Naphthalene	91-20-3	1	mg/kg	<1	<1	0.0	No Limit
ES2139953-001	Anonymous	EP080: Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	0.0	No Limit
		EP080: Toluene	108-88-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: Naphthalene	91-20-3	1	mg/kg	<1	<1	0.0	No Limit

Method Blank (MB) and Laboratory Control Sample (LCS) Report

The quality control term Method / Laboratory Blank refers to an analyte free matrix to which all reagents are added in the same volumes or proportions as used in standard sample preparation. The purpose of this QC parameter is to monitor potential laboratory contamination. The quality control term Laboratory Control Sample (LCS) refers to a certified reference material, or a known interference free matrix spiked with target analytes. The purpose of this QC parameter is to monitor method precision and accuracy independent of sample matrix. Dynamic Recovery Limits are based on statistical evaluation of processed LCS.

Sub-Matrix: **SOIL**

				Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Acceptable Limits (%)	
Method: Compound	CAS Number	LOR	Unit	Result	Concentration	LCS	Low	High
EG005(ED093)T: Total Metals by ICP-AES (QCLot: 4000542)								
EG005T: Arsenic	7440-38-2	5	mg/kg	<5	121.1 mg/kg	97.8	88.0	113
EG005T: Cadmium	7440-43-9	1	mg/kg	<1	0.74 mg/kg	80.6	70.0	130
EG005T: Chromium	7440-47-3	2	mg/kg	<2	19.6 mg/kg	116	68.0	132
EG005T: Copper	7440-50-8	5	mg/kg	<5	52.9 mg/kg	110	89.0	111
EG005T: Lead	7439-92-1	5	mg/kg	<5	60.8 mg/kg	98.9	82.0	119
EG005T: Nickel	7440-02-0	2	mg/kg	<2	15.3 mg/kg	101	80.0	120
EG005T: Zinc	7440-66-6	5	mg/kg	<5	139.3 mg/kg	93.4	66.0	133
EG035T: Total Recoverable Mercury by FIMS (QCLot: 4000543)								
EG035T: Mercury	7439-97-6	0.1	mg/kg	<0.1	0.087 mg/kg	90.2	70.0	125
EP066: Polychlorinated Biphenyls (PCB) (QCLot: 3996590)								
EP066: Total Polychlorinated biphenyls	----	0.1	mg/kg	<0.1	1 mg/kg	117	62.0	126
EP068A: Organochlorine Pesticides (OC) (QCLot: 3996589)								
EP068: alpha-BHC	319-84-6	0.05	mg/kg	<0.05	0.5 mg/kg	98.6	69.0	113
EP068: Hexachlorobenzene (HCB)	118-74-1	0.05	mg/kg	<0.05	0.5 mg/kg	102	65.0	117
EP068: beta-BHC	319-85-7	0.05	mg/kg	<0.05	0.5 mg/kg	99.6	67.0	119
EP068: gamma-BHC	58-89-9	0.05	mg/kg	<0.05	0.5 mg/kg	98.7	68.0	116
EP068: delta-BHC	319-86-8	0.05	mg/kg	<0.05	0.5 mg/kg	100	65.0	117
EP068: Heptachlor	76-44-8	0.05	mg/kg	<0.05	0.5 mg/kg	96.0	67.0	115
EP068: Aldrin	309-00-2	0.05	mg/kg	<0.05	0.5 mg/kg	95.2	69.0	115
EP068: Heptachlor epoxide	1024-57-3	0.05	mg/kg	<0.05	0.5 mg/kg	101	62.0	118
EP068: trans-Chlordane	5103-74-2	0.05	mg/kg	<0.05	0.5 mg/kg	103	63.0	117
EP068: alpha-Endosulfan	959-98-8	0.05	mg/kg	<0.05	0.5 mg/kg	104	66.0	116
EP068: cis-Chlordane	5103-71-9	0.05	mg/kg	<0.05	0.5 mg/kg	103	64.0	116
EP068: Dieldrin	60-57-1	0.05	mg/kg	<0.05	0.5 mg/kg	100	66.0	116
EP068: 4.4`-DDE	72-55-9	0.05	mg/kg	<0.05	0.5 mg/kg	100.0	67.0	115
EP068: Endrin	72-20-8	0.05	mg/kg	<0.05	0.5 mg/kg	106	67.0	123
EP068: beta-Endosulfan	33213-65-9	0.05	mg/kg	<0.05	0.5 mg/kg	101	69.0	115
EP068: 4.4`-DDD	72-54-8	0.05	mg/kg	<0.05	0.5 mg/kg	99.1	69.0	121
EP068: Endrin aldehyde	7421-93-4	0.05	mg/kg	<0.05	0.5 mg/kg	94.6	56.0	120
EP068: Endosulfan sulfate	1031-07-8	0.05	mg/kg	<0.05	0.5 mg/kg	82.0	62.0	124
EP068: 4.4`-DDT	50-29-3	0.2	mg/kg	<0.2	0.5 mg/kg	85.4	66.0	120
EP068: Endrin ketone	53494-70-5	0.05	mg/kg	<0.05	0.5 mg/kg	83.1	64.0	122
EP068: Methoxychlor	72-43-5	0.2	mg/kg	<0.2	0.5 mg/kg	83.6	54.0	130
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 3996613)								

Sub-Matrix: **SOIL**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Acceptable Limits (%)	
				Result	Concentration	LCS	Low	High
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 3996613) - continued								
EP075(SIM): Naphthalene	91-20-3	0.5	mg/kg	<0.5	6 mg/kg	99.6	77.0	125
EP075(SIM): Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	6 mg/kg	89.9	72.0	124
EP075(SIM): Acenaphthene	83-32-9	0.5	mg/kg	<0.5	6 mg/kg	110	73.0	127
EP075(SIM): Fluorene	86-73-7	0.5	mg/kg	<0.5	6 mg/kg	98.1	72.0	126
EP075(SIM): Phenanthrene	85-01-8	0.5	mg/kg	<0.5	6 mg/kg	98.8	75.0	127
EP075(SIM): Anthracene	120-12-7	0.5	mg/kg	<0.5	6 mg/kg	110	77.0	127
EP075(SIM): Fluoranthene	206-44-0	0.5	mg/kg	<0.5	6 mg/kg	97.1	73.0	127
EP075(SIM): Pyrene	129-00-0	0.5	mg/kg	<0.5	6 mg/kg	97.2	74.0	128
EP075(SIM): Benz(a)anthracene	56-55-3	0.5	mg/kg	<0.5	6 mg/kg	96.8	69.0	123
EP075(SIM): Chrysene	218-01-9	0.5	mg/kg	<0.5	6 mg/kg	108	75.0	127
EP075(SIM): Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg	<0.5	6 mg/kg	85.1	68.0	116
EP075(SIM): Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	<0.5	6 mg/kg	94.5	74.0	126
EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	mg/kg	<0.5	6 mg/kg	93.2	70.0	126
EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	<0.5	6 mg/kg	95.9	61.0	121
EP075(SIM): Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	<0.5	6 mg/kg	100	62.0	118
EP075(SIM): Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	<0.5	6 mg/kg	97.8	63.0	121
EP080/071: Total Petroleum Hydrocarbons (QCLot: 3996612)								
EP071: C10 - C14 Fraction	----	50	mg/kg	<50	300 mg/kg	99.8	75.0	129
EP071: C15 - C28 Fraction	----	100	mg/kg	<100	450 mg/kg	100	77.0	131
EP071: C29 - C36 Fraction	----	100	mg/kg	<100	300 mg/kg	99.4	71.0	129
EP080/071: Total Petroleum Hydrocarbons (QCLot: 3997626)								
EP080: C6 - C9 Fraction	----	10	mg/kg	<10	26 mg/kg	114	68.4	128
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 3996612)								
EP071: >C10 - C16 Fraction	----	50	mg/kg	<50	375 mg/kg	102	77.0	125
EP071: >C16 - C34 Fraction	----	100	mg/kg	<100	525 mg/kg	98.7	74.0	138
EP071: >C34 - C40 Fraction	----	100	mg/kg	<100	225 mg/kg	96.7	63.0	131
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 3997626)								
EP080: C6 - C10 Fraction	C6_C10	10	mg/kg	<10	31 mg/kg	114	68.4	128
EP080: BTEXN (QCLot: 3997626)								
EP080: Benzene	71-43-2	0.2	mg/kg	<0.2	1 mg/kg	110	62.0	116
EP080: Toluene	108-88-3	0.5	mg/kg	<0.5	1 mg/kg	105	67.0	121
EP080: Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	1 mg/kg	106	65.0	117
EP080: meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	2 mg/kg	104	66.0	118
EP080: ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	1 mg/kg	104	68.0	120
EP080: Naphthalene	91-20-3	1	mg/kg	<1	1 mg/kg	98.4	63.0	119

Matrix Spike (MS) Report

The quality control term Matrix Spike (MS) refers to an intralaboratory split sample spiked with a representative set of target analytes. The purpose of this QC parameter is to monitor potential matrix effects on analyte recoveries. Static Recovery Limits as per laboratory Data Quality Objectives (DQOs). Ideal recovery ranges stated may be waived in the event of sample matrix interference.

Sub-Matrix: **SOIL**

				Matrix Spike (MS) Report			
				Spike	SpikeRecovery(%)	Acceptable Limits (%)	
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Concentration	MS	Low	High
EG005(ED093)T: Total Metals by ICP-AES (QCLot: 4000542)							
ES2139655-001	Anonymous	EG005T: Arsenic	7440-38-2	50 mg/kg	92.8	70.0	130
		EG005T: Cadmium	7440-43-9	50 mg/kg	91.1	70.0	130
		EG005T: Chromium	7440-47-3	50 mg/kg	97.3	68.0	132
		EG005T: Copper	7440-50-8	250 mg/kg	111	70.0	130
		EG005T: Lead	7439-92-1	250 mg/kg	80.1	70.0	130
		EG005T: Nickel	7440-02-0	50 mg/kg	96.9	70.0	130
		EG005T: Zinc	7440-66-6	250 mg/kg	91.6	66.0	133
EG035T: Total Recoverable Mercury by FIMS (QCLot: 4000543)							
ES2139655-001	Anonymous	EG035T: Mercury	7439-97-6	5 mg/kg	105	70.0	130
EP066: Polychlorinated Biphenyls (PCB) (QCLot: 3996590)							
ES2139677-001	Anonymous	EP066: Total Polychlorinated biphenyls	----	10 mg/kg	104	70.0	130
EP068A: Organochlorine Pesticides (OC) (QCLot: 3996589)							
ES2139677-001	Anonymous	EP068: gamma-BHC	58-89-9	0.5 mg/kg	120	70.0	130
		EP068: Heptachlor	76-44-8	0.5 mg/kg	98.0	70.0	130
		EP068: Aldrin	309-00-2	0.5 mg/kg	100	70.0	130
		EP068: Dieldrin	60-57-1	0.5 mg/kg	100	70.0	130
		EP068: Endrin	72-20-8	2 mg/kg	105	70.0	130
		EP068: 4.4`-DDT	50-29-3	2 mg/kg	83.7	70.0	130
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 3996613)							
ES2137769-001	Anonymous	EP075(SIM): Acenaphthene	83-32-9	10 mg/kg	109	70.0	130
		EP075(SIM): Pyrene	129-00-0	10 mg/kg	127	70.0	130
EP080/071: Total Petroleum Hydrocarbons (QCLot: 3996612)							
ES2137769-001	Anonymous	EP071: C10 - C14 Fraction	----	480 mg/kg	95.6	73.0	137
		EP071: C15 - C28 Fraction	----	3100 mg/kg	100	53.0	131
		EP071: C29 - C36 Fraction	----	2060 mg/kg	112	52.0	132
EP080/071: Total Petroleum Hydrocarbons (QCLot: 3997626)							
ES2139759-001	BT4	EP080: C6 - C9 Fraction	----	32.5 mg/kg	123	70.0	130
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 3996612)							
ES2137769-001	Anonymous	EP071: >C10 - C16 Fraction	----	860 mg/kg	95.9	73.0	137
		EP071: >C16 - C34 Fraction	----	4320 mg/kg	104	53.0	131
		EP071: >C34 - C40 Fraction	----	890 mg/kg	102	52.0	132
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 3997626)							

Sub-Matrix: **SOIL**

				Matrix Spike (MS) Report			
				Spike	SpikeRecovery(%)	Acceptable Limits (%)	
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*Concentration*	*MS*	*Low*	*High*
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 3997626) - continued							
ES2139759-001	BT4	EP080: C6 - C10 Fraction	C6_C10	37.5 mg/kg	120	70.0	130
EP080: BTEXN (QCLot: 3997626)							
ES2139759-001	BT4	EP080: Benzene	71-43-2	2.5 mg/kg	110	70.0	130
		EP080: Toluene	108-88-3	2.5 mg/kg	99.5	70.0	130
		EP080: Ethylbenzene	100-41-4	2.5 mg/kg	100	70.0	130
		EP080: meta- & para-Xylene	108-38-3 106-42-3	2.5 mg/kg	99.4	70.0	130
		EP080: ortho-Xylene	95-47-6	2.5 mg/kg	101	70.0	130
		EP080: Naphthalene	91-20-3	2.5 mg/kg	90.5	70.0	130

ALS Environmental

CERTIFICATE OF ANALYSIS

Work Order	: **ES2138446**	Page	: 1 of 7
Client	: **ALLIANCE GEOTECHNICAL**	Laboratory	: Environmental Division Sydney
Contact	: SAM JONES	Contact	: Customer Services ES
Address	: 8/10 Welder Road, Seven Hills 2147	Address	: 277-289 Woodpark Road Smithfield NSW Australia 2164
Telephone	: ----	Telephone	: +61-2-8784 8555
Project	: 13546 - Kemps Creek	Date Samples Received	: 25-Oct-2021 14:00
Order number	: ----	Date Analysis Commenced	: 26-Oct-2021
C-O-C number	: ----	Issue Date	: 29-Oct-2021 13:45
Sampler	: SJ		
Site	: ----		
Quote number	: EN/222		
No. of samples received	: 7		
No. of samples analysed	: 5		

Accreditation No. 825
Accredited for compliance with
ISO/IEC 17025 - Testing

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted, unless the sampling was conducted by ALS. This document shall not be reproduced, except in full.

This Certificate of Analysis contains the following information:

- General Comments
- Analytical Results
- Surrogate Control Limits

Additional information pertinent to this report will be found in the following separate attachments: Quality Control Report, QA/QC Compliance Assessment to assist with Quality Review and Sample Receipt Notification.

Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is carried out in compliance with procedures specified in 21 CFR Part 11.

Signatories	*Position*	*Accreditation Category*
Edwandy Fadjar	Organic Coordinator	Sydney Inorganics, Smithfield, NSW
Edwandy Fadjar	Organic Coordinator	Sydney Organics, Smithfield, NSW
Franco Lentini	LCMS Coordinator	Sydney Inorganics, Smithfield, NSW
Ivan Taylor	Analyst	Sydney Inorganics, Smithfield, NSW

General Comments

The analytical procedures used by ALS have been developed from established internationally recognised procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are fully validated and are often at the client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis.

Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

When sampling time information is not provided by the client, sampling dates are shown without a time component. In these instances, the time component has been assumed by the laboratory for processing purposes.

Where a result is required to meet compliance limits the associated uncertainty must be considered. Refer to the ALS Contact for details.

Key : CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.
LOR = Limit of reporting
^ = This result is computed from individual analyte detections at or above the level of reporting
ø = ALS is not NATA accredited for these tests.
~ = Indicates an estimated value.

- Benzo(a)pyrene Toxicity Equivalent Quotient (TEQ) per the NEPM (2013) is the sum total of the concentration of the eight carcinogenic PAHs multiplied by their Toxicity Equivalence Factor (TEF) relative to Benzo(a)pyrene. TEF values are provided in brackets as follows: Benz(a)anthracene (0.1), Chrysene (0.01), Benzo(b+j) & Benzo(k)fluoranthene (0.1), Benzo(a)pyrene (1.0), Indeno(1.2.3.cd)pyrene (0.1), Dibenz(a.h)anthracene (1.0), Benzo(g.h.i)perylene (0.01). Less than LOR results for 'TEQ Zero' are treated as zero, for 'TEQ 1/2LOR' are treated as half the reported LOR, and for 'TEQ LOR' are treated as being equal to the reported LOR. Note: TEQ 1/2LOR and TEQ LOR will calculate as 0.6mg/Kg and 1.2mg/Kg respectively for samples with non-detects for all of the eight TEQ PAHs.
- EP080: Where reported, Total Xylenes is the sum of the reported concentrations of m&p-Xylene and o-Xylene at or above the LOR.
- EP068: Where reported, Total Chlordane (sum) is the sum of the reported concentrations of cis-Chlordane and trans-Chlordane at or above the LOR.
- EP068: Where reported, Total OCP is the sum of the reported concentrations of all Organochlorine Pesticides at or above LOR.
- EP075(SIM): Where reported, Total Cresol is the sum of the reported concentrations of 2-Methylphenol and 3- & 4-Methylphenol at or above the LOR.

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	BT6	BT7	BT8	BT9	BT10
			Sampling date / time	22-Oct-2021 00:00	22-Oct-2021 00:00	22-Oct-2021 00:00	22-Oct-2021 00:00	22-Oct-2021 00:00
Compound	CAS Number	LOR	Unit	ES2138446-001	ES2138446-002	ES2138446-003	ES2138446-004	ES2138446-005
				Result	Result	Result	Result	Result
EA055: Moisture Content (Dried @ 105-110°C)								
Moisture Content	----	1.0	%	19.8	38.7	33.2	22.8	15.3
EG005(ED093)T: Total Metals by ICP-AES								
Arsenic	7440-38-2	5	mg/kg	7	----	8	----	11
Cadmium	7440-43-9	1	mg/kg	<1	----	<1	----	<1
Chromium	7440-47-3	2	mg/kg	16	----	17	----	16
Copper	7440-50-8	5	mg/kg	52	----	32	----	26
Lead	7439-92-1	5	mg/kg	22	----	24	----	20
Nickel	7440-02-0	2	mg/kg	17	----	13	----	18
Zinc	7440-66-6	5	mg/kg	122	----	82	----	42
EG035T: Total Recoverable Mercury by FIMS								
Mercury	7439-97-6	0.1	mg/kg	<0.1	----	<0.1	----	<0.1
EP066: Polychlorinated Biphenyls (PCB)								
Total Polychlorinated biphenyls	----	0.1	mg/kg	----	<0.1	----	<0.1	----
EP068A: Organochlorine Pesticides (OC)								
alpha-BHC	319-84-6	0.05	mg/kg	----	<0.05	----	<0.05	----
Hexachlorobenzene (HCB)	118-74-1	0.05	mg/kg	----	<0.05	----	<0.05	----
beta-BHC	319-85-7	0.05	mg/kg	----	<0.05	----	<0.05	----
gamma-BHC	58-89-9	0.05	mg/kg	----	<0.05	----	<0.05	----
delta-BHC	319-86-8	0.05	mg/kg	----	<0.05	----	<0.05	----
Heptachlor	76-44-8	0.05	mg/kg	----	<0.05	----	<0.05	----
Aldrin	309-00-2	0.05	mg/kg	----	<0.05	----	<0.05	----
Heptachlor epoxide	1024-57-3	0.05	mg/kg	----	<0.05	----	<0.05	----
^ Total Chlordane (sum)	----	0.05	mg/kg	----	<0.05	----	<0.05	----
trans-Chlordane	5103-74-2	0.05	mg/kg	----	<0.05	----	<0.05	----
alpha-Endosulfan	959-98-8	0.05	mg/kg	----	<0.05	----	<0.05	----
cis-Chlordane	5103-71-9	0.05	mg/kg	----	<0.05	----	<0.05	----
Dieldrin	60-57-1	0.05	mg/kg	----	<0.05	----	<0.05	----
4.4`-DDE	72-55-9	0.05	mg/kg	----	<0.05	----	<0.05	----
Endrin	72-20-8	0.05	mg/kg	----	<0.05	----	<0.05	----
beta-Endosulfan	33213-65-9	0.05	mg/kg	----	<0.05	----	<0.05	----
^ Endosulfan (sum)	115-29-7	0.05	mg/kg	----	<0.05	----	<0.05	----
4.4`-DDD	72-54-8	0.05	mg/kg	----	<0.05	----	<0.05	----
Endrin aldehyde	7421-93-4	0.05	mg/kg	----	<0.05	----	<0.05	----
Endosulfan sulfate	1031-07-8	0.05	mg/kg	----	<0.05	----	<0.05	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	BT6	BT7	BT8	BT9	BT10
			Sampling date / time	22-Oct-2021 00:00	22-Oct-2021 00:00	22-Oct-2021 00:00	22-Oct-2021 00:00	22-Oct-2021 00:00
Compound	CAS Number	LOR	Unit	ES2138446-001	ES2138446-002	ES2138446-003	ES2138446-004	ES2138446-005
				Result	Result	Result	Result	Result
EP068A: Organochlorine Pesticides (OC) - Continued								
4.4`-DDT	50-29-3	0.2	mg/kg	----	<0.2	----	<0.2	----
Endrin ketone	53494-70-5	0.05	mg/kg	----	<0.05	----	<0.05	----
Methoxychlor	72-43-5	0.2	mg/kg	----	<0.2	----	<0.2	----
^ Sum of Aldrin + Dieldrin	309-00-2/60-57-1	0.05	mg/kg	----	<0.05	----	<0.05	----
^ Sum of DDD + DDE + DDT	72-54-8/72-55-9/50-2	0.05	mg/kg	----	<0.05	----	<0.05	----
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons								
Naphthalene	91-20-3	0.5	mg/kg	<0.5	----	<0.5	----	<0.5
Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	----	<0.5	----	<0.5
Acenaphthene	83-32-9	0.5	mg/kg	<0.5	----	<0.5	----	<0.5
Fluorene	86-73-7	0.5	mg/kg	<0.5	----	<0.5	----	<0.5
Phenanthrene	85-01-8	0.5	mg/kg	<0.5	----	<0.5	----	<0.5
Anthracene	120-12-7	0.5	mg/kg	<0.5	----	<0.5	----	<0.5
Fluoranthene	206-44-0	0.5	mg/kg	<0.5	----	<0.5	----	<0.5
Pyrene	129-00-0	0.5	mg/kg	<0.5	----	<0.5	----	<0.5
Benz(a)anthracene	56-55-3	0.5	mg/kg	<0.5	----	<0.5	----	<0.5
Chrysene	218-01-9	0.5	mg/kg	<0.5	----	<0.5	----	<0.5
Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg	<0.5	----	<0.5	----	<0.5
Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	<0.5	----	<0.5	----	<0.5
Benzo(a)pyrene	50-32-8	0.5	mg/kg	<0.5	----	<0.5	----	<0.5
Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	<0.5	----	<0.5	----	<0.5
Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	<0.5	----	<0.5	----	<0.5
Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	<0.5	----	<0.5	----	<0.5
^ Sum of polycyclic aromatic hydrocarbons	----	0.5	mg/kg	<0.5	----	<0.5	----	<0.5
^ Benzo(a)pyrene TEQ (zero)	----	0.5	mg/kg	<0.5	----	<0.5	----	<0.5
^ Benzo(a)pyrene TEQ (half LOR)	----	0.5	mg/kg	**0.6**	----	**0.6**	----	**0.6**
^ Benzo(a)pyrene TEQ (LOR)	----	0.5	mg/kg	**1.2**	----	**1.2**	----	**1.2**
EP080/071: Total Petroleum Hydrocarbons								
C6 - C9 Fraction	----	10	mg/kg	<10	----	<10	----	<10
C10 - C14 Fraction	----	50	mg/kg	<50	----	<50	----	<50
C15 - C28 Fraction	----	100	mg/kg	<100	----	<100	----	<100
C29 - C36 Fraction	----	100	mg/kg	<100	----	<100	----	<100
^ C10 - C36 Fraction (sum)	----	50	mg/kg	<50	----	<50	----	<50
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions								

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	BT6	BT7	BT8	BT9	BT10
				Sampling date / time	22-Oct-2021 00:00	22-Oct-2021 00:00	22-Oct-2021 00:00	22-Oct-2021 00:00	22-Oct-2021 00:00
Compound	CAS Number	LOR	Unit		ES2138446-001	ES2138446-002	ES2138446-003	ES2138446-004	ES2138446-005
					Result	Result	Result	Result	Result
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions - Continued									
C6 - C10 Fraction	C6_C10	10	mg/kg		<10	----	<10	----	<10
^ **C6 - C10 Fraction minus BTEX (F1)**	C6_C10-BTEX	10	mg/kg		<10	----	<10	----	<10
>C10 - C16 Fraction	----	50	mg/kg		<50	----	<50	----	<50
>C16 - C34 Fraction	----	100	mg/kg		<100	----	<100	----	<100
>C34 - C40 Fraction	----	100	mg/kg		<100	----	<100	----	<100
^ **>C10 - C40 Fraction (sum)**	----	50	mg/kg		<50	----	<50	----	<50
^ **>C10 - C16 Fraction minus Naphthalene (F2)**	----	50	mg/kg		<50	----	<50	----	<50
EP080: BTEXN									
Benzene	71-43-2	0.2	mg/kg		<0.2	----	<0.2	----	<0.2
Toluene	108-88-3	0.5	mg/kg		<0.5	----	<0.5	----	<0.5
Ethylbenzene	100-41-4	0.5	mg/kg		<0.5	----	<0.5	----	<0.5
meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg		<0.5	----	<0.5	----	<0.5
ortho-Xylene	95-47-6	0.5	mg/kg		<0.5	----	<0.5	----	<0.5
^ **Sum of BTEX**	----	0.2	mg/kg		<0.2	----	<0.2	----	<0.2
^ **Total Xylenes**	----	0.5	mg/kg		<0.5	----	<0.5	----	<0.5
Naphthalene	91-20-3	1	mg/kg		<1	----	<1	----	<1
EP066S: PCB Surrogate									
Decachlorobiphenyl	2051-24-3	0.1	%		----	**124**	----	**104**	----
EP068S: Organochlorine Pesticide Surrogate									
Dibromo-DDE	21655-73-2	0.05	%		----	**126**	----	**112**	----
EP068T: Organophosphorus Pesticide Surrogate									
DEF	78-48-8	0.05	%		----	**110**	----	**88.7**	----
EP075(SIM)S: Phenolic Compound Surrogates									
Phenol-d6	13127-88-3	0.5	%		**85.4**	----	**87.3**	----	**77.8**
2-Chlorophenol-D4	93951-73-6	0.5	%		**93.1**	----	**92.9**	----	**84.3**
2.4.6-Tribromophenol	118-79-6	0.5	%		**93.8**	----	**97.6**	----	**78.4**
EP075(SIM)T: PAH Surrogates									
2-Fluorobiphenyl	321-60-8	0.5	%		**110**	----	**109**	----	**105**
Anthracene-d10	1719-06-8	0.5	%		**100**	----	**99.6**	----	**95.4**
4-Terphenyl-d14	1718-51-0	0.5	%		**98.6**	----	**98.4**	----	**94.6**
EP080S: TPH(V)/BTEX Surrogates									
1.2-Dichloroethane-D4	17060-07-0	0.2	%		**97.3**	----	**108**	----	**86.9**

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	BT6	BT7	BT8	BT9	BT10
				Sampling date / time	22-Oct-2021 00:00	22-Oct-2021 00:00	22-Oct-2021 00:00	22-Oct-2021 00:00	22-Oct-2021 00:00
Compound	CAS Number	LOR	Unit		ES2138446-001	ES2138446-002	ES2138446-003	ES2138446-004	ES2138446-005
					Result	Result	Result	Result	Result
EP080S: TPH(V)/BTEX Surrogates - Continued									
Toluene-D8	2037-26-5	0.2	%		**98.6**	**----**	**110**	**----**	**87.9**
4-Bromofluorobenzene	460-00-4	0.2	%		**91.3**	**----**	**101**	**----**	**84.2**

Surrogate Control Limits

Sub-Matrix: **SOIL**

Compound	CAS Number	Recovery Limits (%) Low	High
EP066S: PCB Surrogate			
Decachlorobiphenyl	2051-24-3	39	149
EP068S: Organochlorine Pesticide Surrogate			
Dibromo-DDE	21655-73-2	49	147
EP068T: Organophosphorus Pesticide Surrogate			
DEF	78-48-8	35	143
EP075(SIM)S: Phenolic Compound Surrogates			
Phenol-d6	13127-88-3	63	123
2-Chlorophenol-D4	93951-73-6	66	122
2.4.6-Tribromophenol	118-79-6	40	138
EP075(SIM)T: PAH Surrogates			
2-Fluorobiphenyl	321-60-8	70	122
Anthracene-d10	1719-06-8	66	128
4-Terphenyl-d14	1718-51-0	65	129
EP080S: TPH(V)/BTEX Surrogates			
1.2-Dichloroethane-D4	17060-07-0	73	133
Toluene-D8	2037-26-5	74	132
4-Bromofluorobenzene	460-00-4	72	130

CHAIN OF CUSTODY RECORD

ABN 50 005 085 521

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	ALLIANCE GEOTECHNICAL	Project №	13546	Project Manager	Jacob W
Address	10 WELDER ROAD, SEVEN HILLS NSW	Project Name	Kemps Creek	EDD Format (ESdat, EQuIS, Custom)	
Contact Name	Sam J			Sampler(s)	SJ
Phone №	430214402			Handed over by	
Special Directions				Email for Invoice	admin@allgeo.com.au
Purchase Order				Email for Results	samjones@allgeo.com.au, enviro@allgeo.com.au, & jacob.walker@allgeo.com.au
Quote ID №					

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

Client Sample ID	Sampled Date/Time (dd/mm/yy hh:mm)	Matrix (Solid (S) Water (W))	Suite B7: TRH, BTEXN, PAH, Metals	Suite B13 : OCP, PCB	EC and pH	L2 Aggressivity Suite	Suite BH19D: Total N, TKN, NOX, NO2, NO3, NH3, Total P	E.Coli and total coliforms - thermotolerant	TRH & BTEX	VOC	HOLD
TP04 0.0-0.1	22/10/21	S					x	x			
TP05 0.0-0.1	22/10/21	S					x	x			
TP06 0.0-0.2	22/10/21	S					x	x			
TP11 0.0-0.1	22/10/21	S					x	x			
TP12 0.0-0.1	22/10/21	S					x	x			
TP19 0.0-0.1	22/10/21	S					x	x			
TP20 0.0-0.1	22/10/21	S					x	x			
TP21 0.0-0.2	22/10/21	S					x	x			
DS01	22/10/21	S					x	x			
DS02	22/10/21	S					x	x			
SW01	22/10/21	W					x	x			
SW02	22/10/21	W					x	x			
TP13-0.0-0.2	22/10/21	S					x	x			
TP29-0.0-0.1	22/10/21	S					x	x			
TP30-0.0-0.1	22/10/21	S					x	x			
TP31-0.0.-0.2	22/10/21	S					x	x			
BD6	22/10/21	S	x								
BT6	22/10/21	S	x								
BD7	22/10/21	S		x							
Total Counts			2	1			16	16			

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

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

- ☐ Overnight (9am)*
- ☐ 1 Day*
- ☐ 2 Day*
- ☐ 3 Day*
- * S[redacted]
- ☐ Other (

Sample Comments / Dangerous Goods Hazard Warning

Please send to ALS for analysis

Environmental Division Sydney
Work Order Reference
ES2138446

Telephone : +61-2-8784 8555

Method of Shipment								
☐ Courier (#)	☐ Hand Delivered	☐ Postal	Name	SJ	Signature		Date	10/8/2021	Time	

Rec 30/11/21 25/11/21 1400 10.2°

CHAIN OF CUSTODY RECORD

ABN 50 005 085 521

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

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

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

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

Company	ALLIANCE GEOTECHNICAL	Project №	13546
Address	10 WELDER ROAD, SEVEN HILLS NSW	Project Name	Kemps Creek
Contact Name	Sam J	Project Manager	Jacob W
Phone №	430214402	EDD Format (ESdat, EQuIS, Custom)	
Special Directions		Sampler(s)	SJ
Purchase Order		Handed over by	
Quote ID №		Email for Invoice	admin@allgeo.com.au
		Email for Results	samjones@allgeo.com.au, enviro@allgeo.com.au, & jacob.walker@allgeo.com.au

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

Containers

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

☐ Overnight (9am)* ☐ 1 Day* ☐ 2 Day* ☐ 3 Day* ☐ Other ( )

№	Client Sample ID	Sampled Date/Time (dd/mm/yy hh:mm)	Matrix (Solid (S) Water (W))	BTEX	Suite B7: TRH, BTEXN, PAH, Metals	Suite B13 : OCP, PCB	EC and pH	L2 Aggressivity Suite	Suite BH19D: Total N, TKN, NOX, NO2, NO3, NH3, Total P	E.Coli and total coliforms - thermotolerant	TRH & BTEX	VOC	HOLD	ASBESTOS ID	1L Plastic	250mL Plastic	125mL Plastic	200mL Amber Glass	40mL VOA vial	500mL PFAS Bottle	Jar (Glass or HDPE)	Other (Asbestos AS4964, WA Guidelines)	Sample Comments / Dangerous Goods Hazard Warning
1	BT7	22/10/21	S			X																	Please send to ALS for analysis
2	BD8	22/10/21	S		X																		Please send to ALS for analysis
3	BT8	22/10/21	S		X																		Please send to ALS for analysis
4	BD9	22/10/21	S			X																	Please send to ALS for analysis
5	BT9	22/10/21	S			X																	Please send to ALS for analysis
6	BD10	22/10/21	S		X																		Please send to ALS for analysis
7	BT10	22/10/21	S		X																		Please send to ALS for analysis
8	BD11	22/10/21	S										X										Please send to ALS for analysis
9	BT11	22/10/21	S										X										Please send to ALS for analysis
10	BD12	22/10/21	S										X										Please send to ALS for analysis
11	BT12	22/10/21	S										X										Please send to ALS for analysis
12	DS13	22/10/21	S										X										Please send to ALS for analysis
13	DS14	22/10/21	S										X										Please send to ALS for analysis
14	DS13-ASB	22/10/21	FRAG											X									Please send to ALS for analysis
15	Trip spike and blank	22/10/21	S	X																			Please send to ALS for analysis
16																							
17																							
18																							
19																							
20																							
21																							
22																							
		Total Counts		1	4	3							6										

Method of Shipment		Name	Signature	Date	Time
☑ Courier (#) ☐ Hand Delivered ☐ Postal		SJ		10/8/2021	

REC-SOIL 1400 21/10/21 1400 102

ALS Environmental

QA/QC Compliance Assessment to assist with Quality Review

Work Order	: **ES2138446**	Page	: 1 of 5
Client	: **ALLIANCE GEOTECHNICAL**	Laboratory	: Environmental Division Sydney
Contact	: SAM JONES	Telephone	: +61-2-8784 8555
Project	: 13546 - Kemps Creek	Date Samples Received	: 25-Oct-2021
Site	: ----	Issue Date	: 29-Oct-2021
Sampler	: SJ	No. of samples received	: 7
Order number	: ----	No. of samples analysed	: 5

This report is automatically generated by the ALS LIMS through interpretation of the ALS Quality Control Report and several Quality Assurance parameters measured by ALS. This automated reporting highlights any non-conformances, facilitates faster and more accurate data validation and is designed to assist internal expert and external Auditor review. Many components of this report contribute to the overall DQO assessment and reporting for guideline compliance.

Brief method summaries and references are also provided to assist in traceability.

Summary of Outliers

Outliers : Quality Control Samples

This report highlights outliers flagged in the Quality Control (QC) Report.

- **NO Method Blank value outliers occur.**
- **NO Duplicate outliers occur.**
- **NO Laboratory Control outliers occur.**
- **NO Matrix Spike outliers occur.**
- **For all regular sample matrices, NO surrogate recovery outliers occur.**

Outliers : Analysis Holding Time Compliance

- **NO Analysis Holding Time Outliers exist.**

Outliers : Frequency of Quality Control Samples

- **NO Quality Control Sample Frequency Outliers exist.**

Analysis Holding Time Compliance

If samples are identified below as having been analysed or extracted outside of recommended holding times, this should be taken into consideration when interpreting results.

This report summarizes extraction / preparation and analysis times and compares each with ALS recommended holding times (referencing USEPA SW 846, APHA, AS and NEPM) based on the sample container provided. Dates reported represent first date of extraction or analysis and preclude subsequent dilutions and reruns. A listing of breaches (if any) is provided herein.

Holding time for leachate methods (e.g. TCLP) vary according to the analytes reported. Assessment compares the leach date with the shortest analyte holding time for the equivalent soil method. These are: organics 14 days, mercury 28 days & other metals 180 days. A recorded breach does not guarantee a breach for all non-volatile parameters.

Holding times for ***VOC in soils*** vary according to analytes of interest. Vinyl Chloride and Styrene holding time is 7 days; others 14 days. A recorded breach does not guarantee a breach for all VOC analytes and should be verified in case the reported breach is a false positive or Vinyl Chloride and Styrene are not key analytes of interest/concern.

Matrix: **SOIL**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EA055: Moisture Content (Dried @ 105-110°C)							
Soil Glass Jar - Unpreserved (EA055) BT6, BT8, BT10	**22-Oct-2021**	**----**	----	----	**26-Oct-2021**	05-Nov-2021	✓
Soil Glass Jar - Unpreserved (EA055) BT7, BT9	**22-Oct-2021**	**----**	----	----	**28-Oct-2021**	05-Nov-2021	✓
EG005(ED093)T: Total Metals by ICP-AES							
Soil Glass Jar - Unpreserved (EG005T) BT6, BT8, BT10	**22-Oct-2021**	**26-Oct-2021**	20-Apr-2022	✓	**27-Oct-2021**	20-Apr-2022	✓
EG035T: Total Recoverable Mercury by FIMS							
Soil Glass Jar - Unpreserved (EG035T) BT6, BT8, BT10	**22-Oct-2021**	**26-Oct-2021**	19-Nov-2021	✓	**27-Oct-2021**	19-Nov-2021	✓
EP066: Polychlorinated Biphenyls (PCB)							
Soil Glass Jar - Unpreserved (EP066) BT7, BT9	**22-Oct-2021**	**26-Oct-2021**	05-Nov-2021	✓	**27-Oct-2021**	05-Dec-2021	✓
EP068A: Organochlorine Pesticides (OC)							
Soil Glass Jar - Unpreserved (EP068) BT7, BT9	**22-Oct-2021**	**26-Oct-2021**	05-Nov-2021	✓	**27-Oct-2021**	05-Dec-2021	✓
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons							
Soil Glass Jar - Unpreserved (EP075(SIM)) BT6, BT8, BT10	**22-Oct-2021**	**26-Oct-2021**	05-Nov-2021	✓	**27-Oct-2021**	05-Dec-2021	✓
EP080/071: Total Petroleum Hydrocarbons							
Soil Glass Jar - Unpreserved (EP080) BT6, BT8, BT10	**22-Oct-2021**	**26-Oct-2021**	05-Nov-2021	✓	**27-Oct-2021**	05-Nov-2021	✓
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions							
Soil Glass Jar - Unpreserved (EP080) BT6, BT8, BT10	**22-Oct-2021**	**26-Oct-2021**	05-Nov-2021	✓	**27-Oct-2021**	05-Nov-2021	✓

Matrix: **SOIL**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EP080: BTEXN							
Soil Glass Jar - Unpreserved (EP080)							
BT6, BT8, BT10	**22-Oct-2021**	**26-Oct-2021**	05-Nov-2021	✓	**27-Oct-2021**	05-Nov-2021	✓

Quality Control Parameter Frequency Compliance

The following report summarises the frequency of laboratory QC samples analysed within the analytical lot(s) in which the submitted sample(s) was(were) processed. Actual rate should be greater than or equal to the expected rate. A listing of breaches is provided in the Summary of Outliers.

Matrix: **SOIL**

Evaluation: × = Quality Control frequency not within specification ; ✓ = Quality Control frequency within specification.

Quality Control Sample Type		Count		Rate (%)			Quality Control Specification
Analytical Methods	*Method*	*QC*	*Regular*	***Actual***	***Expected***	*Evaluation*	
Laboratory Duplicates (DUP)							
Moisture Content	EA055	4	36	**11.11**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
PAH/Phenols (SIM)	EP075(SIM)	2	15	**13.33**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Pesticides by GCMS	EP068	1	7	**14.29**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Polychlorinated Biphenyls (PCB)	EP066	1	7	**14.29**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Mercury by FIMS	EG035T	2	15	**13.33**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Metals by ICP-AES	EG005T	2	20	**10.00**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH - Semivolatile Fraction	EP071	2	15	**13.33**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH Volatiles/BTEX	EP080	2	20	**10.00**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Laboratory Control Samples (LCS)							
PAH/Phenols (SIM)	EP075(SIM)	1	15	**6.67**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Pesticides by GCMS	EP068	1	7	**14.29**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Polychlorinated Biphenyls (PCB)	EP066	1	7	**14.29**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Mercury by FIMS	EG035T	1	15	**6.67**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Metals by ICP-AES	EG005T	1	20	**5.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH - Semivolatile Fraction	EP071	1	15	**6.67**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH Volatiles/BTEX	EP080	1	20	**5.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Method Blanks (MB)							
PAH/Phenols (SIM)	EP075(SIM)	1	15	**6.67**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Pesticides by GCMS	EP068	1	7	**14.29**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Polychlorinated Biphenyls (PCB)	EP066	1	7	**14.29**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Mercury by FIMS	EG035T	1	15	**6.67**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Metals by ICP-AES	EG005T	1	20	**5.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH - Semivolatile Fraction	EP071	1	15	**6.67**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH Volatiles/BTEX	EP080	1	20	**5.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Matrix Spikes (MS)							
PAH/Phenols (SIM)	EP075(SIM)	1	15	**6.67**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Pesticides by GCMS	EP068	1	7	**14.29**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Polychlorinated Biphenyls (PCB)	EP066	1	7	**14.29**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Mercury by FIMS	EG035T	1	15	**6.67**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Metals by ICP-AES	EG005T	1	20	**5.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH - Semivolatile Fraction	EP071	1	15	**6.67**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH Volatiles/BTEX	EP080	1	20	**5.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard

Brief Method Summaries

The analytical procedures used by the Environmental Division have been developed from established internationally recognized procedures such as those published by the US EPA, APHA, AS and NEPM. In house developed procedures are employed in the absence of documented standards or by client request. The following report provides brief descriptions of the analytical procedures employed for results reported in the Certificate of Analysis. Sources from which ALS methods have been developed are provided within the Method Descriptions.

Analytical Methods	Method	Matrix	Method Descriptions
Moisture Content	EA055	SOIL	In house: A gravimetric procedure based on weight loss over a 12 hour drying period at 105-110 degrees C. This method is compliant with NEPM Schedule B(3).
Total Metals by ICP-AES	EG005T	SOIL	In house: Referenced to APHA 3120; USEPA SW 846 - 6010. Metals are determined following an appropriate acid digestion of the soil. The ICPAES technique ionises samples in a plasma, emitting a characteristic spectrum based on metals present. Intensities at selected wavelengths are compared against those of matrix matched standards. This method is compliant with NEPM Schedule B(3)
Total Mercury by FIMS	EG035T	SOIL	In house: Referenced to AS 3550, APHA 3112 Hg - B (Flow-injection (SnCl2) (Cold Vapour generation) AAS) FIM-AAS is an automated flameless atomic absorption technique. Mercury in solids are determined following an appropriate acid digestion. Ionic mercury is reduced online to atomic mercury vapour by SnCl2 which is then purged into a heated quartz cell. Quantification is by comparing absorbance against a calibration curve. This method is compliant with NEPM Schedule B(3)
Polychlorinated Biphenyls (PCB)	EP066	SOIL	In house: Referenced to USEPA SW 846 - 8270 Extracts are analysed by Capillary GC/MS and quantification is by comparison against an established 5 point calibration curve. This method is compliant with NEPM Schedule B(3).
Pesticides by GCMS	EP068	SOIL	In house: Referenced to USEPA SW 846 - 8270 Extracts are analysed by Capillary GC/MS and quantification is by comparison against an established 5 point calibration curve. This technique is compliant with NEPM Schedule B(3).
TRH - Semivolatile Fraction	EP071	SOIL	In house: Referenced to USEPA SW 846 - 8015 Sample extracts are analysed by Capillary GC/FID and quantified against alkane standards over the range C10 - C40. Compliant with NEPM Schedule B(3).
PAH/Phenols (SIM)	EP075(SIM)	SOIL	In house: Referenced to USEPA SW 846 - 8270. Extracts are analysed by Capillary GC/MS in Selective Ion Mode (SIM) and quantification is by comparison against an established 5 point calibration curve. This method is compliant with NEPM Schedule B(3)
TRH Volatiles/BTEX	EP080	SOIL	In house: Referenced to USEPA SW 846 - 8260. Extracts are analysed by Purge and Trap, Capillary GC/MS. Quantification is by comparison against an established 5 point calibration curve. Compliant with NEPM Schedule B(3) amended.

Preparation Methods	Method	Matrix	Method Descriptions
Hot Block Digest for metals in soils sediments and sludges	EN69	SOIL	In house: Referenced to USEPA 200.2. Hot Block Acid Digestion 1.0g of sample is heated with Nitric and Hydrochloric acids, then cooled. Peroxide is added and samples heated and cooled again before being filtered and bulked to volume for analysis. Digest is appropriate for determination of selected metals in sludge, sediments, and soils. This method is compliant with NEPM Schedule B(3).
Methanolic Extraction of Soils for Purge and Trap	ORG16	SOIL	In house: Referenced to USEPA SW 846 - 5030A. 5g of solid is shaken with surrogate and 10mL methanol prior to analysis by Purge and Trap - GC/MS.
Tumbler Extraction of Solids	ORG17	SOIL	In house: Mechanical agitation (tumbler). 10g of sample, Na2SO4 and surrogate are extracted with 30mL 1:1 DCM/Acetone by end over end tumble. The solvent is decanted, dehydrated and concentrated (by KD) to the desired volume for analysis.

QUALITY CONTROL REPORT

Work Order	: **ES2138446**	Page	: 1 of 9
Client	: **ALLIANCE GEOTECHNICAL**	Laboratory	: Environmental Division Sydney
Contact	: SAM JONES	Contact	: Customer Services ES
Address	: 8/10 Welder Road, Seven Hills 2147	Address	: 277-289 Woodpark Road Smithfield NSW Australia 2164
Telephone	: ----	Telephone	: +61-2-8784 8555
Project	: 13546 - Kemps Creek	Date Samples Received	: 25-Oct-2021
Order number	: ----	Date Analysis Commenced	: 26-Oct-2021
C-O-C number	: ----	Issue Date	: 29-Oct-2021
Sampler	: SJ		
Site	: ----		
Quote number	: EN/222		
No. of samples received	: 7		
No. of samples analysed	: 5		

Accreditation No. 825
Accredited for compliance with
ISO/IEC 17025 - Testing

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted, unless the sampling was conducted by ALS. This document shall not be reproduced, except in full.

This Quality Control Report contains the following information:

- Laboratory Duplicate (DUP) Report; Relative Percentage Difference (RPD) and Acceptance Limits
- Method Blank (MB) and Laboratory Control Spike (LCS) Report; Recovery and Acceptance Limits
- Matrix Spike (MS) Report; Recovery and Acceptance Limits

Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is carried out in compliance with procedures specified in 21 CFR Part 11.

Signatories	*Position*	*Accreditation Category*
Edwandy Fadjar	Organic Coordinator	Sydney Inorganics, Smithfield, NSW
Edwandy Fadjar	Organic Coordinator	Sydney Organics, Smithfield, NSW
Franco Lentini	LCMS Coordinator	Sydney Inorganics, Smithfield, NSW
Ivan Taylor	Analyst	Sydney Inorganics, Smithfield, NSW

General Comments

The analytical procedures used by ALS have been developed from established internationally recognised procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are fully validated and are often at the client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis. Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

Key : Anonymous = Refers to samples which are not specifically part of this work order but formed part of the QC process lot
CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.
LOR = Limit of reporting
RPD = Relative Percentage Difference
# = Indicates failed QC

Laboratory Duplicate (DUP) Report

The quality control term Laboratory Duplicate refers to a randomly selected intralaboratory split. Laboratory duplicates provide information regarding method precision and sample heterogeneity. The permitted ranges for the Relative Percent Deviation (RPD) of Laboratory Duplicates are specified in ALS Method QWI-EN/38 and are dependent on the magnitude of results in comparison to the level of reporting: Result < 10 times LOR: No Limit; Result between 10 and 20 times LOR: 0% - 50%; Result > 20 times LOR: 0% - 20%.

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Acceptable RPD (%)
EG005(ED093)T: Total Metals by ICP-AES (QC Lot: 3978494)									
ES2138459-007	Anonymous	EG005T: Cadmium	7440-43-9	1	mg/kg	<1	<1	0.0	No Limit
		EG005T: Chromium	7440-47-3	2	mg/kg	19	19	0.0	No Limit
		EG005T: Nickel	7440-02-0	2	mg/kg	13	12	0.0	No Limit
		EG005T: Arsenic	7440-38-2	5	mg/kg	6	6	0.0	No Limit
		EG005T: Copper	7440-50-8	5	mg/kg	25	27	7.4	No Limit
		EG005T: Lead	7439-92-1	5	mg/kg	67	75	11.4	0% - 50%
		EG005T: Zinc	7440-66-6	5	mg/kg	155	145	6.2	0% - 20%
ES2138445-001	Anonymous	EG005T: Cadmium	7440-43-9	1	mg/kg	<1	<1	0.0	No Limit
		EG005T: Chromium	7440-47-3	2	mg/kg	17	17	0.0	No Limit
		EG005T: Nickel	7440-02-0	2	mg/kg	10	13	27.0	No Limit
		EG005T: Arsenic	7440-38-2	5	mg/kg	12	8	48.1	No Limit
		EG005T: Copper	7440-50-8	5	mg/kg	69	55	22.4	0% - 50%
		EG005T: Zinc	7440-66-6	5	mg/kg	427	442	3.5	0% - 20%
EA055: Moisture Content (Dried @ 105-110°C) (QC Lot: 3978496)									
ES2138446-001	BT6	EA055: Moisture Content	----	0.1	%	19.8	20.8	4.7	0% - 20%
ES2138459-011	Anonymous	EA055: Moisture Content	----	0.1	%	17.6	16.4	6.7	0% - 50%
EA055: Moisture Content (Dried @ 105-110°C) (QC Lot: 3981434)									
EP2112715-006	Anonymous	EA055: Moisture Content	----	0.1	%	1.1	0.7	47.0	0% - 50%
ES2138446-004	BT9	EA055: Moisture Content	----	0.1	%	22.8	22.0	3.6	0% - 20%
EG035T: Total Recoverable Mercury by FIMS (QC Lot: 3978495)									
ES2138459-007	Anonymous	EG035T: Mercury	7439-97-6	0.1	mg/kg	<0.1	<0.1	0.0	No Limit
ES2138445-001	Anonymous	EG035T: Mercury	7439-97-6	0.1	mg/kg	0.8	0.7	0.0	No Limit
EP066: Polychlorinated Biphenyls (PCB) (QC Lot: 3976647)									

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Acceptable RPD (%)*
EP066: Polychlorinated Biphenyls (PCB) (QC Lot: 3976647) - continued									
ES2138459-001	Anonymous	EP066: Total Polychlorinated biphenyls	----	0.1	mg/kg	<0.1	<0.1	0.0	No Limit
EP068A: Organochlorine Pesticides (OC) (QC Lot: 3976646)									
ES2138459-001	Anonymous	EP068: alpha-BHC	319-84-6	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Hexachlorobenzene (HCB)	118-74-1	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: beta-BHC	319-85-7	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: gamma-BHC	58-89-9	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: delta-BHC	319-86-8	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Heptachlor	76-44-8	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Aldrin	309-00-2	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Heptachlor epoxide	1024-57-3	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: trans-Chlordane	5103-74-2	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: alpha-Endosulfan	959-98-8	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: cis-Chlordane	5103-71-9	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Dieldrin	60-57-1	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: 4.4`-DDE	72-55-9	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Endrin	72-20-8	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: beta-Endosulfan	33213-65-9	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: 4.4`-DDD	72-54-8	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Endrin aldehyde	7421-93-4	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Endosulfan sulfate	1031-07-8	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Endrin ketone	53494-70-5	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: 4.4`-DDT	50-29-3	0.2	mg/kg	<0.2	<0.2	0.0	No Limit
		EP068: Methoxychlor	72-43-5	0.2	mg/kg	<0.2	<0.2	0.0	No Limit
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QC Lot: 3976644)									
ES2138459-010	Anonymous	EP075(SIM): Naphthalene	91-20-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Acenaphthene	83-32-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Fluorene	86-73-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Phenanthrene	85-01-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Anthracene	120-12-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Fluoranthene	206-44-0	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Pyrene	129-00-0	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Benz(a)anthracene	56-55-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Chrysene	218-01-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Acceptable RPD (%)*
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QC Lot: 3976644) - continued									
ES2138459-010	Anonymous	EP075(SIM): Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Sum of polycyclic aromatic hydrocarbons	----	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Benzo(a)pyrene TEQ (zero)	----	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
ES2138459-001	Anonymous	EP075(SIM): Naphthalene	91-20-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Acenaphthene	83-32-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Fluorene	86-73-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Phenanthrene	85-01-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Anthracene	120-12-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Fluoranthene	206-44-0	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Pyrene	129-00-0	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Benz(a)anthracene	56-55-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Chrysene	218-01-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Sum of polycyclic aromatic hydrocarbons	----	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Benzo(a)pyrene TEQ (zero)	----	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
EP080/071: Total Petroleum Hydrocarbons (QC Lot: 3976075)									
ES2138391-001	Anonymous	EP080: C6 - C9 Fraction	----	10	mg/kg	<10	<10	0.0	No Limit
ES2138459-003	Anonymous	EP080: C6 - C9 Fraction	----	10	mg/kg	<10	<10	0.0	No Limit
EP080/071: Total Petroleum Hydrocarbons (QC Lot: 3976645)									
ES2138459-010	Anonymous	EP071: C15 - C28 Fraction	----	100	mg/kg	180	160	11.1	No Limit
		EP071: C29 - C36 Fraction	----	100	mg/kg	210	180	18.3	No Limit
		EP071: C10 - C14 Fraction	----	50	mg/kg	<50	<50	0.0	No Limit
ES2138459-001	Anonymous	EP071: C15 - C28 Fraction	----	100	mg/kg	<100	<100	0.0	No Limit
		EP071: C29 - C36 Fraction	----	100	mg/kg	140	120	19.3	No Limit
		EP071: C10 - C14 Fraction	----	50	mg/kg	<50	<50	0.0	No Limit
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QC Lot: 3976075)									
ES2138391-001	Anonymous	EP080: C6 - C10 Fraction	C6_C10	10	mg/kg	<10	<10	0.0	No Limit
ES2138459-003	Anonymous	EP080: C6 - C10 Fraction	C6_C10	10	mg/kg	<10	<10	0.0	No Limit
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QC Lot: 3976645)									
ES2138459-010	Anonymous	EP071: >C16 - C34 Fraction	----	100	mg/kg	310	270	14.2	No Limit
		EP071: >C34 - C40 Fraction	----	100	mg/kg	160	120	21.1	No Limit

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Acceptable RPD (%)*
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QC Lot: 3976645) - continued									
ES2138459-010	Anonymous	EP071: >C10 - C16 Fraction	----	50	mg/kg	<50	<50	0.0	No Limit
ES2138459-001	Anonymous	EP071: >C16 - C34 Fraction	----	100	mg/kg	160	150	8.9	No Limit
		EP071: >C34 - C40 Fraction	----	100	mg/kg	130	100	29.1	No Limit
		EP071: >C10 - C16 Fraction	----	50	mg/kg	<50	<50	0.0	No Limit
EP080: BTEXN (QC Lot: 3976075)									
ES2138391-001	Anonymous	EP080: Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	0.0	No Limit
		EP080: Toluene	108-88-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: Naphthalene	91-20-3	1	mg/kg	<1	<1	0.0	No Limit
ES2138459-003	Anonymous	EP080: Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	0.0	No Limit
		EP080: Toluene	108-88-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: Naphthalene	91-20-3	1	mg/kg	<1	<1	0.0	No Limit

Method Blank (MB) and Laboratory Control Sample (LCS) Report

The quality control term Method / Laboratory Blank refers to an analyte free matrix to which all reagents are added in the same volumes or proportions as used in standard sample preparation. The purpose of this QC parameter is to monitor potential laboratory contamination. The quality control term Laboratory Control Sample (LCS) refers to a certified reference material, or a known interference free matrix spiked with target analytes. The purpose of this QC parameter is to monitor method precision and accuracy independent of sample matrix. Dynamic Recovery Limits are based on statistical evaluation of processed LCS.

Sub-Matrix: **SOIL**

				Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Acceptable Limits (%)	
Method: Compound	CAS Number	LOR	Unit	Result	Concentration	LCS	Low	High
EG005(ED093)T: Total Metals by ICP-AES (QCLot: 3978494)								
EG005T: Arsenic	7440-38-2	5	mg/kg	<5	121.1 mg/kg	98.0	88.0	113
EG005T: Cadmium	7440-43-9	1	mg/kg	<1	0.74 mg/kg	104	70.0	130
EG005T: Chromium	7440-47-3	2	mg/kg	<2	19.6 mg/kg	110	68.0	132
EG005T: Copper	7440-50-8	5	mg/kg	<5	52.9 mg/kg	105	89.0	111
EG005T: Lead	7439-92-1	5	mg/kg	<5	60.8 mg/kg	102	82.0	119
EG005T: Nickel	7440-02-0	2	mg/kg	<2	15.3 mg/kg	98.1	80.0	120
EG005T: Zinc	7440-66-6	5	mg/kg	<5	139.3 mg/kg	88.6	66.0	133
EG035T: Total Recoverable Mercury by FIMS (QCLot: 3978495)								
EG035T: Mercury	7439-97-6	0.1	mg/kg	<0.1	0.087 mg/kg	111	70.0	125
EP066: Polychlorinated Biphenyls (PCB) (QCLot: 3976647)								
EP066: Total Polychlorinated biphenyls	----	0.1	mg/kg	<0.1	1 mg/kg	101	62.0	126
EP068A: Organochlorine Pesticides (OC) (QCLot: 3976646)								
EP068: alpha-BHC	319-84-6	0.05	mg/kg	<0.05	0.5 mg/kg	85.6	69.0	113
EP068: Hexachlorobenzene (HCB)	118-74-1	0.05	mg/kg	<0.05	0.5 mg/kg	86.6	65.0	117
EP068: beta-BHC	319-85-7	0.05	mg/kg	<0.05	0.5 mg/kg	88.7	67.0	119
EP068: gamma-BHC	58-89-9	0.05	mg/kg	<0.05	0.5 mg/kg	86.6	68.0	116
EP068: delta-BHC	319-86-8	0.05	mg/kg	<0.05	0.5 mg/kg	88.1	65.0	117
EP068: Heptachlor	76-44-8	0.05	mg/kg	<0.05	0.5 mg/kg	86.1	67.0	115
EP068: Aldrin	309-00-2	0.05	mg/kg	<0.05	0.5 mg/kg	87.6	69.0	115
EP068: Heptachlor epoxide	1024-57-3	0.05	mg/kg	<0.05	0.5 mg/kg	87.4	62.0	118
EP068: trans-Chlordane	5103-74-2	0.05	mg/kg	<0.05	0.5 mg/kg	88.6	63.0	117
EP068: alpha-Endosulfan	959-98-8	0.05	mg/kg	<0.05	0.5 mg/kg	89.2	66.0	116
EP068: cis-Chlordane	5103-71-9	0.05	mg/kg	<0.05	0.5 mg/kg	88.0	64.0	116
EP068: Dieldrin	60-57-1	0.05	mg/kg	<0.05	0.5 mg/kg	87.6	66.0	116
EP068: 4.4`-DDE	72-55-9	0.05	mg/kg	<0.05	0.5 mg/kg	90.0	67.0	115
EP068: Endrin	72-20-8	0.05	mg/kg	<0.05	0.5 mg/kg	85.2	67.0	123
EP068: beta-Endosulfan	33213-65-9	0.05	mg/kg	<0.05	0.5 mg/kg	85.5	69.0	115
EP068: 4.4`-DDD	72-54-8	0.05	mg/kg	<0.05	0.5 mg/kg	89.0	69.0	121
EP068: Endrin aldehyde	7421-93-4	0.05	mg/kg	<0.05	0.5 mg/kg	80.3	56.0	120
EP068: Endosulfan sulfate	1031-07-8	0.05	mg/kg	<0.05	0.5 mg/kg	85.7	62.0	124
EP068: 4.4`-DDT	50-29-3	0.2	mg/kg	<0.2	0.5 mg/kg	88.3	66.0	120
EP068: Endrin ketone	53494-70-5	0.05	mg/kg	<0.05	0.5 mg/kg	86.3	64.0	122
EP068: Methoxychlor	72-43-5	0.2	mg/kg	<0.2	0.5 mg/kg	85.0	54.0	130
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 3976644)								

Sub-Matrix: **SOIL**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Acceptable Limits (%)	
				Result	Concentration	LCS	Low	High
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 3976644) - continued								
EP075(SIM): Naphthalene	91-20-3	0.5	mg/kg	<0.5	6 mg/kg	106	77.0	125
EP075(SIM): Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	6 mg/kg	113	72.0	124
EP075(SIM): Acenaphthene	83-32-9	0.5	mg/kg	<0.5	6 mg/kg	101	73.0	127
EP075(SIM): Fluorene	86-73-7	0.5	mg/kg	<0.5	6 mg/kg	112	72.0	126
EP075(SIM): Phenanthrene	85-01-8	0.5	mg/kg	<0.5	6 mg/kg	107	75.0	127
EP075(SIM): Anthracene	120-12-7	0.5	mg/kg	<0.5	6 mg/kg	106	77.0	127
EP075(SIM): Fluoranthene	206-44-0	0.5	mg/kg	<0.5	6 mg/kg	116	73.0	127
EP075(SIM): Pyrene	129-00-0	0.5	mg/kg	<0.5	6 mg/kg	112	74.0	128
EP075(SIM): Benz(a)anthracene	56-55-3	0.5	mg/kg	<0.5	6 mg/kg	108	69.0	123
EP075(SIM): Chrysene	218-01-9	0.5	mg/kg	<0.5	6 mg/kg	105	75.0	127
EP075(SIM): Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg	<0.5	6 mg/kg	109	68.0	116
EP075(SIM): Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	<0.5	6 mg/kg	105	74.0	126
EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	mg/kg	<0.5	6 mg/kg	116	70.0	126
EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	<0.5	6 mg/kg	114	61.0	121
EP075(SIM): Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	<0.5	6 mg/kg	109	62.0	118
EP075(SIM): Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	<0.5	6 mg/kg	114	63.0	121
EP080/071: Total Petroleum Hydrocarbons (QCLot: 3976075)								
EP080: C6 - C9 Fraction	----	10	mg/kg	<10	26 mg/kg	106	68.4	128
EP080/071: Total Petroleum Hydrocarbons (QCLot: 3976645)								
EP071: C10 - C14 Fraction	----	50	mg/kg	<50	300 mg/kg	98.6	75.0	129
EP071: C15 - C28 Fraction	----	100	mg/kg	<100	450 mg/kg	102	77.0	131
EP071: C29 - C36 Fraction	----	100	mg/kg	<100	300 mg/kg	102	71.0	129
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 3976075)								
EP080: C6 - C10 Fraction	C6_C10	10	mg/kg	<10	31 mg/kg	107	68.4	128
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 3976645)								
EP071: >C10 - C16 Fraction	----	50	mg/kg	<50	375 mg/kg	104	77.0	125
EP071: >C16 - C34 Fraction	----	100	mg/kg	<100	525 mg/kg	91.4	74.0	138
EP071: >C34 - C40 Fraction	----	100	mg/kg	<100	225 mg/kg	106	63.0	131
EP080: BTEXN (QCLot: 3976075)								
EP080: Benzene	71-43-2	0.2	mg/kg	<0.2	1 mg/kg	102	62.0	116
EP080: Toluene	108-88-3	0.5	mg/kg	<0.5	1 mg/kg	105	67.0	121
EP080: Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	1 mg/kg	102	65.0	117
EP080: meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	2 mg/kg	106	66.0	118
EP080: ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	1 mg/kg	102	68.0	120
EP080: Naphthalene	91-20-3	1	mg/kg	<1	1 mg/kg	98.5	63.0	119

Matrix Spike (MS) Report

The quality control term Matrix Spike (MS) refers to an intralaboratory split sample spiked with a representative set of target analytes. The purpose of this QC parameter is to monitor potential matrix effects on analyte recoveries. Static Recovery Limits as per laboratory Data Quality Objectives (DQOs). Ideal recovery ranges stated may be waived in the event of sample matrix interference.

Sub-Matrix: **SOIL**

				Matrix Spike (MS) Report			
				Spike	SpikeRecovery(%)	Acceptable Limits (%)	
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Concentration	MS	Low	High
EG005(ED093)T: Total Metals by ICP-AES (QCLot: 3978494)							
ES2138445-001	Anonymous	EG005T: Arsenic	7440-38-2	50 mg/kg	85.4	70.0	130
		EG005T: Cadmium	7440-43-9	50 mg/kg	94.3	70.0	130
		EG005T: Chromium	7440-47-3	50 mg/kg	96.0	68.0	132
		EG005T: Copper	7440-50-8	250 mg/kg	93.9	70.0	130
		EG005T: Lead	7439-92-1	250 mg/kg	130	70.0	130
		EG005T: Nickel	7440-02-0	50 mg/kg	92.8	70.0	130
		EG005T: Zinc	7440-66-6	250 mg/kg	85.5	66.0	133
EG035T: Total Recoverable Mercury by FIMS (QCLot: 3978495)							
ES2138445-001	Anonymous	EG035T: Mercury	7439-97-6	5 mg/kg	130	70.0	130
EP066: Polychlorinated Biphenyls (PCB) (QCLot: 3976647)							
ES2138459-001	Anonymous	EP066: Total Polychlorinated biphenyls	----	1 mg/kg	95.3	70.0	130
EP068A: Organochlorine Pesticides (OC) (QCLot: 3976646)							
ES2138459-001	Anonymous	EP068: gamma-BHC	58-89-9	0.5 mg/kg	81.8	70.0	130
		EP068: Heptachlor	76-44-8	0.5 mg/kg	90.1	70.0	130
		EP068: Aldrin	309-00-2	0.5 mg/kg	83.2	70.0	130
		EP068: Dieldrin	60-57-1	0.5 mg/kg	84.6	70.0	130
		EP068: Endrin	72-20-8	2 mg/kg	78.9	70.0	130
		EP068: 4.4`-DDT	50-29-3	2 mg/kg	83.5	70.0	130
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 3976644)							
ES2138459-001	Anonymous	EP075(SIM): Acenaphthene	83-32-9	10 mg/kg	86.1	70.0	130
		EP075(SIM): Pyrene	129-00-0	10 mg/kg	105	70.0	130
EP080/071: Total Petroleum Hydrocarbons (QCLot: 3976075)							
ES2138391-001	Anonymous	EP080: C6 - C9 Fraction	----	32.5 mg/kg	111	70.0	130
EP080/071: Total Petroleum Hydrocarbons (QCLot: 3976645)							
ES2138459-001	Anonymous	EP071: C10 - C14 Fraction	----	480 mg/kg	106	73.0	137
		EP071: C15 - C28 Fraction	----	3100 mg/kg	105	53.0	131
		EP071: C29 - C36 Fraction	----	2060 mg/kg	111	52.0	132
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 3976075)							
ES2138391-001	Anonymous	EP080: C6 - C10 Fraction	C6_C10	37.5 mg/kg	110	70.0	130
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 3976645)							
ES2138459-001	Anonymous	EP071: >C10 - C16 Fraction	----	860 mg/kg	104	73.0	137
		EP071: >C16 - C34 Fraction	----	4320 mg/kg	106	53.0	131

Sub-Matrix: **SOIL**

				Matrix Spike (MS) Report			
				Spike	SpikeRecovery(%)	Acceptable Limits (%)	
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*Concentration*	*MS*	*Low*	*High*
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 3976645) - continued							
ES2138459-001	Anonymous	EP071: >C34 - C40 Fraction	----	890 mg/kg	118	52.0	132
EP080: BTEXN (QCLot: 3976075)							
ES2138391-001	Anonymous	EP080: Benzene	71-43-2	2.5 mg/kg	95.9	70.0	130
		EP080: Toluene	108-88-3	2.5 mg/kg	94.1	70.0	130
		EP080: Ethylbenzene	100-41-4	2.5 mg/kg	95.6	70.0	130
		EP080: meta- & para-Xylene	108-38-3 106-42-3	2.5 mg/kg	96.1	70.0	130
		EP080: ortho-Xylene	95-47-6	2.5 mg/kg	95.5	70.0	130
		EP080: Naphthalene	91-20-3	2.5 mg/kg	78.7	70.0	130

QUALITY CONTROL REPORT

Work Order	: **ES2137883**	Page	: 1 of 11
Client	: **ALLIANCE GEOTECHNICAL**	Laboratory	: Environmental Division Sydney
Contact	: Jacob Walker	Contact	: Customer Services ES
Address	: 8/10 Welder Road, Seven Hills 2147	Address	: 277-289 Woodpark Road Smithfield NSW Australia 2164
Telephone	: ----	Telephone	: +61-2-8784 8555
Project	: 13546 - Kemps Creek	Date Samples Received	: 20-Oct-2021
Order number	: ----	Date Analysis Commenced	: 22-Oct-2021
C-O-C number	: ----	Issue Date	: 27-Oct-2021
Sampler	: SJ		
Site	: ----		
Quote number	: EN/222		
No. of samples received	: 3		
No. of samples analysed	: 3		

Accreditation No. 825
Accredited for compliance with
ISO/IEC 17025 - Testing

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted, unless the sampling was conducted by ALS. This document shall not be reproduced, except in full.

This Quality Control Report contains the following information:

- Laboratory Duplicate (DUP) Report; Relative Percentage Difference (RPD) and Acceptance Limits
- Method Blank (MB) and Laboratory Control Spike (LCS) Report; Recovery and Acceptance Limits
- Matrix Spike (MS) Report; Recovery and Acceptance Limits

Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is carried out in compliance with procedures specified in 21 CFR Part 11.

Signatories	*Position*	*Accreditation Category*
Edwandy Fadjar	Organic Coordinator	Sydney Organics, Smithfield, NSW
Ivan Taylor	Analyst	Sydney Inorganics, Smithfield, NSW

General Comments

The analytical procedures used by ALS have been developed from established internationally recognised procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are fully validated and are often at the client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis. Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

Key : Anonymous = Refers to samples which are not specifically part of this work order but formed part of the QC process lot
CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.
LOR = Limit of reporting
RPD = Relative Percentage Difference
# = Indicates failed QC

Laboratory Duplicate (DUP) Report

The quality control term Laboratory Duplicate refers to a randomly selected intralaboratory split. Laboratory duplicates provide information regarding method precision and sample heterogeneity. The permitted ranges for the Relative Percent Deviation (RPD) of Laboratory Duplicates are specified in ALS Method QWI-EN/38 and are dependent on the magnitude of results in comparison to the level of reporting: Result < 10 times LOR: No Limit; Result between 10 and 20 times LOR: 0% - 50%; Result > 20 times LOR: 0% - 20%.

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Acceptable RPD (%)
EG005(ED093)T: Total Metals by ICP-AES (QC Lot: 3971709)									
ES2137882-005	Anonymous	EG005T: Cadmium	7440-43-9	1	mg/kg	<1	<1	0.0	No Limit
		EG005T: Chromium	7440-47-3	2	mg/kg	22	20	11.8	0% - 50%
		EG005T: Nickel	7440-02-0	2	mg/kg	23	21	8.8	0% - 50%
		EG005T: Arsenic	7440-38-2	5	mg/kg	<5	<5	0.0	No Limit
		EG005T: Copper	7440-50-8	5	mg/kg	27	25	6.4	No Limit
		EG005T: Lead	7439-92-1	5	mg/kg	10	9	12.3	No Limit
		EG005T: Zinc	7440-66-6	5	mg/kg	77	70	9.5	0% - 50%
ES2137909-006	Anonymous	EG005T: Cadmium	7440-43-9	1	mg/kg	<1	<1	0.0	No Limit
		EG005T: Chromium	7440-47-3	2	mg/kg	11	16	35.7	No Limit
		EG005T: Nickel	7440-02-0	2	mg/kg	8	9	0.0	No Limit
		EG005T: Arsenic	7440-38-2	5	mg/kg	17	17	0.0	No Limit
		EG005T: Copper	7440-50-8	5	mg/kg	351	424	18.8	0% - 20%
		EG005T: Lead	7439-92-1	5	mg/kg	178	187	5.1	0% - 20%
		EG005T: Zinc	7440-66-6	5	mg/kg	259	297	13.5	0% - 20%
EA055: Moisture Content (Dried @ 105-110°C) (QC Lot: 3971712)									
ES2137862-034	Anonymous	EA055: Moisture Content	----	0.1	%	15.6	15.8	1.2	0% - 50%
ES2137884-003	Anonymous	EA055: Moisture Content	----	0.1	%	13.1	12.4	5.1	0% - 50%
EA055: Moisture Content (Dried @ 105-110°C) (QC Lot: 3975176)									
EP2112539-016	Anonymous	EA055: Moisture Content	----	0.1	%	6.9	6.5	5.8	0% - 20%
ES2138004-003	Anonymous	EA055: Moisture Content	----	0.1	%	24.8	22.9	7.7	0% - 20%
EG035T: Total Recoverable Mercury by FIMS (QC Lot: 3971710)									
ES2137882-005	Anonymous	EG035T: Mercury	7439-97-6	0.1	mg/kg	<0.1	<0.1	0.0	No Limit
ES2137909-006	Anonymous	EG035T: Mercury	7439-97-6	0.1	mg/kg	0.1	0.2	0.0	No Limit

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Acceptable RPD (%)*
EP066: Polychlorinated Biphenyls (PCB) (QC Lot: 3970298)									
ES2137883-002	BT2	EP066: Total Polychlorinated biphenyls	----	0.1	mg/kg	<0.1	<0.1	0.0	No Limit
EP068A: Organochlorine Pesticides (OC) (QC Lot: 3970297)									
ES2137883-002	BT2	EP068: alpha-BHC	319-84-6	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Hexachlorobenzene (HCB)	118-74-1	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: beta-BHC	319-85-7	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: gamma-BHC	58-89-9	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: delta-BHC	319-86-8	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Heptachlor	76-44-8	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Aldrin	309-00-2	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Heptachlor epoxide	1024-57-3	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: trans-Chlordane	5103-74-2	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: alpha-Endosulfan	959-98-8	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: cis-Chlordane	5103-71-9	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Dieldrin	60-57-1	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: 4.4`-DDE	72-55-9	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Endrin	72-20-8	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: beta-Endosulfan	33213-65-9	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: 4.4`-DDD	72-54-8	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Endrin aldehyde	7421-93-4	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Endosulfan sulfate	1031-07-8	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Endrin ketone	53494-70-5	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: 4.4`-DDT	50-29-3	0.2	mg/kg	<0.2	<0.2	0.0	No Limit
		EP068: Methoxychlor	72-43-5	0.2	mg/kg	<0.2	<0.2	0.0	No Limit
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QC Lot: 3970303)									
ES2138106-001	Anonymous	EP075(SIM): Naphthalene	91-20-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Acenaphthene	83-32-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Fluorene	86-73-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Phenanthrene	85-01-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Anthracene	120-12-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Fluoranthene	206-44-0	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Pyrene	129-00-0	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Benz(a)anthracene	56-55-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Chrysene	218-01-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Acceptable RPD (%)*
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QC Lot: 3970303) - continued									
ES2138106-001	Anonymous	EP075(SIM): Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Sum of polycyclic aromatic hydrocarbons	----	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Benzo(a)pyrene TEQ (zero)	----	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
ES2137909-001	Anonymous	EP075(SIM): Naphthalene	91-20-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Acenaphthene	83-32-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Fluorene	86-73-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Phenanthrene	85-01-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Anthracene	120-12-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Fluoranthene	206-44-0	0.5	mg/kg	<0.5	0.6	21.0	No Limit
		EP075(SIM): Pyrene	129-00-0	0.5	mg/kg	<0.5	0.6	0.0	No Limit
		EP075(SIM): Benz(a)anthracene	56-55-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Chrysene	218-01-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Sum of polycyclic aromatic hydrocarbons	----	0.5	mg/kg	<0.5	1.2	82.4	No Limit
		EP075(SIM): Benzo(a)pyrene TEQ (zero)	----	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QC Lot: 3971335)									
ES2137799-007	Anonymous	EP075(SIM): Naphthalene	91-20-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Acenaphthene	83-32-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Fluorene	86-73-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Phenanthrene	85-01-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Anthracene	120-12-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Fluoranthene	206-44-0	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Pyrene	129-00-0	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Benz(a)anthracene	56-55-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Chrysene	218-01-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	<0.5	<0.5	0.0	No Limit

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Acceptable RPD (%)*
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QC Lot: 3971335) - continued									
ES2137799-007	Anonymous	EP075(SIM): Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Sum of polycyclic aromatic hydrocarbons	----	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Benzo(a)pyrene TEQ (zero)	----	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
EP080/071: Total Petroleum Hydrocarbons (QC Lot: 3970151)									
ES2137816-036	Anonymous	EP080: C6 - C9 Fraction	----	10	mg/kg	<10	<10	0.0	No Limit
ES2137883-001	BT1	EP080: C6 - C9 Fraction	----	10	mg/kg	<10	<10	0.0	No Limit
EP080/071: Total Petroleum Hydrocarbons (QC Lot: 3970302)									
ES2138106-001	Anonymous	EP071: C15 - C28 Fraction	----	100	mg/kg	<100	<100	0.0	No Limit
		EP071: C29 - C36 Fraction	----	100	mg/kg	<100	<100	0.0	No Limit
		EP071: C10 - C14 Fraction	----	50	mg/kg	<50	<50	0.0	No Limit
ES2137909-001	Anonymous	EP071: C15 - C28 Fraction	----	100	mg/kg	<100	<100	0.0	No Limit
		EP071: C29 - C36 Fraction	----	100	mg/kg	<100	<100	0.0	No Limit
		EP071: C10 - C14 Fraction	----	50	mg/kg	<50	<50	0.0	No Limit
EP080/071: Total Petroleum Hydrocarbons (QC Lot: 3970923)									
ES2137799-001	Anonymous	EP080: C6 - C9 Fraction	----	10	mg/kg	<10	<10	0.0	No Limit
ES2137799-007	Anonymous	EP080: C6 - C9 Fraction	----	10	mg/kg	<10	<10	0.0	No Limit
EP080/071: Total Petroleum Hydrocarbons (QC Lot: 3971334)									
ES2137799-015	Anonymous	EP071: C15 - C28 Fraction	----	100	mg/kg	190	230	19.3	No Limit
		EP071: C29 - C36 Fraction	----	100	mg/kg	260	330	25.7	No Limit
		EP071: C10 - C14 Fraction	----	50	mg/kg	<50	<50	0.0	No Limit
ES2137799-007	Anonymous	EP071: C15 - C28 Fraction	----	100	mg/kg	<100	<100	0.0	No Limit
		EP071: C29 - C36 Fraction	----	100	mg/kg	<100	<100	0.0	No Limit
		EP071: C10 - C14 Fraction	----	50	mg/kg	<50	<50	0.0	No Limit
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QC Lot: 3970151)									
ES2137816-036	Anonymous	EP080: C6 - C10 Fraction	C6_C10	10	mg/kg	<10	<10	0.0	No Limit
ES2137883-001	BT1	EP080: C6 - C10 Fraction	C6_C10	10	mg/kg	<10	<10	0.0	No Limit
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QC Lot: 3970302)									
ES2138106-001	Anonymous	EP071: >C16 - C34 Fraction	----	100	mg/kg	<100	<100	0.0	No Limit
		EP071: >C34 - C40 Fraction	----	100	mg/kg	<100	<100	0.0	No Limit
		EP071: >C10 - C16 Fraction	----	50	mg/kg	<50	<50	0.0	No Limit
ES2137909-001	Anonymous	EP071: >C16 - C34 Fraction	----	100	mg/kg	<100	<100	0.0	No Limit
		EP071: >C34 - C40 Fraction	----	100	mg/kg	<100	<100	0.0	No Limit
		EP071: >C10 - C16 Fraction	----	50	mg/kg	<50	<50	0.0	No Limit
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QC Lot: 3970923)									
ES2137799-001	Anonymous	EP080: C6 - C10 Fraction	C6_C10	10	mg/kg	<10	<10	0.0	No Limit
ES2137799-007	Anonymous	EP080: C6 - C10 Fraction	C6_C10	10	mg/kg	<10	<10	0.0	No Limit
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QC Lot: 3971334)									

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Acceptable RPD (%)*
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QC Lot: 3971334) - continued									
ES2137799-015	Anonymous	EP071: >C16 - C34 Fraction	----	100	mg/kg	370	470	24.7	No Limit
		EP071: >C34 - C40 Fraction	----	100	mg/kg	170	180	7.8	No Limit
		EP071: >C10 - C16 Fraction	----	50	mg/kg	<50	<50	0.0	No Limit
ES2137799-007	Anonymous	EP071: >C16 - C34 Fraction	----	100	mg/kg	<100	<100	0.0	No Limit
		EP071: >C34 - C40 Fraction	----	100	mg/kg	<100	<100	0.0	No Limit
		EP071: >C10 - C16 Fraction	----	50	mg/kg	<50	<50	0.0	No Limit
EP080: BTEXN (QC Lot: 3970151)									
ES2137816-036	Anonymous	EP080: Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	0.0	No Limit
		EP080: Toluene	108-88-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: Naphthalene	91-20-3	1	mg/kg	<1	<1	0.0	No Limit
ES2137883-001	BT1	EP080: Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	0.0	No Limit
		EP080: Toluene	108-88-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: Naphthalene	91-20-3	1	mg/kg	<1	<1	0.0	No Limit
EP080: BTEXN (QC Lot: 3970923)									
ES2137799-001	Anonymous	EP080: Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	0.0	No Limit
		EP080: Toluene	108-88-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: Naphthalene	91-20-3	1	mg/kg	<1	<1	0.0	No Limit
ES2137799-007	Anonymous	EP080: Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	0.0	No Limit
		EP080: Toluene	108-88-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: Naphthalene	91-20-3	1	mg/kg	<1	<1	0.0	No Limit

Method Blank (MB) and Laboratory Control Sample (LCS) Report

The quality control term Method / Laboratory Blank refers to an analyte free matrix to which all reagents are added in the same volumes or proportions as used in standard sample preparation. The purpose of this QC parameter is to monitor potential laboratory contamination. The quality control term Laboratory Control Sample (LCS) refers to a certified reference material, or a known interference free matrix spiked with target analytes. The purpose of this QC parameter is to monitor method precision and accuracy independent of sample matrix. Dynamic Recovery Limits are based on statistical evaluation of processed LCS.

Sub-Matrix: **SOIL**

				Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Acceptable Limits (%)	
Method: Compound	CAS Number	LOR	Unit	Result	Concentration	LCS	Low	High
EG005(ED093)T: Total Metals by ICP-AES (QCLot: 3971709)								
EG005T: Arsenic	7440-38-2	5	mg/kg	<5	121.1 mg/kg	109	88.0	113
EG005T: Cadmium	7440-43-9	1	mg/kg	<1	0.74 mg/kg	100	70.0	130
EG005T: Chromium	7440-47-3	2	mg/kg	<2	19.6 mg/kg	118	68.0	132
EG005T: Copper	7440-50-8	5	mg/kg	<5	52.9 mg/kg	106	89.0	111
EG005T: Lead	7439-92-1	5	mg/kg	<5	60.8 mg/kg	103	82.0	119
EG005T: Nickel	7440-02-0	2	mg/kg	<2	15.3 mg/kg	104	80.0	120
EG005T: Zinc	7440-66-6	5	mg/kg	<5	139.3 mg/kg	92.6	66.0	133
EG035T: Total Recoverable Mercury by FIMS (QCLot: 3971710)								
EG035T: Mercury	7439-97-6	0.1	mg/kg	<0.1	0.087 mg/kg	89.2	70.0	125
EP066: Polychlorinated Biphenyls (PCB) (QCLot: 3970298)								
EP066: Total Polychlorinated biphenyls	----	0.1	mg/kg	<0.1	1 mg/kg	100	62.0	126
EP068A: Organochlorine Pesticides (OC) (QCLot: 3970297)								
EP068: alpha-BHC	319-84-6	0.05	mg/kg	<0.05	0.5 mg/kg	88.8	69.0	113
EP068: Hexachlorobenzene (HCB)	118-74-1	0.05	mg/kg	<0.05	0.5 mg/kg	88.7	65.0	117
EP068: beta-BHC	319-85-7	0.05	mg/kg	<0.05	0.5 mg/kg	93.0	67.0	119
EP068: gamma-BHC	58-89-9	0.05	mg/kg	<0.05	0.5 mg/kg	91.4	68.0	116
EP068: delta-BHC	319-86-8	0.05	mg/kg	<0.05	0.5 mg/kg	86.6	65.0	117
EP068: Heptachlor	76-44-8	0.05	mg/kg	<0.05	0.5 mg/kg	88.6	67.0	115
EP068: Aldrin	309-00-2	0.05	mg/kg	<0.05	0.5 mg/kg	90.1	69.0	115
EP068: Heptachlor epoxide	1024-57-3	0.05	mg/kg	<0.05	0.5 mg/kg	92.8	62.0	118
EP068: trans-Chlordane	5103-74-2	0.05	mg/kg	<0.05	0.5 mg/kg	91.9	63.0	117
EP068: alpha-Endosulfan	959-98-8	0.05	mg/kg	<0.05	0.5 mg/kg	91.7	66.0	116
EP068: cis-Chlordane	5103-71-9	0.05	mg/kg	<0.05	0.5 mg/kg	90.9	64.0	116
EP068: Dieldrin	60-57-1	0.05	mg/kg	<0.05	0.5 mg/kg	99.2	66.0	116
EP068: 4.4`-DDE	72-55-9	0.05	mg/kg	<0.05	0.5 mg/kg	90.0	67.0	115
EP068: Endrin	72-20-8	0.05	mg/kg	<0.05	0.5 mg/kg	89.9	67.0	123
EP068: beta-Endosulfan	33213-65-9	0.05	mg/kg	<0.05	0.5 mg/kg	95.3	69.0	115
EP068: 4.4`-DDD	72-54-8	0.05	mg/kg	<0.05	0.5 mg/kg	94.6	69.0	121
EP068: Endrin aldehyde	7421-93-4	0.05	mg/kg	<0.05	0.5 mg/kg	90.2	56.0	120
EP068: Endosulfan sulfate	1031-07-8	0.05	mg/kg	<0.05	0.5 mg/kg	92.0	62.0	124
EP068: 4.4`-DDT	50-29-3	0.2	mg/kg	<0.2	0.5 mg/kg	88.1	66.0	120
EP068: Endrin ketone	53494-70-5	0.05	mg/kg	<0.05	0.5 mg/kg	92.0	64.0	122
EP068: Methoxychlor	72-43-5	0.2	mg/kg	<0.2	0.5 mg/kg	84.6	54.0	130
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 3970303)								

Sub-Matrix: **SOIL**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Acceptable Limits (%)	
				Result	Concentration	LCS	Low	High
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 3970303) - continued								
EP075(SIM): Naphthalene	91-20-3	0.5	mg/kg	<0.5	6 mg/kg	105	77.0	125
EP075(SIM): Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	6 mg/kg	112	72.0	124
EP075(SIM): Acenaphthene	83-32-9	0.5	mg/kg	<0.5	6 mg/kg	97.4	73.0	127
EP075(SIM): Fluorene	86-73-7	0.5	mg/kg	<0.5	6 mg/kg	109	72.0	126
EP075(SIM): Phenanthrene	85-01-8	0.5	mg/kg	<0.5	6 mg/kg	104	75.0	127
EP075(SIM): Anthracene	120-12-7	0.5	mg/kg	<0.5	6 mg/kg	105	77.0	127
EP075(SIM): Fluoranthene	206-44-0	0.5	mg/kg	<0.5	6 mg/kg	115	73.0	127
EP075(SIM): Pyrene	129-00-0	0.5	mg/kg	<0.5	6 mg/kg	111	74.0	128
EP075(SIM): Benz(a)anthracene	56-55-3	0.5	mg/kg	<0.5	6 mg/kg	108	69.0	123
EP075(SIM): Chrysene	218-01-9	0.5	mg/kg	<0.5	6 mg/kg	105	75.0	127
EP075(SIM): Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg	<0.5	6 mg/kg	107	68.0	116
EP075(SIM): Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	<0.5	6 mg/kg	108	74.0	126
EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	mg/kg	<0.5	6 mg/kg	106	70.0	126
EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	<0.5	6 mg/kg	103	61.0	121
EP075(SIM): Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	<0.5	6 mg/kg	97.3	62.0	118
EP075(SIM): Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	<0.5	6 mg/kg	104	63.0	121
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 3971335)								
EP075(SIM): Naphthalene	91-20-3	0.5	mg/kg	<0.5	6 mg/kg	108	77.0	125
EP075(SIM): Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	6 mg/kg	103	72.0	124
EP075(SIM): Acenaphthene	83-32-9	0.5	mg/kg	<0.5	6 mg/kg	99.3	73.0	127
EP075(SIM): Fluorene	86-73-7	0.5	mg/kg	<0.5	6 mg/kg	105	72.0	126
EP075(SIM): Phenanthrene	85-01-8	0.5	mg/kg	<0.5	6 mg/kg	93.2	75.0	127
EP075(SIM): Anthracene	120-12-7	0.5	mg/kg	<0.5	6 mg/kg	91.8	77.0	127
EP075(SIM): Fluoranthene	206-44-0	0.5	mg/kg	<0.5	6 mg/kg	93.1	73.0	127
EP075(SIM): Pyrene	129-00-0	0.5	mg/kg	<0.5	6 mg/kg	92.0	74.0	128
EP075(SIM): Benz(a)anthracene	56-55-3	0.5	mg/kg	<0.5	6 mg/kg	97.9	69.0	123
EP075(SIM): Chrysene	218-01-9	0.5	mg/kg	<0.5	6 mg/kg	102	75.0	127
EP075(SIM): Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg	<0.5	6 mg/kg	97.7	68.0	116
EP075(SIM): Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	<0.5	6 mg/kg	102	74.0	126
EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	mg/kg	<0.5	6 mg/kg	101	70.0	126
EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	<0.5	6 mg/kg	98.6	61.0	121
EP075(SIM): Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	<0.5	6 mg/kg	97.9	62.0	118
EP075(SIM): Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	<0.5	6 mg/kg	95.1	63.0	121
EP080/071: Total Petroleum Hydrocarbons (QCLot: 3970151)								
EP080: C6 - C9 Fraction	----	10	mg/kg	<10	26 mg/kg	93.7	68.4	128
EP080/071: Total Petroleum Hydrocarbons (QCLot: 3970302)								

Sub-Matrix: **SOIL**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Acceptable Limits (%)	
				Result	Concentration	LCS	Low	High
EP080/071: Total Petroleum Hydrocarbons (QCLot: 3970302) - continued								
EP071: C10 - C14 Fraction	----	50	mg/kg	<50	300 mg/kg	99.7	75.0	129
EP071: C15 - C28 Fraction	----	100	mg/kg	<100	450 mg/kg	99.1	77.0	131
EP071: C29 - C36 Fraction	----	100	mg/kg	<100	300 mg/kg	92.8	71.0	129
EP080/071: Total Petroleum Hydrocarbons (QCLot: 3970923)								
EP080: C6 - C9 Fraction	----	10	mg/kg	<10	26 mg/kg	91.2	68.4	128
EP080/071: Total Petroleum Hydrocarbons (QCLot: 3971334)								
EP071: C10 - C14 Fraction	----	50	mg/kg	<50	300 mg/kg	94.8	75.0	129
EP071: C15 - C28 Fraction	----	100	mg/kg	<100	450 mg/kg	95.9	77.0	131
EP071: C29 - C36 Fraction	----	100	mg/kg	<100	300 mg/kg	94.0	71.0	129
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 3970151)								
EP080: C6 - C10 Fraction	C6_C10	10	mg/kg	<10	31 mg/kg	96.2	68.4	128
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 3970302)								
EP071: >C10 - C16 Fraction	----	50	mg/kg	<50	375 mg/kg	102	77.0	125
EP071: >C16 - C34 Fraction	----	100	mg/kg	<100	525 mg/kg	95.0	74.0	138
EP071: >C34 - C40 Fraction	----	100	mg/kg	<100	225 mg/kg	90.8	63.0	131
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 3970923)								
EP080: C6 - C10 Fraction	C6_C10	10	mg/kg	<10	31 mg/kg	91.4	68.4	128
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 3971334)								
EP071: >C10 - C16 Fraction	----	50	mg/kg	<50	375 mg/kg	98.7	77.0	125
EP071: >C16 - C34 Fraction	----	100	mg/kg	<100	525 mg/kg	93.4	74.0	138
EP071: >C34 - C40 Fraction	----	100	mg/kg	<100	225 mg/kg	92.8	63.0	131
EP080: BTEXN (QCLot: 3970151)								
EP080: Benzene	71-43-2	0.2	mg/kg	<0.2	1 mg/kg	100	62.0	116
EP080: Toluene	108-88-3	0.5	mg/kg	<0.5	1 mg/kg	99.4	67.0	121
EP080: Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	1 mg/kg	97.9	65.0	117
EP080: meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	2 mg/kg	98.6	66.0	118
EP080: ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	1 mg/kg	96.3	68.0	120
EP080: Naphthalene	91-20-3	1	mg/kg	<1	1 mg/kg	88.8	63.0	119
EP080: BTEXN (QCLot: 3970923)								
EP080: Benzene	71-43-2	0.2	mg/kg	<0.2	1 mg/kg	100	62.0	116
EP080: Toluene	108-88-3	0.5	mg/kg	<0.5	1 mg/kg	98.0	67.0	121
EP080: Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	1 mg/kg	97.7	65.0	117
EP080: meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	2 mg/kg	97.2	66.0	118
EP080: ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	1 mg/kg	98.3	68.0	120
EP080: Naphthalene	91-20-3	1	mg/kg	<1	1 mg/kg	92.2	63.0	119

Matrix Spike (MS) Report

The quality control term Matrix Spike (MS) refers to an intralaboratory split sample spiked with a representative set of target analytes. The purpose of this QC parameter is to monitor potential matrix effects on analyte recoveries. Static Recovery Limits as per laboratory Data Quality Objectives (DQOs). Ideal recovery ranges stated may be waived in the event of sample matrix interference.

Sub-Matrix: **SOIL**

				Matrix Spike (MS) Report			
				Spike	SpikeRecovery(%)	Acceptable Limits (%)	
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Concentration	MS	Low	High
EG005(ED093)T: Total Metals by ICP-AES (QCLot: 3971709)							
ES2137882-005	Anonymous	EG005T: Arsenic	7440-38-2	50 mg/kg	93.5	70.0	130
		EG005T: Cadmium	7440-43-9	50 mg/kg	91.6	70.0	130
		EG005T: Chromium	7440-47-3	50 mg/kg	92.3	68.0	132
		EG005T: Copper	7440-50-8	250 mg/kg	89.4	70.0	130
		EG005T: Lead	7439-92-1	250 mg/kg	91.5	70.0	130
		EG005T: Nickel	7440-02-0	50 mg/kg	91.9	70.0	130
		EG005T: Zinc	7440-66-6	250 mg/kg	84.4	66.0	133
EG035T: Total Recoverable Mercury by FIMS (QCLot: 3971710)							
ES2137882-005	Anonymous	EG035T: Mercury	7439-97-6	5 mg/kg	114	70.0	130
EP066: Polychlorinated Biphenyls (PCB) (QCLot: 3970298)							
ES2137883-002	BT2	EP066: Total Polychlorinated biphenyls	----	1 mg/kg	101	70.0	130
EP068A: Organochlorine Pesticides (OC) (QCLot: 3970297)							
ES2137883-002	BT2	EP068: gamma-BHC	58-89-9	0.5 mg/kg	107	70.0	130
		EP068: Heptachlor	76-44-8	0.5 mg/kg	96.2	70.0	130
		EP068: Aldrin	309-00-2	0.5 mg/kg	104	70.0	130
		EP068: Dieldrin	60-57-1	0.5 mg/kg	106	70.0	130
		EP068: Endrin	72-20-8	2 mg/kg	106	70.0	130
		EP068: 4.4`-DDT	50-29-3	2 mg/kg	86.9	70.0	130
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 3970303)							
ES2138106-001	Anonymous	EP075(SIM): Acenaphthene	83-32-9	10 mg/kg	90.3	70.0	130
		EP075(SIM): Pyrene	129-00-0	10 mg/kg	114	70.0	130
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 3971335)							
ES2137799-007	Anonymous	EP075(SIM): Acenaphthene	83-32-9	10 mg/kg	89.4	70.0	130
		EP075(SIM): Pyrene	129-00-0	10 mg/kg	102	70.0	130
EP080/071: Total Petroleum Hydrocarbons (QCLot: 3970151)							
ES2137816-036	Anonymous	EP080: C6 - C9 Fraction	----	32.5 mg/kg	103	70.0	130
EP080/071: Total Petroleum Hydrocarbons (QCLot: 3970302)							
ES2138106-001	Anonymous	EP071: C10 - C14 Fraction	----	480 mg/kg	112	73.0	137
		EP071: C15 - C28 Fraction	----	3100 mg/kg	117	53.0	131
		EP071: C29 - C36 Fraction	----	2060 mg/kg	119	52.0	132
EP080/071: Total Petroleum Hydrocarbons (QCLot: 3970923)							
ES2137799-001	Anonymous	EP080: C6 - C9 Fraction	----	32.5 mg/kg	80.4	70.0	130

Sub-Matrix: **SOIL**

				Matrix Spike (MS) Report			
				Spike	SpikeRecovery(%)	Acceptable Limits (%)	
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Concentration	MS	Low	High
EP080/071: Total Petroleum Hydrocarbons (QCLot: 3971334)							
ES2137799-007	Anonymous	EP071: C10 - C14 Fraction	----	480 mg/kg	119	73.0	137
		EP071: C15 - C28 Fraction	----	3100 mg/kg	116	53.0	131
		EP071: C29 - C36 Fraction	----	2060 mg/kg	110	52.0	132
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 3970151)							
ES2137816-036	Anonymous	EP080: C6 - C10 Fraction	C6_C10	37.5 mg/kg	106	70.0	130
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 3970302)							
ES2138106-001	Anonymous	EP071: >C10 - C16 Fraction	----	860 mg/kg	118	73.0	137
		EP071: >C16 - C34 Fraction	----	4320 mg/kg	120	53.0	131
		EP071: >C34 - C40 Fraction	----	890 mg/kg	97.5	52.0	132
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 3970923)							
ES2137799-001	Anonymous	EP080: C6 - C10 Fraction	C6_C10	37.5 mg/kg	75.3	70.0	130
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 3971334)							
ES2137799-007	Anonymous	EP071: >C10 - C16 Fraction	----	860 mg/kg	104	73.0	137
		EP071: >C16 - C34 Fraction	----	4320 mg/kg	114	53.0	131
		EP071: >C34 - C40 Fraction	----	890 mg/kg	111	52.0	132
EP080: BTEXN (QCLot: 3970151)							
ES2137816-036	Anonymous	EP080: Benzene	71-43-2	2.5 mg/kg	97.1	70.0	130
		EP080: Toluene	108-88-3	2.5 mg/kg	92.0	70.0	130
		EP080: Ethylbenzene	100-41-4	2.5 mg/kg	90.3	70.0	130
		EP080: meta- & para-Xylene	108-38-3 106-42-3	2.5 mg/kg	90.7	70.0	130
		EP080: ortho-Xylene	95-47-6	2.5 mg/kg	87.1	70.0	130
		EP080: Naphthalene	91-20-3	2.5 mg/kg	78.4	70.0	130
EP080: BTEXN (QCLot: 3970923)							
ES2137799-001	Anonymous	EP080: Benzene	71-43-2	2.5 mg/kg	70.5	70.0	130
		EP080: Toluene	108-88-3	2.5 mg/kg	73.7	70.0	130
		EP080: Ethylbenzene	100-41-4	2.5 mg/kg	76.9	70.0	130
		EP080: meta- & para-Xylene	108-38-3 106-42-3	2.5 mg/kg	78.3	70.0	130
		EP080: ortho-Xylene	95-47-6	2.5 mg/kg	79.2	70.0	130
		EP080: Naphthalene	91-20-3	2.5 mg/kg	80.5	70.0	130

ALS Environmental

CERTIFICATE OF ANALYSIS

Work Order	: **ES2137883**	Page	: 1 of 7
Client	: **ALLIANCE GEOTECHNICAL**	Laboratory	: Environmental Division Sydney
Contact	: Jacob Walker	Contact	: Customer Services ES
Address	: 8/10 Welder Road, Seven Hills 2147	Address	: 277-289 Woodpark Road Smithfield NSW Australia 2164
Telephone	: ----	Telephone	: +61-2-8784 8555
Project	: 13546 - Kemps Creek	Date Samples Received	: 20-Oct-2021 16:30
Order number	: ----	Date Analysis Commenced	: 22-Oct-2021
C-O-C number	: ----	Issue Date	: 27-Oct-2021 17:26
Sampler	: SJ		
Site	: ----		
Quote number	: EN/222		
No. of samples received	: 3		
No. of samples analysed	: 3		

Accreditation No. 825
Accredited for compliance with
ISO/IEC 17025 - Testing

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted, unless the sampling was conducted by ALS. This document shall not be reproduced, except in full.

This Certificate of Analysis contains the following information:

- General Comments
- Analytical Results
- Surrogate Control Limits

Additional information pertinent to this report will be found in the following separate attachments: Quality Control Report, QA/QC Compliance Assessment to assist with Quality Review and Sample Receipt Notification.

Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is carried out in compliance with procedures specified in 21 CFR Part 11.

Signatories	*Position*	*Accreditation Category*
Edwandy Fadjar	Organic Coordinator	Sydney Organics, Smithfield, NSW
Ivan Taylor	Analyst	Sydney Inorganics, Smithfield, NSW

General Comments

The analytical procedures used by ALS have been developed from established internationally recognised procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are fully validated and are often at the client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis.

Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

When sampling time information is not provided by the client, sampling dates are shown without a time component. In these instances, the time component has been assumed by the laboratory for processing purposes.

Where a result is required to meet compliance limits the associated uncertainty must be considered. Refer to the ALS Contact for details.

Key : CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.
LOR = Limit of reporting
^ = This result is computed from individual analyte detections at or above the level of reporting
ø = ALS is not NATA accredited for these tests.
~ = Indicates an estimated value.

- Benzo(a)pyrene Toxicity Equivalent Quotient (TEQ) per the NEPM (2013) is the sum total of the concentration of the eight carcinogenic PAHs multiplied by their Toxicity Equivalence Factor (TEF) relative to Benzo(a)pyrene. TEF values are provided in brackets as follows: Benz(a)anthracene (0.1), Chrysene (0.01), Benzo(b+j) & Benzo(k)fluoranthene (0.1), Benzo(a)pyrene (1.0), Indeno(1.2.3.cd)pyrene (0.1), Dibenz(a.h)anthracene (1.0), Benzo(g.h.i)perylene (0.01). Less than LOR results for 'TEQ Zero' are treated as zero, for 'TEQ 1/2LOR' are treated as half the reported LOR, and for 'TEQ LOR' are treated as being equal to the reported LOR. Note: TEQ 1/2LOR and TEQ LOR will calculate as 0.6mg/Kg and 1.2mg/Kg respectively for samples with non-detects for all of the eight TEQ PAHs.
- EP080: Where reported, Total Xylenes is the sum of the reported concentrations of m&p-Xylene and o-Xylene at or above the LOR.
- EP068: Where reported, Total Chlordane (sum) is the sum of the reported concentrations of cis-Chlordane and trans-Chlordane at or above the LOR.
- EP068: Where reported, Total OCP is the sum of the reported concentrations of all Organochlorine Pesticides at or above LOR.
- EP075(SIM): Where reported, Total Cresol is the sum of the reported concentrations of 2-Methylphenol and 3- & 4-Methylphenol at or above the LOR.

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	BT1	BT2	BT3	----	----
			Sampling date / time	07-Oct-2021 00:00	07-Oct-2021 00:00	07-Oct-2021 00:00	----	----
Compound	CAS Number	LOR	Unit	ES2137883-001	ES2137883-002	ES2137883-003	--------	--------
				Result	Result	Result	----	----
EA055: Moisture Content (Dried @ 105-110°C)								
Moisture Content	----	1.0	%	**13.3**	**21.4**	<1.0	----	----
EG005(ED093)T: Total Metals by ICP-AES								
Arsenic	7440-38-2	5	mg/kg	**10**	----	<5	----	----
Cadmium	7440-43-9	1	mg/kg	<1	----	<1	----	----
Chromium	7440-47-3	2	mg/kg	**21**	----	**4**	----	----
Copper	7440-50-8	5	mg/kg	**22**	----	<5	----	----
Lead	7439-92-1	5	mg/kg	**36**	----	<5	----	----
Nickel	7440-02-0	2	mg/kg	**19**	----	<2	----	----
Zinc	7440-66-6	5	mg/kg	**51**	----	**11**	----	----
EG035T: Total Recoverable Mercury by FIMS								
Mercury	7439-97-6	0.1	mg/kg	<0.1	----	<0.1	----	----
EP066: Polychlorinated Biphenyls (PCB)								
Total Polychlorinated biphenyls	----	0.1	mg/kg	----	<0.1	<0.1	----	----
EP068A: Organochlorine Pesticides (OC)								
alpha-BHC	319-84-6	0.05	mg/kg	----	<0.05	<0.05	----	----
Hexachlorobenzene (HCB)	118-74-1	0.05	mg/kg	----	<0.05	<0.05	----	----
beta-BHC	319-85-7	0.05	mg/kg	----	<0.05	<0.05	----	----
gamma-BHC	58-89-9	0.05	mg/kg	----	<0.05	<0.05	----	----
delta-BHC	319-86-8	0.05	mg/kg	----	<0.05	<0.05	----	----
Heptachlor	76-44-8	0.05	mg/kg	----	<0.05	<0.05	----	----
Aldrin	309-00-2	0.05	mg/kg	----	<0.05	<0.05	----	----
Heptachlor epoxide	1024-57-3	0.05	mg/kg	----	<0.05	<0.05	----	----
^ Total Chlordane (sum)	----	0.05	mg/kg	----	<0.05	<0.05	----	----
trans-Chlordane	5103-74-2	0.05	mg/kg	----	<0.05	<0.05	----	----
alpha-Endosulfan	959-98-8	0.05	mg/kg	----	<0.05	<0.05	----	----
cis-Chlordane	5103-71-9	0.05	mg/kg	----	<0.05	<0.05	----	----
Dieldrin	60-57-1	0.05	mg/kg	----	<0.05	<0.05	----	----
4.4`-DDE	72-55-9	0.05	mg/kg	----	<0.05	<0.05	----	----
Endrin	72-20-8	0.05	mg/kg	----	<0.05	<0.05	----	----
beta-Endosulfan	33213-65-9	0.05	mg/kg	----	<0.05	<0.05	----	----
^ Endosulfan (sum)	115-29-7	0.05	mg/kg	----	<0.05	<0.05	----	----
4.4`-DDD	72-54-8	0.05	mg/kg	----	<0.05	<0.05	----	----
Endrin aldehyde	7421-93-4	0.05	mg/kg	----	<0.05	<0.05	----	----
Endosulfan sulfate	1031-07-8	0.05	mg/kg	----	<0.05	<0.05	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	BT1	BT2	BT3	----	----
			Sampling date / time	07-Oct-2021 00:00	07-Oct-2021 00:00	07-Oct-2021 00:00	----	----
Compound	CAS Number	LOR	Unit	ES2137883-001	ES2137883-002	ES2137883-003	--------	--------
				Result	Result	Result	----	----
EP068A: Organochlorine Pesticides (OC) - Continued								
4.4`-DDT	50-29-3	0.2	mg/kg	----	<0.2	<0.2	----	----
Endrin ketone	53494-70-5	0.05	mg/kg	----	<0.05	<0.05	----	----
Methoxychlor	72-43-5	0.2	mg/kg	----	<0.2	<0.2	----	----
^ Sum of Aldrin + Dieldrin	309-00-2/60-57-1	0.05	mg/kg	----	<0.05	<0.05	----	----
^ Sum of DDD + DDE + DDT	72-54-8/72-55-9/50-2	0.05	mg/kg	----	<0.05	<0.05	----	----
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons								
Naphthalene	91-20-3	0.5	mg/kg	<0.5	----	<0.5	----	----
Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	----	<0.5	----	----
Acenaphthene	83-32-9	0.5	mg/kg	<0.5	----	<0.5	----	----
Fluorene	86-73-7	0.5	mg/kg	<0.5	----	<0.5	----	----
Phenanthrene	85-01-8	0.5	mg/kg	<0.5	----	<0.5	----	----
Anthracene	120-12-7	0.5	mg/kg	<0.5	----	<0.5	----	----
Fluoranthene	206-44-0	0.5	mg/kg	<0.5	----	<0.5	----	----
Pyrene	129-00-0	0.5	mg/kg	<0.5	----	<0.5	----	----
Benz(a)anthracene	56-55-3	0.5	mg/kg	<0.5	----	<0.5	----	----
Chrysene	218-01-9	0.5	mg/kg	<0.5	----	<0.5	----	----
Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg	<0.5	----	<0.5	----	----
Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	<0.5	----	<0.5	----	----
Benzo(a)pyrene	50-32-8	0.5	mg/kg	<0.5	----	<0.5	----	----
Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	<0.5	----	<0.5	----	----
Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	<0.5	----	<0.5	----	----
Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	<0.5	----	<0.5	----	----
^ Sum of polycyclic aromatic hydrocarbons	----	0.5	mg/kg	<0.5	----	<0.5	----	----
^ Benzo(a)pyrene TEQ (zero)	----	0.5	mg/kg	<0.5	----	<0.5	----	----
^ Benzo(a)pyrene TEQ (half LOR)	----	0.5	mg/kg	**0.6**	----	**0.6**	----	----
^ Benzo(a)pyrene TEQ (LOR)	----	0.5	mg/kg	**1.2**	----	**1.2**	----	----
EP080/071: Total Petroleum Hydrocarbons								
C6 - C9 Fraction	----	10	mg/kg	<10	----	<10	----	----
C10 - C14 Fraction	----	50	mg/kg	<50	----	<50	----	----
C15 - C28 Fraction	----	100	mg/kg	<100	----	<100	----	----
C29 - C36 Fraction	----	100	mg/kg	<100	----	<100	----	----
^ C10 - C36 Fraction (sum)	----	50	mg/kg	<50	----	<50	----	----
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions								

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	BT1	BT2	BT3	----	----
			Sampling date / time	07-Oct-2021 00:00	07-Oct-2021 00:00	07-Oct-2021 00:00	----	----
Compound	CAS Number	LOR	Unit	ES2137883-001	ES2137883-002	ES2137883-003	--------	--------
				Result	Result	Result	----	----
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions - Continued								
C6 - C10 Fraction	C6_C10	10	mg/kg	<10	----	<10	----	----
^ C6 - C10 Fraction minus BTEX (F1)	C6_C10-BTEX	10	mg/kg	<10	----	<10	----	----
>C10 - C16 Fraction	----	50	mg/kg	<50	----	<50	----	----
>C16 - C34 Fraction	----	100	mg/kg	<100	----	<100	----	----
>C34 - C40 Fraction	----	100	mg/kg	<100	----	<100	----	----
^ >C10 - C40 Fraction (sum)	----	50	mg/kg	<50	----	<50	----	----
^ >C10 - C16 Fraction minus Naphthalene (F2)	----	50	mg/kg	<50	----	<50	----	----
EP080: BTEXN								
Benzene	71-43-2	0.2	mg/kg	<0.2	----	<0.2	----	----
Toluene	108-88-3	0.5	mg/kg	<0.5	----	<0.5	----	----
Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	----	<0.5	----	----
meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	----	<0.5	----	----
ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	----	<0.5	----	----
^ Sum of BTEX	----	0.2	mg/kg	<0.2	----	<0.2	----	----
^ Total Xylenes	----	0.5	mg/kg	<0.5	----	<0.5	----	----
Naphthalene	91-20-3	1	mg/kg	<1	----	<1	----	----
EP066S: PCB Surrogate								
Decachlorobiphenyl	2051-24-3	0.1	%	----	111	124	----	----
EP068S: Organochlorine Pesticide Surrogate								
Dibromo-DDE	21655-73-2	0.05	%	----	99.8	98.0	----	----
EP068T: Organophosphorus Pesticide Surrogate								
DEF	78-48-8	0.05	%	----	102	116	----	----
EP075(SIM)S: Phenolic Compound Surrogates								
Phenol-d6	13127-88-3	0.5	%	87.1	----	90.4	----	----
2-Chlorophenol-D4	93951-73-6	0.5	%	93.1	----	88.0	----	----
2.4.6-Tribromophenol	118-79-6	0.5	%	78.0	----	83.5	----	----
EP075(SIM)T: PAH Surrogates								
2-Fluorobiphenyl	321-60-8	0.5	%	110	----	95.6	----	----
Anthracene-d10	1719-06-8	0.5	%	96.9	----	94.4	----	----
4-Terphenyl-d14	1718-51-0	0.5	%	99.1	----	86.8	----	----
EP080S: TPH(V)/BTEX Surrogates								
1.2-Dichloroethane-D4	17060-07-0	0.2	%	90.0	----	107	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	BT1	BT2	BT3	----	----
				Sampling date / time	07-Oct-2021 00:00	07-Oct-2021 00:00	07-Oct-2021 00:00	----	----
Compound	CAS Number	LOR	Unit		ES2137883-001	ES2137883-002	ES2137883-003	--------	--------
					Result	Result	Result	----	----
EP080S: TPH(V)/BTEX Surrogates - Continued									
Toluene-D8	2037-26-5	0.2	%		**90.5**	**----**	**96.5**	**----**	**----**
4-Bromofluorobenzene	460-00-4	0.2	%		**80.1**	**----**	**97.6**	**----**	**----**

Surrogate Control Limits

Sub-Matrix: **SOIL**

Compound	CAS Number	Recovery Limits (%) Low	High
EP066S: PCB Surrogate			
Decachlorobiphenyl	2051-24-3	39	149
EP068S: Organochlorine Pesticide Surrogate			
Dibromo-DDE	21655-73-2	49	147
EP068T: Organophosphorus Pesticide Surrogate			
DEF	78-48-8	35	143
EP075(SIM)S: Phenolic Compound Surrogates			
Phenol-d6	13127-88-3	63	123
2-Chlorophenol-D4	93951-73-6	66	122
2.4.6-Tribromophenol	118-79-6	40	138
EP075(SIM)T: PAH Surrogates			
2-Fluorobiphenyl	321-60-8	70	122
Anthracene-d10	1719-06-8	66	128
4-Terphenyl-d14	1718-51-0	65	129
EP080S: TPH(V)/BTEX Surrogates			
1.2-Dichloroethane-D4	17060-07-0	73	133
Toluene-D8	2037-26-5	74	132
4-Bromofluorobenzene	460-00-4	72	130

CHAIN OF CUSTODY RECORD

ABN 50 005 085 521

☑ Sydney Laboratory
Unit F3 Bld.F, 16 Mars Rd, Lane Cove West, NSW 2066
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☐ Brisbane Laboratory
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☐ 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	ALLIANCE GEOTECHNICAL	Project №	13546	Project Manager	Jacob W
Address	10 WELDER ROAD, SEVEN HILLS NSW	Project Name	Kemps Creek	EDD Format (ESdat, EQuIS, Custom)	
Contact Name	Sam J			Sampler(s)	SJ
Phone №	430214402			Handed over by	
Special Directions				Email for Invoice	admin@allgeo.com.au
Purchase Order				Email for Results	samjones@allgeo.com.au, enviro@allgeo.com.au, & jacob.walker@allgeo.com.au
Quote ID №					

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

Containers: 1L Plastic; 250mL Plastic; 125mL Amber Glass; 200mL VOA vial; 40mL VOA vial; 500mL PFAS Bottle; Jar (Glass or HDPE); Other (Reference AS5667 WA Guidelines)

Turnaround Time (TAT) Requirements (Default will be 5 days if not ticked)
☐ Overnight (9am)* ☐ 1 Day* ☐ 2 Day* ☐ 3 Day* ☐ [redacted] * S[redacted] ☐ Other ( )

№	Client Sample ID	Sampled Date/Time (dd/mm/yy hh:mm)	Matrix (Solid (S) Water (W))	Suite B7: TRH, BTEXN, PAH, Metals	Suite B13 : OCP, PCB	EC and pH	L2 Aggressivity Suite	Suite BH19D: Total N, TKN, NOX, NO2, NO3, NH3, Total P	E.Coli and total coliforms - thermotolerant	TRH & BTEX	VOC	HOLD	1L Plastic	250mL Plastic	125mL Amber Glass	200mL VOA vial	40mL VOA vial	500mL PFAS Bottle	Jar (Glass or HDPE)	Other (Reference AS5667 WA Guidelines)	Sample Comments / Dangerous Goods Hazard Warning
1	TP01 0.0-0.2	6/10/21	S	X	X														X		
2	TP01 0.4-0.6	6/10/21	S									X							X		
3	TP02 0.0-0.2	6/10/21	S	X															X		
4	TP03 0.0-0.2	6/10/21	S	X															X		
5	TP03 0.4-0.6	6/10/21	S									X							X		
6	TP04 0.0-0.1	6/10/21	S	X	X			X	X										X		
7	TP05 0.0-0.1	6/10/21	S	X	X			X	X										X		
8	TP06 0.0-0.2	6/10/21	S	X	X			X	X										X		
9	TP06 0.8-1.0	6/10/21	S									X							X		
10	TP06 1.0-1.2	6/10/21	S									X							X		
11	TP06 1.2-1.4	6/10/21	S									X							X		
12	TP07 0.0-0.2	6/10/21	S	X															X		
13	TP07 0.5-0.7	6/10/21	S									X							X		
14	TP08 0.0-0.2	6/10/21	S	X															X		
15	TP08 0.4-0.6	6/10/21	S									X							X		
16	TP09 0.0-0.2	6/10/21	S	X	X														X		
17	TP09 0.4-0.6	6/10/21	S									X							X		
18	TP10 0.0-0.2	6/10/21	S	X															X		
19	TP10 0.3-0.4	6/10/21	S									X							X		
20	TP11 0.0-0.1	6/10/21	S	X	X			X	X										X		
21	TP12 0.0-0.1	6/10/21	S	X	X			X	X										X		
22	TP14 0.0-0.2	6/10/21	S	X															X		
		Total Counts		13	7			5	5			9							22		

Environmental Division
Sydney
Work Order Reference
ES2137883

Telephone : + 61-2-8784 8555

PAGE 1 OF 11

Method of Shipment: ☑ Courier (#) ☐ Hand Delivered ☐ Postal

Name	Signature	Date	Time
SJ		8/10/2021	

3

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CHAIN OF CUSTODY RECORD

ABN 50 005 085 521

☑ **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	ALLIANCE GEOTECHNICAL	Project №	13546	Project Manager	Jacob W
Address	10 WELDER ROAD, SEVEN HILLS NSW	Project Name	Kemps Creek	EDD Format (ESdat, EQuIS, Custom)	
Contact Name	Sam J			Sampler(s)	SJ
Phone №	430214402			Handed over by	
Special Directions				Email for Invoice	admin@allgeo.com.au
Purchase Order				Email for Results	samjones@allgeo.com.au, enviro@allgeo.com.au, & jacob.walker@allgeo.com.au
Quote ID №					

Analyses — Note: Where metals are required, please specify "Total" or "Filtered". SUITE code must be used to direct SUITE pricing

Containers: 1L Plastic; 250mL Plastic; 125mL Plastic; 200mL Amber Glass; 40mL VOA vial; 500mL PFAS Bottle; Other (Glass or HDPE); Other (As specified Ashley WA Guidelines)

Turnaround Time (TAT) Requirements (default will be 5 days - Tick if ticked)

☐ Overnight (9am)* ☐ 1 Day* ☐ 2 Day* ☐ 3 Day* ☐ *S… ☐ Other ( )

№	Client Sample ID	Sampled Date/Time (dd/mm/yy hh:mm)	Matrix (Solid (S) Water (W))	Suite B7: TRH, BTEXN, PAH, Metals	Suite B13 : OCP, PCB	EC and pH	L2 Aggressivity Suite	Suite BH19D: Total N, TKN, NOX, NO2, NO3, NH3, Total P	E.Coli and total coliforms - thermotolerant	TRH & BTEX	VOC	HOLD									Sample Comments / Dangerous Goods Hazard Warning
1	TP14 0.5-0.7	6/10/21	S									X								X	
2	TP15 0.0-0.2	6/10/21	S	X	X															X	
3	TP15 0.4-0.4	6/10/21	S									X								X	
4	TP16 0.0-0.2	6/10/21	S	X																X	
5	TP16 0.4-0.6	6/10/21	S									X								X	
6	TP17 0.0-0.2	6/10/21	S	X																X	
7	TP17 0.3-0.5	6/10/21	S									X								X	
8	TP18 0.0-0.2	6/10/21	S	X																X	
9	TP18 0.5-0.7	6/10/21	S									X								X	
10	TP19 0.0-0.1	7/10/21	S	X	X			X	X											X	
11	TP20 0.0-0.1	7/10/21	S	X	X			X	X											X	
12	TP21 0.0-0.2	7/10/21	S	X	X			X	X											X	
13	TP21 1.0-1.2	7/10/21	S																	X	
14	TP21 1.5-1.5	7/10/21	S									X								X	
15	TP22 0.0-0.1	6/10/21	S	X	X							X								X	
16	TP22 1.0-1.2	6/10/21	S																	X	
17	TP22 1.8-2.0	6/10/21	S									X								X	
18	TP23 0.0-0.1	7/10/21	S	X								X								X	
19	TP23 1.0-1.2	7/10/21	S																	X	
20	TP23 1.5-1.7	7/10/21	S									X								X	
21	TP24 0.0-0.1	7/10/21	S	X								X								X	
22	TP24 0.5-0.7	7/10/21	S									X								X	
	TP25 0.0-0.1	7/10/21	S	X	X															X	
	Total Counts			11	6			3	3			12								23	

Method of Shipment: ☑ Courier (#) ☐ Hand Delivered ☐ Postal

Name: SJ Signature: Date: 8/10/2021 Time:

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

ABN 50 005 085 521

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

☐ Brisbane Laboratory
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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	ALLIANCE GEOTECHNICAL	Project №	13546	Project Manager	Jacob W	Sampler(s)	SJ
Address	10 WELDER ROAD, SEVEN HILLS NSW	Project Name	Kemps Creek	EDD Format (ESdat, EQuIS, Custom)		Handed over by	
Contact Name	Sam J					Email for Invoice	admin@allgeo.com.au
Phone №	430214402					Email for Results	samjones@allgeo.com.au, enviro@allgeo.com.au, & jacob.walker@allgeo.com.au
Special Directions							
Purchase Order							
Quote ID №							

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); Other (Asbestos AS4964, WA Guidelines)

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

Sample Comments / Dangerous Goods Hazard Warning

№	Client Sample ID	Sampled Date/Time (dd/mm/yy hh:mm)	Matrix (Solid (S) Water (W))	Suite B7: TRH, BTEXN, PAH, Metals	Suite B13 : OCP, PCB	EC and pH	L2 Aggressivity Suite	Suite BH19D: Total N, TKN, NOX, NO2, NO3, NH3, Total P	E.Coli and total coliforms - thermotolerant	TRH & BTEX	VOC	HOLD	Jar (Glass or HDPE)
1	TP25 0.5-0.6	7/10/21	S									X	X
2	TP 26 0.0-0.1	7/10/21	S	X									X
3	TP26 1.0-1.2	7/10/21	S									X	X
4	TP26 1.8-2.0	7/10/21	S									X	X
5	DR01 0.0-0.2	6/10/21	S	X									X
6	DR01 0.3-0.5	6/10/21	S									X	X
7	DR01 0.7-0.9	6/10/21	S									X	X
8	DR02 0.0-0.2	6/10/21	S	X									X
9	DR02 0.2-0.4	6/10/21	S									X	X
10	DR02 0.5-0.7	6/10/21	S									X	X
11	DR03 0.0-0.2	6/10/21	S	X									X
12	DR03 0.3-0.5	6/10/21	S									X	X
13	DR03 0.6-0.8	6/10/21	S									X	X
14	DR03 1.5-1.7	6/10/21	S									X	X
15	DR04 0.0-0.1	7/10/21	S	X									X
16	DR04 0.1-0.2	7/10/21	S									X	X
17	DR05 0.0-0.1	7/10/21	S	X									X
18	DR05 0.3-0.4	7/10/21	S									X	X
19	DR06 0.0-0.1	7/10/21	S	X									X
20	DR06 0.3-0.5	7/10/21	S									X	X
21	DR07 0.0-0.1	7/10/21	S	X									X
22	DR07 0.3-0.5	7/10/21	S									X	X
	Total Counts			8								14	22

PAGE 3 OF 11

Method of Shipment	☑ Courier (#)	☐ Hand Delivered	☐ Postal	Name	SJ	Signature	[signature]	Date	8/10/2021	Time	

Rec - 20/10/21 1630
12.6

CHAIN OF CUSTODY RECORD

ABN 50 005 085 521

- ☑ 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	ALLIANCE GEOTECHNICAL	Project №	13546
Address	10 WELDER ROAD, SEVEN HILLS NSW	Project Name	Kemps Creek
Contact Name	Sam J	Project Manager	Jacob W
Phone №	430214402	EDD Format (ESdat, EQuIS, Custom)	
Special Directions		Sampler(s)	SJ
Purchase Order		Handed over by	
Quote ID №		Email for Invoice	admin@allgeo.com.au
		Email for Results	samjones@allgeo.com.au, enviro@allgeo.com.au, & jacob.walker@allgeo.com.au

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

Turnaround Time (TAT) Requirements (Default will be 5 days if not ticked): ☐ Overnight (9am)* ☐ 1 Day* ☐ 2 Day* ☐ 3 Day* [redacted] ☐ Other ( )

№	Client Sample ID	Sampled Date/Time (dd/mm/yy hh:mm)	Matrix (Solid (S) Water (W))	Suite B7: TRH, BTEXN, PAH, Metals	Suite B13 : OCP, PCB	EC and pH	L2 Aggressivity Suite	Suite BH19D: Total N, TKN, NOX, NO2, NO3, NH3, Total P	E.Coli and total coliforms - thermotolerant	TRH & BTEX	VOC	HOLD	1L Plastic	250mL Plastic	125mL Plastic	200mL Amber Glass	40mL VOA vial	500mL PFAS Bottle	Jar (Glass or HDPE)	Other (Asbestos AS4964, WA Guidelines)	Sample Comments / Dangerous Goods Hazard Warning
1	DR08 0.0-0.1	7/10/21	S	X															X		
2	DR08 0.1-0.2	7/10/21	S									X							X		
3	SP1-1	7/10/21	S	X	X			X	X										X		
4	SP1-2	7/10/21	S	X	X			X	X										X		
5	SP1-3	7/10/21	S	X	X			X	X										X		
6	DS01	7/10/21	S	X	X			X	X										X		
7	DS02	7/10/21	S	X	X			X	X										X		
8	DS03	7/10/21	S	X															X		
9	DS04	7/10/21	S	X															X		
10	DS05	7/10/21	S	X															X		
11	DS06	7/10/21	S	X															X		
12	DW01	7/10/21	S									X							X		
13	DW02	7/10/21	S									X							X		
14	DW03	7/10/21	S									X							X		
15	DW04	7/10/21	S									X							X		
16	DW05	7/10/21	S									X							X		
17	DW06	7/10/21	S									X							X		
18	DW07	7/10/21	S									X							X		
19	DW08	7/10/21	S									X							X		
20	SW01	7/10/21	W	X	X			X	X						X	X	X				
21	SW02	7/10/21	W	X	X			X	X						X	X	X				
22	SW03	7/10/21	W	X	X			X	X						X	X	X				
	Total Counts			13	8			8	8			9			3	3	3		19		PAGE 4 OF 11

Method of Shipment	☑ Courier (#)	☐ Hand Delivered	☐ Postal	Name	SJ	Signature	[signature]	Date	8/10/2021

Time:

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Received By — SYD \| BNE \| MEL \| PER \| ADL \| NTL \| DRW — Signature — Date — Time — Report №

Rec. 20/10/21 1630 12.6c

CHAIN OF CUSTODY RECORD

ABN 50 005 085 521

☑ 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	ALLIANCE GEOTECHNICAL	Project №	13546	Project Manager	Jacob W
Address	10 WELDER ROAD, SEVEN HILLS NSW	Project Name	Kemps Creek	EDD Format (ESdat, EQuIS, Custom)	
Contact Name	Sam J				
Phone №	430214402				
Special Directions					
Purchase Order					
Quote ID №					

Sampler(s)	SJ	
Handed over by		
Email for Invoice	admin@allgeo.com.au	
Email for Results	samjones@allgeo.com.au, enviro@allgeo.com.au, & jacob.walker@allgeo.com.au	

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

☐ Overnight (9am)* ☐ 1 Day* ☐ 2 Day* ☐ 3 Day* ☐ [redacted] * S[redacted] ☐ Other ( )

Analyses — Note: Where metals are required, please specify "Total" or "Filtered". SUITE code must be used to allocate SUITE pricing.

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

№	Client Sample ID	Sampled Date/Time (dd/mm/yy hh:mm)	Matrix (Solid (S) Water (W))	Arsenic, Chromium & Copper	Suite B7: TRH, BTEXN, PAH, Metals	Suite B13 : OCP, PCB	EC and pH	L2 Aggressivity Suite	Suite BH19D: Total N, TKN, NOX, NO2, NO3, NH3, Total P	E.Coli and total coliforms - thermotolerant	BTEX	VOC	HOLD	1L Plastic	250mL Plastic	125mL Plastic	200mL Amber Glass	40mL VOA vial	500mL PFAS Bottle	Jar (Glass or HDPE)	Other (Asbestos AS4964 WA Guidelines)	Sample Comments / Dangerous Goods Hazard Warning
1	SW04	7/10/21	W		X	X			X	X						X	X	X				
2	SW05	7/10/21	W		X	X										X	X	X				
3	SW06	7/10/21	W		X	X										X	X	X				
4	BD1	7/10/21	S		X															X		
5	BD2	7/10/21	S			X														X		
6	BT1	7/10/21	S		X															X		PLEASE FORWARD TO ALS
7	BT2	7/10/21	S			X														X		PLEASE FORWARD TO ALS
8	Trip spike x 5	7/10/21	S								X							X				
9	Trip spike x 5	7/10/21	S								X							X				
10	BD3	12/03/21	S		X															X		
11	BT3	12/03/21	S			X														X		PLEASE FORWARD TO ALS
12	PP2 0.0-0.1	13/08/21	S	X																X		
13	PP3 0.0-0.1	13/08/21	S	X																X		
14	PP4 0.0-0.1	12/08/21	S	X																X		
15	PP4 0.5-0.6	12/08/21	S									X								X		
16	PP4 1.0-1.1	12/08/21	S									X								X		
17	PP4 1.5-1.6	12/08/21	S									X								X		
18	PP4 2.0-2.1	12/08/21	S									X								X		
19	PP5 0.0-0.1	13/10/21	S	X																X		
20	PP6 0.0-0.1	12/10/21	S	X																X		
21	PP6 0.5-0.6	12/10/21	S									X								X		
22	PP6 1.0-1.1	12/10/21	S									X								X		
		Total Counts		5	6	6			1	1	2	6				3	3	5		##		PAGE 5 OF 11

Method of Shipment: ☑ Courier (#) ☐ Hand Delivered ☐ Postal — Name: SJ — Signature — Date: 8/10/2021 — Time

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

Rec - Soph 20/10/21 1630

CHAIN OF CUSTODY RECORD

ABN 50 005 085 521

☑ 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	ALLIANCE GEOTECHNICAL	Project №	13546	Project Manager	Jacob W
Address	10 WELDER ROAD, SEVEN HILLS NSW	Project Name	Kemps Creek	EDD Format (ESdat, EQuIS, Custom)	
Contact Name	Sam J			Sampler(s)	SJ
Phone №	430214402			Handed over by	
Special Directions				Email for Invoice	admin@allgeo.com.au
Purchase Order				Email for Results	samjones@allgeo.com.au, enviro@allgeo.com.au, & jacob.walker@allgeo.com.au
Quote ID №					

Analyses (Note Where metals are requested please specify Total or Filtered ; SUITE code must be used to attach SUITE profile)

Containers

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

☐ Overnight (9am)* ☐ 1 Day* ☐ 2 Day* ☐ 3 Day* ☐ Other ( )

№	Client Sample ID	Sampled Date/Time (dd/mm/yy hh:mm)	Matrix (Solid (S) Water (W))	Arsenic, Chromium & Copper	Suite B7: TRH, BTEXN, PAH, Metals	Suite B13 : OCP, PCB	EC and pH	L2 Aggressivity Suite	Suite BH19D: Total N, TKN, NOX, NO2, NO3, NH3, Total P	E.Coli and total coliforms - thermotolerant	TRH & BTEX	VOC	HOLD	1L Plastic	250mL Plastic	125mL Plastic	200mL Amber Glass	40mL VOA vial	500mL PFAS Bottle	Jar (Glass or HDPE)	Other (Asbestos AS4964, WA Guidelines)	Sample Comments / Dangerous Goods Hazard Warning
1	PP6 1.5-1.6	12/10/21	S										X							X		
2	PP6 2.0-2.1	12/10/21	S										X							X		
3	PP6 2.4-2.5	12/10/21	S										X							X		
4	PP7 0.0-0.1	12/10/21	S	X																X		
5	PP7 0.4-0.5	12/10/21	S										X							X		
6	PP8 0.0-0.1	12/10/21	S	X																X		
7	PP8 0.1-0.2	12/10/21	S										X							X		
8	TP41 0.0-0.1	12/10/21	S										X							X		
9	TP41 0.9-1.0	12/10/21	S										X							X		
10	TP42 0.0-0.1	12/10/21	S										X							X		
11	TP42 1.0-1.1	12/10/21	S										X							X		
12	TP42 1.4-1.5	12/10/21	S										X							X		
13	TP43 0.0-0.1	12/10/21	S										X							X		
14	TP43 1.0-1.1	12/10/21	S										X							X		
15	TP43 1.2-1.3	12/10/21	S										X							X		
16	TP44 0.0-0.1	12/10/21	S										X							X		
17	TP44 0.4-0.5	12/10/21	S										X							X		
18	TP44 1.0-1.1	12/10/21	S										X							X		
19	TP44 1.4-1.5	12/10/21	S										X							X		
20	TP44 2.0-2.1	12/10/21	S										X							X		
21	TP44 2.4-2.5	12/10/21	S										X							X		
22	TP45 0.0-0.1	12/10/21	S										X							X		
			Total Counts	2									20							22		

Method of Shipment: ☑ Courier (#) ☐ Hand Delivered ☐ Postal

Name	Signature	Date	Time
SJ		8/10/2021	

Rec-Soil 20/10/21 1630

CHAIN OF CUSTODY RECORD

ABN 50 005 085 521

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

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08 9251 9600 EnviroSampleWA@eurofins.com

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

Company	ALLIANCE GEOTECHNICAL	Project №	13546
Address	10 WELDER ROAD, SEVEN HILLS NSW	Project Name	Kemps Creek
Contact Name	Sam J	Project Manager	Jacob W
Phone №	430214402	EDD Format (ESdat, EQuIS, Custom)	
Special Directions		Sampler(s)	SJ
Purchase Order		Handed over by	
Quote ID №		Email for Invoice	admin@allgeo.com.au
		Email for Results	samjones@allgeo.com.au, enviro@allgeo.com.au, & jacob.walker@allgeo.com.au

Analyses (Note: Where results are requested, please specify "Total" or "Filtered". 1 SUITE code must be used to affect SUITE pricing)

№	Client Sample ID	Sampled Date/Time (dd/mm/yy hh:mm)	Matrix (Solid (S) Water (W))	Suite B7: TRH, BTEXN, PAH, Metals	Suite B13 : OCP, PCB	EC and pH	L2 Aggressivity Suite	Suite BH19D: Total N, TKN, NOX, NO2, NO3, NH3, Total P	E.Coli and total coliforms - thermotolerant	TRH & BTEX	VOC	HOLD	Containers: 1L Plastic	250mL Plastic	125mL Plastic	250mL Amber Glass	40mL VOA vial	500mL PFAS Bottle	Jar (Glass or HDPE)	Other (Asbestos AS4964, WA Guidelines)	Sample Comments / Dangerous Goods Hazard Warning
1	TP45 0.5-0.6	12/10/21	S									X							X		
2	TP45 0.7-0.8	12/10/21	S									X							X		
3	TP46 0.0-0.1	12/10/21	S									X							X		
4	TP46 0.3-0.4	12/10/21	S									X							X		
5	TP47 0.0-0.1	12/10/21	S									X							X		
6	TP47 0.2-0.3	12/10/21	S									X							X		
7	TP48 0.0-0.1	12/10/21	S									X							X		
8	TP48 0.2-0.3	12/10/21	S									X							X		
9	TP49 0.0-0.1	12/10/21	S									X							X		
10	TP49 0.1-0.2	12/10/21	S									X							X		
11	DR11 0.0-0.1	13/10/21	S	X								X							X		
12	DR11 0.1-0.2	13/10/21	S																X		
13	DR12 0.0-0.1	13/10/21	S	X								X							X		
14	DR12 0.1-0.2	13/10/21	S																X		
15	DR13 0.0-0.1	13/10/21	S	X								X							X		
16	DR13 0.1-0.2	13/10/21	S																X		
17	DR14 0.0-0.1	13/10/21	S	X								X							X		
18	DR14 0.1-0.2	13/10/21	S																X		
19	DS07	13/10/21	S	X	X							X							X		
20	DS08	13/10/21	S	X	X														X		
21	DS09	13/10/21	S	X	X														X		
22	DS10	13/10/21	S	X	X														X		
			Total Counts	8	4							14							22		

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

☐ Overnight (9am)* ☐ 1 Day* ☐ 2 Day* ☐ 3 Day* ☐ [redacted] ☐ Other ( )

PAGE 7 OF 11

Method of Shipment							
☑ Courier (#)	☐ Hand Delivered	☐ Postal	Name	SJ	Signature	Date	8/10/2021	Time

Rec: [redacted] 20/10/21 1630

CHAIN OF CUSTODY RECORD

ABN 50 005 085 521

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

Company	ALLIANCE GEOTECHNICAL	Project №	13546	Project Manager	Jacob W
Address	10 WELDER ROAD, SEVEN HILLS NSW	Project Name	Kemps Creek	EDD Format (ESdat, EQuIS, Custom)	
Contact Name	Sam J			Sampler(s)	SJ
Phone №	43021402			Handed over by	
Special Directions				Email for Invoice	admin@allgeo.com.au
Purchase Order				Email for Results	samjones@allgeo.com.au, enviro@allgeo.com.au, & jacob.walker@allgeo.com.au
Quote ID №					

Analyses (Note: Where metals are required, please specify Total or Filtered SUITE code must be used to allocate SUITE pricing)

Containers

Turnaround Time (TAT) Requirements (Default will be 6 days if not ticked)

☐ Overnight (9am)* ☐ 1 Day* ☐ 2 Day* ☐ 3 Day* ☐ [redacted] ☐ Other ( )

№	Client Sample ID	Sampled Date/Time (dd/mm/yy hh:mm)	Matrix (Solid (S) Water (W))	Suite B7: TRH, BTEXN, PAH, Metals	Suite B13 : OCP, PCB	EC and pH	L2 Aggressivity Suite	Suite BH19D: Total N, TKN, NOX, NO2, NO3, NH3, Total P	E.Coli and total coliforms - thermotolerant	TRH & BTEX	VOC	HOLD	1L Plastic	250mL Plastic	125mL Plastic	200mL Amber Glass	40mL VOA vial	500mL PFAS Bottle	Other (Asbestos AS4964 WA Guidelines)	Sample Comments / Dangerous Goods Hazard Warning
1	DW09	13/10/21	S									X						X		
2	DW10	13/10/21	S									X						X		
3	DW11	13/10/21	S									X						X		
4	DW12	13/10/21	S									X						X		
5	SW07	13/10/21	W	X	X									X	X	X				
6	SW08	13/10/21	W	X	X									X	X	X				
7	TP13-0.0-0.2	8/10/21	S	X				X	X									X		
8	TP13-0.4-0.6	8/10/21	S									X						X		
9	TP27-0.0-0.2	8/10/21	S	X														X		
10	TP27-1.0-1.2	8/10/21	S									X						X		
11	TP28-0.0-0.1	8/10/21	S	X														X		
12	TP28-0.1-0.3	8/10/21	S									X						X		
13	TP29-0.0-0.2	8/10/21	S	X	X			X	X									X		
14	TP29-0.3-0.5	8/10/21	S									X						X		
15	TP30-0.0-0.2	8/10/21	S	X	X			X	X									X		
16	TP30-0.5-0.7	8/10/21	S									X						X		
17	TP31-0.0.-0.2	8/10/21	S	X	X			X	X									X		
18	TP31-1.0-1.2	8/10/21	S									X						X		
19	TP31-2.0-2.2	8/10/21	S									X						X		
20	TP32-0.0-0.2	8/10/21	S	X														X		
21	TP32-1.0-1.2	8/10/21	S									X						X		
22	TP32-1.5-1.7	8/10/21	S									X						X		
		Total Counts		9	5			4	4			13		2	2	2		##		

PAGE 8 OF 11

Method of Shipment: ☑ Courier (#) ☐ Hand Delivered ☐ Postal

Name: SJ — Signature: [redacted] — Date: 8/10/2021 — Time:

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Rec - [redacted] - 20/10/21 16:30 12AC

CHAIN OF CUSTODY RECORD

ABN 50 005 085 521

☑ **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	ALLIANCE GEOTECHNICAL	Project №	13546	Project Manager	Jacob W
Address	10 WELDER ROAD, SEVEN HILLS NSW	Project Name	Kemps Creek	EDD Format (ESdat, EQuIS, Custom)	
Contact Name	Sam J			Sampler(s)	SJ
Phone №	430214402			Handed over by	
Special Directions				Email for Invoice	admin@allgeo.com.au
Purchase Order				Email for Results	samjones@allgeo.com.au, enviro@allgeo.com.au, & jacob.walker@allgeo.com.au
Quote ID №					

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

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

☐ Overnight (9am)* ☐ 1 Day* ☐ 2 Day* ☐ 3 Day* [redacted] ☐ Other ( )

№	Client Sample ID	Sampled Date/Time (dd/mm/yy hh:mm)	Matrix (Solid (S) Water (W))	Suite B7: TRH, BTEXN, PAH, Metals	Suite B13 : OCP, PCB	EC and pH	L2 Aggressivity Suite	Suite BH19D: Total N, TKN, NOX, NO2, NO3, NH3, Total P	E.Coli and total coliforms - thermotolerant	TRH & BTEX	VOC	HOLD	1L Plastic	250mL Plastic	125mL Plastic	200mL Amber Glass	40mL VOA vial	500mL PFAS Bottle	Jar (Glass or HDPE)	Other (Asbestos AS4964, WA Guidelines)	Sample Comments / Dangerous Goods Hazard Warning
1	TP33-0.0-0.1	8/10/21	S	X	X														X		
2	TP33-0.1-0.3	8/10/21	S									X							X		
3	TP34-0.0-0.2	8/10/21	S	X															X		
4	TP34-0.6-0.8	8/10/21	S									X							X		
5	TP35-0.0-0.2	8/10/21	S	X															X		
6	TP35-0.6-0.8	8/10/21	S									X							X		
7	TP36-0.0-0.1	8/10/21	S	X	X														X		
8	TP36-0.1-0.3	8/10/21	S									X							X		
9	TP37-0.0-0.1	8/10/21	S	X															X		
10	TP37-0.1-0.3	8/10/21	S									X							X		
11	TP38-0.0-0.2	8/10/21	S	X															X		
12	TP38-0.4-0.6	8/10/21	S									X							X		
13	TP39-0.0-0.1	8/10/21	S	X															X		
14	TP39-0.1-0.3	8/10/21	S									X							X		
15	TP40-0.0-0.1	8/10/21	S	X	X														X		
16	TP40-0.1-0.3	8/10/21	S									X							X		
17	TP55-0.0-0.2	8/10/21	S									X							X		
18	TP55-0.3-0.5	8/10/21	S									X							X		
19	TP56-0.0-0.2	8/10/21	S									X							X		
20	TP56-0.7-0.9	8/10/21	S									X							X		
21	TP57-0.1-0.1	8/10/21	S									X							X		
22	TP57-0.1-0.3	8/10/21	S									X							X		
			Total Counts	8	3							14							##		

Method of Shipment	☑ Courier (#)	☐ Hand Delivered	☐ Postal	Name	SJ	Signature	[signature]	Date	8/10/2021	Time	

3

Rec. [illegible] 20/10/21 1630 12.6c

CHAIN OF CUSTODY RECORD

ABN 50 005 085 521

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Company	ALLIANCE GEOTECHNICAL	Project №	13546	Project Manager	Jacob W
Address	10 WELDER ROAD, SEVEN HILLS NSW	Project Name	Kemps Creek	EDD Format (ESdat, EQuIS, Custom)	
Contact Name	Sam J			Sampler(s)	SJ
Phone №	430214402			Handed over by	
Special Directions				Email for Invoice	admin@allgeo.com.au
Purchase Order				Email for Results	samjones@allgeo.com.au, enviro@allgeo.com.au, & jacob.walker@allgeo.com.au
Quote ID №					

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

Containers

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

☐ Overnight (9am)* ☐ 2 Day* ☐ 1 Day* ☐ 3 Day* ☐ Other ( )

№	Client Sample ID	Sampled Date/Time (dd/mm/yy hh:mm)	Matrix (Solid (S) Water (W))	Suite B7: TRH, BTEXN, PAH, Metals	Suite B13 : OCP, PCB	EC and pH	L2 Aggressivity Suite & B20 Ion Exchange Suite	Suite BH19D: Total N, TKN, NOX, NO2, NO3, NH3, Total P	E.Coli and total coliforms - thermotolerant	TRH & BTEX	VOC	HOLD	1L Plastic	250mL Plastic	125mL Plastic	200mL Amber Glass	40mL VOA vial	500mL PFAS Bottle	Jar (Glass or HDPE)	Other (Asbestos AS3964, WA Guidelines)	Sample Comments / Dangerous Goods Hazard Warning
1	TP58-0.0-0.1	8/10/21	S									X							X		
2	TP58-0.1-0.3	8/10/21	S									X							X		
3	TP59-0.0-0.2	8/10/21	S									X							X		
4	TP59-0.7-0.9	8/10/21	S									X							X		
5	TP60-0.0-0.2	8/10/21	S									X							X		
6	TP60-0.5-0.7	8/10/21	S									X							X		
7	SAL01-0.5	8/10/21	S			X													X		
8	SAL01-1.0	8/10/21	S			X													X		
9	SAL01-1.5	8/10/21	S			X													X		
10	SAL01-2.0	8/10/21	S			X	X												X		
11	SAL02-0.5	8/10/21	S			X													X		
12	SAL02-1.0	8/10/21	S			X													X		
13	SAL02-1.5	8/10/21	S			X	X												X		
14	SAL02-2.0	8/10/21	S			X													X		
15	SAL03-0.5	8/10/21	S			X													X		
16	SAL03-1.0	8/10/21	S			X													X		
17	SAL03-1.5	8/10/21	S			X													X		
18	SAL03-2.0	8/10/21	S			X													X		
19	SAL03-2.5	8/10/21	S			X	X												X		
20	SAL04-0.5	8/10/21	S			X													X		
21	SAL04-1.0	8/10/21	S			X													X		
22	SAL04-1.5	8/10/21	S			X	X												X		
	Total Counts					16	4					6							##		

Method of Shipment						
☑ Courier (#)	☐ Hand Delivered	☐ Postal	Name	SJ	Signature	Date 8/10/2021	Time

Received . 20/10/21 1630 16°C

CHAIN OF CUSTODY RECORD

ABN 50 005 085 521

☑ 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	ALLIANCE GEOTECHNICAL	Project №	13546	Project Manager	Jacob W
Address	10 WELDER ROAD, SEVEN HILLS NSW	Project Name	Kemps Creek	EDD Format (ESdat, EQuIS, Custom)	
Contact Name	Sam J				
Phone №	430214402				
Special Directions					
Purchase Order					
Quote ID №					

Sampler(s)	SJ
Handed over by	
Email for invoice	admin@allgeo.com.au
Email for Results	samjones@allgeo.com.au, enviro@allgeo.com.au, & jacob.walker@allgeo.com.au

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

☐ Overnight (9am)* ☐ 1 Day* ☐ 2 Day* ☐ 3 Day* ☐ [redacted] ☐ Other ( )

№	Client Sample ID	Sampled Date/Time (dd/mm/yy hh:mm)	Matrix (Solid (S) Water (W))	Suite B7: TRH, BTEXN, PAH, Metals	Suite B13 : OCP, PCB	EC and pH	L2 Aggressivity Suite & B20 Ion Exchange Suite	Suite BH19D: Total N, TKN, NOX, NO2, NO3, NH3, Total P	E.Coli and total coliforms - thermotolerant	TRH & BTEX	VOC	HOLD	Containers: 1L Plastic	250mL Plastic	125mL Plastic	200mL Amber Glass	40mL VOA vial	500mL PFAS Bottle	Jar (Glass or HDPE)	Other (Asbestos AS4964 - WA Guidelines)	Sample Comments / Dangerous Goods Hazard Warning
1	SAL04-2.0	8/10/21	S			X													X		
2	SAL05-0.5	8/10/21	S			X													X		
3	SAL05-1.0	8/10/21	S			X													X		
4	SAL05-1.5	8/10/21	S			X													X		
5	SAL05-2.0	8/10/21	S			X	X												X		
6																					
7																					
8																					
9																					
10																					
11																					
12																					
13																					
14																					
15																					
16																					
17																					
18																					
19																					
20																					
21																					
22																					
		Total Counts				5	1												5		

Analyses (Note: Where metals are requested, please specify "dissolved" or "filtered"; some state must be exact to allow SUITE pricing.)

PAGE 11 OF 11

Method of Shipment	☑ Courier (#)	☐ Hand Delivered	☐ Postal	Name	SJ	Signature	Date	8/10/2021	Time

Rec - Sophie 20/10/21 1630 12.6°

QA/QC Compliance Assessment to assist with Quality Review

Work Order	: **ES2137883**	Page	: 1 of 6
Client	: **ALLIANCE GEOTECHNICAL**	Laboratory	: Environmental Division Sydney
Contact	: Jacob Walker	Telephone	: +61-2-8784 8555
Project	: 13546 - Kemps Creek	Date Samples Received	: 20-Oct-2021
Site	: ----	Issue Date	: 27-Oct-2021
Sampler	: SJ	No. of samples received	: 3
Order number	: ----	No. of samples analysed	: 3

This report is automatically generated by the ALS LIMS through interpretation of the ALS Quality Control Report and several Quality Assurance parameters measured by ALS. This automated reporting highlights any non-conformances, facilitates faster and more accurate data validation and is designed to assist internal expert and external Auditor review. Many components of this report contribute to the overall DQO assessment and reporting for guideline compliance.

Brief method summaries and references are also provided to assist in traceability.

Summary of Outliers

Outliers : Quality Control Samples

This report highlights outliers flagged in the Quality Control (QC) Report.

- **NO Method Blank value outliers occur.**
- **NO Duplicate outliers occur.**
- **NO Laboratory Control outliers occur.**
- **NO Matrix Spike outliers occur.**
- **For all regular sample matrices, NO surrogate recovery outliers occur.**

Outliers : Analysis Holding Time Compliance

- **Analysis Holding Time Outliers exist - please see following pages for full details.**

Outliers : Frequency of Quality Control Samples

- **NO Quality Control Sample Frequency Outliers exist.**

Outliers : Analysis Holding Time Compliance

Matrix: **SOIL**

Method / Container / Client Sample ID(s)	Extraction / Preparation			Analysis		
	Date extracted	Due for extraction	Days overdue	Date analysed	Due for analysis	Days overdue
EA055: Moisture Content (Dried @ 105-110°C)						
Soil Glass Jar - Unpreserved						
BT1, BT3	----	----	----	22-Oct-2021	21-Oct-2021	**1**
Soil Glass Jar - Unpreserved						
BT2	----	----	----	25-Oct-2021	21-Oct-2021	**4**
EP066: Polychlorinated Biphenyls (PCB)						
Soil Glass Jar - Unpreserved						
BT2, BT3	22-Oct-2021	21-Oct-2021	**1**	----	----	----
EP068A: Organochlorine Pesticides (OC)						
Soil Glass Jar - Unpreserved						
BT2, BT3	22-Oct-2021	21-Oct-2021	**1**	----	----	----
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons						
Soil Glass Jar - Unpreserved						
BT1	22-Oct-2021	21-Oct-2021	**1**	----	----	----
Soil Glass Jar - Unpreserved						
BT3	25-Oct-2021	21-Oct-2021	**4**	----	----	----
EP080/071: Total Petroleum Hydrocarbons						
Soil Glass Jar - Unpreserved						
BT1	22-Oct-2021	21-Oct-2021	**1**	22-Oct-2021	21-Oct-2021	**1**
Soil Glass Jar - Unpreserved						
BT3	22-Oct-2021	21-Oct-2021	**1**	25-Oct-2021	21-Oct-2021	**4**
Soil Glass Jar - Unpreserved						
BT3	25-Oct-2021	21-Oct-2021	**4**	----	----	----
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions						
Soil Glass Jar - Unpreserved						
BT1	22-Oct-2021	21-Oct-2021	**1**	22-Oct-2021	21-Oct-2021	**1**
Soil Glass Jar - Unpreserved						
BT3	22-Oct-2021	21-Oct-2021	**1**	25-Oct-2021	21-Oct-2021	**4**
Soil Glass Jar - Unpreserved						
BT3	25-Oct-2021	21-Oct-2021	**4**	----	----	----
EP080: BTEXN						
Soil Glass Jar - Unpreserved						
BT1	22-Oct-2021	21-Oct-2021	**1**	22-Oct-2021	21-Oct-2021	**1**
Soil Glass Jar - Unpreserved						
BT3	22-Oct-2021	21-Oct-2021	**1**	25-Oct-2021	21-Oct-2021	**4**

Analysis Holding Time Compliance

If samples are identified below as having been analysed or extracted outside of recommended holding times, this should be taken into consideration when interpreting results.

This report summarizes extraction / preparation and analysis times and compares each with ALS recommended holding times (referencing USEPA SW 846, APHA, AS and NEPM) based on the sample container provided. Dates reported represent first date of extraction or analysis and preclude subsequent dilutions and reruns. A listing of breaches (if any) is provided herein.

Holding time for leachate methods (e.g. TCLP) vary according to the analytes reported. Assessment compares the leach date with the shortest analyte holding time for the equivalent soil method. These are: organics 14 days, mercury 28 days & other metals 180 days. A recorded breach does not guarantee a breach for all non-volatile parameters.

Holding times for ***VOC in soils*** vary according to analytes of interest. Vinyl Chloride and Styrene holding time is 7 days; others 14 days. A recorded breach does not guarantee a breach for all VOC analytes and should be verified in case the reported breach is a false positive or Vinyl Chloride and Styrene are not key analytes of interest/concern.

Matrix: **SOIL**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EA055: Moisture Content (Dried @ 105-110°C)							
Soil Glass Jar - Unpreserved (EA055) BT1, BT3	**07-Oct-2021**	**----**	----	----	**22-Oct-2021**	21-Oct-2021	×
Soil Glass Jar - Unpreserved (EA055) BT2	**07-Oct-2021**	**----**	----	----	**25-Oct-2021**	21-Oct-2021	×
EG005(ED093)T: Total Metals by ICP-AES							
Soil Glass Jar - Unpreserved (EG005T) BT1, BT3	**07-Oct-2021**	**22-Oct-2021**	05-Apr-2022	✓	**25-Oct-2021**	05-Apr-2022	✓
EG035T: Total Recoverable Mercury by FIMS							
Soil Glass Jar - Unpreserved (EG035T) BT1, BT3	**07-Oct-2021**	**22-Oct-2021**	04-Nov-2021	✓	**25-Oct-2021**	04-Nov-2021	✓
EP066: Polychlorinated Biphenyls (PCB)							
Soil Glass Jar - Unpreserved (EP066) BT2, BT3	**07-Oct-2021**	**22-Oct-2021**	21-Oct-2021	×	**22-Oct-2021**	01-Dec-2021	✓
EP068A: Organochlorine Pesticides (OC)							
Soil Glass Jar - Unpreserved (EP068) BT2, BT3	**07-Oct-2021**	**22-Oct-2021**	21-Oct-2021	×	**22-Oct-2021**	01-Dec-2021	✓
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons							
Soil Glass Jar - Unpreserved (EP075(SIM)) BT1	**07-Oct-2021**	**22-Oct-2021**	21-Oct-2021	×	**22-Oct-2021**	01-Dec-2021	✓
Soil Glass Jar - Unpreserved (EP075(SIM)) BT3	**07-Oct-2021**	**25-Oct-2021**	21-Oct-2021	×	**26-Oct-2021**	04-Dec-2021	✓
EP080/071: Total Petroleum Hydrocarbons							
Soil Glass Jar - Unpreserved (EP071) BT1	**07-Oct-2021**	**22-Oct-2021**	21-Oct-2021	×	**22-Oct-2021**	01-Dec-2021	✓
Soil Glass Jar - Unpreserved (EP080) BT1	**07-Oct-2021**	**22-Oct-2021**	21-Oct-2021	×	**22-Oct-2021**	21-Oct-2021	×
Soil Glass Jar - Unpreserved (EP080) BT3	**07-Oct-2021**	**22-Oct-2021**	21-Oct-2021	×	**25-Oct-2021**	21-Oct-2021	×
Soil Glass Jar - Unpreserved (EP071) BT3	**07-Oct-2021**	**25-Oct-2021**	21-Oct-2021	×	**25-Oct-2021**	04-Dec-2021	✓

Matrix: **SOIL**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions							
Soil Glass Jar - Unpreserved (EP071) BT1	**07-Oct-2021**	**22-Oct-2021**	21-Oct-2021	×	**22-Oct-2021**	01-Dec-2021	✓
Soil Glass Jar - Unpreserved (EP080) BT1	**07-Oct-2021**	**22-Oct-2021**	21-Oct-2021	×	**22-Oct-2021**	21-Oct-2021	×
Soil Glass Jar - Unpreserved (EP080) BT3	**07-Oct-2021**	**22-Oct-2021**	21-Oct-2021	×	**25-Oct-2021**	21-Oct-2021	×
Soil Glass Jar - Unpreserved (EP071) BT3	**07-Oct-2021**	**25-Oct-2021**	21-Oct-2021	×	**25-Oct-2021**	04-Dec-2021	✓
EP080: BTEXN							
Soil Glass Jar - Unpreserved (EP080) BT1	**07-Oct-2021**	**22-Oct-2021**	21-Oct-2021	×	**22-Oct-2021**	21-Oct-2021	×
Soil Glass Jar - Unpreserved (EP080) BT3	**07-Oct-2021**	**22-Oct-2021**	21-Oct-2021	×	**25-Oct-2021**	21-Oct-2021	×

Quality Control Parameter Frequency Compliance

The following report summarises the frequency of laboratory QC samples analysed within the analytical lot(s) in which the submitted sample(s) was(were) processed. Actual rate should be greater than or equal to the expected rate. A listing of breaches is provided in the Summary of Outliers.

Matrix: **SOIL**

Evaluation: × = Quality Control frequency not within specification ; ✓ = Quality Control frequency within specification.

Quality Control Sample Type		Count		Rate (%)			Quality Control Specification
Analytical Methods	*Method*	*QC*	*Regular*	***Actual***	***Expected***	*Evaluation*	
Laboratory Duplicates (DUP)							
Moisture Content	EA055	4	38	**10.53**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
PAH/Phenols (SIM)	EP075(SIM)	3	18	**16.67**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Pesticides by GCMS	EP068	1	6	**16.67**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Polychlorinated Biphenyls (PCB)	EP066	1	2	**50.00**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Mercury by FIMS	EG035T	2	11	**18.18**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Metals by ICP-AES	EG005T	2	18	**11.11**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH - Semivolatile Fraction	EP071	4	29	**13.79**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH Volatiles/BTEX	EP080	4	39	**10.26**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Laboratory Control Samples (LCS)							
PAH/Phenols (SIM)	EP075(SIM)	2	18	**11.11**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Pesticides by GCMS	EP068	1	6	**16.67**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Polychlorinated Biphenyls (PCB)	EP066	1	2	**50.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Mercury by FIMS	EG035T	1	11	**9.09**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Metals by ICP-AES	EG005T	1	18	**5.56**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH - Semivolatile Fraction	EP071	2	29	**6.90**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH Volatiles/BTEX	EP080	2	39	**5.13**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Method Blanks (MB)							
PAH/Phenols (SIM)	EP075(SIM)	2	18	**11.11**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Pesticides by GCMS	EP068	1	6	**16.67**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Polychlorinated Biphenyls (PCB)	EP066	1	2	**50.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Mercury by FIMS	EG035T	1	11	**9.09**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Metals by ICP-AES	EG005T	1	18	**5.56**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH - Semivolatile Fraction	EP071	2	29	**6.90**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH Volatiles/BTEX	EP080	2	39	**5.13**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Matrix Spikes (MS)							
PAH/Phenols (SIM)	EP075(SIM)	2	18	**11.11**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Pesticides by GCMS	EP068	1	6	**16.67**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Polychlorinated Biphenyls (PCB)	EP066	1	2	**50.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Mercury by FIMS	EG035T	1	11	**9.09**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Metals by ICP-AES	EG005T	1	18	**5.56**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH - Semivolatile Fraction	EP071	2	29	**6.90**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH Volatiles/BTEX	EP080	2	39	**5.13**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard

Brief Method Summaries

The analytical procedures used by the Environmental Division have been developed from established internationally recognized procedures such as those published by the US EPA, APHA, AS and NEPM. In house developed procedures are employed in the absence of documented standards or by client request. The following report provides brief descriptions of the analytical procedures employed for results reported in the Certificate of Analysis. Sources from which ALS methods have been developed are provided within the Method Descriptions.

Analytical Methods	Method	Matrix	Method Descriptions
Moisture Content	EA055	SOIL	In house: A gravimetric procedure based on weight loss over a 12 hour drying period at 105-110 degrees C. This method is compliant with NEPM Schedule B(3).
Total Metals by ICP-AES	EG005T	SOIL	In house: Referenced to APHA 3120; USEPA SW 846 - 6010. Metals are determined following an appropriate acid digestion of the soil. The ICPAES technique ionises samples in a plasma, emitting a characteristic spectrum based on metals present. Intensities at selected wavelengths are compared against those of matrix matched standards. This method is compliant with NEPM Schedule B(3)
Total Mercury by FIMS	EG035T	SOIL	In house: Referenced to AS 3550, APHA 3112 Hg - B (Flow-injection (SnCl2) (Cold Vapour generation) AAS) FIM-AAS is an automated flameless atomic absorption technique. Mercury in solids are determined following an appropriate acid digestion. Ionic mercury is reduced online to atomic mercury vapour by SnCl2 which is then purged into a heated quartz cell. Quantification is by comparing absorbance against a calibration curve. This method is compliant with NEPM Schedule B(3)
Polychlorinated Biphenyls (PCB)	EP066	SOIL	In house: Referenced to USEPA SW 846 - 8270 Extracts are analysed by Capillary GC/MS and quantification is by comparison against an established 5 point calibration curve. This method is compliant with NEPM Schedule B(3).
Pesticides by GCMS	EP068	SOIL	In house: Referenced to USEPA SW 846 - 8270 Extracts are analysed by Capillary GC/MS and quantification is by comparison against an established 5 point calibration curve. This technique is compliant with NEPM Schedule B(3).
TRH - Semivolatile Fraction	EP071	SOIL	In house: Referenced to USEPA SW 846 - 8015 Sample extracts are analysed by Capillary GC/FID and quantified against alkane standards over the range C10 - C40. Compliant with NEPM Schedule B(3).
PAH/Phenols (SIM)	EP075(SIM)	SOIL	In house: Referenced to USEPA SW 846 - 8270. Extracts are analysed by Capillary GC/MS in Selective Ion Mode (SIM) and quantification is by comparison against an established 5 point calibration curve. This method is compliant with NEPM Schedule B(3)
TRH Volatiles/BTEX	EP080	SOIL	In house: Referenced to USEPA SW 846 - 8260. Extracts are analysed by Purge and Trap, Capillary GC/MS. Quantification is by comparison against an established 5 point calibration curve. Compliant with NEPM Schedule B(3) amended.

Preparation Methods	Method	Matrix	Method Descriptions
Hot Block Digest for metals in soils sediments and sludges	EN69	SOIL	In house: Referenced to USEPA 200.2. Hot Block Acid Digestion 1.0g of sample is heated with Nitric and Hydrochloric acids, then cooled. Peroxide is added and samples heated and cooled again before being filtered and bulked to volume for analysis. Digest is appropriate for determination of selected metals in sludge, sediments, and soils. This method is compliant with NEPM Schedule B(3).
Methanolic Extraction of Soils for Purge and Trap	ORG16	SOIL	In house: Referenced to USEPA SW 846 - 5030A. 5g of solid is shaken with surrogate and 10mL methanol prior to analysis by Purge and Trap - GC/MS.
Tumbler Extraction of Solids	ORG17	SOIL	In house: Mechanical agitation (tumbler). 10g of sample, Na2SO4 and surrogate are extracted with 30mL 1:1 DCM/Acetone by end over end tumble. The solvent is decanted, dehydrated and concentrated (by KD) to the desired volume for analysis.

AUSTRALIAN SAFER ENVIRONMENT & TECHNOLOGY PTY LTD

ABN 36 088 095 112

Our ref : ASET96801 / 99981 / 1 - 5
Your ref : 13546 – Kemps Creek
NATA Accreditation No: 14484

20 October 2021

Alliance Geotechnical
10 Welder Road
Seven Hills NSW 2147

Attn: Mr Sam Jones

Accredited for compliance with ISO/IEC 17025 - Testing.

Dear Sam

Asbestos Identification
This report presents the results of five samples, forwarded by Alliance Geotechnical on 14 October 2021, for analysis for asbestos.

1.Introduction: Five samples forwarded were examined and analysed for the presence of asbestos on 19 October 2021.

2. Methods : The samples were examined under a Stereo Microscope and selected fibres were analysed by Polarized Light Microscopy in conjunction with Dispersion Staining method **(Australian Standard AS 4964 - 2004 and Safer Environment Method 1 as the supplementary work instruction) (Qualitative Analysis only).**

The report also provides approximate weights and percentages, categories of asbestos forms appearing in the sample, such as **AF**(Asbestos Fines), **FA**(Friable Asbestos) and **ACM** (Asbestos Containing Material), also satisfying the requirements of the WA/ NEPM Guidelines).

3. Results :

Sample No. 1. ASET96801 / 99981 / 1. 13546 - DR11 0.0-0.1.
Approx dimensions 10.0 cm x 10.0 cm x 7.3 cm
Approximate total dry weight of soil = 733.0g.
The sample consisted of a mixture of clayish sandy soil, stones, fragments of cement and plant matter.
No asbestos detected.

Sample No. 2. ASET96801 / 99981 / 2. 13546 - DR12 0.0-0.1.
Approx dimensions 10.0 cm x 10.0 cm x 7.4 cm
Approximate total dry weight of soil = 736.0g.
The sample consisted of a mixture of clayish sandy soil, stones, fragments of brick, cement, wood chips and plant matter.
No asbestos detected.

Sample No. 3. ASET96801 / 99981 / 3. 13546 - DR13 0.0-0.1.
Approx dimensions 10.0 cm x 10.0 cm x 7.0 cm
Approximate total dry weight of soil = 703.0g.
The sample consisted of a mixture of clayish sandy soil, stones, fragments of brick, cement, wood chips and plant matter.
No asbestos detected.

Sample No. 4. ASET96801 / 99981 / 4. 13546 - DR14 0.0-0.1.
Approx dimensions 10.0 cm x 10.0 cm x 6.6 cm
Approximate total dry weight of soil = 662.0g.
The sample consisted of a mixture of clayish sandy soil, stones, fragments of brick, cement and plant matter.
No asbestos detected.

λ Sample No. 5. ASET96801 / 99981 / 5. 13546 - TP43 0.0-0.1 ASB.
Approx dimensions 9.0 cm x 5.0 cm x 0.2 cm
The sample consisted of a hard fibrous material containing synthetic mineral fibres.
No asbestos detected.

Reported by,

Mahen De Silva. BSc, MSc, Grad Dip (Occ Hyg)
Occupational Hygienist / Approved Identifier.
Approved Signatory

Accredited for compliance with ISO/IEC 17025 - Testing.

This report is consistent with the analytical procedures and reporting recommendations in the Western Australia Guidelines for the Assessment Remediation and Management of Asbestos contaminated sites in Western Australia and it also satisfies the requirements of the current NEPM Guidelines. NATA Accreditation does not cover the performance of this service.

Disclaimers;

The approx; weights given above can be used only as a guide. They do not represent absolute weights of each kind of asbestos, as it is impossible to extract all loose fibres from soil and other asbestos containing building material samples using this method. However above figures may be used as closest approximations to the exact values in each case. Estimation and/ or reporting of asbestos fibre weights in asbestos containing materials and soil is out of the Scope of the NATA Accreditation. NATA Accreditation only covers the qualitative part of the results reported. This weight disclaimer also covers weight / weight percentages if given.

ACM - Asbestos Containing Material - Products or materials that contain asbestos in an inert bound matrix such as cement or resin. Here taken to be sound material, even as fragments and not fitting through a 7mm X 7 mm sieve.

AF -Includes asbestos free fibres, small fibre bundles and also ACM fragments that pass through a 7mm X 7 mm sieve.

FA -Friable asbestos material such as severely weathered ACM, and asbestos in the form of loose fibrous material such as insulation products.

^ denotes loose fibres of relevant asbestos types detected in soil/dust.
*** denotes asbestos detected in ACM in bonded form.**
 # denotes friable asbestos as soft fibro plaster and/ or highly weathered ACM that will easily crumble.
λ denotes samples that have been analysed only in accordance to AS 4964 – 2004.

The results contained in this report relate only to the sample/s submitted for testing. Australian Safer Environment & Technology accepts no responsibility for whether or not the submitted sample/s is/are representative. Results indicating "No asbestos detected" indicates a reporting limit specified in AS4964 -2004 which is 0.1g/ Kg (0.01%). Any amounts detected at assumed lower level than that would be reported, however those assumed lower levels may be treated as "No asbestos detected" as specified and recommended by A4964-2004. Trace / respirable level asbestos will be reported only when detected and trace analysis have been performed on each sample as required by AS4964-2004. When loose asbestos fibres/ fibre bundles are detected and reported that means they are larger handpicked fibres/ fibre bundles, and they do not represent respirable fibres. Dust/soil samples are always subjected to trace analysis except where the amounts involved are extremely minute and trace analysis is not possible to be carried out. When trace analysis is not performed on dust samples it will be indicated in the report that trace analysis has not been carried out due to the volume of the sample being extremely minute.

Estimation of asbestos weights involves the use of following assumptions;
Volume of each kind of Asbestos present in broken edges have been visually estimated and its been assumed that volumes remain similar throughout the binding matrix and those volumes are only approximate and not exact. Material densities have been assumed to be similar to commonly found similar materials and may not be exact.

All samples indicating "No asbestos detected" are assumed to be less than 0.001% for friable AF and FA portions detected and 0.01 % for ACM detected unless the approximate weight is given.

AUSTRALIAN SAFER ENVIRONMENT & TECHNOLOGY PTY LTD

ABN 36 088 095 112

Our ref : ASET96726 / 99906 / 1 – 15
Your ref : 13546 – Kemps Creek
NATA Accreditation No: 14484

20 October 2021

Alliance Geotechnical
10 Welder Road
Seven Hills NSW 2147

Attn: Mr Sam Jones

Accredited for compliance with ISO/IEC 17025 - Testing.

Dear Sam

Asbestos Identification
This report presents the results of fifteen samples, forwarded by Alliance Geotechnical on 14 October 2021, for analysis for asbestos.

1.Introduction: Fifteen samples forwarded were examined and analysed for the presence of asbestos on 19 October 2021.

2. Methods : The samples were examined under a Stereo Microscope and selected fibres were analysed by Polarized Light Microscopy in conjunction with Dispersion Staining method **(Australian Standard AS 4964 - 2004 and Safer Environment Method 1 as the supplementary work instruction) (Qualitative Analysis only).**

The report also provides approximate weights and percentages, categories of asbestos forms appearing in the sample, such as **AF** (Asbestos Fines), **FA** (Friable Asbestos) and **ACM** (Asbestos Containing Material), also satisfying the requirements of the WA/ NEPM Guidelines.

3. Results :

Sample No. 1. ASET96726 / 99906 / 1. 13546 - TP13-0.0-0.1.
Approx dimensions 10.0 cm x 10.0 cm x 5.0 cm
Approximate total dry weight of soil = 521.0g.
The sample consisted of a mixture of clayish sandy soil, stones, organic fibres, sandstones and plant matter.
No asbestos detected.

Sample No. 2. ASET96726 / 99906 / 2. 13546 - TP27-0.0-0.1.
Approx dimensions 10.0 cm x 10.0 cm x 5.0 cm
Approximate total dry weight of soil = 521.0g.
The sample consisted of a mixture of clayish sandy soil, stones, organic fibres, sandstones and plant matter.
No asbestos detected.

Sample No. 3. ASET96726 / 99906 / 3. 13546 - TP28-0.0-0.1.
Approx dimensions 10.0 cm x 10.0 cm x 5.3 cm
Approximate total dry weight of soil = 665.0g.
The sample consisted of a mixture of clayish sandy soil, organic fibres, sandstones, stones and plant matter.
No asbestos detected.

Sample No. 4. ASET96726 / 99906 / 4. 13546 - TP29-0.0-0.1.
Approx dimensions 10.0 cm x 10.0 cm x 8.3 cm
Approximate total dry weight of soil = 999.0g.
The sample consisted of a mixture of clayish sandy soil, organic fibres, sandstones, stones and plant matter.
No asbestos detected.

Sample No. 5. ASET96726 / 99906 / 5. 13546 - TP30-0.0-0.1.
Approx dimensions 10.0 cm x 10.0 cm x 7.0 cm
Approximate total dry weight of soil = 840.0g.
The sample consisted of a mixture of clayish sandy soil, stones, sandstones, organic fibres and plant matter.
No asbestos detected.

Sample No. 6. ASET96726 / 99906 / 6. 13546 - TP31-0.0-0.1.
Approx dimensions 10.0 cm x 10.0 cm x 5.0 cm
Approximate total dry weight of soil = 546.0g.
The sample consisted of a mixture of clayish sandy soil, sandstones, organic fibres, stones and plant matter.
No asbestos detected.

Sample No. 7. ASET96726 / 99906 / 7. 13546 - TP32-0.0-0.1.
Approx dimensions 10.0 cm x 10.0 cm x 5.3 cm
Approximate total dry weight of soil = 669.0g.
The sample consisted of a mixture of clayish sandy soil, organic fibres, sandstones, stones and plant matter.
No asbestos detected.

Sample No. 8. ASET96726 / 99906 / 8. 13546 - TP33-0.0-0.1.
Approx dimensions 10.0 cm x 10.0 cm x 5.0 cm
Approximate total dry weight of soil = 528.0g.
The sample consisted of a mixture of clayish sandy soil, stones, organic fibres, sandstones and plant matter.
No asbestos detected.

Sample No. 9. ASET96726 / 99906 / 9. 13546 - TP34-0.0-0.1.
Approx dimensions 10.0 cm x 10.0 cm x 5.0 cm
Approximate total dry weight of soil = 578.0g.
The sample consisted of a mixture of clayish sandy soil, sandstones, organic fibres, stones and plant matter.
No asbestos detected.

Sample No. 10. ASET96726 / 99906 / 10. 13546 - TP35-0.0-0.1.
Approx dimensions 10.0 cm x 10.0 cm x 5.0 cm
Approximate total dry weight of soil = 561.0g.
The sample consisted of a mixture of clayish sandy soil, stones, sandstones, organic fibres and plant matter.
No asbestos detected.

Sample No. 11. ASET96726 / 99906 / 11. 13546 - TP36-0.0-0.1.
Approx dimensions 10.0 cm x 10.0 cm x 5.1 cm
Approximate total dry weight of soil = 623.0g.
The sample consisted of a mixture of clayish sandy soil, organic fibres, sandstones, stones and plant matter.
No asbestos detected.

Sample No. 12. ASET96726 / 99906 / 12. 13546 - TP37-0.0-0.1.
Approx dimensions 10.0 cm x 10.0 cm x 6.0 cm
Approximate total dry weight of soil = 723.0g.
The sample consisted of a mixture of clayish sandy soil, sandstones, organic fibres, stones and plant matter.
No asbestos detected.

Sample No. 13. ASET96726 / 99906 / 13. 13546 - TP38-0.0-0.1.
Approx dimensions 10.0 cm x 10.0 cm x 6.5 cm
Approximate total dry weight of soil = 786.0g.
The sample consisted of a mixture of clayish sandy soil, sandstones, organic fibres, stones and plant matter.
No asbestos detected.

Sample No. 14. ASET96726 / 99906 / 14. 13546 - TP39-0.0-0.1.
Approx dimensions 10.0 cm x 10.0 cm x 5.0 cm
Approximate total dry weight of soil = 471.0g.
The sample consisted of a mixture of clayish sandy soil, stones, sandstones, organic fibres and plant matter.
No asbestos detected.

Sample No. 15. ASET96726 / 99906 / 15. 13546 - TP40-0.0-0.1.
Approx dimensions 10.0 cm x 10.0 cm x 5.8 cm
Approximate total dry weight of soil = 692.0g.
The sample consisted of a mixture of clayish sandy soil, sandstones, organic fibres, stones and plant matter.
No asbestos detected.

Reported by,

Mahen De Silva. BSc, MSc, Grad Dip (Occ Hyg)
Occupational Hygienist / Approved Identifier.
Approved Signatory

Accredited for compliance with ISO/IEC 17025 - Testing.

This report is consistent with the analytical procedures and reporting recommendations in the Western Australia Guidelines for the Assessment Remediation and Management of Asbestos contaminated sites in Western Australia and it also satisfies the requirements of the current NEPM Guidelines. NATA Accreditation does not cover the performance of this service.

Disclaimers;

The approx; weights given above can be used only as a guide. They do not represent absolute weights of each kind of asbestos, as it is impossible to extract all loose fibres from soil and other asbestos containing building material samples using this method. However above figures may be used as closest approximations to the exact values in each case. Estimation and/ or reporting of asbestos fibre weights in asbestos containing materials and soil is out of the Scope of the NATA Accreditation. NATA Accreditation only covers the qualitative part of the results reported. This weight disclaimer also covers weight / weight percentages if given.

ACM - Asbestos Containing Material - Products or materials that contain asbestos in an inert bound matrix such as cement or resin. Here taken to be sound material, even as fragments and not fitting through a 7mm X 7 mm sieve.

AF -Includes asbestos free fibres, small fibre bundles and also ACM fragments that pass through a 7mm X 7 mm sieve.

FA -Friable asbestos material such as severely weathered ACM, and asbestos in the form of loose fibrous material such as insulation products.

^ denotes loose fibres of relevant asbestos types detected in soil/dust.
*** denotes asbestos detected in ACM in bonded form.**
 # denotes friable asbestos as soft fibro plaster and/ or highly weathered ACM that will easily crumble.
λ denotes samples that have been analysed only in accordance to AS 4964 – 2004.
Ω Sample volume criteria of 500mL have not been satisfied.

The results contained in this report relate only to the sample/s submitted for testing. Australian Safer Environment & Technology accepts no responsibility for whether or not the submitted sample/s is/are representative. Results indicating "No asbestos detected" indicates a reporting limit specified in AS4964 -2004 which is 0.1g/ Kg (0.01%). Any amounts detected at assumed lower level than that would be reported, however those assumed lower levels may be treated as "No asbestos detected" as specified and recommended by A4964-2004. Trace / respirable level asbestos will be reported only when detected and trace analysis have been performed on each sample as required by AS4964-2004. When loose asbestos fibres/ fibre bundles are detected and reported that means they are larger handpicked fibres/ fibre bundles, and they do not represent respirable fibres. Dust/soil samples are always subjected to trace analysis except where the amounts involved are extremely minute and trace analysis is not possible to be carried out. When trace analysis is not performed on dust samples it will be indicated in the report that trace analysis has not been carried out due to the volume of the sample being extremely minute.

Estimation of asbestos weights involves the use of following assumptions;
Volume of each kind of Asbestos present in broken edges have been visually estimated and its been assumed that volumes remain similar throughout the binding matrix and those volumes are only approximate and not exact. Material densities have been assumed to be similar to commonly found similar materials and may not be exact.

All samples indicating "No asbestos detected" are assumed to be less than 0.001% for friable AF and FA portions detected and 0.01 % for ACM detected unless the approximate weight is given.

AUSTRALIAN SAFER ENVIRONMENT & TECHNOLOGY PTY LTD

ABN 36 088 095 112

Our ref : ASET96904 / 100084 / 32 - 60
Your ref : 13546 – Kemps Creek
NATA Accreditation No: 14484

2 November 2021

Alliance Geotechnical
10 Welder Road
Seven Hills NSW 2147

Attn: Mr Sam Jones

Accredited for compliance with ISO/IEC 17025 - Testing.

Dear Sam

Asbestos Identification
This report presents the results of twenty nine samples out of sixty samples, forwarded by Alliance Geotechnical on 22 October 2021, for analysis for asbestos.

1.Introduction: Twenty nine samples out of sixty samples forwarded were examined and analysed for the presence of asbestos on 1 November 2021.

2. Methods : The samples were examined under a Stereo Microscope and selected fibres were analysed by Polarized Light Microscopy in conjunction with Dispersion Staining method **(Australian Standard AS 4964 - 2004 and Safer Environment Method 1 as the supplementary work instruction) (Qualitative Analysis only).**

The report also provides approximate weights and percentages, categories of asbestos forms appearing in the sample, such as **AF**(Asbestos Fines), **FA**(Friable Asbestos) and **ACM** (Asbestos Containing Material), also satisfying the requirements of the WA/ NEPM Guidelines).

3. Results :

Sample No. 32. ASET96904 / 100084 / 32. 13546 - TP61 0.0-0.1.
Approx dimensions 10.0 cm x 10.0 cm x 8.4 cm
Approximate total dry weight of soil = 840.0g.
The sample consisted of a mixture of clayish sandy soil, stones, fragments of cement, plastic, wood chips and plant matter.
No asbestos detected.

λ Sample No. 33. ASET96904/ 100084/ 33. 13546 - TP61 ASB.
Approx dimensions 10.6 cm x 6.0 cm x 1.9 cm
The sample consisted of a fragment of a fibre cement material.
Chrysotile asbestos detected.
Approximate total weight of fragment = 182.0g.

Sample No. 34. ASET96904 / 100084 / 34. 13546 - TP61 0.1-1.0.
Approx dimensions 10.0 cm x 10.0 cm x 7.1 cm
Approximate total dry weight of soil = 710.0g.
The sample consisted of a mixture of clayish sandy soil, stones, fragments of wood chips and plant matter.
No asbestos detected.

Sample No. 35. ASET96904 / 100084 / 35. 13546 - TP62 0.0-0.1.
Approx dimensions 10.0 cm x 10.0 cm x 7.9 cm
Approximate total dry weight of soil = 788.0g.
The sample consisted of a mixture of clayish sandy soil, stones and plant matter.
No asbestos detected.

Sample No. 36. ASET96904 / 100084 / 36. 13546 - TP63 0.0-0.1.
Approx dimensions 10.0 cm x 10.0 cm x 9.4 cm
Approximate total dry weight of soil = 943.0g.
The sample consisted of a mixture of clayish sandy soil, stones, fragments of bitumen, cement and plant matter.
No asbestos detected.

Sample No. 37. ASET96904 / 100084 / 37. 13546 - TP64 0.0-0.1.
Approx dimensions 10.0 cm x 10.0 cm x 9.8 cm
Approximate total dry weight of soil = 980.0g.
The sample consisted of a mixture of clayish sandy soil, stones, fragments of bitumen, cement, wood chips and plant matter.
No asbestos detected.

Sample No. 38. ASET96904 / 100084 / 38. 13546 - TP65 0.0-0.1.
Approx dimensions 10.0 cm x 10.0 cm x 9.7 cm
Approximate total dry weight of soil = 974.0g.
The sample consisted of a mixture of clayish sandy soil, stones, fragments of bitumen, cement and plant matter.
No asbestos detected.

Sample No. 39. ASET96904 / 100084 / 39. 13546 - TP66 0.0-0.1.
Approx dimensions 10.0 cm x 10.0 cm x 7.8 cm
Approximate total dry weight of soil = 782.0g.
The sample consisted of a mixture of clayish sandy soil, stones, fragments of cement, wood chips and plant matter.
No asbestos detected.

Sample No. 40. ASET96904 / 100084 / 40. 13546 - SP3-1.
Approx dimensions 10.0 cm x 10.0 cm x 7.8 cm
Approximate total dry weight of soil = 782.0g.
The sample consisted of a mixture of clayish sandy soil, stones, fragments of plastic, wood chips and plant matter.
No asbestos detected.

Sample No. 41. ASET96904 / 100084 / 41. 13546 - SP3-2.
Approx dimensions 10.0 cm x 10.0 cm x 7.8 cm
Approximate total dry weight of soil = 775.0g.
The sample consisted of a mixture of clayish sandy soil, stones, fragments of wood chips and plant matter.
No asbestos detected.

Sample No. 42. ASET96904 / 100084 / 42. 13546 - DR15 0.0-0.1.
Approx dimensions 10.0 cm x 10.0 cm x 10.2 cm
Approximate total dry weight of soil = 1015.0g.
The sample consisted of a mixture of clayish sandy soil, stones, fragments of bitumen, brick, cement, shale and plant matter.
No asbestos detected.

Sample No. 43. ASET96904 / 100084 / 43. 13546 - TP141 0.0-0.1.
Approx dimensions 10.0 cm x 10.0 cm x 6.5 cm
Approximate total dry weight of soil = 653.0g.
The sample consisted of a mixture of clayish
sandy soil, stones, fragments of cement, glass and plant matter.
No asbestos detected.

λ Sample No. 44. ASET96904 / 100084 / 44. 13546 - TP141 0.0-0.1 ASB.
Approx dimensions 6.9 cm x 3.6 cm x 0.5 cm
The sample consisted of a fragment of a fibre cement material.
Chrysotile asbestos, Amosite asbestos and Crocidolite asbestos detected.
Approximate total weight of fragment = 17.0g.

Sample No. 45. ASET96904 / 100084 / 45. 13546 - TP141 0.1-1.0.
Approx dimensions 10.0 cm x 10.0 cm x 10.2 cm
Approximate total dry weight of soil = 1018.0g.
The sample consisted of a mixture of clayish sandy soil, stones, fragments of cement, slag, wood chips and plant matter.
No asbestos detected.

Sample No. 46. ASET96904 / 100084 / 46. 13546 - TP141 1.0-1.5.
Approx dimensions 10.0 cm x 10.0 cm x 7.6 cm
Approximate total dry weight of soil = 759.0g.
The sample consisted of a mixture of clayish sandy soil, stones and plant matter.
No asbestos detected.

Sample No. 47. ASET96904 / 100084 / 47. 13546 - TP142 0.0-0.1.
Approx dimensions 10.0 cm x 10.0 cm x 7.7 cm
Approximate total dry weight of soil = 768.0g.
The sample consisted of a mixture of clayish sandy soil, stones, fragments of cement, wood chips and plant matter.
No asbestos detected.

Sample No. 48. ASET96904 / 100084 / 48. 13546 - TP142 0.1-1.0.
Approx dimensions 10.0 cm x 10.0 cm x 8.5 cm
Approximate total dry weight of soil = 846.0g.
The sample consisted of a mixture of clayish sandy soil, stones, fragments of cement, wood chips and plant matter.
No asbestos detected.

Sample No. 49. ASET96904 / 100084 / 49. 13546 - TP142 1.0-1.5.
Approx dimensions 10.0 cm x 10.0 cm x 7.9 cm
Approximate total dry weight of soil = 792.0g.
The sample consisted of a mixture of clayish sandy soil, stones and plant matter.
No asbestos detected.

Sample No. 50. ASET96904 / 100084 / 50. 13546 - DR16 0.0-0.1.
Approx dimensions 10.0 cm x 10.0 cm x 11.6 cm
Approximate total dry weight of soil = 1155.0g.
The sample consisted of a mixture of clayish sandy soil, stones and plant matter.
No asbestos detected.

Sample No. 51. ASET96904 / 100084 / 51. 13546 - DR17 0.0-0.1.
Approx dimensions 10.0 cm x 10.0 cm x 10.3 cm
Approximate total dry weight of soil = 1032.0g.
The sample consisted of a mixture of clayish sandy soil, stones, fragments of cement, corroded metal, glass, wood chips, animal and plant matter.
No asbestos detected.

Sample No. 52. ASET96904 / 100084 / 52. 13546 - DW22.
Approx dimensions 10.0 cm x 10.0 cm x 7.3 cm
Approximate total dry weight of soil = 725.0g.
The sample consisted of a mixture of clayish sandy soil, stones, fragments of cement, wood chips and plant matter.
No asbestos detected.

Sample No. 53. ASET96904 / 100084 / 53. 13546 - DW23.
Approx dimensions 10.0 cm x 10.0 cm x 7.2 cm
Approximate total dry weight of soil = 717.0g.
The sample consisted of a mixture of clayish sandy soil, stones, fragments of cement, glass and plant matter.
No asbestos detected.

λ Sample No. 54. ASET96904 / 100084 / 54. 13546 - DW23 ASB.
Approx dimensions 13.1 cm x 6.5 cm x 0.5 cm
The sample consisted of a fragment of a fibre cement material.
Chrysotile asbestos and Amosite asbestos detected.
Approximate total weight of fibre cement = 57.0g.

Sample No. 55. ASET96904 / 100084 / 55. 13546 - TP70 0.0-0.1.
Approx dimensions 10.0 cm x 10.0 cm x 6.1 cm
The sample consisted of a mixture of clayish sandy soil, stones, fragments of fibre cement* (AF), plastic and plant matter.
Chrysotile* (Approximate estimated weight = 0.019g) asbestos detected.
Approximate total dry weight of soil = 606.0g.
Approximate estimated weight of asbestos in soil in the form of AF = 0.019g.
Approximate w/w percentage of asbestos in soil in the form of AF = 0.003%.

Sample No. 56. ASET96904 / 100084 / 56. 13546 - TP71 0.0-0.1.
Approx dimensions 10.0 cm x 10.0 cm x 5.8 cm
Approximate total dry weight of soil = 578.0g.
The sample consisted of a mixture of clayish sandy soil, stones, fragments of wood chips and plant matter.
No asbestos detected.

Sample No. 57. ASET96904 / 100084 / 57. 13546 - TP95 0.0-0.1.
Approx dimensions 10.0 cm x 10.0 cm x 7.7 cm
Approximate total dry weight of soil = 772.0g.
The sample consisted of a mixture of clayish sandy soil, stones, fragments of wood chips and plant matter.
No asbestos detected.

Sample No. 58. ASET96904 / 100084 / 58. 13546 - TP120 0.0-0.1.
Approx dimensions 10.0 cm x 10.0 cm x 6.9 cm
Approximate total dry weight of soil = 687.0g.
The sample consisted of a mixture of clayish sandy soil, stones, fragments of plastic and plant matter.
No asbestos detected.

Sample No. 59. ASET96904 / 100084 / 59. 13546 - TP125 0.0-0.1.
Approx dimensions 10.0 cm x 10.0 cm x 8.3 cm
Approximate total dry weight of soil = 833.0g.
The sample consisted of a mixture of clayish sandy soil, stones, fragments of sandstone, wood chips and plant matter.
No asbestos detected.

Sample No. 60. ASET96904 / 100084 / 60. 13546 - DS12.
Approx dimensions 10.0 cm x 10.0 cm x 7.7 cm
Approximate total dry weight of soil = 773.0g.
The sample consisted of a mixture of clayish sandy soil, stones, fragments of plastic, wood chips and plant matter.
No asbestos detected.

Reported by,

Mahen De Silva. BSc, MSc, Grad Dip (Occ Hyg)
Occupational Hygienist / Approved Identifier.
Approved Signatory

Accredited for compliance with ISO/IEC 17025 - Testing.

This report is consistent with the analytical procedures and reporting recommendations in the Western Australia Guidelines for the Assessment Remediation and Management of Asbestos contaminated sites in Western Australia and it also satisfies the requirements of the current NEPM Guidelines. NATA Accreditation does not cover the performance of this service.

Disclaimers;

The approx; weights given above can be used only as a guide. They do not represent absolute weights of each kind of asbestos, as it is impossible to extract all loose fibres from soil and other asbestos containing building material samples using this method. However above figures may be used as closest approximations to the exact values in each case. Estimation and/ or reporting of asbestos fibre weights in asbestos containing materials and soil is out of the Scope of the NATA Accreditation. NATA Accreditation only covers the qualitative part of the results reported. This weight disclaimer also covers weight / weight percentages if given.

ACM - Asbestos Containing Material - Products or materials that contain asbestos in an inert bound matrix such as cement or resin. Here taken to be sound material, even as fragments and not fitting through a 7mm X 7 mm sieve.

AF -Includes asbestos free fibres, small fibre bundles and also ACM fragments that pass through a 7mm X 7 mm sieve.

FA -Friable asbestos material such as severely weathered ACM, and asbestos in the form of loose fibrous material such as insulation products.

^ denotes loose fibres of relevant asbestos types detected in soil/dust.
*** denotes asbestos detected in ACM in bonded form.**

 # denotes friable asbestos as soft fibro plaster and/ or highly weathered ACM that will easily crumble.

λ denotes samples that have been analysed only in accordance to AS 4964 – 2004.

The results contained in this report relate only to the sample/s submitted for testing. Australian Safer Environment & Technology accepts no responsibility for whether or not the submitted sample/s is/are representative. Results indicating "No asbestos detected" indicates a reporting limit specified in AS4964 -2004 which is 0.1g/ Kg (0.01%). Any amounts detected at assumed lower level than that would be reported, however those assumed lower levels may be treated as "No asbestos detected" as specified and recommended by A4964-2004. Trace / respirable level asbestos will be reported only when detected and trace analysis have been performed on each sample as required by AS4964-2004. When loose asbestos fibres/ fibre bundles are detected and reported that means they are larger handpicked fibres/ fibre bundles, and they do not represent respirable fibres. Dust/soil samples are always subjected to trace analysis except where the amounts involved are extremely minute and trace analysis is not possible to be carried out. When trace analysis is not performed on dust samples it will be indicated in the report that trace analysis has not been carried out due to the volume of the sample being extremely minute.

Estimation of asbestos weights involves the use of following assumptions;
Volume of each kind of Asbestos present in broken edges have been visually estimated and its been assumed that volumes remain similar throughout the binding matrix and those volumes are only approximate and not exact. Material densities have been assumed to be similar to commonly found similar materials and may not be exact.

All samples indicating "No asbestos detected" are assumed to be less than 0.001% for friable AF and FA portions detected and 0.01 % for ACM detected unless the approximate weight is given.

AUSTRALIAN SAFER ENVIRONMENT & TECHNOLOGY PTY LTD

ABN 36 088 095 112

Our ref : ASET96618 / 99798 / 19 – 38
Your ref : 13546 – Kemps Creek
NATA Accreditation No: 14484

12 October 2021

Alliance Geotechnical
10 Welder Road
Seven Hills NSW 2147

Attn: Mr Sam Jones

Accredited for compliance with ISO/IEC 17025 - Testing.

Dear Sam

Asbestos Identification
This report presents the results of twenty samples out of thirty eight samples, forwarded by Alliance Geotechnical on 8 October 2021, for analysis for asbestos.

1.Introduction: Twenty samples out of thirty eight samples forwarded were examined and analysed for the presence of asbestos on 12 October 2021.

2. Methods : The samples were examined under a Stereo Microscope and selected fibres were analysed by Polarized Light Microscopy in conjunction with Dispersion Staining method **(Australian Standard AS 4964 - 2004 and Safer Environment Method 1 as the supplementary work instruction) (Qualitative Analysis only).**

The report also provides approximate weights and percentages, categories of asbestos forms appearing in the sample, such as **AF** (Asbestos Fines), **FA** (Friable Asbestos) and **ACM** (Asbestos Containing Material), also satisfying the requirements of the WA/ NEPM Guidelines.

3. Results :

Sample No. 19. ASET96618 / 99798 / 19. 13546 - TP20 0.0-0.1.
Approx dimensions 10.0 cm x 10.0 cm x 6.0 cm
Approximate total dry weight of soil = 399.0g.
The sample consisted of a mixture of sandy soil, wood chips, stones and plant matter.
No asbestos detected.

Sample No. 20. ASET96618 / 99798 / 20. 13546 - TP21 0.0-0.1.
Approx dimensions 10.0 cm x 10.0 cm x 6.2 cm
Approximate total dry weight of soil = 757.0g.
The sample consisted of a mixture of clayish sandy soil, organic fibres, sandstones, stones and plant matter.
No asbestos detected.

Sample No. 21. ASET96618 / 99798 / 21. 13546 - TP22 0.0-0.1.
Approx dimensions 10.0 cm x 10.0 cm x 5.8 cm
Approximate total dry weight of soil = 695.0g.
The sample consisted of a mixture of clayish sandy soil, stones, wood chips, plaster cement, sandstones, organic fibres and plant matter.
No asbestos detected.

Sample No. 22. ASET96618 / 99798 / 22. 13546 - TP23 0.0-0.1.
Approx dimensions 10.0 cm x 10.0 cm x 6.0 cm
Approximate total dry weight of soil = 736.0g.
The sample consisted of a mixture of clayish sandy soil, stones, organic fibres, sandstones and plant matter.
No asbestos detected.

Sample No. 23. ASET96618 / 99798 / 23. 13546 - TP24 0.0-0.1.
Approx dimensions 10.0 cm x 10.0 cm x 6.2 cm
Approximate total dry weight of soil = 746.0g.
The sample consisted of a mixture of clayish sandy soil, organic fibres, sandstones, stones and plant matter.
No asbestos detected.

Sample No. 24. ASET96618 / 99798 / 24. 13546 - TP25 0.0-0.1.
Approx dimensions 10.0 cm x 10.0 cm x 6.7 cm
Approximate total dry weight of soil = 819.0g.
The sample consisted of a mixture of clayish sandy soil, organic fibres, sandstones, stones and plant matter.
No asbestos detected.

Sample No. 25. ASET96618 / 99798 / 25. 13546 - TP26 0.0-0.1.
Approx dimensions 10.0 cm x 10.0 cm x 6.5 cm
Approximate total dry weight of soil = 769.0g.
The sample consisted of a mixture of clayish sandy soil, stones, sandstones, organic fibres and plant matter.
No asbestos detected.

Sample No. 26. ASET96618 / 99798 / 26. 13546 - DR01 0.0-0.1.
Approx dimensions 10.0 cm x 10.0 cm x 8.3 cm
Approximate total dry weight of soil = 1050.0g.
The sample consisted of a mixture of sandy soil, stones, brick like material, cement like material, sandstones, organic fibres and plant matter.
No asbestos detected.

Sample No. 27. ASET96618 / 99798 / 27. 13546 - DR02 0.0-0.1.
Approx dimensions 10.0 cm x 10.0 cm x 8.5 cm
Approximate total dry weight of soil = 1221.0g.
The sample consisted of a mixture of sandy soil, sand, sandstones, stones and plant matter.
No asbestos detected.

Sample No. 28. ASET96618 / 99798 / 28. 13546 - DR03 0.0-0.1.
Approx dimensions 10.0 cm x 10.0 cm x 8.3 cm
Approximate total dry weight of soil = 1032.0g.
The sample consisted of a mixture of sandy soil, organic fibres, sandstones, stones and plant matter.
No asbestos detected.

Sample No. 29. ASET96618 / 99798 / 29. 13546 - DR04 0.0-0.1.
Approx dimensions 10.0 cm x 10.0 cm x 9.0 cm
Approximate total dry weight of soil = 1253.0g.
The sample consisted of a mixture of sandy soil, organic fibres, sandstones, stones and plant matter.
No asbestos detected.

Sample No. 30. ASET96618 / 99798 / 30. 13546 - DR05 0.0-0.1.
Approx dimensions 10.0 cm x 10.0 cm x 7.5 cm
Approximate total dry weight of soil = 901.0g.
The sample consisted of a mixture of sandy soil, sandstones, organic fibres, stones and plant matter.
No asbestos detected.

Sample No. 31. ASET96618 / 99798 / 31. 13546 - DR06 0.0-0.1.
Approx dimensions 10.0 cm x 10.0 cm x 8.3 cm
Approximate total dry weight of soil = 962.0g.
The sample consisted of a mixture of sandy soil, stones, sandstones, organic fibres and plant matter.
No asbestos detected.

Sample No. 32. ASET96618 / 99798 / 32. 13546 - DR07 0.0-0.1.
Approx dimensions 10.0 cm x 10.0 cm x 8.3 cm
Approximate total dry weight of soil = 1069.0g.
The sample consisted of a mixture of sandy soil, sandstones, organic fibres, stones and plant matter.
No asbestos detected.

Sample No. 33. ASET96618/ 99798/ 33. 13546 - DR08 0.0-0.1.
Approx dimensions 10.0 cm x 10.0 cm x 7.6 cm
Approximate total dry weight of soil = 922.0g.
The sample consisted of a mixture of sandy soil, sandstones, organic fibres, stones and plant matter.
No asbestos detected.

Sample No. 34. ASET96618 / 99798 / 34. 13546 - SP1-1.
Approx dimensions 10.0 cm x 10.0 cm x 5.0 cm
Approximate total dry weight of soil = 355.0g.
The sample consisted of a mixture of sandy soil, organic fibres, sandstones, wood chips, stones and plant matter.
No asbestos detected.

λ Sample No. 35. ASET96618 / 99798 / 35. 13546 - TP09 0.0-0.1 ASB.
Approx dimensions 4.1 cm x 2.0 cm x 0.5 cm
The sample consisted of a fragment of a fibre cement* (ACM) material.
Chrysotile* asbestos detected.
Approximate total weight of fibre cement = 10.0g.

λ Sample No. 36. ASET96618 / 99798 / 36. 13546 - TP18 0.0-0.1 ASB.
Approx dimensions 4.5 cm x 3.8 cm x 0.5 cm
The sample consisted of a fragment of plaster cement material.
No asbestos detected.

λ Sample No. 37. ASET96618 / 99798 / 37. 13546 - TP22 0.0-0.1 ASB.
Approx dimensions 12.5 cm x 4.8 cm x 0.5 cm
The sample consisted of fragments of plaster cement material.
No asbestos detected.

λ Sample No. 38. ASET96618 / 99798 / 38. 13546 - TP26 0.0-0.1 ASB.
Approx dimensions 1.5 cm x 1.2 cm x 0.5 cm
The sample consisted of a fragment of a hard cement material.
No asbestos detected.

Reported by,

Mahen De Silva. BSc, MSc, Grad Dip (Occ Hyg)
Occupational Hygienist / Approved Identifier.
Approved Signatory

Accredited for compliance with ISO/IEC 17025 - Testing.

This report is consistent with the analytical procedures and reporting recommendations in the Western Australia Guidelines for the Assessment Remediation and Management of Asbestos contaminated sites in Western Australia and it also satisfies the requirements of the current NEPM Guidelines. NATA Accreditation does not cover the performance of this service.

Disclaimers;

The approx; weights given above can be used only as a guide. They do not represent absolute weights of each kind of asbestos, as it is impossible to extract all loose fibres from soil and other asbestos containing building material samples using this method. However above figures may be used as closest approximations to the exact values in each case. Estimation and/ or reporting of asbestos fibre weights in asbestos containing materials and soil is out of the Scope of the NATA Accreditation. NATA Accreditation only covers the qualitative part of the results reported. This weight disclaimer also covers weight / weight percentages if given.

ACM - Asbestos Containing Material - Products or materials that contain asbestos in an inert bound matrix such as cement or resin. Here taken to be sound material, even as fragments and not fitting through a 7mm X 7 mm sieve.

AF -Includes asbestos free fibres, small fibre bundles and also ACM fragments that pass through a 7mm X 7 mm sieve.

FA -Friable asbestos material such as severely weathered ACM, and asbestos in the form of loose fibrous material such as insulation products.

^ denotes loose fibres of relevant asbestos types detected in soil/dust.
*** denotes asbestos detected in ACM in bonded form.**
 # denotes friable asbestos as soft fibro plaster and/ or highly weathered ACM that will easily crumble.
λ denotes samples that have been analysed only in accordance to AS 4964 – 2004.
Ω Sample volume criteria of 500mL have not been satisfied.

The results contained in this report relate only to the sample/s submitted for testing. Australian Safer Environment & Technology accepts no responsibility for whether or not the submitted sample/s is/are representative. Results indicating "No asbestos detected" indicates a reporting limit specified in AS4964 -2004 which is 0.1g/ Kg (0.01%). Any amounts detected at assumed lower level than that would be reported, however those assumed lower levels may be treated as

"No asbestos detected" as specified and recommended by A4964-2004. Trace / respirable level asbestos will be reported only when detected and trace analysis have been performed on each sample as required by AS4964-2004. When loose asbestos fibres/ fibre bundles are detected and reported that means they are larger handpicked fibres/ fibre bundles, and they do not represent respirable fibres. Dust/soil samples are always subjected to trace analysis except where the amounts involved are extremely minute and trace analysis is not possible to be carried out. When trace analysis is not performed on dust samples it will be indicated in the report that trace analysis has not been carried out due to the volume of the sample being extremely minute.

Estimation of asbestos weights involves the use of following assumptions;
Volume of each kind of Asbestos present in broken edges have been visually estimated and its been assumed that volumes remain similar throughout the binding matrix and those volumes are only approximate and not exact. Material densities have been assumed to be similar to commonly found similar materials and may not be exact.

All samples indicating "No asbestos detected" are assumed to be less than 0.001% for friable AF and FA portions detected and 0.01 % for ACM detected unless the approximate weight is given.

AUSTRALIAN SAFER ENVIRONMENT & TECHNOLOGY PTY LTD

ABN 36 088 095 112

Our ref : ASET96904 / 100084 / 1 – 31
Your ref : 13546 – Kemps Creek
NATA Accreditation No: 14484

2 November 2021

Alliance Geotechnical
10 Welder Road
Seven Hills NSW 2147

Attn: Mr Sam Jones

Accredited for compliance with ISO/IEC 17025 - Testing.

Dear Sam

Asbestos Identification
This report presents the results of thirty one samples out of sixty samples, forwarded by Alliance Geotechnical on 22 October 2021, for analysis for asbestos.

1.Introduction: Thirty one samples out of sixty samples forwarded were examined and analysed for the presence of asbestos on 29 October and 1 November 2021.

2. Methods : The samples were examined under a Stereo Microscope and selected fibres were analysed by Polarized Light Microscopy in conjunction with Dispersion Staining method **(Australian Standard AS 4964 - 2004 and Safer Environment Method 1 as the supplementary work instruction) (Qualitative Analysis only).**

The report also provides approximate weights and percentages, categories of asbestos forms appearing in the sample, such as **AF** (Asbestos Fines), **FA** (Friable Asbestos) and **ACM** (Asbestos Containing Material), also satisfying the requirements of the WA/ NEPM Guidelines.

3. Results :

Sample No. 1. ASET96904 / 100084 / 1. 13546 - ASB10 0.0-0.1.
Approx dimensions 10.0 cm x 10.0 cm x 6.0 cm
Approximate total dry weight of soil = 721.0g.
The sample consisted of a mixture of clayish sandy soil, sandstones, stones and plant matter.
No asbestos detected.

Sample No. 2. ASET96904 / 100084 / 2. 13546 - TP50 0.0-0.1.
Approx dimensions 10.0 cm x 10.0 cm x 6.1 cm
Approximate total dry weight of soil = 731.0g.
The sample consisted of a mixture of clayish sandy soil, stones, sandstones and plant matter.
No asbestos detected.

Sample No. 3. ASET96904 / 100084 / 3. 13546 - TP50 0.1-0.4.
Approx dimensions 10.0 cm x 10.0 cm x 4.0 cm
Approximate total dry weight of soil = 381.0g.
The sample consisted of a mixture of sandy soil, sandstones, stones and plant matter.
No asbestos detected.

Sample No. 4. ASET96904 / 100084 / 4. 13546 - ASB11 0.0-0.1.
Approx dimensions 10.0 cm x 10.0 cm x 6.9 cm
Approximate total dry weight of soil = 813.0g.
The sample consisted of a mixture of clayish sandy soil, stones, sandstones and plant matter.
No asbestos detected.

Sample No. 5. ASET96904 / 100084 / 5. 13546 - TP51 0.0-0.1.
Approx dimensions 10.0 cm x 10.0 cm x 5.3 cm
Approximate total dry weight of soil = 656.0g.
The sample consisted of a mixture of clayish sandy soil, stones, sandstones and plant matter.
No asbestos detected.

Sample No. 6. ASET96904 / 100084 / 6. 13546 - TP51 0.1-1.0.
Approx dimensions 10.0 cm x 10.0 cm x 6.9 cm
Approximate total dry weight of soil = 825.0g.
The sample consisted of a mixture of clayish sandy soil, stones, sandstones, brick like material, plaster, cement like material, organic fibres and plant matter.
No asbestos detected.

Sample No. 7. ASET96904 / 100084 / 7. 13546 - TP51 1.0-2.0.
Approx dimensions 10.0 cm x 10.0 cm x 6.1 cm
Approximate total dry weight of soil = 742.0g.
The sample consisted of a mixture of clayish sandy soil, stones, sandstones, cement like material and plant matter.
No asbestos detected.

Sample No. 8. ASET96904 / 100084 / 8. 13546 - TP51 2.0-2.5.
Approx dimensions 10.0 cm x 10.0 cm x 8.3 cm
Approximate total dry weight of soil = 1042.0g.
The sample consisted of a mixture of clayish sandy soil, stones, brick like material, cement like material, sandstones and plant matter.
No asbestos detected.

λ Sample No. 9. ASET96904 / 100084 / 9. 13546 - TP51 2.0-2.5 ASB.
Approx dimensions 10.5 cm x 9.0 cm x 0.5 cm
The sample consisted of a fragment of a fibre cement* (ACM) material.
Chrysotile* asbestos detected.
Approximate total weight of fibre cement = 151.0g.

Sample No. 10. ASET96904 / 100084 / 10. 13546 - ASB12 0.0-0.1.
Approx dimensions 10.0 cm x 10.0 cm x 6.1 cm
The sample consisted of a mixture of clayish sandy soil, stones, fragments of fibre cement* (ACM), sandstones, organic fibres, cement like material and plant matter.
Chrysotile* (Approximate estimated weight = 7.83g) asbestos and Amosite* (Approximate estimated weight = 0.35g) asbestos detected.
Approximate total dry weight of soil = 739.0g.
Approximate estimated weight of asbestos in soil in the form of ACM = 8.18g.
Approximate w/w percentage of asbestos in soil in the form of ACM = 1.11%.

Sample No. 11. ASET96904 / 100084 / 11. 13546 - ASB12 0.1-1.0.
Approx dimensions 10.0 cm x 10.0 cm x 6.7 cm
The sample consisted of a mixture of clayish soil, fibres^ (AF), fragments of fibre cement* (ACM), sandstones, stones, organic fibres, timber char, cement like material and plant matter.
Chrysotile^* (Approximate estimated weight as loose fibres = 0.02g, as ACM = 13.88g) asbestos and Amosite* (Approximate estimated weight = 0.5g) asbestos detected.
Approximate total dry weight of soil = 803.0g.
Approximate estimated weight of asbestos in soil in the form of ACM = 14.38g.
Approximate w/w percentage of asbestos in soil in the form of ACM = 1.8%.
Approximate estimated weight of asbestos in soil in the form of AF=0.02g.
Approximate w/w percentage of asbestos in soil in the form of AF = 0.0025%.

Sample No. 12. ASET96904 / 100084 / 12. 13546 - ASB12 1.0-2.0.
Approx dimensions 10.0 cm x 10.0 cm x 7.8 cm
The sample consisted of a mixture of clayish sandy soil, fibres^ (AF), fragments of fibre cement* (ACM), sandstones, organic fibres, stones and plant matter.
Chrysotile^* (Approximate estimated weight as loose fibres = 0.04g, as ACM = 7.39g) asbestos detected.
Approximate total dry weight of soil = 955.0g.
Approximate estimated weight of asbestos in soil in the form of ACM = 7.39g.
Approximate w/w percentage of asbestos in soil in the form of ACM = 0.77%.
Approximate estimated weight of asbestos in soil in the form of AF = 0.04g.
Approximate w/w percentage of asbestos in soil in the form of AF = 0.004%.

λ Sample No. 13. ASET96904 / 100084 / 13. 13546 - ASB12 0.0-0.1 ASB.
Approx dimensions 6.3 cm x 4.6 cm x 0.5 cm
The sample consisted of a fragment of a fibre cement* (ACM) material.
Chrysotile* asbestos detected.
Approximate total weight of fibre cement = 33.0g.

λ Sample No. 14. ASET96904 / 100084 / 14. 13546 - ASB12 0.1-1.0 ASB.
Approx dimensions 10.0 cm x 7.3 cm x 0.5 cm
The sample consisted of a fragment of a fibre cement* (ACM) material.
Chrysotile* asbestos detected.
Approximate total weight of fibre cement = 84.0g.

λ Sample No. 15. ASET96904 / 100084 / 15. 13546 - ASB12 1.0-2.0 ASB.
Approx dimensions 8.5 cm x 7.5 cm x 0.6 cm
The sample consisted of a fragment of a fibre cement* (ACM) material.
Chrysotile* asbestos detected.
Approximate total weight of fibre cement = 55.0g.

Sample No. 16. ASET96904 / 100084 / 16. 13546 - ASB13 0.0-0.1.
Approx dimensions 10.0 cm x 10.0 cm x 5.0 cm
Approximate total dry weight of soil = 569.0g.
The sample consisted of a mixture of clayish sandy soil, sandstones, timber char, stones and plant matter.
No asbestos detected.

Sample No. 17. ASET96904 / 100084 / 17. 13546 - ASB13 0.1-1.0.
Approx dimensions 10.0 cm x 10.0 cm x 6.1 cm
Approximate total dry weight of soil = 733.0g.
The sample consisted of a mixture of clayish sandy soil, organic fibres, sandstones, timber char, stones and plant matter.
No asbestos detected.

Sample No. 18. ASET96904 / 100084 / 18. 13546 - TP52 0.0-0.1.
Approx dimensions 10.0 cm x 10.0 cm x 5.5 cm
Approximate total dry weight of soil = 675.0g.
The sample consisted of a mixture of clayish sandy soil, stones, sandstones, timber char, organic fibres and plant matter.
No asbestos detected.

Sample No. 19. ASET96904 / 100084 / 19. 13546 - TP52 0.1-1.0.
Approx dimensions 10.0 cm x 10.0 cm x 5.6 cm
Approximate total dry weight of soil = 688.0g.
The sample consisted of a mixture of clayish sandy soil, organic fibres, sandstones, stones and plant matter.
No asbestos detected.

Sample No. 20. ASET96904 / 100084 / 20. 13546 - TP52 1.0-2.0.
Approx dimensions 10.0 cm x 10.0 cm x 6.1 cm
Approximate total dry weight of soil = 737.0g.
The sample consisted of a mixture of clayish sandy soil, sandstones, organic fibres, stones and plant matter.
No asbestos detected.

Sample No. 21. ASET96904 / 100084 / 21. 13546 - TP52 2.0-2.5.
Approx dimensions 10.0 cm x 10.0 cm x 7.2 cm
Approximate total dry weight of soil = 870.0g.
The sample consisted of a mixture of clayish sandy soil, sandstones, organic fibres, stones and plant matter.
No asbestos detected.

Sample No. 22. ASET96904 / 100084 / 22. 13546 - TP53 0.0-0.1.
Approx dimensions 10.0 cm x 10.0 cm x 5.1 cm
Approximate total dry weight of soil = 632.0g.
The sample consisted of a mixture of clayish sandy soil, sandstones, organic fibres, stones and plant matter.
No asbestos detected.

Sample No. 23. ASET96904 / 100084 / 23. 13546 - ASB14 0.0-0.1.
Approx dimensions 10.0 cm x 10.0 cm x 5.0 cm
Approximate total dry weight of soil = 594.0g.
The sample consisted of a mixture of clayish sandy soil, stones, sandstones and plant matter.
No asbestos detected.

Sample No. 24. ASET96904 / 100084 / 24. 13546 - TP54 0.0-0.1.
Approx dimensions 10.0 cm x 10.0 cm x 5.1 cm
Approximate total dry weight of soil = 638.0g.
The sample consisted of a mixture of clayish sandy soil, sandstones, organic fibres, stones and plant matter.
No asbestos detected.

Sample No. 25. ASET96904 / 100084 / 25. 13546 - TP54 0.1-1.0.
Approx dimensions 10.0 cm x 10.0 cm x 6.3 cm
Approximate total dry weight of soil = 762.0g.
The sample consisted of a mixture of clayish sandy soil, sandstones, timber char, organic fibres, stones and plant matter.
No asbestos detected.

Sample No. 26. ASET96904 / 100084 / 26. 13546 - TP54 1.0-2.0.
Approx dimensions 10.0 cm x 10.0 cm x 5.8 cm
Approximate total dry weight of soil = 705.0g.
The sample consisted of a mixture of clayish sandy soil, stones, sandstones, organic fibres and plant matter.
No asbestos detected.

Sample No. 27. ASET96904 / 100084 / 27. 13546 - TP54 2.0-2.5.
Approx dimensions 10.0 cm x 10.0 cm x 7.5 cm
Approximate total dry weight of soil = 893.0g.
The sample consisted of a mixture of clayish sandy soil, sandstones, stones and plant matter.
No asbestos detected.

Sample No. 28. ASET96904 / 100084 / 28. 13546 - ASB15 0.0-0.1.
Approx dimensions 10.0 cm x 10.0 cm x 6.5 cm
Approximate total dry weight of soil = 771.0g.
The sample consisted of a mixture of clayish sandy soil, stones, sandstones, organic fibres and plant matter.
No asbestos detected.

Sample No. 29. ASET96904 / 100084 / 29. 13546 - ASB15 0.1-1.0.
Approx dimensions 10.0 cm x 10.0 cm x 6.2 cm
Approximate total dry weight of soil = 752.0g.
The sample consisted of a mixture of clayish sandy soil, stones, sandstones, organic fibres and plant matter.
No asbestos detected.

Sample No. 30. ASET96904 / 100084 / 30. 13546 - ASB15 1.0-2.0.
Approx dimensions 10.0 cm x 10.0 cm x 6.2 cm
Approximate total dry weight of soil = 741.0g.
The sample consisted of a mixture of clayish sandy soil, sandstones, stones and plant matter.
No asbestos detected.

Sample No. 31. ASET96904 / 100084 / 31. 13546 - ASB15 2.0-2.5.
Approx dimensions 10.0 cm x 10.0 cm x 6.2 cm
Approximate total dry weight of soil = 745.0g.
The sample consisted of a mixture of clayish sandy soil, stones, sandstones, organic fibres and plant matter.
No asbestos detected.

Reported by,

Mahen De Silva. BSc, MSc, Grad Dip (Occ Hyg)
Occupational Hygienist / Approved Identifier.
Approved Signatory

WORLD RECOGNISED ACCREDITATION

Accredited for compliance with ISO/IEC 17025 - Testing.

This report is consistent with the analytical procedures and reporting recommendations in the Western Australia Guidelines for the Assessment Remediation and Management of Asbestos contaminated sites in Western Australia and it also satisfies the requirements of the current NEPM Guidelines. NATA Accreditation does not cover the performance of this service.

Disclaimers;

The approx; weights given above can be used only as a guide. They do not represent absolute weights of each kind of asbestos, as it is impossible to extract all loose fibres from soil and other asbestos containing building material samples using this method. However above figures may be used as closest approximations to the exact values in each case. Estimation and/ or reporting of asbestos fibre weights in asbestos containing materials and soil is out of the Scope of the NATA Accreditation. NATA Accreditation only covers the qualitative part of the results reported. This weight disclaimer also covers weight / weight percentages if given.

ACM - Asbestos Containing Material - Products or materials that contain asbestos in an inert bound matrix such as cement or resin. Here taken to be sound material, even as fragments and not fitting through a 7mm X 7 mm sieve.

AF -Includes asbestos free fibres, small fibre bundles and also ACM fragments that pass through a 7mm X 7 mm sieve.

FA -Friable asbestos material such as severely weathered ACM, and asbestos in the form of loose fibrous material such as insulation products.

^ denotes loose fibres of relevant asbestos types detected in soil/dust.
*** denotes asbestos detected in ACM in bonded form.**
 # denotes friable asbestos as soft fibro plaster and/ or highly weathered ACM that will easily crumble.
λ denotes samples that have been analysed only in accordance to AS 4964 – 2004.
Ω Sample volume criteria of 500mL have not been satisfied.

The results contained in this report relate only to the sample/s submitted for testing. Australian Safer Environment & Technology accepts no responsibility for whether or not the submitted sample/s is/are representative. Results indicating "No asbestos detected" indicates a reporting limit specified in AS4964 -2004 which is 0.1g/ Kg (0.01%). Any amounts detected at assumed lower level than that would be reported, however those assumed lower levels may be treated as "No asbestos detected" as specified and recommended by A4964-2004. Trace / respirable level asbestos will be reported only when detected and trace analysis have been performed on each sample as required by AS4964-2004. When loose asbestos fibres/ fibre bundles are detected and reported that means they are larger handpicked fibres/ fibre bundles, and they do not represent respirable fibres. Dust/soil samples are always subjected to trace analysis except where the amounts involved are extremely minute and trace analysis is not possible to be carried out. When trace analysis is not performed on dust samples it will be indicated in the report that trace analysis has not been carried out due to the volume of the sample being extremely minute.

Estimation of asbestos weights involves the use of following assumptions;
Volume of each kind of Asbestos present in broken edges have been visually estimated and its been assumed that volumes remain similar throughout the binding matrix and those volumes are only approximate and not exact. Material densities have been assumed to be similar to commonly found similar materials and may not be exact.

All samples indicating "No asbestos detected" are assumed to be less than 0.001% for friable AF and FA portions detected and 0.01 % for ACM detected unless the approximate weight is given.

AUSTRALIAN SAFER ENVIRONMENT & TECHNOLOGY PTY LTD

ABN 36 088 095 112

Our ref : ASET96618 / 99798 / 1 - 18
Your ref : 13546 – Kemps Creek
NATA Accreditation No: 14484

12 October 2021

Alliance Geotechnical
10 Welder Road
Seven Hills NSW 2147

Attn: Mr Sam Jones

Accredited for compliance with ISO/IEC 17025 - Testing.

Dear Sam

Asbestos Identification
This report presents the results of eighteen samples out of thirty eight samples, forwarded by Alliance Geotechnical on 8 October 2021, for analysis for asbestos.

1.Introduction: Eighteen samples out of thirty eight samples forwarded were examined and analysed for the presence of asbestos on 12 October 2021.

2. Methods : The samples were examined under a Stereo Microscope and selected fibres were analysed by Polarized Light Microscopy in conjunction with Dispersion Staining method **(Australian Standard AS 4964 - 2004 and Safer Environment Method 1 as the supplementary work instruction) (Qualitative Analysis only).**

The report also provides approximate weights and percentages, categories of asbestos forms appearing in the sample, such as **AF**(Asbestos Fines), **FA**(Friable Asbestos) and **ACM** (Asbestos Containing Material), also satisfying the requirements of the WA/ NEPM Guidelines).

3. Results :

Sample No. 1. ASET96618 / 99798 / 1. 13546 - TP1 0.0-0.1.
Approx dimensions 10.0 cm x 10.0 cm x 7.6 cm
Approximate total dry weight of soil = 759.0g.
The sample consisted of a mixture of clayish sandy soil, stones and plant matter.
No asbestos detected.

Sample No. 2. ASET96618 / 99798 / 2. 13546 - TP2 0.0-0.1.
Approx dimensions 10.0 cm x 10.0 cm x 7.7 cm
Approximate total dry weight of soil = 765.0g.
The sample consisted of a mixture of clayish sandy soil, stones and plant matter.
No asbestos detected.

Sample No. 3. ASET96618 / 99798 / 3. 13546 - TP3 0.0-0.1.
Approx dimensions 10.0 cm x 10.0 cm x 8.5 cm
Approximate total dry weight of soil = 853.0g.
The sample consisted of a mixture of clayish sandy soil, stones, fragments of cement, sandstone and plant matter.
No asbestos detected.

Sample No. 4. ASET96618 / 99798 / 4. 13546 - TP4 0.0-0.1.
Approx dimensions 10.0 cm x 10.0 cm x 8.3 cm
Approximate total dry weight of soil = 825.0g.
The sample consisted of a mixture of clayish sandy soil, stones, fragments of wood chips and plant matter.
No asbestos detected.

Sample No. 5. ASET96618 / 99798 / 5. 13546 - TP5 0.0-0.1.
Approx dimensions 10.0 cm x 10.0 cm x 6.8 cm
Approximate total dry weight of soil = 675.0g.
The sample consisted of a mixture of clayish sandy soil, stones, fragments of wood chips and plant matter.
No asbestos detected.

Sample No. 6. ASET96618 / 99798 / 6. 13546 - TP6 0.0-0.1.
Approx dimensions 10.0 cm x 10.0 cm x 7.5 cm
Approximate total dry weight of soil = 746.0g.
The sample consisted of a mixture of clayish sandy soil, stones and plant matter.
No asbestos detected.

Sample No. 7. ASET96618 / 99798 / 7. 13546 - TP7 0.0-0.1.
Approx dimensions 10.0 cm x 10.0 cm x 6.0 cm
Approximate total dry weight of soil = 828.0g.
The sample consisted of a mixture of clayish sandy soil, stones, fragments of sandstone and plant matter.
No asbestos detected.

Sample No. 8. ASET96618 / 99798 / 8. 13546 - TP8 0.0-0.1.
Approx dimensions 10.0 cm x 10.0 cm x 8.6 cm
Approximate total dry weight of soil = 864.0g.
The sample consisted of a mixture of clayish sandy soil, stones, fragments of sandstone, wood chips and plant matter.
No asbestos detected.

Sample No. 9. ASET96618 / 99798 / 9. 13546 - TP9 0.0-0.1.
Approx dimensions 10.0 cm x 10.0 cm x 6.0 cm
Approximate total dry weight of soil = 870.0g.
The sample consisted of a mixture of clayish sandy soil, stones, fragments of sandstone and plant matter.
No asbestos detected.

Sample No. 10. ASET96618 / 99798 / 10. 13546 - TP10 0.0-0.1.
Approx dimensions 10.0 cm x 10.0 cm x 10.6 cm
Approximate total dry weight of soil = 1056.0g.
The sample consisted of a mixture of clayish sandy soil, stones, fragments of cement, sandstone and plant matter.
No asbestos detected.

Sample No. 11. ASET96618 / 99798 / 11. 13546 - TP11 0.0-0.1.
Approx dimensions 10.0 cm x 10.0 cm x 7.1 cm
Approximate total dry weight of soil = 714.0g.
The sample consisted of a mixture of clayish soil, stones, synthetic mineral fibres, fragments of wood chips and plant matter.
No asbestos detected.

Sample No. 12. ASET96618 / 99798 / 12. 13546 - TP12 0.0-0.1.
Approx dimensions 10.0 cm x 10.0 cm x 8.4 cm
Approximate total dry weight of soil = 835.0g.
The sample consisted of a mixture of clayish sandy soil, stones, fragments of wood chips and plant matter.
No asbestos detected.

Sample No. 13. ASET96618 / 99798 / 13. 13546 - TP14 0.0-0.1.
Approx dimensions 10.0 cm x 10.0 cm x 6.7 cm
Approximate total dry weight of soil = 670.0g.
The sample consisted of a mixture of clayish sandy soil, stones, fragments of wood chips and plant matter.
No asbestos detected.

Sample No. 14. ASET96618 / 99798 / 14. 13546 - TP15 0.0-0.1.
Approx dimensions 10.0 cm x 10.0 cm x 8.4 cm
Approximate total dry weight of soil = 836.0g.
The sample consisted of a mixture of clayish sandy soil, stones, fragments of shale and plant matter.
No asbestos detected.

Sample No. 15. ASET96618 / 99798 / 15. 13546 - TP16 0.0-0.1.
Approx dimensions 10.0 cm x 10.0 cm x 8.6 cm
Approximate total dry weight of soil = 864.0g.
The sample consisted of a mixture of clayish sandy soil, stones, fragments of cement and plant matter.
No asbestos detected.

Sample No. 16. ASET96618 / 99798 / 16. 13546 - TP17 0.0-0.1.
Approx dimensions 10.0 cm x 10.0 cm x 9.2 cm
Approximate total dry weight of soil = 918.0g.
The sample consisted of a mixture of clayish sandy soil, stones, fragments of cement, slag and plant matter.
No asbestos detected.

Sample No. 17. ASET96618 / 99798 / 17. 13546 - TP18 0.0-0.1.
Approx dimensions 10.0 cm x 10.0 cm x 6.8 cm
Approximate total dry weight of soil = 680.0g.
The sample consisted of a mixture of clayish sandy soil, stones, fragments of cement, wood chips and plant matter.
No asbestos detected.

Sample No. 18. ASET96618 / 99798 / 18. 13546 - TP19 0.0-0.1.
Approx dimensions 10.0 cm x 10.0 cm x 8.8 cm
Approximate total dry weight of soil = 876.0g.
The sample consisted of a mixture of clayish sandy soil, stones, synthetic mineral fibres, wood chips and plant matter.
No asbestos detected.

Reported by,

Mahen De Silva. BSc, MSc, Grad Dip (Occ Hyg)
Occupational Hygienist / Approved Identifier.
Approved Signatory

Accredited for compliance with ISO/IEC 17025 - Testing.

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ACM - Asbestos Containing Material - Products or materials that contain asbestos in an inert bound matrix such as cement or resin. Here taken to be sound material, even as fragments and not fitting through a 7mm X 7 mm sieve.

AF -Includes asbestos free fibres, small fibre bundles and also ACM fragments that pass through a 7mm X 7 mm sieve.

FA -Friable asbestos material such as severely weathered ACM, and asbestos in the form of loose fibrous material such as insulation products.

^ denotes loose fibres of relevant asbestos types detected in soil/dust.
*** denotes asbestos detected in ACM in bonded form.**
 # denotes friable asbestos as soft fibro plaster and/ or highly weathered ACM that will easily crumble.

The results contained in this report relate only to the sample/s submitted for testing. Australian Safer Environment & Technology accepts no responsibility for whether or not the submitted sample/s is/are representative. Results indicating "No asbestos detected" indicates a reporting limit specified in AS4964 -2004 which is 0.1g/ Kg (0.01%). Any amounts detected at assumed lower level than that would be reported, however those assumed lower levels may be treated as

"No asbestos detected" as specified and recommended by A4964-2004. Trace / respirable level asbestos will be reported only when detected and trace analysis have been performed on each sample as required by AS4964-2004. When loose asbestos fibres/ fibre bundles are detected and reported that means they are larger handpicked fibres/ fibre bundles, and they do not represent respirable fibres. Dust/soil samples are always subjected to trace analysis except where the amounts involved are extremely minute and trace analysis is not possible to be carried out. When trace analysis is not performed on dust samples it will be indicated in the report that trace analysis has not been carried out due to the volume of the sample being extremely minute.

Estimation of asbestos weights involves the use of following assumptions;
Volume of each kind of Asbestos present in broken edges have been visually estimated and its been assumed that volumes remain similar throughout the binding matrix and those volumes are only approximate and not exact. Material densities have been assumed to be similar to commonly found similar materials and may not be exact.

All samples indicating "No asbestos detected" are assumed to be less than 0.001% for friable AF and FA portions detected and 0.01 % for ACM detected unless the approximate weight is given.

AUSTRALIAN SAFER ENVIRONMENT & TECHNOLOGY PTY LTD

ABN 36 088 095 112

Our ref : ASET97388 / 100568 / 1 - 4
Your ref : 13546 – Kemps Creek
NATA Accreditation No: 14484

15 November 2021

Alliance Geotechnical
10 Welder Road
Seven Hills NSW 2147

Attn: Mr Sam Jones

Accredited for compliance with ISO/IEC 17025 - Testing.

Dear Sam

Asbestos Identification
This report presents the results of four samples, forwarded by Alliance Geotechnical on 14 October 2021, for analysis for asbestos.

1.Introduction: Four samples forwarded were examined and analysed for the presence of asbestos on 15 November 2021.

2. Methods : The samples were examined under a Stereo Microscope and selected fibres were analysed by Polarized Light Microscopy in conjunction with Dispersion Staining method **(Australian Standard AS 4964 - 2004 and Safer Environment Method 1 as the supplementary work instruction) (Qualitative Analysis only).**

The report also provides approximate weights and percentages, categories of asbestos forms appearing in the sample, such as **AF**(Asbestos Fines), **FA**(Friable Asbestos) and **ACM** (Asbestos Containing Material), also satisfying the requirements of the WA/ NEPM Guidelines).

3. Results :

Sample No. 1. ASET97388 / 100568 / 1. 13546 - TP41 0.0-0.1.
Approx dimensions 10.0 cm x 10.0 cm x 6.6 cm
Approximate total dry weight of soil = 656.0g.
The sample consisted of a mixture of clayish sandy soil, stones, fragments of brick, cement, wood chips and plant matter.
No asbestos detected.

Sample No. 2. ASET97388 / 100568 / 2. 13546 - TP42 0.0-0.1.
Approx dimensions 10.0 cm x 10.0 cm x 6.9 cm
Approximate total dry weight of soil = 693.0g.
The sample consisted of a mixture of clayish sandy soil, stones, synthetic mineral fibres, fragments of cement, plastic, wood chips and plant matter.
No asbestos detected.

Sample No. 3. ASET97388 / 100568 / 3. 13546 - TP43 0.0-0.1.
Approx dimensions 10.0 cm x 10.0 cm x 6.9 cm
Approximate total dry weight of soil = 687.0g.
The sample consisted of a mixture of clayish sandy soil, stones, fragments of brick, cement, glass, wood chips and plant matter.
No asbestos detected.

Sample No. 4. ASET97388 / 100568 / 4. 13546 - TP44 0.0-0.1.
Approx dimensions 10.0 cm x 10.0 cm x 6.0 cm
Approximate total dry weight of soil = 598.0g.
The sample consisted of a mixture of clayish sandy soil, stones, fragments of glass, plastic, wood chips and plant matter.
No asbestos detected.

Reported by,

Mahen De Silva. BSc, MSc, Grad Dip (Occ Hyg)
Occupational Hygienist / Approved Identifier.
Approved Signatory

Accredited for compliance with ISO/IEC 17025 - Testing.

This report is consistent with the analytical procedures and reporting recommendations in the Western Australia Guidelines for the Assessment Remediation and Management of Asbestos contaminated sites in Western Australia and it also satisfies the requirements of the current NEPM Guidelines. NATA Accreditation does not cover the performance of this service.

Disclaimers;

The approx; weights given above can be used only as a guide. They do not represent absolute weights of each kind of asbestos, as it is impossible to extract all loose fibres from soil and other asbestos containing building material samples using this method. However above figures may be used as closest approximations to the exact values in each case. Estimation and/ or reporting of asbestos fibre weights in asbestos containing materials and soil is out of the Scope of the NATA Accreditation. NATA Accreditation only covers the qualitative part of the results reported. This weight disclaimer also covers weight / weight percentages if given.

ACM - Asbestos Containing Material - Products or materials that contain asbestos in an inert bound matrix such as cement or resin. Here taken to be sound material, even as fragments and not fitting through a 7mm X 7 mm sieve.

AF -Includes asbestos free fibres, small fibre bundles and also ACM fragments that pass through a 7mm X 7 mm sieve.

FA -Friable asbestos material such as severely weathered ACM, and asbestos in the form of loose fibrous material such as insulation products.

^ denotes loose fibres of relevant asbestos types detected in soil/dust.
*** denotes asbestos detected in ACM in bonded form.**
 # denotes friable asbestos as soft fibro plaster and/ or highly weathered ACM that will easily crumble.

The results contained in this report relate only to the sample/s submitted for testing. Australian Safer Environment & Technology accepts no responsibility for whether or not the submitted sample/s is/are representative. Results indicating "No asbestos detected" indicates a reporting limit specified in AS4964 -2004 which is 0.1g/ Kg (0.01%). Any amounts detected at assumed lower level than that would be reported, however those assumed lower levels may be treated as

"No asbestos detected" as specified and recommended by A4964-2004. Trace / respirable level asbestos will be reported only when detected and trace analysis have been performed on each sample as required by AS4964-2004. When loose asbestos fibres/ fibre bundles are detected and reported that means they are larger handpicked fibres/ fibre bundles, and they do not represent respirable fibres. Dust/soil samples are always subjected to trace analysis except where the amounts involved are extremely minute and trace analysis is not possible to be carried out. When trace analysis is not performed on dust samples it will be indicated in the report that trace analysis has not been carried out due to the volume of the sample being extremely minute.

Estimation of asbestos weights involves the use of following assumptions;
Volume of each kind of Asbestos present in broken edges have been visually estimated and its been assumed that volumes remain similar throughout the binding matrix and those volumes are only approximate and not exact. Material densities have been assumed to be similar to commonly found similar materials and may not be exact.

All samples indicating "No asbestos detected" are assumed to be less than 0.001% for friable AF and FA portions detected and 0.01 % for ACM detected unless the approximate weight is given.

Alliance Geotechnical
10 Welder Road
Seven Hills
NSW 2147

Attention: **Sam Jones**

Report **841413-S**
Project name ADDITIONAL: KEMPS CREEK
Project ID 13546
Received Date Nov 16, 2021

Client Sample ID			**TP63 0.0-0.1**
Sample Matrix			**Soil**
Eurofins Sample No.			**S21-No36962**
Date Sampled			**Oct 18, 2021**
Test/Reference	LOR	Unit	
Total Recoverable Hydrocarbons			
TRH C6-C9	20	mg/kg	< 20
TRH C10-C14	20	mg/kg	< 20
TRH C15-C28	50	mg/kg	< 50
TRH C29-C36	50	mg/kg	< 50
TRH C10-C36 (Total)	50	mg/kg	< 50
Naphthalene[N02]	0.5	mg/kg	< 0.5
TRH C6-C10	20	mg/kg	< 20
TRH C6-C10 less BTEX (F1)[N04]	20	mg/kg	< 20
TRH >C10-C16	50	mg/kg	< 50
TRH >C10-C16 less Naphthalene (F2)[N01]	50	mg/kg	< 50
TRH >C16-C34	100	mg/kg	< 100
TRH >C34-C40	100	mg/kg	< 100
TRH >C10-C40 (total)*	100	mg/kg	< 100
BTEX			
Benzene	0.1	mg/kg	< 0.1
Toluene	0.1	mg/kg	< 0.1
Ethylbenzene	0.1	mg/kg	< 0.1
m&p-Xylenes	0.2	mg/kg	< 0.2
o-Xylene	0.1	mg/kg	< 0.1
Xylenes - Total*	0.3	mg/kg	< 0.3
4-Bromofluorobenzene (surr.)	1	%	79
Polycyclic Aromatic Hydrocarbons			
Benzo(a)pyrene TEQ (lower bound) *	0.5	mg/kg	< 0.5
Benzo(a)pyrene TEQ (medium bound) *	0.5	mg/kg	0.6
Benzo(a)pyrene TEQ (upper bound) *	0.5	mg/kg	1.2
Acenaphthene	0.5	mg/kg	< 0.5
Acenaphthylene	0.5	mg/kg	< 0.5
Anthracene	0.5	mg/kg	< 0.5
Benz(a)anthracene	0.5	mg/kg	< 0.5
Benzo(a)pyrene	0.5	mg/kg	< 0.5
Benzo(b&j)fluoranthene[N07]	0.5	mg/kg	< 0.5
Benzo(g.h.i)perylene	0.5	mg/kg	< 0.5
Benzo(k)fluoranthene	0.5	mg/kg	< 0.5
Chrysene	0.5	mg/kg	< 0.5
Dibenz(a.h)anthracene	0.5	mg/kg	< 0.5

Client Sample ID			TP63 0.0-0.1
Sample Matrix			**Soil**
Eurofins Sample No.			**S21-No36962**
Date Sampled			**Oct 18, 2021**
Test/Reference	LOR	Unit	
Polycyclic Aromatic Hydrocarbons			
Fluoranthene	0.5	mg/kg	< 0.5
Fluorene	0.5	mg/kg	< 0.5
Indeno(1.2.3-cd)pyrene	0.5	mg/kg	< 0.5
Naphthalene	0.5	mg/kg	< 0.5
Phenanthrene	0.5	mg/kg	< 0.5
Pyrene	0.5	mg/kg	< 0.5
Total PAH*	0.5	mg/kg	< 0.5
2-Fluorobiphenyl (surr.)	1	%	99
p-Terphenyl-d14 (surr.)	1	%	113
Heavy Metals			
Arsenic	2	mg/kg	7.7
Cadmium	0.4	mg/kg	< 0.4
Chromium	5	mg/kg	21
Copper	5	mg/kg	33
Lead	5	mg/kg	24
Mercury	0.1	mg/kg	< 0.1
Nickel	5	mg/kg	17
Zinc	5	mg/kg	56
% Moisture	1	%	16

Sample History

Where samples are submitted/analysed over several days, the last date of extraction is reported.

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	Nov 16, 2021	14 Days
- Method: LTM-ORG-2010 TRH C6-C40			
Total Recoverable Hydrocarbons - 2013 NEPM Fractions	Sydney	Nov 16, 2021	14 Days
- Method: LTM-ORG-2010 TRH C6-C40			
Total Recoverable Hydrocarbons - 2013 NEPM Fractions	Sydney	Nov 16, 2021	14 Days
- Method: LTM-ORG-2010 TRH C6-C40			
BTEX	Sydney	Nov 16, 2021	14 Days
- Method: LTM-ORG-2010 TRH C6-C40			
Polycyclic Aromatic Hydrocarbons	Sydney	Nov 16, 2021	14 Days
- Method: LTM-ORG-2130 PAH and Phenols in Soil and Water			
Metals M8	Sydney	Nov 16, 2021	28 Days
- Method: LTM-MET-3040 Metals in Waters, Soils & Sediments by ICP-MS			
% Moisture	Sydney	Nov 16, 2021	14 Days
- Method: LTM-GEN-7080 Moisture			

eurofins | Environment Testing

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43 Detroit Drive
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IANZ # 1290

Company Name: Alliance Geotechnical
Address: 10 Welder Road
Seven Hills
NSW 2147

Project Name: ADDITIONAL: KEMPS CREEK
Project ID: 13546

Order No.:
Report #: 841413
Phone: 1800 288 188
Fax: 02 9675 1888

Received: Nov 16, 2021 12:41 PM
Due: Nov 17, 2021
Priority: Overnight
Contact Name: Sam Jones

Eurofins Analytical Services Manager : Andrew Black

Sample Detail						Moisture Set	Eurofins Suite B7
Melbourne Laboratory - NATA # 1261 Site # 1254							
Sydney Laboratory - NATA # 1261 Site # 18217						X	X
Brisbane Laboratory - NATA # 1261 Site # 20794							
Mayfield Laboratory - NATA # 1261 Site # 25079							
Perth Laboratory - NATA # 2377 Site # 2370							
External Laboratory							
No	**Sample ID**	**Sample Date**	**Sampling Time**	**Matrix**	**LAB ID**		
1	TP63 0.0-0.1	Oct 18, 2021		Soil	S21-No36962	X	X
Test Counts						1	1

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.

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
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
WA DWER	Sum of PFBA, PFPeA, PFHxA, PFHpA, PFOA, PFBS, PFHxS, PFOS, 6:2 FTSA, 8:2 FTSA

QC - Acceptance Criteria

The acceptance criteria should be used as a guide only and may be different when site specific Sampling Analysis and Quality Plan (SAQP) have been implemented

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%

NOTE: pH duplicates are reported as a range not as RPD

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 where no positive PFAS results have been reported have been reviewed and no data was affected.

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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. 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.
4. Recovery Data (Spikes & Surrogates) - where chromatographic interference does not allow the determination of recovery the term "INT" appears against that analyte.
5. For Matrix Spikes and LCS results a dash "-" in the report means that the specific analyte was not added to the QC sample.
6. 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							
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	
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							
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							
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							
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							
TRH C6-C9	%	88			70-130	Pass	
TRH C10-C14	%	88			70-130	Pass	
Naphthalene	%	88			70-130	Pass	

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
TRH C6-C10	%	87			70-130	Pass	
TRH >C10-C16	%	85			70-130	Pass	
LCS - % Recovery							
BTEX							
Benzene	%	111			70-130	Pass	
Toluene	%	92			70-130	Pass	
Ethylbenzene	%	91			70-130	Pass	
m&p-Xylenes	%	89			70-130	Pass	
o-Xylene	%	92			70-130	Pass	
Xylenes - Total*	%	90			70-130	Pass	
LCS - % Recovery							
Polycyclic Aromatic Hydrocarbons							
Acenaphthene	%	91			70-130	Pass	
Acenaphthylene	%	84			70-130	Pass	
Anthracene	%	87			70-130	Pass	
Benz(a)anthracene	%	88			70-130	Pass	
Benzo(a)pyrene	%	82			70-130	Pass	
Benzo(b&j)fluoranthene	%	87			70-130	Pass	
Benzo(g.h.i)perylene	%	72			70-130	Pass	
Benzo(k)fluoranthene	%	97			70-130	Pass	
Chrysene	%	86			70-130	Pass	
Dibenz(a.h)anthracene	%	70			70-130	Pass	
Fluoranthene	%	87			70-130	Pass	
Fluorene	%	90			70-130	Pass	
Indeno(1.2.3-cd)pyrene	%	75			70-130	Pass	
Naphthalene	%	88			70-130	Pass	
Phenanthrene	%	87			70-130	Pass	
Pyrene	%	87			70-130	Pass	
LCS - % Recovery							
Heavy Metals							
Arsenic	%	92			80-120	Pass	
Cadmium	%	87			80-120	Pass	
Chromium	%	107			80-120	Pass	
Copper	%	106			80-120	Pass	
Lead	%	109			80-120	Pass	
Mercury	%	84			80-120	Pass	
Nickel	%	107			80-120	Pass	
Zinc	%	99			80-120	Pass	

Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Spike - % Recovery									
Total Recoverable Hydrocarbons				Result 1					
TRH C6-C9	S21-No23561	NCP	%	71			70-130	Pass	
TRH C10-C14	S21-No34556	NCP	%	103			70-130	Pass	
Naphthalene	S21-No23561	NCP	%	76			70-130	Pass	
TRH C6-C10	S21-No15074	NCP	%	85			70-130	Pass	
TRH >C10-C16	S21-No34556	NCP	%	100			70-130	Pass	
Spike - % Recovery									
BTEX				Result 1					
Benzene	S21-No23561	NCP	%	92			70-130	Pass	
Toluene	S21-No23561	NCP	%	81			70-130	Pass	
Ethylbenzene	S21-No23561	NCP	%	80			70-130	Pass	
m&p-Xylenes	S21-No23561	NCP	%	79			70-130	Pass	
o-Xylene	S21-No23561	NCP	%	81			70-130	Pass	
Xylenes - Total*	S21-No23561	NCP	%	80			70-130	Pass	

Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Spike - % Recovery									
Polycyclic Aromatic Hydrocarbons				Result 1					
Acenaphthene	S21-No36962	CP	%	98			70-130	Pass	
Acenaphthylene	S21-No36962	CP	%	97			70-130	Pass	
Anthracene	S21-No36962	CP	%	92			70-130	Pass	
Benz(a)anthracene	S21-No36962	CP	%	93			70-130	Pass	
Benzo(a)pyrene	S21-No36962	CP	%	90			70-130	Pass	
Benzo(b&j)fluoranthene	S21-No36962	CP	%	93			70-130	Pass	
Benzo(g.h.i)perylene	S21-No36962	CP	%	80			70-130	Pass	
Benzo(k)fluoranthene	S21-No36962	CP	%	108			70-130	Pass	
Chrysene	S21-No36962	CP	%	87			70-130	Pass	
Dibenz(a.h)anthracene	S21-No36962	CP	%	75			70-130	Pass	
Fluoranthene	S21-No36962	CP	%	92			70-130	Pass	
Fluorene	S21-No36962	CP	%	99			70-130	Pass	
Indeno(1.2.3-cd)pyrene	S21-No36962	CP	%	82			70-130	Pass	
Naphthalene	S21-No36962	CP	%	94			70-130	Pass	
Phenanthrene	S21-No36962	CP	%	96			70-130	Pass	
Pyrene	S21-No36962	CP	%	94			70-130	Pass	
Spike - % Recovery									
Heavy Metals				Result 1					
Arsenic	S21-No36075	NCP	%	92			75-125	Pass	
Cadmium	S21-No34060	NCP	%	90			75-125	Pass	
Chromium	S21-No36075	NCP	%	93			75-125	Pass	
Copper	S21-No36075	NCP	%	101			75-125	Pass	
Lead	S21-No34060	NCP	%	99			75-125	Pass	
Mercury	S21-No34060	NCP	%	98			75-125	Pass	
Nickel	S21-No36075	NCP	%	91			75-125	Pass	
Zinc	S21-No36075	NCP	%	101			75-125	Pass	
Test	**Lab Sample ID**	**QA Source**	**Units**	**Result 1**			**Acceptance Limits**	**Pass Limits**	**Qualifying Code**
Duplicate									
Total Recoverable Hydrocarbons				Result 1	Result 2	RPD			
TRH C6-C9	S21-No23560	NCP	mg/kg	< 20	< 20	<1	30%	Pass	
TRH C10-C14	S21-No36330	NCP	mg/kg	< 20	< 20	<1	30%	Pass	
TRH C15-C28	S21-No36330	NCP	mg/kg	68	74	9.0	30%	Pass	
TRH C29-C36	S21-No36330	NCP	mg/kg	84	95	12	30%	Pass	
Naphthalene	S21-No23560	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
TRH C6-C10	S21-No23560	NCP	mg/kg	< 20	< 20	<1	30%	Pass	
TRH >C10-C16	S21-No36330	NCP	mg/kg	< 50	< 50	<1	30%	Pass	
TRH >C16-C34	S21-No36330	NCP	mg/kg	130	150	11	30%	Pass	
TRH >C34-C40	S21-No36330	NCP	mg/kg	< 100	< 100	<1	30%	Pass	
Duplicate									
BTEX				Result 1	Result 2	RPD			
Benzene	S21-No23560	NCP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Toluene	S21-No23560	NCP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Ethylbenzene	S21-No23560	NCP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
m&p-Xylenes	S21-No23560	NCP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
o-Xylene	S21-No23560	NCP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Xylenes - Total*	S21-No23560	NCP	mg/kg	< 0.3	< 0.3	<1	30%	Pass	
Duplicate									
Polycyclic Aromatic Hydrocarbons				Result 1	Result 2	RPD			
Acenaphthene	S21-No36330	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Acenaphthylene	S21-No36330	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Anthracene	S21-No36330	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benz(a)anthracene	S21-No36330	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	

Duplicate									
Polycyclic Aromatic Hydrocarbons				Result 1	Result 2	RPD			
Benzo(a)pyrene	S21-No36330	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benzo(b&j)fluoranthene	S21-No36330	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benzo(g.h.i)perylene	S21-No36330	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benzo(k)fluoranthene	S21-No36330	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Chrysene	S21-No36330	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Dibenz(a.h)anthracene	S21-No36330	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Fluoranthene	S21-No36330	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Fluorene	S21-No36330	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Indeno(1.2.3-cd)pyrene	S21-No36330	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Naphthalene	S21-No36330	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Phenanthrene	S21-No36330	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Pyrene	S21-No36330	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Duplicate									
Heavy Metals				Result 1	Result 2	RPD			
Arsenic	S21-No36291	NCP	mg/kg	< 2	< 2	<1	30%	Pass	
Cadmium	S21-No36291	NCP	mg/kg	0.4	0.4	5.0	30%	Pass	
Chromium	S21-No36291	NCP	mg/kg	110	120	2.0	30%	Pass	
Copper	S21-No36291	NCP	mg/kg	140	150	2.0	30%	Pass	
Lead	S21-No36291	NCP	mg/kg	97	99	2.0	30%	Pass	
Mercury	S21-No36291	NCP	mg/kg	0.5	0.5	3.0	30%	Pass	
Nickel	S21-No36291	NCP	mg/kg	63	65	2.0	30%	Pass	
Zinc	S21-No36291	NCP	mg/kg	390	400	2.0	30%	Pass	
Duplicate									
				Result 1	Result 2	RPD			
% Moisture	S21-No36330	NCP	%	11	8.4	24	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:

Andrew Black	Analytical Services Manager
Andrew Sullivan	Senior Analyst-Organic (NSW)
John Nguyen	Senior Analyst-Metal (NSW)
Roopesh Rangarajan	Senior Analyst-Volatile (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.

alliance
geotechnical & environmental solutions

Office & Lab: 8-10 Welder Road, Seven Hills NSW 2147
Postal Address: PO Box 275, Seven Hills NSW 1730

From: Andrew Black <AndrewBlack@eurofins.com>
Sent: Tuesday, 16 November 2021 12:31 PM
To: Sam Jones <SamJones@allgeo.com.au>; #AU04_Enviro_Sample_NSW <EnviroSampleNSW@eurofins.com>
Subject: RE: Eurofins Sample Receipt Advice - Report 841019 : Site ADDITIONAL: KEMPS CREEK (13546)

What report does it belong to Sam? We have a number of Kemps Creek in the system

Andrew Black
Analytical Services Manager

Eurofins | Environment Testing
Unit 7
7 Friesian Close
SANDGATE, NSW, 2304
AUSTRALIA
Phone: +61 2 9900 8490
Mobile: +61 410 220 750

For sample receipt enquiries (eg. SRAs, changes to analysis) please contact EnvirosampleNSW@eurofins.com or 02 9900 8421 (7am – 9pm).
For despatch enquiries (eg. courier bookings, bottle orders) please contact AU04_Despatch_SYD@eurofins.com or 0488 400 929 (8am – 4pm).

Email: AndrewBlack@eurofins.com
Website: eurofins.com.au/environmental-testing

From: Sam Jones <SamJones@allgeo.com.au>
Sent: Tuesday, 16 November 2021 12:28 PM
To: #AU04_Enviro_Sample_NSW <EnviroSampleNSW@eurofins.com>; Andrew Black <AndrewBlack@eurofins.com>
Subject: RE: Eurofins Sample Receipt Advice - Report 841019 : Site ADDITIONAL: KEMPS CREEK (13546)

EXTERNAL EMAIL*

Hi guys,

I cant see the results for TP63 0.0-0.1.

Haven't checked if any others are missing yet but please advise on this on as soon as possible.

Thank you.

Regards,

Sam Jones
Environmental Consultant

Certificate of Analysis

Environment Testing

NATA Accredited
Accreditation Number 1261
Site Number 18217

Accredited for compliance with ISO/IEC 17025–Testing
NATA is a signatory to the ILAC Mutual Recognition Arrangement for the mutual recognition of the equivalence of testing, medical testing, calibration, inspection, proficiency testing scheme providers and reference materials producers reports and certificates.

Alliance Geotechnical
10 Welder Road
Seven Hills
NSW 2147

Attention:	Sam Jones
Report	841019-AID
Project Name	ADDITIONAL: KEMPS CREEK
Project ID	13546
Received Date	Nov 10, 2021
Date Reported	Nov 17, 2021

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 ADDITIONAL: KEMPS CREEK
Project ID 13546
Date Sampled Oct 22, 2021
Report 841019-AID

Client Sample ID	Eurofins Sample No.	Date Sampled	Sample Description	Result
DS13	21-No33593	Oct 22, 2021	Approximate Sample 641g Sample consisted of: Brown fine-grained clayey soil, glass and rocks	No asbestos detected at the reporting limit of 0.001% w/w.* Organic fibre detected. No trace asbestos detected.
DS14	21-No33594	Oct 22, 2021	Approximate Sample 653g Sample consisted of: Brown fine-grained clayey soil and rocks	No asbestos detected at the reporting limit of 0.001% w/w.* Organic fibre detected. No trace asbestos detected.

Sample History

Where samples are submitted/analysed over several days, the last date of extraction is reported.

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	Nov 15, 2021	Indefinite

eurofins | Environment Testing

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ABN: 50 005 085 521

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NATA # 1261 Site # 1254

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Unit F3, Building F
16 Mars Road
Lane Cove West NSW 2066
Phone : +61 2 9900 8400
NATA # 1261 Site # 18217

Brisbane
1/21 Smallwood Place
Murarrie QLD 4172
Phone : +61 7 3902 4600
NATA # 1261 Site # 20794

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4/52 Industrial Drive
Mayfield East NSW 2304
PO Box 60 Wickham 2293
Phone : +61 2 4968 8448
NATA # 1261 Site # 25079

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46-48 Banksia Road
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NATA # 2377 Site # 2370

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35 O'Rorke Road
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Phone : +64 9 526 45 51
IANZ # 1327

Christchurch
43 Detroit Drive
Rolleston, Christchurch 7675
Phone : 0800 856 450
IANZ # 1290

Company Name: Alliance Geotechnical
Address: 10 Welder Road
Seven Hills
NSW 2147

Project Name: ADDITIONAL: KEMPS CREEK
Project ID: 13546

Order No.:
Report #: 841019
Phone: 1800 288 188
Fax: 02 9675 1888

Received: Nov 10, 2021 3:28 PM
Due: Nov 17, 2021
Priority: 5 Day
Contact Name: Sam Jones

Eurofins Analytical Services Manager : Andrew Black

Sample Detail						Asbestos - WA guidelines
Melbourne Laboratory - NATA # 1261 Site # 1254						
Sydney Laboratory - NATA # 1261 Site # 18217						X
Brisbane Laboratory - NATA # 1261 Site # 20794						
Mayfield Laboratory - NATA # 1261 Site # 25079						
Perth Laboratory - NATA # 2377 Site # 2370						
External Laboratory						
No	**Sample ID**	**Sample Date**	**Sampling Time**	**Matrix**	**LAB ID**	
1	DS13	Oct 22, 2021		Soil	S21-No33593	X
2	DS14	Oct 22, 2021		Soil	S21-No33594	X
Test Counts						2

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 the colour **blue** indicates data provided by customer that may have an impact on the results.
5. Information identified on this report with the colour **orange** indicates sections of the report not covered by the laboratory's scope of NATA accreditation.
6. This report replaces any interim results previously issued.

Holding Times

Please refer to the most recent version of the 'Sample Preservation and Container Guide' for holding times (QS3001).
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:	Percentage weight-for-weight basis, e.g. of asbestos in asbestos-containing finds in soil samples (**% w/w**)
F/fld	Airborne fibre filter loading as Fibres (**N**) per Fields counted (**n**)
F/mL	Airborne fibre reported concentration as Fibres per millilitre of air drawn over the sampler membrane (**C**)
g, kg	Mass, e.g. of whole sample (**M**) or asbestos-containing find within the sample (**m**)
g/kg	Concentration in grams per kilogram
L, mL	Volume, e.g. of air as measured in AFM (**V** = **r** x **t**)
L/min	Airborne fibre sampling Flowrate as litres per minute of air drawn over the sampler membrane (**r**)
min	Time (**t**), e.g. of air sample collection period

Calculations

Airborne Fibre Concentration: $C = \frac{}{a} \times \frac{}{n} \times \frac{}{r} \times \frac{}{t} = K \times \frac{}{n} \times \frac{}{V}$

Asbestos Content (as asbestos): $\%\ w/w = \frac{(m \times PA)}{M}$

Weighted Average (of asbestos): $\%_W = \Sigma \frac{(m \times P_A)_X}{X}$

Terms

%asbestos	Estimated percentage of asbestos in a given matrix. May be derived from knowledge or experience of the material, informed by HSG264 *Appendix 2*, else assumed to be 15% in accordance with WA DOH *Appendix 2* (**P_A**).
ACM	Asbestos Containing Materials. Asbestos contained within a non-asbestos matrix, typically presented in bonded (non-friable) condition. For the purposes of the NEPM and WA DOH, ACM corresponds to material larger than 7 mm x 7 mm.
AF	Asbestos Fines. Asbestos contamination within a soil sample, as defined by WA DOH. Includes loose fibre bundles and small pieces of friable and non-friable material such as asbestos cement fragments mixed with soil. Considered under the NEPM as equivalent to "non-bonded / friable".
AFM	Airborne Fibre Monitoring, e.g. by the MFM.
Amosite	Amosite Asbestos Detected. Amosite may also refer to Fibrous Grunerite or Brown Asbestos. Identified in accordance with AS 4964-2004.
AS	Australian Standard.
Asbestos Content (as asbestos)	Total % w/w asbestos content in asbestos-containing finds in a soil sample (**% w/w**).
Chrysotile	Chrysotile Asbestos Detected. Chrysotile may also refer to Fibrous Serpentine or White Asbestos. Identified in accordance with AS 4964-2004.
COC	Chain of Custody.
Compliant	Indicates the item has been assessed against the relevant criteria, e.g. NATA SAC_07.
Crocidolite	Crocidolite Asbestos Detected. Crocidolite may also refer to Fibrous Riebeckite or Blue Asbestos. Identified in accordance with AS 4964-2004.
Dry	Sample is dried by heating prior to analysis.
DS	Dispersion Staining. Technique required for Unequivocal Identification of asbestos fibres by PLM.
FA	Fibrous Asbestos. Asbestos containing material that is wholly or in part friable, including materials with higher asbestos content with a propensity to become friable with handling, and any material that was previously non-friable and in a severely degraded condition. For the purposes of the NEPM and WA DOH, FA generally corresponds to material larger than 7 mm x 7 mm, although FA may be more difficult to visibly distinguish and may be assessed as AF.
Fibre Count	Total of all fibres (whether asbestos or not) meeting the counting criteria set out in the NOHSC:3003
Fibre ID	Fibre Identification. Unequivocal identification of asbestos fibres according to AS 4964-2004. Includes Chrysotile, Amosite (Grunerite) or Crocidolite asbestos.
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.
HSG248	UK HSE HSG248, *Asbestos: The Analysts Guide*, 2nd Edition (2021).
HSG264	UK HSE HSG264, *Asbestos: The Survey Guide* (2012).
ISO (also ISO/IEC)	International Organization for Standardization / International Electrotechnical Commission.
K Factor	Microscope constant (**K**) as derived from the effective filter area of the given AFM membrane used for collecting the sample (**A**) and the projected eyepiece graticule area of the specific microscope used for the analysis (**a**).
LOR	Limit of Reporting.
MFM (also NOHSC:3003)	Membrane Filter Method. As described by the Australian Government National Occupational Health and Safety Commission, *Guidance Note on the Membrane Filter Method for Estimating Airborne Asbestos Fibres*, 2nd Edition [NOHSC:3003(2005)].
N/A	Not Applicable. Indicates a result or assessment is not required or applicable to that item.
NATA	National Association of Testing Authorities, Australia.
NEPM (also ASC NEPM)	National Environment Protection (Assessment of Site Contamination) Measure, (2013, as amended).
Organic	Organic Fibres Detected. Organic may refer to Natural or Man-Made Polymeric Fibres. Identified in accordance with AS 4964-2004.
PCM	Phase Contrast Microscopy. As used for Fibre Counting according to the MFM.
PLM	Polarised Light Microscopy. As used for Fibre Identification and Trace Analysis according to AS 4964-2004.
SAC_07	Specific Accreditation Criteria: ISO/IEC 17025 Application Document, Life Sciences – Annex, Asbestos sampling and testing.
SMF	Synthetic Mineral Fibre Detected. SMF may also refer to Man Made Vitreous Fibres. Identified in accordance with AS 4964-2004.
SRA	Sample Receipt Advice.
Trace Analysis	Analytical procedure used to detect the presence of respirable fibres (particularly asbestos) in a given sample matrix.
UK HSE HSG	United Kingdom, Health and Safety Executive, Health and Safety Guidance, publication.
UMF	Unidentified Mineral Fibre Detected. Fibrous minerals that are detected but have not been unequivocally identified by PLM with DS according the AS 4964-2004. May include (but not limited to) Actinolite, Anthophyllite or Tremolite asbestos.
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* (updated 2021), including Appendix Four: *Laboratory analysis*
Weighted Average	Combined average % w/w asbestos content of all asbestos-containing finds in the given aliquot or total soil sample (**$\%_{WA}$**).

Comments

Sample Integrity

Custody Seals Intact (if used)	N/A
Attempt to Chill was evident	N/A
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

Asbestos Counter/Identifier:

Laxman Dias	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.

5 DAY TAT ADDITIONAL ANALYSIS: FW: Eurofins Test Results, Invoice - Report 834488 : Site KEMPS CREEK (13546)

Andrew Black <AndrewBlack@eurofins.com>

Wed 11/10/2021 3:29 PM

To: #AU04_Enviro_Sample_NSW <EnviroSampleNSW@eurofins.com>

Additional thanks team on 5 day TAT

Andrew Black
Analytical Services Manager

Eurofins | Environment Testing
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7 Friesian Close
SANDGATE, NSW, 2304
AUSTRALIA
Phone: +61 2 9900 8490
Mobile: +61 410 220 750

For sample receipt enquiries (eg. SRAs, changes to analysis) please contact EnvirosampleNSW@eurofins.com or 02 9900 8421 (7am – 9pm).
For despatch enquiries (eg. courier bookings, bottle orders) please contact AU04_Despatch_SYD@eurofins.com or 0488 400 929 (8am – 4pm).

Email: AndrewBlack@eurofins.com
Website: eurofins.com.au/environmental-testing

From: Sam Jones <SamJones@allgeo.com.au>
Sent: Wednesday, 10 November 2021 3:28 PM
To: Andrew Black <AndrewBlack@eurofins.com>; Jacob Walker <jacob.walker@allgeo.com.au>
Cc: enviro <enviro@allgeo.com.au>
Subject: RE: Eurofins Test Results, Invoice - Report 834488 : Site KEMPS CREEK (13546)

EXTERNAL EMAIL*

Hi Andrew,

Please analyse DS13 and DS14 for NEPM 500ml asbestos on standard TAT.

Thank you.

Regards,

Sam Jones
Environmental Consultant
Mobile: 0430 214 402 | **Email:** SamJones@allgeo.com.au

alliance
geotechnical & environmental solutions

Office Phone: 1800 288 188
Admin Email: admin@allgeo.com.au
Website: allgeo.com.au
Office & Lab: 8-10 Welder Road, Seven Hills NSW 2147
Postal Address: PO Box 275, Seven Hills NSW 1730

From: Sam Jones <SamJones@allgeo.com.au>
Sent: Wednesday, 3 November 2021 4:24 PM
To: Andrew Black <AndrewBlack@eurofins.com>
Cc: Emma Beesley <EmmaBeesley@eurofins.com>; Jacob Walker <jacob.walker@allgeo.com.au>
Subject: RE: 13546 COC

EXTERNAL EMAIL*

Hi Andrew,

In addition to this, please also analyse the following:

TP41 0.0-0.1, TP42 0.0-0.1, TP43 0.0-0.1, & TP44 0.0-0.1 all for Suite B7 and B13.
PP4 0.0-0.1, PP4 0.5-0.6, PP4 1.0-1.1, PP4 1.5-1.6, PP4 2.0-2.1, PP6 0.0-0.1, PP6 0.5-0.6, PP6 1.0-1.1, PP6 1.5-1.6, PP6 2.0-2.1, PP6 2.4-2.5, TP44 0.0-0.1, TP44 0.4-0.5, TP44 1.0-1.1, TP44 1.4-1.5, TP44 2.0-2.1, and TP44 2.4-2.5 all for pH and EC.
PP4 1.5-1.6, TP44 2.0-2.1, and PP6 2.4-2.5 for Aggressivity Suite L2.

I am aware that some of these may be past recommended holding times.

Thank you.

Regards,

Sam Jones
Environmental Consultant
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NATA Accredited
Accreditation Number 1261
Site Number 18217

Accredited for compliance with ISO/IEC 17025 – Testing
NATA is a signatory to the ILAC Mutual Recognition Arrangement for the mutual recognition of the equivalence of testing, medical testing, calibration, inspection, proficiency testing scheme providers and reference materials producers reports and certificates.

Attention: **Jacob Walker**

Report **838889-S**
Project name ADDITIONAL: KEMPS CREEK
Project ID 13546
Received Date Nov 03, 2021

Client Sample ID			**TP41 0.0-0.1**	**TP42 0.0-0.1**	**TP43 0.0-0.1**	**TP44 0.0-0.1**
Sample Matrix			**Soil**	**Soil**	**Soil**	**Soil**
Eurofins Sample No.			**S21-No17421**	**S21-No17422**	**S21-No17423**	**S21-No17424**
Date Sampled			**Oct 12, 2021**	**Oct 12, 2021**	**Oct 12, 2021**	**Oct 12, 2021**
Test/Reference	LOR	Unit				
Total Recoverable Hydrocarbons						
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	100
TRH C29-C36	50	mg/kg	54	< 50	< 50	150
TRH C10-C36 (Total)	50	mg/kg	54	< 50	< 50	250
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	320
TRH >C34-C40	100	mg/kg	< 100	< 100	< 100	210
TRH >C10-C40 (total)*	100	mg/kg	< 100	< 100	< 100	530
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	%	65	73	130	114
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

Client Sample ID			TP41 0.0-0.1	TP42 0.0-0.1	TP43 0.0-0.1	TP44 0.0-0.1
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			S21-No17421	S21-No17422	S21-No17423	S21-No17424
Date Sampled			Oct 12, 2021	Oct 12, 2021	Oct 12, 2021	Oct 12, 2021
Test/Reference	LOR	Unit				
Polycyclic Aromatic Hydrocarbons						
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	%	113	114	105	106
p-Terphenyl-d14 (surr.)	1	%	108	112	104	107
Organochlorine Pesticides						
Chlordanes - Total	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
4.4'-DDD	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
4.4'-DDE	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
4.4'-DDT	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
a-HCH	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Aldrin	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
b-HCH	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
d-HCH	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Dieldrin	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Endosulfan I	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Endosulfan II	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Endosulfan sulphate	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Endrin	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Endrin aldehyde	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Endrin ketone	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
g-HCH (Lindane)	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Heptachlor	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Heptachlor epoxide	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Hexachlorobenzene	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Methoxychlor	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Toxaphene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Aldrin and Dieldrin (Total)*	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
DDT + DDE + DDD (Total)*	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Vic EPA IWRG 621 OCP (Total)*	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Vic EPA IWRG 621 Other OCP (Total)*	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Dibutylchlorendate (surr.)	1	%	[Q09]INT	[Q09]INT	[Q09]INT	[Q09]INT
Tetrachloro-m-xylene (surr.)	1	%	115	116	106	108
Polychlorinated Biphenyls						
Aroclor-1016	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Aroclor-1221	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Aroclor-1232	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Aroclor-1242	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Aroclor-1248	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Aroclor-1254	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Aroclor-1260	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Total PCB*	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Dibutylchlorendate (surr.)	1	%	[Q09]INT	[Q09]INT	[Q09]INT	[Q09]INT
Tetrachloro-m-xylene (surr.)	1	%	115	116	106	108

Client Sample ID			TP41 0.0-0.1	TP42 0.0-0.1	TP43 0.0-0.1	TP44 0.0-0.1
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			S21-No17421	S21-No17422	S21-No17423	S21-No17424
Date Sampled			Oct 12, 2021	Oct 12, 2021	Oct 12, 2021	Oct 12, 2021
Test/Reference	LOR	Unit				
Heavy Metals						
Arsenic	2	mg/kg	5.2	7.7	9.6	4.7
Cadmium	0.4	mg/kg	< 0.4	0.5	< 0.4	< 0.4
Chromium	5	mg/kg	15	18	21	13
Copper	5	mg/kg	21	36	35	19
Lead	5	mg/kg	17	21	23	15
Mercury	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Nickel	5	mg/kg	12	15	22	9.4
Zinc	5	mg/kg	61	89	95	81
% Moisture	1	%	21	17	18	18
Conductivity (1:5 aqueous extract at 25°C as rec.)	10	uS/cm	-	-	-	67
pH (1:5 Aqueous extract at 25°C as rec.)	0.1	pH Units	-	-	-	6.1

Client Sample ID			PP4 0.0-0.1	PP4 0.5-0.6	PP4 1.0-1.1	PP4 1.5-1.6
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			S21-No17425	S21-No17426	S21-No17427	S21-No17428
Date Sampled			Oct 12, 2021	Oct 12, 2021	Oct 12, 2021	Oct 12, 2021
Test/Reference	LOR	Unit				
% Moisture	1	%	18	12	13	11
Conductivity (1:5 aqueous extract at 25°C as rec.)	10	uS/cm	50	220	390	310
pH (1:5 Aqueous extract at 25°C as rec.)	0.1	pH Units	6.3	5.6	5.3	5.5
Chloride	10	mg/kg	-	-	-	530
Resistivity*	0.5	ohm.m	-	-	-	32
Sulphate (as SO4)	10	mg/kg	-	-	-	< 10

Client Sample ID			PP4 2.0-2.1	PP6 0.0-0.1	PP6 0.5-0.6	PP6 1.0-1.1
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			S21-No17429	S21-No17430	S21-No17431	S21-No17432
Date Sampled			Oct 12, 2021	Oct 12, 2021	Oct 12, 2021	Oct 12, 2021
Test/Reference	LOR	Unit				
% Moisture	1	%	10	13	11	8.0
Conductivity (1:5 aqueous extract at 25°C as rec.)	10	uS/cm	370	66	17	15
pH (1:5 Aqueous extract at 25°C as rec.)	0.1	pH Units	5.3	5.9	6.6	6.4

Client Sample ID			PP6 1.5-1.6	PP6 2.0-2.1	PP6 2.4-2.5	TP44 0.4-0.5
Sample Matrix			**Soil**	**Soil**	**Soil**	**Soil**
Eurofins Sample No.			**S21-No17433**	**S21-No17434**	**S21-No17435**	**S21-No17436**
Date Sampled			**Oct 12, 2021**	**Oct 12, 2021**	**Oct 12, 2021**	**Oct 12, 2021**
Test/Reference	LOR	Unit				
% Moisture	1	%	10	10	13	12
Conductivity (1:5 aqueous extract at 25°C as rec.)	10	uS/cm	20	22	84	24
pH (1:5 Aqueous extract at 25°C as rec.)	0.1	pH Units	6.5	6.5	6.1	6.3
Chloride	10	mg/kg	-	-	110	-
Resistivity*	0.5	ohm.m	-	-	120	-
Sulphate (as SO4)	10	mg/kg	-	-	< 10	-

Client Sample ID			TP44 1.0-1.1	TP44 1.4-1.5	TP44 2.0-2.1	TP44 2.4-2.5
Sample Matrix			**Soil**	**Soil**	**Soil**	**Soil**
Eurofins Sample No.			**S21-No17437**	**S21-No17438**	**S21-No17439**	**S21-No17440**
Date Sampled			**Oct 12, 2021**	**Oct 12, 2021**	**Oct 12, 2021**	**Oct 12, 2021**
Test/Reference	LOR	Unit				
% Moisture	1	%	17	18	15	15
Conductivity (1:5 aqueous extract at 25°C as rec.)	10	uS/cm	29	66	74	66
pH (1:5 Aqueous extract at 25°C as rec.)	0.1	pH Units	6.5	6.6	5.9	6.9
Chloride	10	mg/kg	-	-	16	-
Resistivity*	0.5	ohm.m	-	-	130	-
Sulphate (as SO4)	10	mg/kg	-	-	100	-

Sample History

Where samples are submitted/analysed over several days, the last date of extraction is reported.

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	Nov 16, 2021	14 Days
- Method: LTM-ORG-2010 TRH C6-C40			
Total Recoverable Hydrocarbons - 2013 NEPM Fractions	Sydney	Nov 16, 2021	14 Days
- Method: LTM-ORG-2010 TRH C6-C40			
Total Recoverable Hydrocarbons - 2013 NEPM Fractions	Sydney	Nov 16, 2021	14 Days
- Method: LTM-ORG-2010 TRH C6-C40			
BTEX	Sydney	Nov 16, 2021	14 Days
- Method: LTM-ORG-2010 TRH C6-C40			
Polycyclic Aromatic Hydrocarbons	Sydney	Nov 16, 2021	14 Days
- Method: LTM-ORG-2130 PAH and Phenols in Soil and Water			
Metals M8	Sydney	Nov 16, 2021	28 Days
- Method: LTM-MET-3040 Metals in Waters, Soils & Sediments by ICP-MS			
Organochlorine Pesticides	Sydney	Nov 16, 2021	14 Days
- Method: LTM-ORG-2220 OCP & PCB in Soil and Water			
Polychlorinated Biphenyls	Sydney	Nov 16, 2021	28 Days
- Method: LTM-ORG-2220 OCP & PCB in Soil and Water			
% Moisture	Sydney	Nov 09, 2021	14 Days
- Method: LTM-GEN-7080 Moisture			
Conductivity (1:5 aqueous extract at 25°C as rec.)	Sydney	Nov 16, 2021	7 Days
- Method: LTM-INO-4030 Conductivity			
pH (1:5 Aqueous extract at 25°C as rec.)	Sydney	Nov 16, 2021	7 Days
- Method: LTM-GEN-7090 pH by ISE			
Chloride	Sydney	Nov 16, 2021	28 Days
- Method: In-house method LTM-INO-4270 Anions by Ion Chromatography			
Sulphate (as SO4)	Sydney	Nov 16, 2021	28 Days
- Method: In-house method LTM-INO-4270 Sulphate by Ion Chromatograph			

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Company Name: Alliance Geotechnical
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NSW 2147

Project Name: ADDITIONAL: KEMPS CREEK
Project ID: 13546

Order No.:
Report #: 838889
Phone: 1800 288 188
Fax: 02 9675 1888

Received: Nov 3, 2021 4:24 PM
Due: Nov 10, 2021
Priority: 5 Day
Contact Name: Jacob Walker

Eurofins Analytical Services Manager : Andrew Black

Sample Detail						Conductivity (1:5 aqueous extract at 25°C as rec.)	pH (1:5 Aqueous extract at 25°C as rec.)	Suite B13: OCP/PCB	Aggressivity Soil Set	Moisture Set	Eurofins Suite B7
Melbourne Laboratory - NATA # 1261 Site # 1254											
Sydney Laboratory - NATA # 1261 Site # 18217						X	X	X	X	X	X
Brisbane Laboratory - NATA # 1261 Site # 20794											
Mayfield Laboratory - NATA # 1261 Site # 25079											
Perth Laboratory - NATA # 2377 Site # 2370											
External Laboratory											
No	**Sample ID**	**Sample Date**	**Sampling Time**	**Matrix**	**LAB ID**						
1	TP41 0.0-0.1	Oct 12, 2021		Soil	S21-No17421			X		X	X
2	TP42 0.0-0.1	Oct 12, 2021		Soil	S21-No17422			X		X	X
3	TP43 0.0-0.1	Oct 12, 2021		Soil	S21-No17423			X		X	X
4	TP44 0.0-0.1	Oct 12, 2021		Soil	S21-No17424	X	X	X		X	X
5	PP4 0.0-0.1	Oct 12, 2021		Soil	S21-No17425	X	X			X	
6	PP4 0.5-0.6	Oct 12, 2021		Soil	S21-No17426	X	X			X	
7	PP4 1.0-1.1	Oct 12, 2021		Soil	S21-No17427	X	X			X	
8	PP4 1.5-1.6	Oct 12, 2021		Soil	S21-No17428				X	X	
9	PP4 2.0-2.1	Oct 12, 2021		Soil	S21-No17429	X	X			X	

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Company Name: Alliance Geotechnical
Address: 10 Welder Road
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NSW 2147

Project Name: ADDITIONAL: KEMPS CREEK
Project ID: 13546

Order No.:
Report #: 838889
Phone: 1800 288 188
Fax: 02 9675 1888

Received: Nov 3, 2021 4:24 PM
Due: Nov 10, 2021
Priority: 5 Day
Contact Name: Jacob Walker

Eurofins Analytical Services Manager : Andrew Black

Sample Detail						Conductivity (1:5 aqueous extract at 25°C as rec.)	pH (1:5 Aqueous extract at 25°C as rec.)	Suite B13: OCP/PCB	Aggressivity Soil Set	Moisture Set	Eurofins Suite B7
Melbourne Laboratory - NATA # 1261 Site # 1254											
Sydney Laboratory - NATA # 1261 Site # 18217						X	X	X	X	X	X
Brisbane Laboratory - NATA # 1261 Site # 20794											
Mayfield Laboratory - NATA # 1261 Site # 25079											
Perth Laboratory - NATA # 2377 Site # 2370											
External Laboratory											
10	PP6 0.0-0.1	Oct 12, 2021		Soil	S21-No17430	X	X			X	
11	PP6 0.5-0.6	Oct 12, 2021		Soil	S21-No17431	X	X			X	
12	PP6 1.0-1.1	Oct 12, 2021		Soil	S21-No17432	X	X			X	
13	PP6 1.5-1.6	Oct 12, 2021		Soil	S21-No17433	X	X			X	
14	PP6 2.0-2.1	Oct 12, 2021		Soil	S21-No17434	X	X			X	
15	PP6 2.4-2.5	Oct 12, 2021		Soil	S21-No17435				X	X	
16	TP44 0.4-0.5	Oct 12, 2021		Soil	S21-No17436	X	X			X	
17	TP44 1.0-1.1	Oct 12, 2021		Soil	S21-No17437	X	X			X	
18	TP44 1.4-1.5	Oct 12, 2021		Soil	S21-No17438	X	X			X	
19	TP44 2.0-2.1	Oct 12, 2021		Soil	S21-No17439				X	X	
20	TP44 2.4-2.5	Oct 12, 2021		Soil	S21-No17440	X	X			X	

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Phone : 0800 856 450
IANZ # 1290

Company Name: Alliance Geotechnical
Address: 10 Welder Road
Seven Hills
NSW 2147

Project Name: ADDITIONAL: KEMPS CREEK
Project ID: 13546

Order No.:
Report #: 838889
Phone: 1800 288 188
Fax: 02 9675 1888

Received: Nov 3, 2021 4:24 PM
Due: Nov 10, 2021
Priority: 5 Day
Contact Name: Jacob Walker

Eurofins Analytical Services Manager : Andrew Black

Sample Detail	Conductivity (1:5 aqueous extract at 25°C as rec.)	pH (1:5 Aqueous extract at 25°C as rec.)	Suite B13: OCP/PCB	Aggressivity Soil Set	Moisture Set	Eurofins Suite B7
Melbourne Laboratory - NATA # 1261 Site # 1254						
Sydney Laboratory - NATA # 1261 Site # 18217	X	X	X	X	X	X
Brisbane Laboratory - NATA # 1261 Site # 20794						
Mayfield Laboratory - NATA # 1261 Site # 25079						
Perth Laboratory - NATA # 2377 Site # 2370						
External Laboratory						
Test Counts	14	14	4	3	20	4

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.

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
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
WA DWER	Sum of PFBA, PFPeA, PFHxA, PFHpA, PFOA, PFBS, PFHxS, PFOS, 6:2 FTSA, 8:2 FTSA

QC - Acceptance Criteria

The acceptance criteria should be used as a guide only and may be different when site specific Sampling Analysis and Quality Plan (SAQP) have been implemented

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%

NOTE: pH duplicates are reported as a range not as RPD

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 where no positive PFAS results have been reported have been reviewed and no data was affected.

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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. 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.
4. Recovery Data (Spikes & Surrogates) - where chromatographic interference does not allow the determination of recovery the term "INT" appears against that analyte.
5. For Matrix Spikes and LCS results a dash "-" in the report means that the specific analyte was not added to the QC sample.
6. 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							
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	
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							
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							
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-HCH	mg/kg	< 0.05			0.05	Pass	
Aldrin	mg/kg	< 0.05			0.05	Pass	
b-HCH	mg/kg	< 0.05			0.05	Pass	
d-HCH	mg/kg	< 0.05			0.05	Pass	
Dieldrin	mg/kg	< 0.05			0.05	Pass	
Endosulfan I	mg/kg	< 0.05			0.05	Pass	
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	

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Endrin aldehyde	mg/kg	< 0.05			0.05	Pass	
Endrin ketone	mg/kg	< 0.05			0.05	Pass	
g-HCH (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	< 0.05			0.05	Pass	
Toxaphene	mg/kg	< 0.5			0.5	Pass	
Method Blank							
Polychlorinated Biphenyls							
Aroclor-1016	mg/kg	< 0.1			0.1	Pass	
Aroclor-1221	mg/kg	< 0.1			0.1	Pass	
Aroclor-1232	mg/kg	< 0.1			0.1	Pass	
Aroclor-1242	mg/kg	< 0.1			0.1	Pass	
Aroclor-1248	mg/kg	< 0.1			0.1	Pass	
Aroclor-1254	mg/kg	< 0.1			0.1	Pass	
Aroclor-1260	mg/kg	< 0.1			0.1	Pass	
Total PCB*	mg/kg	< 0.1			0.1	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	
Method Blank							
Conductivity (1:5 aqueous extract at 25°C as rec.)	uS/cm	< 10			10	Pass	
Chloride	mg/kg	< 10			10	Pass	
Sulphate (as SO4)	mg/kg	< 10			10	Pass	
LCS - % Recovery							
Total Recoverable Hydrocarbons							
TRH C6-C9	%	94			70-130	Pass	
TRH C10-C14	%	81			70-130	Pass	
Naphthalene	%	86			70-130	Pass	
TRH C6-C10	%	91			70-130	Pass	
TRH >C10-C16	%	83			70-130	Pass	
LCS - % Recovery							
BTEX							
Benzene	%	103			70-130	Pass	
Toluene	%	95			70-130	Pass	
Ethylbenzene	%	98			70-130	Pass	
m&p-Xylenes	%	96			70-130	Pass	
o-Xylene	%	98			70-130	Pass	
Xylenes - Total*	%	97			70-130	Pass	
LCS - % Recovery							
Polycyclic Aromatic Hydrocarbons							
Acenaphthene	%	109			70-130	Pass	
Acenaphthylene	%	104			70-130	Pass	
Anthracene	%	98			70-130	Pass	
Benz(a)anthracene	%	79			70-130	Pass	
Benzo(a)pyrene	%	113			70-130	Pass	

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Benzo(b&j)fluoranthene	%	105			70-130	Pass	
Benzo(g.h.i)perylene	%	120			70-130	Pass	
Benzo(k)fluoranthene	%	103			70-130	Pass	
Chrysene	%	103			70-130	Pass	
Dibenz(a.h)anthracene	%	124			70-130	Pass	
Fluoranthene	%	112			70-130	Pass	
Fluorene	%	104			70-130	Pass	
Indeno(1.2.3-cd)pyrene	%	117			70-130	Pass	
Naphthalene	%	107			70-130	Pass	
Phenanthrene	%	114			70-130	Pass	
Pyrene	%	103			70-130	Pass	
LCS - % Recovery							
Organochlorine Pesticides							
Chlordanes - Total	%	102			70-130	Pass	
4.4'-DDD	%	97			70-130	Pass	
4.4'-DDE	%	105			70-130	Pass	
4.4'-DDT	%	120			70-130	Pass	
a-HCH	%	88			70-130	Pass	
Aldrin	%	98			70-130	Pass	
b-HCH	%	95			70-130	Pass	
d-HCH	%	97			70-130	Pass	
Dieldrin	%	103			70-130	Pass	
Endosulfan I	%	100			70-130	Pass	
Endosulfan II	%	106			70-130	Pass	
Endosulfan sulphate	%	104			70-130	Pass	
Endrin	%	123			70-130	Pass	
Endrin aldehyde	%	92			70-130	Pass	
Endrin ketone	%	90			70-130	Pass	
g-HCH (Lindane)	%	99			70-130	Pass	
Heptachlor	%	113			70-130	Pass	
Heptachlor epoxide	%	103			70-130	Pass	
Hexachlorobenzene	%	98			70-130	Pass	
Methoxychlor	%	100			70-130	Pass	
LCS - % Recovery							
Polychlorinated Biphenyls							
Aroclor-1016	%	89			70-130	Pass	
Aroclor-1260	%	117			70-130	Pass	
LCS - % Recovery							
Heavy Metals							
Arsenic	%	95			80-120	Pass	
Cadmium	%	99			80-120	Pass	
Chromium	%	107			80-120	Pass	
Copper	%	110			80-120	Pass	
Lead	%	106			80-120	Pass	
Mercury	%	103			80-120	Pass	
Nickel	%	109			80-120	Pass	
Zinc	%	104			80-120	Pass	
LCS - % Recovery							
Conductivity (1:5 aqueous extract at 25°C as rec.)	%	86			70-130	Pass	
Chloride	%	94			70-130	Pass	
Resistivity*	%	86			70-130	Pass	
Sulphate (as SO4)	%	89			70-130	Pass	

Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Spike - % Recovery									
Total Recoverable Hydrocarbons				Result 1					
TRH C10-C14	W21-No16200	NCP	%	90			70-130	Pass	
TRH >C10-C16	W21-No16200	NCP	%	91			70-130	Pass	
Spike - % Recovery									
Polycyclic Aromatic Hydrocarbons				Result 1					
Acenaphthene	S21-No10451	NCP	%	104			70-130	Pass	
Acenaphthylene	S21-No10451	NCP	%	96			70-130	Pass	
Anthracene	S21-No10451	NCP	%	93			70-130	Pass	
Benz(a)anthracene	S21-No10451	NCP	%	75			70-130	Pass	
Benzo(a)pyrene	S21-No10451	NCP	%	77			70-130	Pass	
Benzo(b&j)fluoranthene	S21-No10451	NCP	%	89			70-130	Pass	
Benzo(g.h.i)perylene	S21-No10451	NCP	%	87			70-130	Pass	
Benzo(k)fluoranthene	S21-No10451	NCP	%	78			70-130	Pass	
Chrysene	S21-No10451	NCP	%	79			70-130	Pass	
Dibenz(a.h)anthracene	S21-No10451	NCP	%	100			70-130	Pass	
Fluoranthene	S21-No05933	NCP	%	98			70-130	Pass	
Fluorene	S21-No10451	NCP	%	99			70-130	Pass	
Indeno(1.2.3-cd)pyrene	S21-No10451	NCP	%	99			70-130	Pass	
Naphthalene	S21-No10451	NCP	%	108			70-130	Pass	
Phenanthrene	S21-No10451	NCP	%	91			70-130	Pass	
Pyrene	S21-No05933	NCP	%	90			70-130	Pass	
Spike - % Recovery									
Organochlorine Pesticides				Result 1					
Chlordanes - Total	S21-No10451	NCP	%	106			70-130	Pass	
4.4'-DDD	S21-No10451	NCP	%	93			70-130	Pass	
4.4'-DDE	S21-No10451	NCP	%	107			70-130	Pass	
4.4'-DDT	S21-No10451	NCP	%	96			70-130	Pass	
a-HCH	S21-No10451	NCP	%	91			70-130	Pass	
Aldrin	S21-No10451	NCP	%	100			70-130	Pass	
b-HCH	S21-No10451	NCP	%	89			70-130	Pass	
d-HCH	S21-No10451	NCP	%	98			70-130	Pass	
Dieldrin	S21-No10451	NCP	%	100			70-130	Pass	
Endosulfan I	S21-No10451	NCP	%	108			70-130	Pass	
Endosulfan II	S21-No10451	NCP	%	83			70-130	Pass	
Endosulfan sulphate	S21-No10451	NCP	%	97			70-130	Pass	
Endrin aldehyde	S21-No10451	NCP	%	93			70-130	Pass	
Endrin ketone	S21-No10451	NCP	%	99			70-130	Pass	
g-HCH (Lindane)	S21-No10451	NCP	%	98			70-130	Pass	
Heptachlor	S21-No10451	NCP	%	103			70-130	Pass	
Heptachlor epoxide	S21-No10451	NCP	%	108			70-130	Pass	
Hexachlorobenzene	S21-No10451	NCP	%	104			70-130	Pass	
Spike - % Recovery									
Polychlorinated Biphenyls				Result 1					
Aroclor-1016	S21-No10451	NCP	%	96			70-130	Pass	
Aroclor-1260	S21-No10451	NCP	%	116			70-130	Pass	
Spike - % Recovery									
Heavy Metals				Result 1					
Arsenic	S21-No34060	NCP	%	87			75-125	Pass	
Cadmium	S21-No34060	NCP	%	90			75-125	Pass	
Chromium	S21-No34060	NCP	%	103			75-125	Pass	
Copper	S21-No34060	NCP	%	108			75-125	Pass	
Lead	S21-No34060	NCP	%	99			75-125	Pass	
Mercury	S21-No34060	NCP	%	98			75-125	Pass	

Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Nickel	S21-No34060	NCP	%	109			75-125	Pass	
Zinc	S21-No34060	NCP	%	109			75-125	Pass	
Spike - % Recovery									
Total Recoverable Hydrocarbons				Result 1					
TRH C6-C9	S21-No17424	CP	%	85			70-130	Pass	
Naphthalene	S21-No17424	CP	%	72			70-130	Pass	
TRH C6-C10	S21-No17424	CP	%	86			70-130	Pass	
Spike - % Recovery									
BTEX				Result 1					
Benzene	S21-No17424	CP	%	82			70-130	Pass	
Toluene	S21-No17424	CP	%	77			70-130	Pass	
Ethylbenzene	S21-No17424	CP	%	81			70-130	Pass	
m&p-Xylenes	S21-No17424	CP	%	80			70-130	Pass	
o-Xylene	S21-No17424	CP	%	83			70-130	Pass	
Xylenes - Total*	S21-No17424	CP	%	81			70-130	Pass	
Spike - % Recovery									
				Result 1					
Chloride	S21-No38319	NCP	%	97			70-130	Pass	
Sulphate (as SO4)	S21-No38319	NCP	%	97			70-130	Pass	
Test	**Lab Sample ID**	**QA Source**	**Units**	**Result 1**			**Acceptance Limits**	**Pass Limits**	**Qualifying Code**
Duplicate									
Total Recoverable Hydrocarbons				Result 1	Result 2	RPD			
TRH C10-C14	S21-No23954	NCP	mg/kg	< 20	< 20	<1	30%	Pass	
TRH C15-C28	S21-No23954	NCP	mg/kg	< 50	< 50	<1	30%	Pass	
TRH C29-C36	S21-No23954	NCP	mg/kg	< 50	< 50	<1	30%	Pass	
TRH >C10-C16	S21-No23954	NCP	mg/kg	< 50	< 50	<1	30%	Pass	
TRH >C16-C34	S21-No23954	NCP	mg/kg	< 100	< 100	<1	30%	Pass	
TRH >C34-C40	S21-No23954	NCP	mg/kg	< 100	< 100	<1	30%	Pass	
Duplicate									
Polycyclic Aromatic Hydrocarbons				Result 1	Result 2	RPD			
Acenaphthene	S21-No28963	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Acenaphthylene	S21-No28963	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Anthracene	S21-No28963	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benz(a)anthracene	S21-No28963	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benzo(a)pyrene	S21-No28963	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benzo(b&j)fluoranthene	S21-No28963	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benzo(g.h.i)perylene	S21-No28963	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benzo(k)fluoranthene	S21-No28963	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Chrysene	S21-No28963	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Dibenz(a.h)anthracene	S21-No28963	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Fluoranthene	S21-No28963	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Fluorene	S21-No28963	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Indeno(1.2.3-cd)pyrene	S21-No28963	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Naphthalene	S21-No28963	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Phenanthrene	S21-No28963	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Pyrene	S21-No28963	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Duplicate									
Organochlorine Pesticides				Result 1	Result 2	RPD			
Chlordanes - Total	S21-No28963	NCP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
4.4'-DDD	S21-No28963	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
4.4'-DDE	S21-No28963	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
4.4'-DDT	S21-No28963	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
a-HCH	S21-No28963	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Aldrin	S21-No28963	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	

Duplicate									
Organochlorine Pesticides				Result 1	Result 2	RPD			
b-HCH	S21-No28963	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
d-HCH	S21-No28963	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Dieldrin	S21-No28963	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Endosulfan I	S21-No28963	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Endosulfan II	S21-No28963	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Endosulfan sulphate	S21-No28963	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Endrin	S21-No28963	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Endrin aldehyde	S21-No28963	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Endrin ketone	S21-No28963	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
g-HCH (Lindane)	S21-No28963	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Heptachlor	S21-No28963	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Heptachlor epoxide	S21-No28963	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Hexachlorobenzene	S21-No28963	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Methoxychlor	S21-No28963	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Toxaphene	S21-No28963	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Duplicate									
Polychlorinated Biphenyls				Result 1	Result 2	RPD			
Aroclor-1016	S21-No28963	NCP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Aroclor-1221	S21-No28963	NCP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Aroclor-1232	S21-No28963	NCP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Aroclor-1242	S21-No28963	NCP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Aroclor-1248	S21-No28963	NCP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Aroclor-1254	S21-No28963	NCP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Aroclor-1260	S21-No28963	NCP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Total PCB*	S21-No28963	NCP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Duplicate									
Heavy Metals				Result 1	Result 2	RPD			
Arsenic	S21-No34059	NCP	mg/kg	< 2	2.0	16	30%	Pass	
Cadmium	S21-No34059	NCP	mg/kg	< 0.4	< 0.4	<1	30%	Pass	
Chromium	S21-No34059	NCP	mg/kg	14	9.6	37	30%	Fail	Q15
Copper	S21-No34059	NCP	mg/kg	41	19	74	30%	Fail	Q15
Lead	S21-No34059	NCP	mg/kg	10	6.5	47	30%	Fail	Q15
Mercury	S21-No34059	NCP	mg/kg	0.2	0.5	82	30%	Fail	Q15
Nickel	S21-No34059	NCP	mg/kg	41	22	60	30%	Fail	Q15
Zinc	S21-No36074	NCP	mg/kg	43	42	1.0	30%	Pass	
Duplicate									
Total Recoverable Hydrocarbons				Result 1	Result 2	RPD			
TRH C6-C9	S21-No17423	CP	mg/kg	< 20	< 20	<1	30%	Pass	
Naphthalene	S21-No17423	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
TRH C6-C10	S21-No17423	CP	mg/kg	< 20	< 20	<1	30%	Pass	
Duplicate									
BTEX				Result 1	Result 2	RPD			
Benzene	S21-No17423	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Toluene	S21-No17423	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Ethylbenzene	S21-No17423	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
m&p-Xylenes	S21-No17423	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
o-Xylene	S21-No17423	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Xylenes - Total*	S21-No17423	CP	mg/kg	< 0.3	< 0.3	<1	30%	Pass	
Duplicate									
				Result 1	Result 2	RPD			
Conductivity (1:5 aqueous extract at 25°C as rec.)	S21-No17426	CP	uS/cm	220	220	<1	30%	Pass	
pH (1:5 Aqueous extract at 25°C as rec.)	S21-No17426	CP	pH Units	5.6	5.6	<1	30%	Pass	
Resistivity*	S21-No17426	CP	ohm.m	45	46	<1	30%	Pass	

Duplicate									
				Result 1	Result 2	RPD			
% Moisture	S21-No17428	CP	%	11	10.0	6.0	30%	Pass	
Chloride	N21-No11769	NCP	mg/kg	59	59	2.0	30%	Pass	
Sulphate (as SO4)	N21-No11769	NCP	mg/kg	14	13	9.0	30%	Pass	
Duplicate									
				Result 1	Result 2	RPD			
Conductivity (1:5 aqueous extract at 25°C as rec.)	S21-No17431	CP	uS/cm	17	17	4.7	30%	Pass	
pH (1:5 Aqueous extract at 25°C as rec.)	S21-No17431	CP	pH Units	6.6	6.6	<1	30%	Pass	
Resistivity*	S21-No17431	CP	ohm.m	580	610	4.7	30%	Pass	
Duplicate									
				Result 1	Result 2	RPD			
Conductivity (1:5 aqueous extract at 25°C as rec.)	S21-No17436	CP	uS/cm	24	25	2.9	30%	Pass	
pH (1:5 Aqueous extract at 25°C as rec.)	S21-No17436	CP	pH Units	6.3	6.4	<1	30%	Pass	
Resistivity*	S21-No17436	CP	ohm.m	420	400	2.9	30%	Pass	
Duplicate									
				Result 1	Result 2	RPD			
% Moisture	S21-No17438	CP	%	18	18	3.0	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
Q09	The Surrogate recovery is outside of the recommended acceptance criteria due to matrix interference. Acceptance criteria were met for all other QC
Q15	The RPD reported passes Eurofins Environment Testing's QC - Acceptance Criteria as defined in the Internal Quality Control Review and Glossary page of this report.

Authorised by:

Andrew Black	Analytical Services Manager
Andrew Sullivan	Senior Analyst-Organic (NSW)
Charl Du Preez	Senior Analyst-Inorganic (NSW)
John Nguyen	Senior Analyst-Metal (NSW)
Roopesh Rangarajan	Senior Analyst-Volatile (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.

Alliance Geotechnical
10 Welder Road
Seven Hills
NSW 2147

NATA Accredited
Accreditation Number 1261
Site Number 18217

Accredited for compliance with ISO/IEC 17025 – Testing
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Attention: **Jacob Walker**

Report **833263-W-V2**
Project name KEMPS CREEK
Project ID 13546
Received Date Oct 18, 2021

Client Sample ID			**SW01**	**SW02**	**SW03**	**SW04**
Sample Matrix			**Water**	**Water**	**Water**	**Water**
Eurofins Sample No.			**S21-Oc38469**	**S21-Oc38470**	**S21-Oc38471**	**S21-Oc38472**
Date Sampled			**Oct 07, 2021**	**Oct 07, 2021**	**Oct 07, 2021**	**Oct 07, 2021**
Test/Reference	LOR	Unit				
Total Recoverable Hydrocarbons						
TRH C6-C9	0.02	mg/L	< 0.02	0.03	< 0.02	< 0.02
TRH C10-C14	0.05	mg/L	0.12	0.07	< 0.05	< 0.05
TRH C15-C28	0.1	mg/L	1.1	0.5	0.4	0.2
TRH C29-C36	0.1	mg/L	0.2	0.1	0.2	< 0.1
TRH C10-C36 (Total)	0.1	mg/L	1.42	0.67	0.6	0.2
Naphthalene[N02]	0.01	mg/L	< 0.01	< 0.01	< 0.01	< 0.01
TRH C6-C10	0.02	mg/L	< 0.02	0.03	< 0.02	< 0.02
TRH C6-C10 less BTEX (F1)[N04]	0.02	mg/L	< 0.02	0.03	< 0.02	< 0.02
TRH >C10-C16	0.05	mg/L	0.91	0.27	0.05	< 0.05
TRH >C10-C16 less Naphthalene (F2)[N01]	0.05	mg/L	0.91	0.27	0.05	< 0.05
TRH >C16-C34	0.1	mg/L	0.6	0.5	0.5	0.4
TRH >C34-C40	0.1	mg/L	0.1	0.1	0.1	0.2
TRH >C10-C40 (total)*	0.1	mg/L	1.61	0.87	0.65	0.6
BTEX						
Benzene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Toluene	0.001	mg/L	0.002	0.002	< 0.001	< 0.001
Ethylbenzene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
m&p-Xylenes	0.002	mg/L	< 0.002	< 0.002	< 0.002	< 0.002
o-Xylene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Xylenes - Total*	0.003	mg/L	< 0.003	< 0.003	< 0.003	< 0.003
4-Bromofluorobenzene (surr.)	1	%	117	123	111	111
Polycyclic Aromatic Hydrocarbons						
Acenaphthene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Acenaphthylene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Anthracene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Benz(a)anthracene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Benzo(a)pyrene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Benzo(b&j)fluoranthene[N07]	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Benzo(g.h.i)perylene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Benzo(k)fluoranthene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Chrysene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Dibenz(a.h)anthracene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Fluoranthene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Fluorene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Indeno(1.2.3-cd)pyrene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001

Client Sample ID			SW01	SW02	SW03	SW04
Sample Matrix			Water	Water	Water	Water
Eurofins Sample No.			S21-Oc38469	S21-Oc38470	S21-Oc38471	S21-Oc38472
Date Sampled			Oct 07, 2021	Oct 07, 2021	Oct 07, 2021	Oct 07, 2021
Test/Reference	LOR	Unit				
Polycyclic Aromatic Hydrocarbons						
Naphthalene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Phenanthrene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Pyrene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Total PAH*	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
2-Fluorobiphenyl (surr.)	1	%	[Q09]INT	[Q09]INT	[Q09]INT	50
p-Terphenyl-d14 (surr.)	1	%	[Q09]INT	135	142	125
Organochlorine Pesticides						
Chlordanes - Total	0.002	mg/L	< 0.002	< 0.002	< 0.002	< 0.002
4.4'-DDD	0.0002	mg/L	< 0.0002	< 0.0002	< 0.0002	< 0.0002
4.4'-DDE	0.0002	mg/L	< 0.0002	< 0.0002	< 0.0002	< 0.0002
4.4'-DDT	0.0002	mg/L	< 0.0002	< 0.0002	< 0.0002	< 0.0002
a-HCH	0.0002	mg/L	< 0.0002	< 0.0002	< 0.0002	< 0.0002
Aldrin	0.0002	mg/L	< 0.0002	< 0.0002	< 0.0002	< 0.0002
b-HCH	0.0002	mg/L	< 0.0002	< 0.0002	< 0.0002	< 0.0002
d-HCH	0.0002	mg/L	< 0.0002	< 0.0002	< 0.0002	< 0.0002
Dieldrin	0.0002	mg/L	< 0.0002	< 0.0002	< 0.0002	< 0.0002
Endosulfan I	0.0002	mg/L	< 0.0002	< 0.0002	< 0.0002	< 0.0002
Endosulfan II	0.0002	mg/L	< 0.0002	< 0.0002	< 0.0002	< 0.0002
Endosulfan sulphate	0.0002	mg/L	< 0.0002	< 0.0002	< 0.0002	< 0.0002
Endrin	0.0002	mg/L	< 0.0002	< 0.0002	< 0.0002	< 0.0002
Endrin aldehyde	0.0002	mg/L	< 0.0002	< 0.0002	< 0.0002	< 0.0002
Endrin ketone	0.0002	mg/L	< 0.0002	< 0.0002	< 0.0002	< 0.0002
g-HCH (Lindane)	0.0002	mg/L	< 0.0002	< 0.0002	< 0.0002	< 0.0002
Heptachlor	0.0002	mg/L	< 0.0002	< 0.0002	< 0.0002	< 0.0002
Heptachlor epoxide	0.0002	mg/L	< 0.0002	< 0.0002	< 0.0002	< 0.0002
Hexachlorobenzene	0.0002	mg/L	< 0.0002	< 0.0002	< 0.0002	< 0.0002
Methoxychlor	0.0002	mg/L	< 0.0002	< 0.0002	< 0.0002	< 0.0002
Toxaphene	0.005	mg/L	< 0.005	< 0.005	< 0.005	< 0.005
Aldrin and Dieldrin (Total)*	0.0002	mg/L	< 0.0002	< 0.0002	< 0.0002	< 0.0002
DDT + DDE + DDD (Total)*	0.0002	mg/L	< 0.0002	< 0.0002	< 0.0002	< 0.0002
Vic EPA IWRG 621 OCP (Total)*	0.002	mg/L	< 0.002	< 0.002	< 0.002	< 0.002
Vic EPA IWRG 621 Other OCP (Total)*	0.002	mg/L	< 0.002	< 0.002	< 0.002	< 0.002
Dibutylchlorendate (surr.)	1	%	[Q09]INT	[Q09]INT	[Q09]INT	[Q09]INT
Tetrachloro-m-xylene (surr.)	1	%	104	92	87	76
Polychlorinated Biphenyls						
Aroclor-1016	0.005	mg/L	< 0.005	< 0.005	< 0.005	< 0.005
Aroclor-1221	0.005	mg/L	< 0.005	< 0.005	< 0.005	< 0.005
Aroclor-1232	0.005	mg/L	< 0.005	< 0.005	< 0.005	< 0.005
Aroclor-1242	0.005	mg/L	< 0.005	< 0.005	< 0.005	< 0.005
Aroclor-1248	0.005	mg/L	< 0.005	< 0.005	< 0.005	< 0.005
Aroclor-1254	0.005	mg/L	< 0.005	< 0.005	< 0.005	< 0.005
Aroclor-1260	0.005	mg/L	< 0.005	< 0.005	< 0.005	< 0.005
Total PCB*	0.005	mg/L	< 0.005	< 0.005	< 0.005	< 0.005
Dibutylchlorendate (surr.)	1	%	[Q09]INT	[Q09]INT	[Q09]INT	[Q09]INT
Tetrachloro-m-xylene (surr.)	1	%	104	92	87	76

Client Sample ID			SW01	SW02	SW03	SW04
Sample Matrix			Water	Water	Water	Water
Eurofins Sample No.			S21-Oc38469	S21-Oc38470	S21-Oc38471	S21-Oc38472
Date Sampled			Oct 07, 2021	Oct 07, 2021	Oct 07, 2021	Oct 07, 2021
Test/Reference	LOR	Unit				
Heavy Metals						
Arsenic	0.001	mg/L	0.004	0.022	0.006	0.013
Cadmium	0.0002	mg/L	< 0.0002	0.0005	< 0.0002	< 0.0002
Chromium	0.001	mg/L	0.014	0.10	0.017	0.053
Copper	0.001	mg/L	0.041	0.18	0.036	0.087
Lead	0.001	mg/L	0.035	0.14	0.030	0.075
Mercury	0.0001	mg/L	< 0.0001	0.0004	< 0.0001	0.0002
Nickel	0.001	mg/L	0.012	0.064	0.015	0.042
Zinc	0.005	mg/L	0.091	0.52	0.068	0.18

Client Sample ID			SW05	SW06	SW07	SW08
Sample Matrix			Water	Water	Water	Water
Eurofins Sample No.			S21-Oc38473	S21-Oc38474	S21-Oc38508	S21-Oc38509
Date Sampled			Oct 07, 2021	Oct 07, 2021	Oct 13, 2021	Oct 13, 2021
Test/Reference	LOR	Unit				
Total Recoverable Hydrocarbons						
TRH C6-C9	0.02	mg/L	< 0.02	< 0.02	< 0.02	< 0.02
TRH C10-C14	0.05	mg/L	< 0.05	< 0.05	< 0.05	< 0.05
TRH C15-C28	0.1	mg/L	< 0.1	< 0.1	< 0.1	< 0.1
TRH C29-C36	0.1	mg/L	< 0.1	< 0.1	< 0.1	< 0.1
TRH C10-C36 (Total)	0.1	mg/L	< 0.1	< 0.1	< 0.1	< 0.1
Naphthalene[N02]	0.01	mg/L	< 0.01	< 0.01	< 0.01	< 0.01
TRH C6-C10	0.02	mg/L	< 0.02	< 0.02	< 0.02	< 0.02
TRH C6-C10 less BTEX (F1)[N04]	0.02	mg/L	< 0.02	< 0.02	< 0.02	< 0.02
TRH >C10-C16	0.05	mg/L	< 0.05	< 0.05	< 0.05	< 0.05
TRH >C10-C16 less Naphthalene (F2)[N01]	0.05	mg/L	< 0.05	< 0.05	< 0.05	< 0.05
TRH >C16-C34	0.1	mg/L	0.1	0.1	0.2	< 0.1
TRH >C34-C40	0.1	mg/L	< 0.1	< 0.1	< 0.1	< 0.1
TRH >C10-C40 (total)*	0.1	mg/L	0.1	0.1	0.2	< 0.1
BTEX						
Benzene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Toluene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Ethylbenzene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
m&p-Xylenes	0.002	mg/L	< 0.002	< 0.002	< 0.002	< 0.002
o-Xylene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Xylenes - Total*	0.003	mg/L	< 0.003	< 0.003	< 0.003	< 0.003
4-Bromofluorobenzene (surr.)	1	%	111	114	116	116
Polycyclic Aromatic Hydrocarbons						
Acenaphthene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Acenaphthylene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Anthracene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Benz(a)anthracene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Benzo(a)pyrene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Benzo(b&j)fluoranthene[N07]	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Benzo(g.h.i)perylene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Benzo(k)fluoranthene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Chrysene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Dibenz(a.h)anthracene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Fluoranthene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001

Client Sample ID			SW05	SW06	SW07	SW08
Sample Matrix			Water	Water	Water	Water
Eurofins Sample No.			S21-Oc38473	S21-Oc38474	S21-Oc38508	S21-Oc38509
Date Sampled			Oct 07, 2021	Oct 07, 2021	Oct 13, 2021	Oct 13, 2021
Test/Reference	LOR	Unit				
Polycyclic Aromatic Hydrocarbons						
Fluorene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Indeno(1.2.3-cd)pyrene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Naphthalene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Phenanthrene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Pyrene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Total PAH*	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
2-Fluorobiphenyl (surr.)	1	%	56	[Q09]INT	83	60
p-Terphenyl-d14 (surr.)	1	%	[Q09]INT	135	142	[Q09]INT
Organochlorine Pesticides						
Chlordanes - Total	0.002	mg/L	< 0.002	< 0.002	< 0.002	< 0.002
4.4'-DDD	0.0002	mg/L	< 0.0002	< 0.0002	< 0.0002	< 0.0002
4.4'-DDE	0.0002	mg/L	< 0.0002	< 0.0002	< 0.0002	< 0.0002
4.4'-DDT	0.0002	mg/L	< 0.0002	< 0.0002	< 0.0002	< 0.0002
a-HCH	0.0002	mg/L	< 0.0002	< 0.0002	< 0.0002	< 0.0002
Aldrin	0.0002	mg/L	< 0.0002	< 0.0002	< 0.0002	< 0.0002
b-HCH	0.0002	mg/L	< 0.0002	< 0.0002	< 0.0002	< 0.0002
d-HCH	0.0002	mg/L	< 0.0002	< 0.0002	< 0.0002	< 0.0002
Dieldrin	0.0002	mg/L	< 0.0002	< 0.0002	< 0.0002	< 0.0002
Endosulfan I	0.0002	mg/L	< 0.0002	< 0.0002	< 0.0002	< 0.0002
Endosulfan II	0.0002	mg/L	< 0.0002	< 0.0002	< 0.0002	< 0.0002
Endosulfan sulphate	0.0002	mg/L	< 0.0002	< 0.0002	< 0.0002	< 0.0002
Endrin	0.0002	mg/L	< 0.0002	< 0.0002	< 0.0002	< 0.0002
Endrin aldehyde	0.0002	mg/L	< 0.0002	< 0.0002	< 0.0002	< 0.0002
Endrin ketone	0.0002	mg/L	< 0.0002	< 0.0002	< 0.0002	< 0.0002
g-HCH (Lindane)	0.0002	mg/L	< 0.0002	< 0.0002	< 0.0002	< 0.0002
Heptachlor	0.0002	mg/L	< 0.0002	< 0.0002	< 0.0002	< 0.0002
Heptachlor epoxide	0.0002	mg/L	< 0.0002	< 0.0002	< 0.0002	< 0.0002
Hexachlorobenzene	0.0002	mg/L	< 0.0002	< 0.0002	< 0.0002	< 0.0002
Methoxychlor	0.0002	mg/L	< 0.0002	< 0.0002	< 0.0002	< 0.0002
Toxaphene	0.005	mg/L	< 0.005	< 0.005	< 0.005	< 0.005
Aldrin and Dieldrin (Total)*	0.0002	mg/L	< 0.0002	< 0.0002	< 0.0002	< 0.0002
DDT + DDE + DDD (Total)*	0.0002	mg/L	< 0.0002	< 0.0002	< 0.0002	< 0.0002
Vic EPA IWRG 621 OCP (Total)*	0.002	mg/L	< 0.002	< 0.002	< 0.002	< 0.002
Vic EPA IWRG 621 Other OCP (Total)*	0.002	mg/L	< 0.002	< 0.002	< 0.002	< 0.002
Dibutylchlorendate (surr.)	1	%	[Q09]INT	149	[Q09]INT	[Q09]INT
Tetrachloro-m-xylene (surr.)	1	%	107	82	103	108
Polychlorinated Biphenyls						
Aroclor-1016	0.005	mg/L	< 0.005	< 0.005	< 0.005	< 0.005
Aroclor-1221	0.005	mg/L	< 0.005	< 0.005	< 0.005	< 0.005
Aroclor-1232	0.005	mg/L	< 0.005	< 0.005	< 0.005	< 0.005
Aroclor-1242	0.005	mg/L	< 0.005	< 0.005	< 0.005	< 0.005
Aroclor-1248	0.005	mg/L	< 0.005	< 0.005	< 0.005	< 0.005
Aroclor-1254	0.005	mg/L	< 0.005	< 0.005	< 0.005	< 0.005
Aroclor-1260	0.005	mg/L	< 0.005	< 0.005	< 0.005	< 0.005
Total PCB*	0.005	mg/L	< 0.005	< 0.005	< 0.005	< 0.005
Dibutylchlorendate (surr.)	1	%	[Q09]INT	149	[Q09]INT	[Q09]INT
Tetrachloro-m-xylene (surr.)	1	%	107	82	103	108

Client Sample ID			SW05	SW06	SW07	SW08
Sample Matrix			Water	Water	Water	Water
Eurofins Sample No.			S21-Oc38473	S21-Oc38474	S21-Oc38508	S21-Oc38509
Date Sampled			Oct 07, 2021	Oct 07, 2021	Oct 13, 2021	Oct 13, 2021
Test/Reference	LOR	Unit				
Heavy Metals						
Arsenic	0.001	mg/L	0.002	0.006	0.009	0.012
Cadmium	0.0002	mg/L	< 0.0002	0.0003	< 0.0002	< 0.0002
Chromium	0.001	mg/L	0.002	0.034	0.018	0.023
Copper	0.001	mg/L	0.007	0.061	0.036	0.057
Lead	0.001	mg/L	0.005	0.090	0.035	0.060
Mercury	0.0001	mg/L	< 0.0001	0.0001	< 0.0001	< 0.0001
Nickel	0.001	mg/L	0.004	0.032	0.021	0.028
Zinc	0.005	mg/L	0.019	0.15	0.069	0.12

Sample History

Where samples are submitted/analysed over several days, the last date of extraction is reported.

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	Oct 19, 2021	7 Days
- Method: LTM-ORG-2010 TRH C6-C40			
Total Recoverable Hydrocarbons - 2013 NEPM Fractions	Sydney	Oct 19, 2021	7 Days
- Method: LTM-ORG-2010 TRH C6-C40			
Total Recoverable Hydrocarbons - 2013 NEPM Fractions	Sydney	Oct 19, 2021	7 Days
- Method: LTM-ORG-2010 TRH C6-C40			
BTEX	Sydney	Oct 19, 2021	14 Days
- Method: LTM-ORG-2010 TRH C6-C40			
Polycyclic Aromatic Hydrocarbons	Sydney	Oct 19, 2021	7 Days
- Method: LTM-ORG-2130 PAH and Phenols in Soil and Water			
Metals M8	Sydney	Oct 25, 2021	28 Days
- Method: LTM-MET-3040 Metals in Waters, Soils & Sediments by ICP-MS			
Organochlorine Pesticides	Sydney	Oct 19, 2021	7 Days
- Method: LTM-ORG-2220 OCP & PCB in Soil and Water			
Polychlorinated Biphenyls	Sydney	Oct 19, 2021	7 Days
- Method: LTM-ORG-2220 OCP & PCB in Soil and Water			

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Company Name: Alliance Geotechnical
Address: 10 Welder Road
Seven Hills
NSW 2147

Project Name: KEMPS CREEK
Project ID: 13546

Order No.:
Report #: 833263
Phone: 1800 288 188
Fax: 02 9675 1888

Received: Oct 18, 2021 3:41 PM
Due: Oct 25, 2021
Priority: 5 Day
Contact Name: Jacob Walker

Eurofins Analytical Services Manager : Andrew Black

Sample Detail						Arsenic	Cadmium	CANCELLED	Conductivity (1:5 aqueous extract at 25°C as rec.)	Copper	HOLD	pH (1:5 Aqueous extract at 25°C as rec.)	BTEX	Suite B13: OCP/PCB	Aggressivity Soil Set	Eurofins Suite B20	Moisture Set	Eurofins Suite B7	Eurofins Suite B19D: Total N, TKN, NOx, NO2, NO3, Total P	BTEX
Melbourne Laboratory - NATA # 1261 Site # 1254															X	X	X		X	
Sydney Laboratory - NATA # 1261 Site # 18217						X	X	X	X	X	X	X	X	X	X		X	X	X	X
Brisbane Laboratory - NATA # 1261 Site # 20794																				
Mayfield Laboratory - NATA # 1261 Site # 25079																				
Perth Laboratory - NATA # 2377 Site # 2370																				
External Laboratory																				
No	**Sample ID**	**Sample Date**	**Sampling Time**	**Matrix**	**LAB ID**															
1	TP01 0.0-0.2	Oct 06, 2021		Soil	S21-Oc38427									X			X	X		
2	TP02 0.0-0.2	Oct 06, 2021		Soil	S21-Oc38428												X	X		
3	TP03 0.0-0.2	Oct 06, 2021		Soil	S21-Oc38429												X	X		
4	TP04 0.0-0.1	Oct 06, 2021		Soil	S21-Oc38430									X			X	X	X	
5	TP05 0.0-0.1	Oct 06, 2021		Soil	S21-Oc38431									X			X	X	X	
6	TP06 0.0-0.2	Oct 06, 2021		Soil	S21-Oc38432									X			X	X	X	
7	TP07 0.0-0.2	Oct 06, 2021		Soil	S21-Oc38433												X	X		
8	TP08 0.0-0.2	Oct 06, 2021		Soil	S21-Oc38434												X	X		
9	TP09 0.0-0.2	Oct 06, 2021		Soil	S21-Oc38435									X			X	X		

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Company Name: Alliance Geotechnical
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Project Name: KEMPS CREEK
Project ID: 13546

Order No.:
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Phone: 1800 288 188
Fax: 02 9675 1888

Received: Oct 18, 2021 3:41 PM
Due: Oct 25, 2021
Priority: 5 Day
Contact Name: Jacob Walker

Eurofins Analytical Services Manager : Andrew Black

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Melbourne Laboratory - NATA # 1261 Site # 1254															X	X	X		X	
Sydney Laboratory - NATA # 1261 Site # 18217						X	X	X	X	X	X	X	X	X	X		X	X	X	X
Brisbane Laboratory - NATA # 1261 Site # 20794																				
Mayfield Laboratory - NATA # 1261 Site # 25079																				
Perth Laboratory - NATA # 2377 Site # 2370																				
External Laboratory																				
10	TP10 0.0-0.2	Oct 06, 2021		Soil	S21-Oc38436												X	X		
11	TP11 0.0-0.1	Oct 06, 2021		Soil	S21-Oc38437									X			X	X	X	
12	TP12 0.0-0.1	Oct 06, 2021		Soil	S21-Oc38438									X			X	X	X	
13	TP14 0.0-0.2	Oct 06, 2021		Soil	S21-Oc38439												X	X		
14	TP15 0.0-0.2	Oct 06, 2021		Soil	S21-Oc38440									X			X	X		
15	TP16 0.0-0.2	Oct 06, 2021		Soil	S21-Oc38441												X	X		
16	TP17 0.0-0.2	Oct 06, 2021		Soil	S21-Oc38442												X	X		
17	TP18 0.0-0.2	Oct 06, 2021		Soil	S21-Oc38443												X	X		
18	TP19 0.0-0.1	Oct 07, 2021		Soil	S21-Oc38444									X			X	X	X	
19	TP20 0.0-0.1	Oct 07, 2021		Soil	S21-Oc38445									X			X	X	X	
20	TP21 0.0-0.2	Oct 07, 2021		Soil	S21-Oc38446									X			X	X	X	

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Project Name: KEMPS CREEK
Project ID: 13546

Order No.:
Report #: 833263
Phone: 1800 288 188
Fax: 02 9675 1888

Received: Oct 18, 2021 3:41 PM
Due: Oct 25, 2021
Priority: 5 Day
Contact Name: Jacob Walker

Eurofins Analytical Services Manager : Andrew Black

Sample Detail						Arsenic	Cadmium	CANCELLED	Conductivity (1:5 aqueous extract at 25°C as rec.)	Copper	HOLD	pH (1:5 Aqueous extract at 25°C as rec.)	BTEX	Suite B13: OCP/PCB	Aggressivity Soil Set	Eurofins Suite B20	Moisture Set	Eurofins Suite B7	Eurofins Suite B19D: Total N, TKN, NOx, NO2, NO3, Total P	BTEX
Melbourne Laboratory - NATA # 1261 Site # 1254															X	X	X		X	
Sydney Laboratory - NATA # 1261 Site # 18217						X	X	X	X	X	X	X	X	X	X		X	X	X	X
Brisbane Laboratory - NATA # 1261 Site # 20794																				
Mayfield Laboratory - NATA # 1261 Site # 25079																				
Perth Laboratory - NATA # 2377 Site # 2370																				
External Laboratory																				
21	TP22 0.0-0.1	Oct 06, 2021		Soil	S21-Oc38447									X			X	X		
22	TP23 0.0-0.1	Oct 07, 2021		Soil	S21-Oc38448												X	X		
23	TP24 0.0-0.1	Oct 07, 2021		Soil	S21-Oc38449												X	X		
24	TP25 0.0-0.1	Oct 07, 2021		Soil	S21-Oc38450									X			X	X		
25	TP26 1.0-1.2	Oct 07, 2021		Soil	S21-Oc38451												X	X		
26	DR01 0.0-0.2	Oct 06, 2021		Soil	S21-Oc38452												X	X		
27	DR02 0.0-0.2	Oct 06, 2021		Soil	S21-Oc38453												X	X		
28	DR03 0.0-0.2	Oct 06, 2021		Soil	S21-Oc38454												X	X		
29	DR04 0.0-0.1	Oct 07, 2021		Soil	S21-Oc38455												X	X		
30	DR05 0.0-0.1	Oct 07, 2021		Soil	S21-Oc38456												X	X		
31	DR06 0.0-0.1	Oct 07, 2021		Soil	S21-Oc38457												X	X		

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Sample Detail						Arsenic	Cadmium	CANCELLED	Conductivity (1:5 aqueous extract at 25°C as rec.)	Copper	HOLD	pH (1:5 Aqueous extract at 25°C as rec.)	BTEX	Suite B13: OCP/PCB	Aggressivity Soil Set	Eurofins Suite B20	Moisture Set	Eurofins Suite B7	Eurofins Suite B19D: Total N, TKN, NOx, NO2, NO3, Total P	BTEX
Melbourne Laboratory - NATA # 1261 Site # 1254															X	X	X		X	
Sydney Laboratory - NATA # 1261 Site # 18217						X	X	X	X	X	X	X	X	X	X		X	X	X	X
Brisbane Laboratory - NATA # 1261 Site # 20794																				
Mayfield Laboratory - NATA # 1261 Site # 25079																				
Perth Laboratory - NATA # 2377 Site # 2370																				
External Laboratory																				
32	DR07 0.0-0.1	Oct 07, 2021		Soil	S21-Oc38458												X	X		
33	DR08 0.0-0.1	Oct 07, 2021		Soil	S21-Oc38459												X	X		
34	SP1-1	Oct 07, 2021		Soil	S21-Oc38460									X			X	X	X	
35	SP1-2	Oct 07, 2021		Soil	S21-Oc38461									X			X	X	X	
36	SP1-3	Oct 07, 2021		Soil	S21-Oc38462									X			X	X	X	
37	DS01	Oct 07, 2021		Soil	S21-Oc38463									X			X	X	X	
38	DS02	Oct 07, 2021		Soil	S21-Oc38464									X			X	X	X	
39	DS03	Oct 07, 2021		Soil	S21-Oc38465												X	X		
40	DS04	Oct 07, 2021		Soil	S21-Oc38466												X	X		
41	DS05	Oct 07, 2021		Soil	S21-Oc38467												X	X		
42	DS06	Oct 07, 2021		Soil	S21-Oc38468												X	X		

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Melbourne Laboratory - NATA # 1261 Site # 1254															X	X	X		X	
Sydney Laboratory - NATA # 1261 Site # 18217						X	X	X	X	X	X	X	X	X	X		X	X	X	X
Brisbane Laboratory - NATA # 1261 Site # 20794																				
Mayfield Laboratory - NATA # 1261 Site # 25079																				
Perth Laboratory - NATA # 2377 Site # 2370																				
External Laboratory																				
43	SW01	Oct 07, 2021		Water	S21-Oc38469									X				X		
44	SW02	Oct 07, 2021		Water	S21-Oc38470									X				X		
45	SW03	Oct 07, 2021		Water	S21-Oc38471									X				X		
46	SW04	Oct 07, 2021		Water	S21-Oc38472									X				X		
47	SW05	Oct 07, 2021		Water	S21-Oc38473									X				X		
48	SW06	Oct 07, 2021		Water	S21-Oc38474									X				X		
49	BD1	Oct 07, 2021		Soil	S21-Oc38475												X	X		
50	BD2	Oct 07, 2021		Soil	S21-Oc38476									X			X			
51	TRIP BLANK 1	Oct 07, 2021		Soil	S21-Oc38477								X							
52	TRIP BLANK 2	Oct 07, 2021		Soil	S21-Oc38478								X							
53	TRIP BLANK 3	Oct 07, 2021		Soil	S21-Oc38479								X							

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IANZ # 1290

Company Name: Alliance Geotechnical
Address: 10 Welder Road
Seven Hills
NSW 2147

Project Name: KEMPS CREEK
Project ID: 13546

Order No.:
Report #: 833263
Phone: 1800 288 188
Fax: 02 9675 1888

Received: Oct 18, 2021 3:41 PM
Due: Oct 25, 2021
Priority: 5 Day
Contact Name: Jacob Walker

Eurofins Analytical Services Manager : Andrew Black

Sample Detail						Arsenic	Cadmium	CANCELLED	Conductivity (1:5 aqueous extract at 25°C as rec.)	Copper	HOLD	pH (1:5 Aqueous extract at 25°C as rec.)	BTEX	Suite B13: OCP/PCB	Aggressivity Soil Set	Eurofins Suite B20	Moisture Set	Eurofins Suite B7	Eurofins Suite B19D: Total N, TKN, NOx, NO2, NO3, Total P	BTEX
Melbourne Laboratory - NATA # 1261 Site # 1254															X	X	X		X	
Sydney Laboratory - NATA # 1261 Site # 18217						X	X	X	X	X	X	X	X	X	X		X	X	X	X
Brisbane Laboratory - NATA # 1261 Site # 20794																				
Mayfield Laboratory - NATA # 1261 Site # 25079																				
Perth Laboratory - NATA # 2377 Site # 2370																				
External Laboratory																				
54	TRIP BLANK 4	Oct 07, 2021		Soil	S21-Oc38480								X							
55	TRIP BLANK 5	Oct 07, 2021		Soil	S21-Oc38481								X							
56	TRIP SPIKE 1	Oct 07, 2021		Soil	S21-Oc38482															X
57	TRIP SPIKE 2	Oct 07, 2021		Soil	S21-Oc38483															X
58	TRIP SPIKE 3	Oct 07, 2021		Soil	S21-Oc38484															X
59	TRIP SPIKE 4	Oct 07, 2021		Soil	S21-Oc38485															X
60	TRIP SPIKE 5	Oct 07, 2021		Soil	S21-Oc38486															X
61	BD3	Mar 12, 2021		Soil	S21-Oc38492												X	X		
62	PP2 0.0-0.1	Aug 13, 2021		Soil	S21-Oc38493	X	X			X							X			
63	PP3 0.0-0.1	Aug 13, 2021		Soil	S21-Oc38494	X	X			X							X			
64	PP4 0.0-0.1	Aug 12, 2021		Soil	S21-Oc38495	X	X			X							X			

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Melbourne Laboratory - NATA # 1261 Site # 1254															X	X	X		X	
Sydney Laboratory - NATA # 1261 Site # 18217						X	X	X	X	X	X	X	X	X	X		X	X	X	X
Brisbane Laboratory - NATA # 1261 Site # 20794																				
Mayfield Laboratory - NATA # 1261 Site # 25079																				
Perth Laboratory - NATA # 2377 Site # 2370																				
External Laboratory																				
65	PP5 0.0-0.1	Oct 13, 2021		Soil	S21-Oc38496	X	X			X							X			
66	PP6 0.0-0.1	Oct 12, 2021		Soil	S21-Oc38497	X	X			X							X			
67	PP7 0.0-0.1	Oct 12, 2021		Soil	S21-Oc38498	X	X			X							X			
68	PP8 0.0-0.1	Oct 12, 2021		Soil	S21-Oc38499	X	X			X							X			
69	DR11 0.0-0.1	Oct 13, 2021		Soil	S21-Oc38500												X	X		
70	DR12 0.0-0.1	Oct 13, 2021		Soil	S21-Oc38501												X	X		
71	DR13 0.0-0.1	Oct 13, 2021		Soil	S21-Oc38502												X	X		
72	DR14 0.0-0.1	Oct 13, 2021		Soil	S21-Oc38503												X	X		
73	DS07	Oct 13, 2021		Soil	S21-Oc38504									X			X	X		
74	DS08	Oct 13, 2021		Soil	S21-Oc38505									X			X	X		
75	DS09	Oct 13, 2021		Soil	S21-Oc38506									X			X	X		

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Melbourne Laboratory - NATA # 1261 Site # 1254															X	X	X		X	
Sydney Laboratory - NATA # 1261 Site # 18217						X	X	X	X	X	X	X	X	X	X		X	X	X	X
Brisbane Laboratory - NATA # 1261 Site # 20794																				
Mayfield Laboratory - NATA # 1261 Site # 25079																				
Perth Laboratory - NATA # 2377 Site # 2370																				
External Laboratory																				
76	DS10	Oct 13, 2021		Soil	S21-Oc38507									X			X	X		
77	SW07	Oct 13, 2021		Water	S21-Oc38508									X				X		
78	SW08	Oct 13, 2021		Water	S21-Oc38509									X				X		
79	TP13-0.0-0.2	Oct 08, 2021		Soil	S21-Oc38510												X	X	X	
80	TP27-0.0-0.2	Oct 08, 2021		Soil	S21-Oc38511												X	X		
81	TP28-0.0-0.1	Oct 08, 2021		Soil	S21-Oc38512												X	X		
82	TP29-0.0-0.2	Oct 08, 2021		Soil	S21-Oc38513									X			X	X	X	
83	TP30-0.0-0.2	Oct 08, 2021		Soil	S21-Oc38514									X			X	X	X	
84	TP31-0.0.-0.2	Oct 08, 2021		Soil	S21-Oc38515									X			X	X	X	
85	TP32-0.0-0.2	Oct 08, 2021		Soil	S21-Oc38516												X	X		
86	TP33-0.0-0.1	Oct 08, 2021		Soil	S21-Oc38517									X			X	X		

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Melbourne Laboratory - NATA # 1261 Site # 1254															X	X	X		X	
Sydney Laboratory - NATA # 1261 Site # 18217						X	X	X	X	X	X	X	X	X	X		X	X	X	X
Brisbane Laboratory - NATA # 1261 Site # 20794																				
Mayfield Laboratory - NATA # 1261 Site # 25079																				
Perth Laboratory - NATA # 2377 Site # 2370																				
External Laboratory																				
87	TP34-0.0-0.2	Oct 08, 2021		Soil	S21-Oc38518												X	X		
88	TP35-0.0-0.2	Oct 08, 2021		Soil	S21-Oc38519												X	X		
89	TP36-0.0-0.1	Oct 08, 2021		Soil	S21-Oc38520									X			X	X		
90	TP37-0.0-0.1	Oct 08, 2021		Soil	S21-Oc38521												X	X		
91	TP38-0.0-0.2	Oct 08, 2021		Soil	S21-Oc38522												X	X		
92	TP39-0.0-0.1	Oct 08, 2021		Soil	S21-Oc38523												X	X		
93	TP40-0.0-0.1	Oct 08, 2021		Soil	S21-Oc38524									X			X	X		
94	SAL01-0.5	Oct 08, 2021		Soil	S21-Oc38525				X			X					X			
95	SAL01-1.0	Oct 08, 2021		Soil	S21-Oc38526				X			X					X			
96	SAL01-1.5	Oct 08, 2021		Soil	S21-Oc38527				X			X					X			
97	SAL01-2.0	Oct 08, 2021		Soil	S21-Oc38528										X	X	X			

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Melbourne Laboratory - NATA # 1261 Site # 1254															X	X	X		X	
Sydney Laboratory - NATA # 1261 Site # 18217						X	X	X	X	X	X	X	X	X	X		X	X	X	X
Brisbane Laboratory - NATA # 1261 Site # 20794																				
Mayfield Laboratory - NATA # 1261 Site # 25079																				
Perth Laboratory - NATA # 2377 Site # 2370																				
External Laboratory																				
98	SAL02-0.5	Oct 08, 2021		Soil	S21-Oc38529				X			X					X			
99	SAL02-1.0	Oct 08, 2021		Soil	S21-Oc38530				X			X					X			
100	SAL02-1.5	Oct 08, 2021		Soil	S21-Oc38531										X	X	X			
101	SAL02-2.0	Oct 08, 2021		Soil	S21-Oc38532				X			X					X			
102	SAL03-0.5	Oct 08, 2021		Soil	S21-Oc38533				X			X					X			
103	SAL03-1.0	Oct 08, 2021		Soil	S21-Oc38534				X			X					X			
104	SAL03-1.5	Oct 08, 2021		Soil	S21-Oc38535				X			X					X			
105	SAL03-2.0	Oct 08, 2021		Soil	S21-Oc38536				X			X					X			
106	SAL03-2.5	Oct 08, 2021		Soil	S21-Oc38537										X	X	X			
107	SAL04-0.5	Oct 08, 2021		Soil	S21-Oc38538				X			X					X			
108	SAL04-1.0	Oct 08, 2021		Soil	S21-Oc38539				X			X					X			

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Melbourne Laboratory - NATA # 1261 Site # 1254															X	X	X		X	
Sydney Laboratory - NATA # 1261 Site # 18217						X	X	X	X	X	X	X	X	X	X		X	X	X	X
Brisbane Laboratory - NATA # 1261 Site # 20794																				
Mayfield Laboratory - NATA # 1261 Site # 25079																				
Perth Laboratory - NATA # 2377 Site # 2370																				
External Laboratory																				
109	SAL04-1.5	Oct 08, 2021		Soil	S21-Oc38540										X	X	X			
110	SAL04-2.0	Oct 08, 2021		Soil	S21-Oc38541				X			X					X			
111	SAL05-0.5	Oct 08, 2021		Soil	S21-Oc38542				X			X					X			
112	SAL05-1.0	Oct 08, 2021		Soil	S21-Oc38543				X			X					X			
113	SAL05-1.5	Oct 08, 2021		Soil	S21-Oc38544				X			X					X			
114	SAL05-2.0	Oct 08, 2021		Soil	S21-Oc38545										X	X	X			
115	TP01 0.4-0.6	Oct 06, 2021		Soil	S21-Oc38546						X									
116	TP03 0.4-0.6	Oct 06, 2021		Soil	S21-Oc38547						X									
117	TP06 0.8-1.0	Oct 06, 2021		Soil	S21-Oc38548						X									
118	TP06 1.0-1.2	Oct 06, 2021		Soil	S21-Oc38549						X									
119	TP06 1.2-1.4	Oct 06, 2021		Soil	S21-Oc38550						X									

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Sydney Laboratory - NATA # 1261 Site # 18217						X	X	X	X	X	X	X	X	X	X		X	X	X	X
Brisbane Laboratory - NATA # 1261 Site # 20794																				
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External Laboratory																				
120	TP07 0.5-0.7	Oct 06, 2021		Soil	S21-Oc38551						X									
121	TP08 0.4-0.6	Oct 06, 2021		Soil	S21-Oc38552						X									
122	TP09 0.4-0.6	Oct 06, 2021		Soil	S21-Oc38553						X									
123	TP10 0.3-0.4	Oct 06, 2021		Soil	S21-Oc38554						X									
124	TP14 0.5-0.7	Oct 06, 2021		Soil	S21-Oc38555						X									
125	TP15 0.4-0.4	Oct 06, 2021		Soil	S21-Oc38556						X									
126	TP16 0.4-0.6	Oct 06, 2021		Soil	S21-Oc38557						X									
127	TP17 0.3-0.5	Oct 06, 2021		Soil	S21-Oc38558						X									
128	TP18 0.5-0.7	Oct 06, 2021		Soil	S21-Oc38559						X									
129	TP21 1.0-1.2	Oct 07, 2021		Soil	S21-Oc38560						X									
130	TP21 1.5-1.5	Oct 07, 2021		Soil	S21-Oc38561						X									

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Company Name: Alliance Geotechnical
Address: 10 Welder Road
Seven Hills
NSW 2147

Project Name: KEMPS CREEK
Project ID: 13546

Order No.:
Report #: 833263
Phone: 1800 288 188
Fax: 02 9675 1888

Received: Oct 18, 2021 3:41 PM
Due: Oct 25, 2021
Priority: 5 Day
Contact Name: Jacob Walker

Eurofins Analytical Services Manager : Andrew Black

Sample Detail						Arsenic	Cadmium	CANCELLED	Conductivity (1:5 aqueous extract at 25°C as rec.)	Copper	HOLD	pH (1:5 Aqueous extract at 25°C as rec.)	BTEX	Suite B13: OCP/PCB	Aggressivity Soil Set	Eurofins Suite B20	Moisture Set	Eurofins Suite B7	Eurofins Suite B19D: Total N, TKN, NOx, NO2, NO3, Total P	BTEX
Melbourne Laboratory - NATA # 1261 Site # 1254															X	X	X		X	
Sydney Laboratory - NATA # 1261 Site # 18217						X	X	X	X	X	X	X	X	X	X		X	X	X	X
Brisbane Laboratory - NATA # 1261 Site # 20794																				
Mayfield Laboratory - NATA # 1261 Site # 25079																				
Perth Laboratory - NATA # 2377 Site # 2370																				
External Laboratory																				
131	TP22 1.0-1.2	Oct 06, 2021		Soil	S21-Oc38562						X									
132	TP22 1.8-2.0	Oct 06, 2021		Soil	S21-Oc38563						X									
133	TP23 1.0-1.2	Oct 07, 2021		Soil	S21-Oc38564						X									
134	TP23 1.5-1.7	Oct 07, 2021		Soil	S21-Oc38565						X									
135	TP24 0.5-0.7	Oct 07, 2021		Soil	S21-Oc38566						X									
136	TP25 0.5-0.6	Oct 07, 2021		Soil	S21-Oc38567						X									
137	TP26 1.8-2.0	Oct 07, 2021		Soil	S21-Oc38568						X									
138	TP26 0.0-0.1	Oct 07, 2021		Soil	S21-Oc38569						X									
139	DR01 0.3-0.5	Oct 06, 2021		Soil	S21-Oc38570						X									
140	DR01 0.7-0.9	Oct 06, 2021		Soil	S21-Oc38571						X									
141	DR02 0.2-0.4	Oct 06, 2021		Soil	S21-Oc38572												X	X		

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Melbourne Laboratory - NATA # 1261 Site # 1254															X	X	X		X	
Sydney Laboratory - NATA # 1261 Site # 18217						X	X	X	X	X	X	X	X	X	X		X	X	X	X
Brisbane Laboratory - NATA # 1261 Site # 20794																				
Mayfield Laboratory - NATA # 1261 Site # 25079																				
Perth Laboratory - NATA # 2377 Site # 2370																				
External Laboratory																				
142	DR02 0.5-0.7	Oct 06, 2021		Soil	S21-Oc38573						X									
143	DR03 0.3-0.5	Oct 06, 2021		Soil	S21-Oc38574						X									
144	DR03 0.6-0.8	Oct 06, 2021		Soil	S21-Oc38575						X									
145	DR03 1.5-1.7	Oct 06, 2021		Soil	S21-Oc38576						X									
146	DR04 0.1-0.2	Oct 07, 2021		Soil	S21-Oc38577						X									
147	DR05 0.3-0.4	Oct 07, 2021		Soil	S21-Oc38578						X									
148	DR06 0.3-0.5	Oct 07, 2021		Soil	S21-Oc38579						X									
149	DR07 0.3-0.5	Oct 07, 2021		Soil	S21-Oc38580						X									
150	DR08 0.1-0.2	Oct 07, 2021		Soil	S21-Oc38581						X									
151	DW01	Oct 07, 2021		Soil	S21-Oc38582						X									
152	DW02	Oct 07, 2021		Soil	S21-Oc38583						X									

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Melbourne Laboratory - NATA # 1261 Site # 1254															X	X	X		X	
Sydney Laboratory - NATA # 1261 Site # 18217						X	X	X	X	X	X	X	X	X	X		X	X	X	X
Brisbane Laboratory - NATA # 1261 Site # 20794																				
Mayfield Laboratory - NATA # 1261 Site # 25079																				
Perth Laboratory - NATA # 2377 Site # 2370																				
External Laboratory																				
153	DW03	Oct 07, 2021		Soil	S21-Oc38584						X									
154	DW04	Oct 07, 2021		Soil	S21-Oc38585						X									
155	DW05	Oct 07, 2021		Soil	S21-Oc38586						X									
156	DW06	Oct 07, 2021		Soil	S21-Oc38587						X									
157	DW07	Oct 07, 2021		Soil	S21-Oc38588						X									
158	DW08	Oct 07, 2021		Soil	S21-Oc38589						X									
159	PP4 0.5-0.6	Aug 12, 2021		Soil	S21-Oc38590						X									
160	PP4 1.0-1.1	Aug 12, 2021		Soil	S21-Oc38591						X									
161	PP4 1.5-1.6	Aug 12, 2021		Soil	S21-Oc38592						X									
162	PP4 2.0-2.1	Aug 12, 2021		Soil	S21-Oc38593						X									
163	PP6 0.5-0.6	Oct 12, 2021		Soil	S21-Oc38594						X									

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Melbourne Laboratory - NATA # 1261 Site # 1254															X	X	X		X	
Sydney Laboratory - NATA # 1261 Site # 18217						X	X	X	X	X	X	X	X	X	X		X	X	X	X
Brisbane Laboratory - NATA # 1261 Site # 20794																				
Mayfield Laboratory - NATA # 1261 Site # 25079																				
Perth Laboratory - NATA # 2377 Site # 2370																				
External Laboratory																				
164	PP6 1.0-1.1	Oct 12, 2021		Soil	S21-Oc38595						X									
165	PP6 1.5-1.6	Oct 12, 2021		Soil	S21-Oc38596						X									
166	PP6 2.0-2.1	Oct 12, 2021		Soil	S21-Oc38597						X									
167	PP6 2.4-2.5	Oct 12, 2021		Soil	S21-Oc38598						X									
168	PP7 0.4-0.5	Oct 12, 2021		Soil	S21-Oc38599						X									
169	PP8 0.1-0.2	Oct 12, 2021		Soil	S21-Oc38600						X									
170	TP41 0.0-0.1	Oct 12, 2021		Soil	S21-Oc38601						X									
171	TP41 0.9-1.0	Oct 12, 2021		Soil	S21-Oc38602						X									
172	TP42 0.0-0.1	Oct 12, 2021		Soil	S21-Oc38603						X									
173	TP42 1.0-1.1	Oct 12, 2021		Soil	S21-Oc38604						X									
174	TP42 1.4-1.5	Oct 12, 2021		Soil	S21-Oc38605						X									

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Melbourne Laboratory - NATA # 1261 Site # 1254															X	X	X		X	
Sydney Laboratory - NATA # 1261 Site # 18217						X	X	X	X	X	X	X	X	X	X		X	X	X	X
Brisbane Laboratory - NATA # 1261 Site # 20794																				
Mayfield Laboratory - NATA # 1261 Site # 25079																				
Perth Laboratory - NATA # 2377 Site # 2370																				
External Laboratory																				
175	TP43 0.0-0.1	Oct 12, 2021		Soil	S21-Oc38606						X									
176	TP43 1.0-1.1	Oct 12, 2021		Soil	S21-Oc38607						X									
177	TP43 1.2-1.3	Oct 12, 2021		Soil	S21-Oc38608						X									
178	TP44 0.0-0.1	Oct 12, 2021		Soil	S21-Oc38609						X									
179	TP44 0.4-0.5	Oct 12, 2021		Soil	S21-Oc38610						X									
180	TP44 1.0-1.1	Oct 12, 2021		Soil	S21-Oc38611						X									
181	TP44 1.4-1.5	Oct 12, 2021		Soil	S21-Oc38612						X									
182	TP44 2.0-2.1	Oct 12, 2021		Soil	S21-Oc38613						X									
183	TP44 2.4-2.5	Oct 12, 2021		Soil	S21-Oc38614						X									
184	TP45 0.0-0.1	Oct 12, 2021		Soil	S21-Oc38615						X									
185	TP45 0.5-0.6	Oct 12, 2021		Soil	S21-Oc38616						X									

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Melbourne Laboratory - NATA # 1261 Site # 1254															X	X	X		X	
Sydney Laboratory - NATA # 1261 Site # 18217						X	X	X	X	X	X	X	X	X	X		X	X	X	X
Brisbane Laboratory - NATA # 1261 Site # 20794																				
Mayfield Laboratory - NATA # 1261 Site # 25079																				
Perth Laboratory - NATA # 2377 Site # 2370																				
External Laboratory																				
186	TP45 0.7-0.8	Oct 12, 2021		Soil	S21-Oc38617						X									
187	TP46 0.0-0.1	Oct 12, 2021		Soil	S21-Oc38618						X									
188	TP46 0.3-0.4	Oct 12, 2021		Soil	S21-Oc38619						X									
189	TP47 0.0-0.1	Oct 12, 2021		Soil	S21-Oc38620												X	X		
190	TP47 0.2-0.3	Oct 12, 2021		Soil	S21-Oc38621						X									
191	TP48 0.0-0.1	Oct 12, 2021		Soil	S21-Oc38622						X									
192	TP48 0.2-0.3	Oct 12, 2021		Soil	S21-Oc38623						X									
193	TP49 0.0-0.1	Oct 12, 2021		Soil	S21-Oc38624						X									
194	TP49 0.1-0.2	Oct 12, 2021		Soil	S21-Oc38625						X									
195	DR11 0.1-0.2	Oct 13, 2021		Soil	S21-Oc38626						X									
196	DR12 0.1-0.2	Oct 13, 2021		Soil	S21-Oc38627						X									

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Melbourne Laboratory - NATA # 1261 Site # 1254															X	X	X		X	
Sydney Laboratory - NATA # 1261 Site # 18217						X	X	X	X	X	X	X	X	X	X		X	X	X	X
Brisbane Laboratory - NATA # 1261 Site # 20794																				
Mayfield Laboratory - NATA # 1261 Site # 25079																				
Perth Laboratory - NATA # 2377 Site # 2370																				
External Laboratory																				
197	DR13 0.1-0.2	Oct 13, 2021		Soil	S21-Oc38628						X									
198	DR14 0.1-0.2	Oct 13, 2021		Soil	S21-Oc38629						X									
199	DW09	Oct 13, 2021		Soil	S21-Oc38630						X									
200	DW10	Oct 13, 2021		Soil	S21-Oc38631						X									
201	DW11	Oct 13, 2021		Soil	S21-Oc38632						X									
202	DW12	Oct 13, 2021		Soil	S21-Oc38633						X									
203	TP13-0.4-0.6	Oct 08, 2021		Soil	S21-Oc38634						X									
204	TP27-1.0-1.2	Oct 08, 2021		Soil	S21-Oc38635						X									
205	TP28-0.1-0.3	Oct 08, 2021		Soil	S21-Oc38636						X									
206	TP29-0.3-0.5	Oct 08, 2021		Soil	S21-Oc38637						X									
207	TP30-0.5-0.7	Oct 08, 2021		Soil	S21-Oc38638						X									

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IANZ # 1290

Company Name: Alliance Geotechnical
Address: 10 Welder Road
Seven Hills
NSW 2147

Project Name: KEMPS CREEK
Project ID: 13546

Order No.:
Report #: 833263
Phone: 1800 288 188
Fax: 02 9675 1888

Received: Oct 18, 2021 3:41 PM
Due: Oct 25, 2021
Priority: 5 Day
Contact Name: Jacob Walker

Eurofins Analytical Services Manager : Andrew Black

Sample Detail						Arsenic	Cadmium	CANCELLED	Conductivity (1:5 aqueous extract at 25°C as rec.)	Copper	HOLD	pH (1:5 Aqueous extract at 25°C as rec.)	BTEX	Suite B13: OCP/PCB	Aggressivity Soil Set	Eurofins Suite B20	Moisture Set	Eurofins Suite B7	Eurofins Suite B19D: Total N, TKN, NOx, NO2, NO3, Total P	BTEX
Melbourne Laboratory - NATA # 1261 Site # 1254															X	X	X		X	
Sydney Laboratory - NATA # 1261 Site # 18217						X	X	X	X	X	X	X	X	X	X		X	X	X	X
Brisbane Laboratory - NATA # 1261 Site # 20794																				
Mayfield Laboratory - NATA # 1261 Site # 25079																				
Perth Laboratory - NATA # 2377 Site # 2370																				
External Laboratory																				
208	TP31-1.0-1.2	Oct 08, 2021		Soil	S21-Oc38639						X									
209	TP31-2.0-2.2	Oct 08, 2021		Soil	S21-Oc38640						X									
210	TP32-1.0-1.2	Oct 08, 2021		Soil	S21-Oc38641						X									
211	TP32-1.5-1.7	Oct 08, 2021		Soil	S21-Oc38642						X									
212	TP33-0.1-0.3	Oct 08, 2021		Soil	S21-Oc38643						X									
213	TP34-0.6-0.8	Oct 08, 2021		Soil	S21-Oc38644						X									
214	TP35-0.6-0.8	Oct 08, 2021		Soil	S21-Oc38645						X									
215	TP36-0.1-0.3	Oct 08, 2021		Soil	S21-Oc38646						X									
216	TP37-0.1-0.3	Oct 08, 2021		Soil	S21-Oc38647						X									
217	TP38-0.4-0.6	Oct 08, 2021		Soil	S21-Oc38648						X									
218	TP39-0.1-0.3	Oct 08, 2021		Soil	S21-Oc38649			X												

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Melbourne Laboratory - NATA # 1261 Site # 1254															X	X	X		X	
Sydney Laboratory - NATA # 1261 Site # 18217						X	X	X	X	X	X	X	X	X	X		X	X	X	X
Brisbane Laboratory - NATA # 1261 Site # 20794																				
Mayfield Laboratory - NATA # 1261 Site # 25079																				
Perth Laboratory - NATA # 2377 Site # 2370																				
External Laboratory																				
219	TP40-0.1-0.3	Oct 08, 2021		Soil	S21-Oc38650						X									
220	TP55-0.0-0.2	Oct 08, 2021		Soil	S21-Oc38651						X									
221	TP55-0.3-0.5	Oct 08, 2021		Soil	S21-Oc38652						X									
222	TP56-0.0-0.2	Oct 08, 2021		Soil	S21-Oc38653						X									
223	TP56-0.7-0.9	Oct 08, 2021		Soil	S21-Oc38654						X									
224	TP57-0.1-0.1	Oct 08, 2021		Soil	S21-Oc38655						X									
225	TP57-0.1-0.3	Oct 08, 2021		Soil	S21-Oc38656						X									
226	TP58-0.0-0.1	Oct 08, 2021		Soil	S21-Oc38657						X									
227	TP58-0.1-0.3	Oct 08, 2021		Soil	S21-Oc38658			X												
228	TP59-0.0-0.2	Oct 08, 2021		Soil	S21-Oc38659						X									
229	TP59-0.7-0.9	Oct 08, 2021		Soil	S21-Oc38660						X									

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Melbourne Laboratory - NATA # 1261 Site # 1254															X	X	X		X	
Sydney Laboratory - NATA # 1261 Site # 18217						X	X	X	X	X	X	X	X	X	X		X	X	X	X
Brisbane Laboratory - NATA # 1261 Site # 20794																				
Mayfield Laboratory - NATA # 1261 Site # 25079																				
Perth Laboratory - NATA # 2377 Site # 2370																				
External Laboratory																				
230	TP60-0.0-0.2	Oct 08, 2021		Soil	S21-Oc38661						X									
231	TP60-0.5-0.7	Oct 08, 2021		Soil	S21-Oc38662						X									
Test Counts						7	7	2	16	7	113	16	5	37	5	5	98	77	17	5

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.

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
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
WA DWER	Sum of PFBA, PFPeA, PFHxA, PFHpA, PFOA, PFBS, PFHxS, PFOS, 6:2 FTSA, 8:2 FTSA

QC - Acceptance Criteria

The acceptance criteria should be used as a guide only and may be different when site specific Sampling Analysis and Quality Plan (SAQP) have been implemented

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%

NOTE: pH duplicates are reported as a range not as RPD

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 where no positive PFAS results have been reported have been reviewed and no data was affected.

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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. 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.
4. Recovery Data (Spikes & Surrogates) - where chromatographic interference does not allow the determination of recovery the term "INT" appears against that analyte.
5. For Matrix Spikes and LCS results a dash "-" in the report means that the specific analyte was not added to the QC sample.
6. 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							
TRH C6-C9	mg/L	< 0.02			0.02	Pass	
TRH C10-C14	mg/L	< 0.05			0.05	Pass	
TRH C15-C28	mg/L	< 0.1			0.1	Pass	
TRH C29-C36	mg/L	< 0.1			0.1	Pass	
Naphthalene	mg/L	< 0.01			0.01	Pass	
TRH C6-C10	mg/L	< 0.02			0.02	Pass	
TRH >C10-C16	mg/L	< 0.05			0.05	Pass	
TRH >C16-C34	mg/L	< 0.1			0.1	Pass	
TRH >C34-C40	mg/L	< 0.1			0.1	Pass	
Method Blank							
BTEX							
Benzene	mg/L	< 0.001			0.001	Pass	
Toluene	mg/L	< 0.001			0.001	Pass	
Ethylbenzene	mg/L	< 0.001			0.001	Pass	
m&p-Xylenes	mg/L	< 0.002			0.002	Pass	
o-Xylene	mg/L	< 0.001			0.001	Pass	
Xylenes - Total*	mg/L	< 0.003			0.003	Pass	
Method Blank							
Polycyclic Aromatic Hydrocarbons							
Acenaphthene	mg/L	< 0.001			0.001	Pass	
Acenaphthylene	mg/L	< 0.001			0.001	Pass	
Anthracene	mg/L	< 0.001			0.001	Pass	
Benz(a)anthracene	mg/L	< 0.001			0.001	Pass	
Benzo(a)pyrene	mg/L	< 0.001			0.001	Pass	
Benzo(b&j)fluoranthene	mg/L	< 0.001			0.001	Pass	
Benzo(g.h.i)perylene	mg/L	< 0.001			0.001	Pass	
Benzo(k)fluoranthene	mg/L	< 0.001			0.001	Pass	
Chrysene	mg/L	< 0.001			0.001	Pass	
Dibenz(a.h)anthracene	mg/L	< 0.001			0.001	Pass	
Fluoranthene	mg/L	< 0.001			0.001	Pass	
Fluorene	mg/L	< 0.001			0.001	Pass	
Indeno(1.2.3-cd)pyrene	mg/L	< 0.001			0.001	Pass	
Naphthalene	mg/L	< 0.001			0.001	Pass	
Phenanthrene	mg/L	< 0.001			0.001	Pass	
Pyrene	mg/L	< 0.001			0.001	Pass	
Method Blank							
Organochlorine Pesticides							
Chlordanes - Total	mg/L	< 0.002			0.002	Pass	
4.4'-DDD	mg/L	< 0.0002			0.0002	Pass	
4.4'-DDE	mg/L	< 0.0002			0.0002	Pass	
4.4'-DDT	mg/L	< 0.0002			0.0002	Pass	
a-HCH	mg/L	< 0.0002			0.0002	Pass	
Aldrin	mg/L	< 0.0002			0.0002	Pass	
b-HCH	mg/L	< 0.0002			0.0002	Pass	
d-HCH	mg/L	< 0.0002			0.0002	Pass	
Dieldrin	mg/L	< 0.0002			0.0002	Pass	
Endosulfan I	mg/L	< 0.0002			0.0002	Pass	
Endosulfan II	mg/L	< 0.0002			0.0002	Pass	
Endosulfan sulphate	mg/L	< 0.0002			0.0002	Pass	
Endrin	mg/L	< 0.0002			0.0002	Pass	

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Endrin aldehyde	mg/L	< 0.0002			0.0002	Pass	
Endrin ketone	mg/L	< 0.0002			0.0002	Pass	
g-HCH (Lindane)	mg/L	< 0.0002			0.0002	Pass	
Heptachlor	mg/L	< 0.0002			0.0002	Pass	
Heptachlor epoxide	mg/L	< 0.0002			0.0002	Pass	
Hexachlorobenzene	mg/L	< 0.0002			0.0002	Pass	
Methoxychlor	mg/L	< 0.0002			0.0002	Pass	
Toxaphene	mg/L	< 0.005			0.005	Pass	
Method Blank							
Polychlorinated Biphenyls							
Aroclor-1016	mg/L	< 0.005			0.005	Pass	
Aroclor-1221	mg/L	< 0.005			0.005	Pass	
Aroclor-1232	mg/L	< 0.005			0.005	Pass	
Aroclor-1242	mg/L	< 0.005			0.005	Pass	
Aroclor-1248	mg/L	< 0.005			0.005	Pass	
Aroclor-1254	mg/L	< 0.005			0.005	Pass	
Aroclor-1260	mg/L	< 0.005			0.005	Pass	
Total PCB*	mg/L	< 0.005			0.005	Pass	
Method Blank							
Heavy Metals							
Arsenic	mg/L	< 0.001			0.001	Pass	
Cadmium	mg/L	< 0.0002			0.0002	Pass	
Chromium	mg/L	< 0.001			0.001	Pass	
Copper	mg/L	< 0.001			0.001	Pass	
Lead	mg/L	< 0.001			0.001	Pass	
Mercury	mg/L	< 0.0001			0.0001	Pass	
Nickel	mg/L	< 0.001			0.001	Pass	
Zinc	mg/L	< 0.005			0.005	Pass	
LCS - % Recovery							
Total Recoverable Hydrocarbons							
TRH C6-C9	%	92			70-130	Pass	
TRH C10-C14	%	85			70-130	Pass	
Naphthalene	%	103			70-130	Pass	
TRH C6-C10	%	93			70-130	Pass	
TRH >C10-C16	%	111			70-130	Pass	
LCS - % Recovery							
BTEX							
Benzene	%	96			70-130	Pass	
Toluene	%	102			70-130	Pass	
Ethylbenzene	%	104			70-130	Pass	
m&p-Xylenes	%	105			70-130	Pass	
o-Xylene	%	105			70-130	Pass	
Xylenes - Total*	%	105			70-130	Pass	
LCS - % Recovery							
Polycyclic Aromatic Hydrocarbons							
Acenaphthene	%	87			70-130	Pass	
Acenaphthylene	%	85			70-130	Pass	
Anthracene	%	83			70-130	Pass	
Benz(a)anthracene	%	91			70-130	Pass	
Benzo(a)pyrene	%	88			70-130	Pass	
Benzo(b&j)fluoranthene	%	86			70-130	Pass	
Benzo(g.h.i)perylene	%	90			70-130	Pass	
Benzo(k)fluoranthene	%	95			70-130	Pass	
Chrysene	%	92			70-130	Pass	

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Dibenz(a.h)anthracene	%	80			70-130	Pass	
Fluoranthene	%	89			70-130	Pass	
Fluorene	%	84			70-130	Pass	
Indeno(1.2.3-cd)pyrene	%	81			70-130	Pass	
Naphthalene	%	81			70-130	Pass	
Phenanthrene	%	91			70-130	Pass	
Pyrene	%	89			70-130	Pass	
LCS - % Recovery							
Organochlorine Pesticides							
Chlordanes - Total	%	93			70-130	Pass	
4.4'-DDD	%	93			70-130	Pass	
4.4'-DDE	%	93			70-130	Pass	
4.4'-DDT	%	119			70-130	Pass	
a-HCH	%	89			70-130	Pass	
Aldrin	%	87			70-130	Pass	
b-HCH	%	98			70-130	Pass	
d-HCH	%	96			70-130	Pass	
Dieldrin	%	96			70-130	Pass	
Endosulfan I	%	95			70-130	Pass	
Endosulfan II	%	93			70-130	Pass	
Endosulfan sulphate	%	95			70-130	Pass	
Endrin	%	111			70-130	Pass	
Endrin aldehyde	%	105			70-130	Pass	
Endrin ketone	%	92			70-130	Pass	
g-HCH (Lindane)	%	96			70-130	Pass	
Heptachlor	%	96			70-130	Pass	
Heptachlor epoxide	%	91			70-130	Pass	
Hexachlorobenzene	%	85			70-130	Pass	
LCS - % Recovery							
Polychlorinated Biphenyls							
Aroclor-1016	%	88			70-130	Pass	
Aroclor-1260	%	124			70-130	Pass	
LCS - % Recovery							
Heavy Metals							
Arsenic	%	101			80-120	Pass	
Cadmium	%	107			80-120	Pass	
Chromium	%	117			80-120	Pass	
Copper	%	94			80-120	Pass	
Lead	%	116			80-120	Pass	
Mercury	%	102			80-120	Pass	
Nickel	%	98			80-120	Pass	
Zinc	%	93			80-120	Pass	

Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Spike - % Recovery									
Total Recoverable Hydrocarbons				Result 1					
TRH C6-C9	S21-Oc44053	NCP	%	92			70-130	Pass	
Naphthalene	S21-Oc44053	NCP	%	99			70-130	Pass	
TRH C6-C10	S21-Oc44053	NCP	%	92			70-130	Pass	
Spike - % Recovery									
BTEX				Result 1					
Benzene	S21-Oc44053	NCP	%	94			70-130	Pass	
Toluene	S21-Oc44053	NCP	%	99			70-130	Pass	
Ethylbenzene	S21-Oc44053	NCP	%	101			70-130	Pass	
m&p-Xylenes	S21-Oc44053	NCP	%	103			70-130	Pass	

Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
o-Xylene	S21-Oc44053	NCP	%	103			70-130	Pass	
Xylenes - Total*	S21-Oc44053	NCP	%	103			70-130	Pass	
Spike - % Recovery									
Heavy Metals				Result 1					
Arsenic	S21-Oc36520	NCP	%	113			75-125	Pass	
Cadmium	S21-Oc36520	NCP	%	116			75-125	Pass	
Chromium	S21-Oc52293	NCP	%	87			75-125	Pass	
Copper	S21-Oc36520	NCP	%	97			75-125	Pass	
Lead	S21-Oc36520	NCP	%	117			75-125	Pass	
Mercury	S21-Oc36520	NCP	%	109			75-125	Pass	
Nickel	S21-Oc36520	NCP	%	101			75-125	Pass	
Zinc	S21-Oc36520	NCP	%	96			75-125	Pass	
Spike - % Recovery									
Total Recoverable Hydrocarbons				Result 1					
TRH C10-C14	S21-Oc38508	CP	%	125			70-130	Pass	
TRH >C10-C16	S21-Oc38508	CP	%	111			70-130	Pass	
Test	**Lab Sample ID**	**QA Source**	**Units**	**Result 1**			**Acceptance Limits**	**Pass Limits**	**Qualifying Code**
Duplicate									
Heavy Metals				Result 1	Result 2	RPD			
Arsenic	S21-Oc38469	CP	mg/L	0.004	0.004	4.0	30%	Pass	
Cadmium	S21-Oc38469	CP	mg/L	< 0.0002	< 0.0002	<1	30%	Pass	
Chromium	S21-Oc38469	CP	mg/L	0.014	0.014	3.0	30%	Pass	
Copper	S21-Oc38469	CP	mg/L	0.041	0.041	2.0	30%	Pass	
Lead	S21-Oc38469	CP	mg/L	0.035	0.036	5.0	30%	Pass	
Mercury	S21-Oc38469	CP	mg/L	< 0.0001	< 0.0001	<1	30%	Pass	
Nickel	S21-Oc38469	CP	mg/L	0.012	0.012	2.0	30%	Pass	
Zinc	S21-Oc38469	CP	mg/L	0.091	0.091	<1	30%	Pass	
Duplicate									
Total Recoverable Hydrocarbons				Result 1	Result 2	RPD			
TRH C10-C14	S21-Oc38473	CP	mg/L	< 0.05	< 0.05	<1	30%	Pass	
TRH C15-C28	S21-Oc38473	CP	mg/L	< 0.1	< 0.1	<1	30%	Pass	
TRH C29-C36	S21-Oc38473	CP	mg/L	< 0.1	< 0.1	<1	30%	Pass	
TRH >C10-C16	S21-Oc38473	CP	mg/L	< 0.05	< 0.05	<1	30%	Pass	
TRH >C16-C34	S21-Oc38473	CP	mg/L	0.1	0.1	7.0	30%	Pass	
TRH >C34-C40	S21-Oc38473	CP	mg/L	< 0.1	< 0.1	<1	30%	Pass	
Duplicate									
Polycyclic Aromatic Hydrocarbons				Result 1	Result 2	RPD			
Acenaphthene	S21-Oc38473	CP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Acenaphthylene	S21-Oc38473	CP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Anthracene	S21-Oc38473	CP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Benz(a)anthracene	S21-Oc38473	CP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Benzo(a)pyrene	S21-Oc38473	CP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Benzo(b&j)fluoranthene	S21-Oc38473	CP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Benzo(g.h.i)perylene	S21-Oc38473	CP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Benzo(k)fluoranthene	S21-Oc38473	CP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Chrysene	S21-Oc38473	CP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Dibenz(a.h)anthracene	S21-Oc38473	CP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Fluoranthene	S21-Oc38473	CP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Fluorene	S21-Oc38473	CP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Indeno(1.2.3-cd)pyrene	S21-Oc38473	CP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Naphthalene	S21-Oc38473	CP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Phenanthrene	S21-Oc38473	CP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Pyrene	S21-Oc38473	CP	mg/L	< 0.001	< 0.001	<1	30%	Pass	

Duplicate									
Organochlorine Pesticides				Result 1	Result 2	RPD			
Chlordanes - Total	S21-Oc38473	CP	mg/L	< 0.002	< 0.002	<1	30%	Pass	
4.4'-DDD	S21-Oc38473	CP	mg/L	< 0.0002	< 0.0002	<1	30%	Pass	
4.4'-DDE	S21-Oc38473	CP	mg/L	< 0.0002	< 0.0002	<1	30%	Pass	
4.4'-DDT	S21-Oc38473	CP	mg/L	< 0.0002	< 0.0002	<1	30%	Pass	
a-HCH	S21-Oc38473	CP	mg/L	< 0.0002	< 0.0002	<1	30%	Pass	
Aldrin	S21-Oc38473	CP	mg/L	< 0.0002	< 0.0002	<1	30%	Pass	
b-HCH	S21-Oc38473	CP	mg/L	< 0.0002	< 0.0002	<1	30%	Pass	
d-HCH	S21-Oc38473	CP	mg/L	< 0.0002	< 0.0002	<1	30%	Pass	
Dieldrin	S21-Oc38473	CP	mg/L	< 0.0002	< 0.0002	<1	30%	Pass	
Endosulfan I	S21-Oc38473	CP	mg/L	< 0.0002	< 0.0002	<1	30%	Pass	
Endosulfan II	S21-Oc38473	CP	mg/L	< 0.0002	< 0.0002	<1	30%	Pass	
Endosulfan sulphate	S21-Oc38473	CP	mg/L	< 0.0002	< 0.0002	<1	30%	Pass	
Endrin	S21-Oc38473	CP	mg/L	< 0.0002	< 0.0002	<1	30%	Pass	
Endrin aldehyde	S21-Oc38473	CP	mg/L	< 0.0002	< 0.0002	<1	30%	Pass	
Endrin ketone	S21-Oc38473	CP	mg/L	< 0.0002	< 0.0002	<1	30%	Pass	
g-HCH (Lindane)	S21-Oc38473	CP	mg/L	< 0.0002	< 0.0002	<1	30%	Pass	
Heptachlor	S21-Oc38473	CP	mg/L	< 0.0002	< 0.0002	<1	30%	Pass	
Heptachlor epoxide	S21-Oc38473	CP	mg/L	< 0.0002	< 0.0002	<1	30%	Pass	
Hexachlorobenzene	S21-Oc38473	CP	mg/L	< 0.0002	< 0.0002	<1	30%	Pass	
Methoxychlor	S21-Oc38473	CP	mg/L	< 0.0002	< 0.0002	<1	30%	Pass	
Duplicate									
Polychlorinated Biphenyls				Result 1	Result 2	RPD			
Aroclor-1016	S21-Oc38473	CP	mg/L	< 0.005	< 0.005	<1	30%	Pass	
Aroclor-1221	S21-Oc38473	CP	mg/L	< 0.005	< 0.005	<1	30%	Pass	
Aroclor-1232	S21-Oc38473	CP	mg/L	< 0.005	< 0.005	<1	30%	Pass	
Aroclor-1242	S21-Oc38473	CP	mg/L	< 0.005	< 0.005	<1	30%	Pass	
Aroclor-1248	S21-Oc38473	CP	mg/L	< 0.005	< 0.005	<1	30%	Pass	
Aroclor-1254	S21-Oc38473	CP	mg/L	< 0.005	< 0.005	<1	30%	Pass	
Aroclor-1260	S21-Oc38473	CP	mg/L	< 0.005	< 0.005	<1	30%	Pass	
Total PCB*	S21-Oc38473	CP	mg/L	< 0.005	< 0.005	<1	30%	Pass	
Duplicate									
Total Recoverable Hydrocarbons				Result 1	Result 2	RPD			
TRH C6-C9	S21-Oc38509	CP	mg/L	< 0.02	< 0.02	<1	30%	Pass	
Naphthalene	S21-Oc38509	CP	mg/L	< 0.01	< 0.01	<1	30%	Pass	
TRH C6-C10	S21-Oc38509	CP	mg/L	< 0.02	< 0.02	<1	30%	Pass	
Duplicate									
BTEX				Result 1	Result 2	RPD			
Benzene	S21-Oc38509	CP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Toluene	S21-Oc38509	CP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Ethylbenzene	S21-Oc38509	CP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
m&p-Xylenes	S21-Oc38509	CP	mg/L	< 0.002	< 0.002	<1	30%	Pass	
o-Xylene	S21-Oc38509	CP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Xylenes - Total*	S21-Oc38509	CP	mg/L	< 0.003	< 0.003	<1	30%	Pass	

Comments

Sample Integrity

Custody Seals Intact (if used)	N/A
Attempt to Chill was evident	Yes
Sample correctly preserved	No
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
Q09	The Surrogate recovery is outside of the recommended acceptance criteria due to matrix interference. Acceptance criteria were met for all other QC

Authorised by:

Andrew Black	Analytical Services Manager
Andrew Sullivan	Senior Analyst-Organic (NSW)
John Nguyen	Senior Analyst-Metal (NSW)
Roopesh Rangarajan	Senior Analyst-Volatile (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.

Alliance Geotechnical
10 Welder Road
Seven Hills
NSW 2147

NATA Accredited
Accreditation Number 1261
Site Number 18217

Accredited for compliance with ISO/IEC 17025 – Testing
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Attention: **Jacob Walker**

Report **833263-S-V2**
Project name KEMPS CREEK
Project ID 13546
Received Date Oct 18, 2021

Client Sample ID			**TP01 0.0-0.2**	**TP02 0.0-0.2**	**TP03 0.0-0.2**	**TP04 0.0-0.1**
Sample Matrix			**Soil**	**Soil**	**Soil**	**Soil**
Eurofins Sample No.			**S21-Oc38427**	**S21-Oc38428**	**S21-Oc38429**	**S21-Oc38430**
Date Sampled			**Oct 06, 2021**	**Oct 06, 2021**	**Oct 06, 2021**	**Oct 06, 2021**
Test/Reference	LOR	Unit				
Total Recoverable Hydrocarbons						
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
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
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	%	126	125	132	123
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

Client Sample ID			TP01 0.0-0.2	TP02 0.0-0.2	TP03 0.0-0.2	TP04 0.0-0.1
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			S21-Oc38427	S21-Oc38428	S21-Oc38429	S21-Oc38430
Date Sampled			Oct 06, 2021	Oct 06, 2021	Oct 06, 2021	Oct 06, 2021
Test/Reference	LOR	Unit				
Polycyclic Aromatic Hydrocarbons						
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	%	79	77	80	92
p-Terphenyl-d14 (surr.)	1	%	84	89	86	90
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-HCH	0.05	mg/kg	< 0.05	-	-	< 0.05
Aldrin	0.05	mg/kg	< 0.05	-	-	< 0.05
b-HCH	0.05	mg/kg	< 0.05	-	-	< 0.05
d-HCH	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-HCH (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	0.05	mg/kg	< 0.05	-	-	< 0.05
Toxaphene	0.5	mg/kg	< 0.5	-	-	< 0.5
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	< 0.1	-	-	< 0.1
Vic EPA IWRG 621 Other OCP (Total)*	0.1	mg/kg	< 0.1	-	-	< 0.1
Dibutylchlorendate (surr.)	1	%	89	-	-	85
Tetrachloro-m-xylene (surr.)	1	%	78	-	-	84
Polychlorinated Biphenyls						
Aroclor-1016	0.1	mg/kg	< 0.1	-	-	< 0.1
Aroclor-1221	0.1	mg/kg	< 0.1	-	-	< 0.1
Aroclor-1232	0.1	mg/kg	< 0.1	-	-	< 0.1
Aroclor-1242	0.1	mg/kg	< 0.1	-	-	< 0.1
Aroclor-1248	0.1	mg/kg	< 0.1	-	-	< 0.1
Aroclor-1254	0.1	mg/kg	< 0.1	-	-	< 0.1
Aroclor-1260	0.1	mg/kg	< 0.1	-	-	< 0.1
Total PCB*	0.1	mg/kg	< 0.1	-	-	< 0.1
Dibutylchlorendate (surr.)	1	%	89	-	-	85
Tetrachloro-m-xylene (surr.)	1	%	78	-	-	84

Client Sample ID			TP01 0.0-0.2	TP02 0.0-0.2	TP03 0.0-0.2	TP04 0.0-0.1
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			S21-Oc38427	S21-Oc38428	S21-Oc38429	S21-Oc38430
Date Sampled			Oct 06, 2021	Oct 06, 2021	Oct 06, 2021	Oct 06, 2021
Test/Reference	LOR	Unit				
Heavy Metals						
Arsenic	2	mg/kg	9.5	9.8	8.1	9.8
Cadmium	0.4	mg/kg	< 0.4	< 0.4	< 0.4	< 0.4
Chromium	5	mg/kg	21	21	22	17
Copper	5	mg/kg	32	31	18	46
Lead	5	mg/kg	20	20	26	28
Mercury	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Nickel	5	mg/kg	22	22	10	25
Zinc	5	mg/kg	89	83	39	92
% Moisture	1	%	13	14	9.0	9.7
Ammonia (as N)	5	mg/kg	-	-	-	[R09]1400
Nitrate & Nitrite (as N)	5	mg/kg	-	-	-	3500
Nitrate (as N)	5	mg/kg	-	-	-	3500
Nitrite (as N)	5	mg/kg	-	-	-	< 5
Total Kjeldahl Nitrogen (as N)	10	mg/kg	-	-	-	[R09]1200
Total Nitrogen (as N)*	10	mg/kg	-	-	-	4700
Phosphorus	5	mg/kg	-	-	-	580

Client Sample ID			TP05 0.0-0.1	TP06 0.0-0.2	TP07 0.0-0.2	TP08 0.0-0.2
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			S21-Oc38431	S21-Oc38432	S21-Oc38433	S21-Oc38434
Date Sampled			Oct 06, 2021	Oct 06, 2021	Oct 06, 2021	Oct 06, 2021
Test/Reference	LOR	Unit				
Total Recoverable Hydrocarbons						
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
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
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	%	119	123	77	110

Client Sample ID			TP05 0.0-0.1	TP06 0.0-0.2	TP07 0.0-0.2	TP08 0.0-0.2
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			S21-Oc38431	S21-Oc38432	S21-Oc38433	S21-Oc38434
Date Sampled			Oct 06, 2021	Oct 06, 2021	Oct 06, 2021	Oct 06, 2021
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	%	97	97	106	58
p-Terphenyl-d14 (surr.)	1	%	90	91	91	83
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-HCH	0.05	mg/kg	< 0.05	< 0.05	-	-
Aldrin	0.05	mg/kg	< 0.05	< 0.05	-	-
b-HCH	0.05	mg/kg	< 0.05	< 0.05	-	-
d-HCH	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-HCH (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	0.05	mg/kg	< 0.05	< 0.05	-	-
Toxaphene	0.5	mg/kg	< 0.5	< 0.5	-	-
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	< 0.1	< 0.1	-	-
Vic EPA IWRG 621 Other OCP (Total)*	0.1	mg/kg	< 0.1	< 0.1	-	-
Dibutylchlorendate (surr.)	1	%	81	92	-	-
Tetrachloro-m-xylene (surr.)	1	%	88	89	-	-

Client Sample ID			TP05 0.0-0.1	TP06 0.0-0.2	TP07 0.0-0.2	TP08 0.0-0.2
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			S21-Oc38431	S21-Oc38432	S21-Oc38433	S21-Oc38434
Date Sampled			Oct 06, 2021	Oct 06, 2021	Oct 06, 2021	Oct 06, 2021
Test/Reference	LOR	Unit				
Polychlorinated Biphenyls						
Aroclor-1016	0.1	mg/kg	< 0.1	< 0.1	-	-
Aroclor-1221	0.1	mg/kg	< 0.1	< 0.1	-	-
Aroclor-1232	0.1	mg/kg	< 0.1	< 0.1	-	-
Aroclor-1242	0.1	mg/kg	< 0.1	< 0.1	-	-
Aroclor-1248	0.1	mg/kg	< 0.1	< 0.1	-	-
Aroclor-1254	0.1	mg/kg	< 0.1	< 0.1	-	-
Aroclor-1260	0.1	mg/kg	< 0.1	< 0.1	-	-
Total PCB*	0.1	mg/kg	< 0.1	< 0.1	-	-
Dibutylchlorendate (surr.)	1	%	81	92	-	-
Tetrachloro-m-xylene (surr.)	1	%	88	89	-	-
Heavy Metals						
Arsenic	2	mg/kg	10	9.7	6.0	8.8
Cadmium	0.4	mg/kg	< 0.4	< 0.4	< 0.4	< 0.4
Chromium	5	mg/kg	28	19	14	18
Copper	5	mg/kg	36	32	17	22
Lead	5	mg/kg	15	23	19	24
Mercury	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Nickel	5	mg/kg	24	22	9.5	15
Zinc	5	mg/kg	78	99	590	95
% Moisture	1	%	20	12	10	9.6
Ammonia (as N)	5	mg/kg	20	< 5	-	-
Nitrate & Nitrite (as N)	5	mg/kg	69	6.8	-	-
Nitrate (as N)	5	mg/kg	69	6.8	-	-
Nitrite (as N)	5	mg/kg	< 5	< 5	-	-
Total Kjeldahl Nitrogen (as N)	10	mg/kg	370	32	-	-
Total Nitrogen (as N)*	10	mg/kg	439	38.8	-	-
Phosphorus	5	mg/kg	460	910	-	-

Client Sample ID			TP09 0.0-0.2	TP10 0.0-0.2	TP11 0.0-0.1	TP12 0.0-0.1
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			S21-Oc38435	S21-Oc38436	S21-Oc38437	S21-Oc38438
Date Sampled			Oct 06, 2021	Oct 06, 2021	Oct 06, 2021	Oct 06, 2021
Test/Reference	LOR	Unit				
Total Recoverable Hydrocarbons						
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	160	< 50	< 50
TRH C29-C36	50	mg/kg	< 50	98	< 50	< 50
TRH C10-C36 (Total)	50	mg/kg	< 50	258	< 50	< 50
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	51	< 50	< 50
TRH >C10-C16 less Naphthalene (F2)[N01]	50	mg/kg	< 50	51	< 50	< 50
TRH >C16-C34	100	mg/kg	< 100	190	< 100	< 100
TRH >C34-C40	100	mg/kg	< 100	110	< 100	< 100
TRH >C10-C40 (total)*	100	mg/kg	< 100	351	< 100	< 100

Client Sample ID			TP09 0.0-0.2	TP10 0.0-0.2	TP11 0.0-0.1	TP12 0.0-0.1
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			S21-Oc38435	S21-Oc38436	S21-Oc38437	S21-Oc38438
Date Sampled			Oct 06, 2021	Oct 06, 2021	Oct 06, 2021	Oct 06, 2021
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	%	126	132	130	118
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	%	61	61	61	54
p-Terphenyl-d14 (surr.)	1	%	86	81	99	70
Organochlorine Pesticides						
Chlordanes - Total	0.1	mg/kg	< 0.1	-	< 0.1	< 0.1
4.4'-DDD	0.05	mg/kg	< 0.05	-	< 0.05	< 0.05
4.4'-DDE	0.05	mg/kg	< 0.05	-	< 0.05	< 0.05
4.4'-DDT	0.05	mg/kg	< 0.05	-	< 0.05	< 0.05
a-HCH	0.05	mg/kg	< 0.05	-	< 0.05	< 0.05
Aldrin	0.05	mg/kg	< 0.05	-	< 0.05	< 0.05
b-HCH	0.05	mg/kg	< 0.05	-	< 0.05	< 0.05
d-HCH	0.05	mg/kg	< 0.05	-	< 0.05	< 0.05
Dieldrin	0.05	mg/kg	< 0.05	-	< 0.05	< 0.05
Endosulfan I	0.05	mg/kg	< 0.05	-	< 0.05	< 0.05
Endosulfan II	0.05	mg/kg	< 0.05	-	< 0.05	< 0.05
Endosulfan sulphate	0.05	mg/kg	< 0.05	-	< 0.05	< 0.05
Endrin	0.05	mg/kg	< 0.05	-	< 0.05	< 0.05
Endrin aldehyde	0.05	mg/kg	< 0.05	-	< 0.05	< 0.05
Endrin ketone	0.05	mg/kg	< 0.05	-	< 0.05	< 0.05
g-HCH (Lindane)	0.05	mg/kg	< 0.05	-	< 0.05	< 0.05
Heptachlor	0.05	mg/kg	< 0.05	-	< 0.05	< 0.05
Heptachlor epoxide	0.05	mg/kg	< 0.05	-	< 0.05	< 0.05

Client Sample ID			TP09 0.0-0.2	TP10 0.0-0.2	TP11 0.0-0.1	TP12 0.0-0.1
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			S21-Oc38435	S21-Oc38436	S21-Oc38437	S21-Oc38438
Date Sampled			Oct 06, 2021	Oct 06, 2021	Oct 06, 2021	Oct 06, 2021
Test/Reference	LOR	Unit				
Organochlorine Pesticides						
Hexachlorobenzene	0.05	mg/kg	< 0.05	-	< 0.05	< 0.05
Methoxychlor	0.05	mg/kg	< 0.05	-	< 0.05	< 0.05
Toxaphene	0.5	mg/kg	< 0.5	-	< 0.5	< 0.5
Aldrin and Dieldrin (Total)*	0.05	mg/kg	< 0.05	-	< 0.05	< 0.05
DDT + DDE + DDD (Total)*	0.05	mg/kg	< 0.05	-	< 0.05	< 0.05
Vic EPA IWRG 621 OCP (Total)*	0.1	mg/kg	< 0.1	-	< 0.1	< 0.1
Vic EPA IWRG 621 Other OCP (Total)*	0.1	mg/kg	< 0.1	-	< 0.1	< 0.1
Dibutylchlorendate (surr.)	1	%	106	-	105	71
Tetrachloro-m-xylene (surr.)	1	%	87	-	94	72
Polychlorinated Biphenyls						
Aroclor-1016	0.1	mg/kg	< 0.1	-	< 0.1	< 0.1
Aroclor-1221	0.1	mg/kg	< 0.1	-	< 0.1	< 0.1
Aroclor-1232	0.1	mg/kg	< 0.1	-	< 0.1	< 0.1
Aroclor-1242	0.1	mg/kg	< 0.1	-	< 0.1	< 0.1
Aroclor-1248	0.1	mg/kg	< 0.1	-	< 0.1	< 0.1
Aroclor-1254	0.1	mg/kg	< 0.1	-	< 0.1	< 0.1
Aroclor-1260	0.1	mg/kg	< 0.1	-	< 0.1	< 0.1
Total PCB*	0.1	mg/kg	< 0.1	-	< 0.1	< 0.1
Dibutylchlorendate (surr.)	1	%	106	-	105	71
Tetrachloro-m-xylene (surr.)	1	%	87	-	94	72
Heavy Metals						
Arsenic	2	mg/kg	4.0	3.7	8.2	6.4
Cadmium	0.4	mg/kg	< 0.4	< 0.4	< 0.4	< 0.4
Chromium	5	mg/kg	10	16	24	18
Copper	5	mg/kg	18	11	33	40
Lead	5	mg/kg	15	15	20	16
Mercury	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Nickel	5	mg/kg	8.5	8.9	19	16
Zinc	5	mg/kg	130	30	63	74
% Moisture	1	%	11	6.1	12	9.3
Ammonia (as N)	5	mg/kg	-	-	1700	2000
Nitrate & Nitrite (as N)	5	mg/kg	-	-	2000	3100
Nitrate (as N)	5	mg/kg	-	-	2000	3100
Nitrite (as N)	5	mg/kg	-	-	< 5	< 5
Total Kjeldahl Nitrogen (as N)	10	mg/kg	-	-	2900	3400
Total Nitrogen (as N)*	10	mg/kg	-	-	4900	6500
Phosphorus	5	mg/kg	-	-	780	600

Client Sample ID			TP14 0.0-0.2	TP15 0.0-0.2	TP16 0.0-0.2	TP17 0.0-0.2
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			S21-Oc38439	S21-Oc38440	S21-Oc38441	S21-Oc38442
Date Sampled			Oct 06, 2021	Oct 06, 2021	Oct 06, 2021	Oct 06, 2021
Test/Reference	LOR	Unit				
Total Recoverable Hydrocarbons						
TRH C6-C9	20	mg/kg	< 20	< 20	< 20	< 20
TRH C10-C14	20	mg/kg	< 20	< 20	< 40	< 40
TRH C15-C28	50	mg/kg	63	< 50	210	170
TRH C29-C36	50	mg/kg	82	< 50	520	490
TRH C10-C36 (Total)	50	mg/kg	145	< 50	730	660
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	< 100	< 100
TRH >C10-C16 less Naphthalene (F2)[N01]	50	mg/kg	< 50	< 50	< 100	< 100
TRH >C16-C34	100	mg/kg	120	< 100	560	510
TRH >C34-C40	100	mg/kg	< 100	< 100	790	600
TRH >C10-C40 (total)*	100	mg/kg	120	< 100	1350	1110
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	%	119	127	127	132
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	0.7	0.7
Benzo(a)pyrene TEQ (upper bound) *	0.5	mg/kg	1.2	1.2	1.2	1.3
Acenaphthene	0.5	mg/kg	< 0.5	< 0.5	0.8	0.6
Acenaphthylene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Anthracene	0.5	mg/kg	< 0.5	< 0.5	0.7	0.6
Benz(a)anthracene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	0.6
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	0.7	0.7
Chrysene	0.5	mg/kg	< 0.5	< 0.5	0.8	0.9
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	0.7	0.7
Fluorene	0.5	mg/kg	< 0.5	< 0.5	0.8	0.8
Indeno(1.2.3-cd)pyrene	0.5	mg/kg	< 0.5	< 0.5	0.5	0.6
Naphthalene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Phenanthrene	0.5	mg/kg	< 0.5	< 0.5	0.6	0.6
Pyrene	0.5	mg/kg	< 0.5	< 0.5	0.6	0.8
Total PAH*	0.5	mg/kg	< 0.5	< 0.5	6.2	6.9
2-Fluorobiphenyl (surr.)	1	%	85	86	88	80
p-Terphenyl-d14 (surr.)	1	%	108	100	109	107
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	-	-

Client Sample ID			TP14 0.0-0.2	TP15 0.0-0.2	TP16 0.0-0.2	TP17 0.0-0.2
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			S21-Oc38439	S21-Oc38440	S21-Oc38441	S21-Oc38442
Date Sampled			Oct 06, 2021	Oct 06, 2021	Oct 06, 2021	Oct 06, 2021
Test/Reference	LOR	Unit				
Organochlorine Pesticides						
a-HCH	0.05	mg/kg	-	< 0.05	-	-
Aldrin	0.05	mg/kg	-	< 0.05	-	-
b-HCH	0.05	mg/kg	-	< 0.05	-	-
d-HCH	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-HCH (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	0.05	mg/kg	-	< 0.05	-	-
Toxaphene	0.5	mg/kg	-	< 0.5	-	-
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	-	< 0.1	-	-
Vic EPA IWRG 621 Other OCP (Total)*	0.1	mg/kg	-	< 0.1	-	-
Dibutylchlorendate (surr.)	1	%	-	114	-	-
Tetrachloro-m-xylene (surr.)	1	%	-	97	-	-
Polychlorinated Biphenyls						
Aroclor-1016	0.1	mg/kg	-	< 0.1	-	-
Aroclor-1221	0.1	mg/kg	-	< 0.1	-	-
Aroclor-1232	0.1	mg/kg	-	< 0.1	-	-
Aroclor-1242	0.1	mg/kg	-	< 0.1	-	-
Aroclor-1248	0.1	mg/kg	-	< 0.1	-	-
Aroclor-1254	0.1	mg/kg	-	< 0.1	-	-
Aroclor-1260	0.1	mg/kg	-	< 0.1	-	-
Total PCB*	0.1	mg/kg	-	< 0.1	-	-
Dibutylchlorendate (surr.)	1	%	-	114	-	-
Tetrachloro-m-xylene (surr.)	1	%	-	97	-	-
Heavy Metals						
Arsenic	2	mg/kg	9.1	17	3.0	2.8
Cadmium	0.4	mg/kg	< 0.4	< 0.4	< 0.4	< 0.4
Chromium	5	mg/kg	23	15	14	26
Copper	5	mg/kg	58	44	64	41
Lead	5	mg/kg	27	29	13	11
Mercury	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Nickel	5	mg/kg	23	31	16	18
Zinc	5	mg/kg	180	100	84	95
% Moisture	1	%	17	6.9	9.1	7.3

Client Sample ID			TP18 0.0-0.2	TP19 0.0-0.1	TP20 0.0-0.1	TP21 0.0-0.2
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			S21-Oc38443	S21-Oc38444	S21-Oc38445	S21-Oc38446
Date Sampled			Oct 06, 2021	Oct 07, 2021	Oct 07, 2021	Oct 07, 2021
Test/Reference	LOR	Unit				
Total Recoverable Hydrocarbons						
TRH C6-C9	20	mg/kg	< 20	< 20	< 100	< 20
TRH C10-C14	20	mg/kg	< 20	< 20	< 20	< 20
TRH C15-C28	50	mg/kg	110	< 50	< 50	< 50
TRH C29-C36	50	mg/kg	220	< 50	72	57
TRH C10-C36 (Total)	50	mg/kg	330	< 50	72	57
Naphthalene[N02]	0.5	mg/kg	< 0.5	< 0.5	< 2.5	< 0.5
TRH C6-C10	20	mg/kg	< 20	< 20	< 100	< 20
TRH C6-C10 less BTEX (F1)[N04]	20	mg/kg	< 20	< 20	< 100	< 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	250	< 100	< 100	< 100
TRH >C34-C40	100	mg/kg	260	< 100	< 100	< 100
TRH >C10-C40 (total)*	100	mg/kg	510	< 100	< 100	< 100
BTEX						
Benzene	0.1	mg/kg	< 0.1	< 0.1	< 0.5	< 0.1
Toluene	0.1	mg/kg	< 0.1	< 0.1	< 0.5	< 0.1
Ethylbenzene	0.1	mg/kg	< 0.1	< 0.1	< 0.5	< 0.1
m&p-Xylenes	0.2	mg/kg	< 0.2	< 0.2	< 1	< 0.2
o-Xylene	0.1	mg/kg	< 0.1	< 0.1	< 0.5	< 0.1
Xylenes - Total*	0.3	mg/kg	< 0.3	< 0.3	< 1.5	< 0.3
4-Bromofluorobenzene (surr.)	1	%	132	102	98	105
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	0.7	0.6	0.6	0.6
Benzo(a)pyrene TEQ (upper bound) *	0.5	mg/kg	1.3	1.2	1.2	1.2
Acenaphthene	0.5	mg/kg	0.8	< 0.5	< 0.5	< 0.5
Acenaphthylene	0.5	mg/kg	0.6	< 0.5	< 0.5	< 0.5
Anthracene	0.5	mg/kg	0.6	< 0.5	< 0.5	< 0.5
Benz(a)anthracene	0.5	mg/kg	0.6	< 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	0.8	< 0.5	< 0.5	< 0.5
Chrysene	0.5	mg/kg	1.0	< 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	0.7	< 0.5	< 0.5	< 0.5
Fluorene	0.5	mg/kg	0.8	< 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	0.7	< 0.5	< 0.5	< 0.5
Pyrene	0.5	mg/kg	0.7	< 0.5	< 0.5	< 0.5
Total PAH*	0.5	mg/kg	8.3	< 0.5	< 0.5	< 0.5
2-Fluorobiphenyl (surr.)	1	%	75	74	77	79
p-Terphenyl-d14 (surr.)	1	%	109	66	77	80
Organochlorine Pesticides						
Chlordanes - Total	0.1	mg/kg	-	< 0.1	< 0.1	< 0.1
4.4'-DDD	0.05	mg/kg	-	< 0.05	< 0.05	< 0.05
4.4'-DDE	0.05	mg/kg	-	< 0.05	< 0.05	< 0.05
4.4'-DDT	0.05	mg/kg	-	< 0.05	< 0.05	< 0.05

Client Sample ID			TP18 0.0-0.2	TP19 0.0-0.1	TP20 0.0-0.1	TP21 0.0-0.2
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			S21-Oc38443	S21-Oc38444	S21-Oc38445	S21-Oc38446
Date Sampled			Oct 06, 2021	Oct 07, 2021	Oct 07, 2021	Oct 07, 2021
Test/Reference	LOR	Unit				
Organochlorine Pesticides						
a-HCH	0.05	mg/kg	-	< 0.05	< 0.05	< 0.05
Aldrin	0.05	mg/kg	-	< 0.05	< 0.05	< 0.05
b-HCH	0.05	mg/kg	-	< 0.05	< 0.05	< 0.05
d-HCH	0.05	mg/kg	-	< 0.05	< 0.05	< 0.05
Dieldrin	0.05	mg/kg	-	< 0.05	< 0.05	< 0.05
Endosulfan I	0.05	mg/kg	-	< 0.05	< 0.05	< 0.05
Endosulfan II	0.05	mg/kg	-	< 0.05	< 0.05	< 0.05
Endosulfan sulphate	0.05	mg/kg	-	< 0.05	< 0.05	< 0.05
Endrin	0.05	mg/kg	-	< 0.05	< 0.05	< 0.05
Endrin aldehyde	0.05	mg/kg	-	< 0.05	< 0.05	< 0.05
Endrin ketone	0.05	mg/kg	-	< 0.05	< 0.05	< 0.05
g-HCH (Lindane)	0.05	mg/kg	-	< 0.05	< 0.05	< 0.05
Heptachlor	0.05	mg/kg	-	< 0.05	< 0.05	< 0.05
Heptachlor epoxide	0.05	mg/kg	-	< 0.05	< 0.05	< 0.05
Hexachlorobenzene	0.05	mg/kg	-	< 0.05	< 0.05	< 0.05
Methoxychlor	0.05	mg/kg	-	< 0.05	< 0.05	< 0.05
Toxaphene	0.5	mg/kg	-	< 0.5	< 0.5	< 0.5
Aldrin and Dieldrin (Total)*	0.05	mg/kg	-	< 0.05	< 0.05	< 0.05
DDT + DDE + DDD (Total)*	0.05	mg/kg	-	< 0.05	< 0.05	< 0.05
Vic EPA IWRG 621 OCP (Total)*	0.1	mg/kg	-	< 0.1	< 0.1	< 0.1
Vic EPA IWRG 621 Other OCP (Total)*	0.1	mg/kg	-	< 0.1	< 0.1	< 0.1
Dibutylchlorendate (surr.)	1	%	-	82	91	97
Tetrachloro-m-xylene (surr.)	1	%	-	73	79	81
Polychlorinated Biphenyls						
Aroclor-1016	0.1	mg/kg	-	< 0.1	< 0.1	< 0.1
Aroclor-1221	0.1	mg/kg	-	< 0.1	< 0.1	< 0.1
Aroclor-1232	0.1	mg/kg	-	< 0.1	< 0.1	< 0.1
Aroclor-1242	0.1	mg/kg	-	< 0.1	< 0.1	< 0.1
Aroclor-1248	0.1	mg/kg	-	< 0.1	< 0.1	< 0.1
Aroclor-1254	0.1	mg/kg	-	< 0.1	< 0.1	< 0.1
Aroclor-1260	0.1	mg/kg	-	< 0.1	< 0.1	< 0.1
Total PCB*	0.1	mg/kg	-	< 0.1	< 0.1	< 0.1
Dibutylchlorendate (surr.)	1	%	-	82	91	97
Tetrachloro-m-xylene (surr.)	1	%	-	73	79	81
Heavy Metals						
Arsenic	2	mg/kg	3.8	13	8.2	15
Cadmium	0.4	mg/kg	< 0.4	< 0.4	< 0.4	< 0.4
Chromium	5	mg/kg	34	17	6.5	25
Copper	5	mg/kg	54	34	84	45
Lead	5	mg/kg	14	18	8.5	30
Mercury	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Nickel	5	mg/kg	32	22	18	18
Zinc	5	mg/kg	170	100	300	120
% Moisture	1	%	12	6.7	8.2	11
Ammonia (as N)	5	mg/kg	-	[R09]2200	[R09]3300	< 5
Nitrate & Nitrite (as N)	5	mg/kg	-	4500	11000	5.2
Nitrate (as N)	5	mg/kg	-	4500	11000	< 5
Nitrite (as N)	5	mg/kg	-	< 5	< 5	< 5

Client Sample ID			TP18 0.0-0.2	TP19 0.0-0.1	TP20 0.0-0.1	TP21 0.0-0.2
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			S21-Oc38443	S21-Oc38444	S21-Oc38445	S21-Oc38446
Date Sampled			Oct 06, 2021	Oct 07, 2021	Oct 07, 2021	Oct 07, 2021
Test/Reference	LOR	Unit				
Total Kjeldahl Nitrogen (as N)	10	mg/kg	-	R09 2100	R09 1700	2500
Total Nitrogen (as N)*	10	mg/kg	-	6600	12700	2505.2
Phosphorus	5	mg/kg	-	840	11000	860

Client Sample ID			TP22 0.0-0.1	TP23 0.0-0.1	TP24 0.0-0.1	TP25 0.0-0.1
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			S21-Oc38447	S21-Oc38448	S21-Oc38449	S21-Oc38450
Date Sampled			Oct 06, 2021	Oct 07, 2021	Oct 07, 2021	Oct 07, 2021
Test/Reference	LOR	Unit				
Total Recoverable Hydrocarbons						
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	54	< 50	110
TRH C10-C36 (Total)	50	mg/kg	< 50	54	< 50	110
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	110
TRH >C34-C40	100	mg/kg	< 100	< 100	< 100	< 100
TRH >C10-C40 (total)*	100	mg/kg	< 100	< 100	< 100	110
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	%	101	103	98	104
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

Client Sample ID			TP22 0.0-0.1	TP23 0.0-0.1	TP24 0.0-0.1	TP25 0.0-0.1
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			S21-Oc38447	S21-Oc38448	S21-Oc38449	S21-Oc38450
Date Sampled			Oct 06, 2021	Oct 07, 2021	Oct 07, 2021	Oct 07, 2021
Test/Reference	LOR	Unit				
Polycyclic Aromatic Hydrocarbons						
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	%	78	115	102	77
p-Terphenyl-d14 (surr.)	1	%	83	87	90	74
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-HCH	0.05	mg/kg	< 0.05	-	-	< 0.05
Aldrin	0.05	mg/kg	< 0.05	-	-	< 0.05
b-HCH	0.05	mg/kg	< 0.05	-	-	< 0.05
d-HCH	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-HCH (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	0.05	mg/kg	< 0.05	-	-	< 0.05
Toxaphene	0.5	mg/kg	< 0.5	-	-	< 0.5
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	< 0.1	-	-	< 0.1
Vic EPA IWRG 621 Other OCP (Total)*	0.1	mg/kg	< 0.1	-	-	< 0.1
Dibutylchlorendate (surr.)	1	%	103	-	-	74
Tetrachloro-m-xylene (surr.)	1	%	81	-	-	77
Polychlorinated Biphenyls						
Aroclor-1016	0.1	mg/kg	< 0.1	-	-	< 0.1
Aroclor-1221	0.1	mg/kg	< 0.1	-	-	< 0.1
Aroclor-1232	0.1	mg/kg	< 0.1	-	-	< 0.1
Aroclor-1242	0.1	mg/kg	< 0.1	-	-	< 0.1
Aroclor-1248	0.1	mg/kg	< 0.1	-	-	< 0.1
Aroclor-1254	0.1	mg/kg	< 0.1	-	-	< 0.1
Aroclor-1260	0.1	mg/kg	< 0.1	-	-	< 0.1
Total PCB*	0.1	mg/kg	< 0.1	-	-	< 0.1
Dibutylchlorendate (surr.)	1	%	103	-	-	74
Tetrachloro-m-xylene (surr.)	1	%	81	-	-	77

Client Sample ID			TP22 0.0-0.1	TP23 0.0-0.1	TP24 0.0-0.1	TP25 0.0-0.1
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			S21-Oc38447	S21-Oc38448	S21-Oc38449	S21-Oc38450
Date Sampled			Oct 06, 2021	Oct 07, 2021	Oct 07, 2021	Oct 07, 2021
Test/Reference	LOR	Unit				
Heavy Metals						
Arsenic	2	mg/kg	15	15	18	12
Cadmium	0.4	mg/kg	< 0.4	< 0.4	< 0.4	< 0.4
Chromium	5	mg/kg	19	25	33	20
Copper	5	mg/kg	46	27	29	23
Lead	5	mg/kg	26	25	44	35
Mercury	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Nickel	5	mg/kg	21	23	15	9.6
Zinc	5	mg/kg	180	120	63	84
% Moisture	1	%	16	9.7	14	8.9

Client Sample ID			TP26 1.0-1.2	DR01 0.0-0.2	DR02 0.0-0.2	DR03 0.0-0.2
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			S21-Oc38451	S21-Oc38452	S21-Oc38453	S21-Oc38454
Date Sampled			Oct 07, 2021	Oct 06, 2021	Oct 06, 2021	Oct 06, 2021
Test/Reference	LOR	Unit				
Total Recoverable Hydrocarbons						
TRH C6-C9	20	mg/kg	< 20	< 20	< 20	< 20
TRH C10-C14	20	mg/kg	< 20	< 20	< 20	< 100
TRH C15-C28	50	mg/kg	< 50	79	< 50	300
TRH C29-C36	50	mg/kg	87	180	66	860
TRH C10-C36 (Total)	50	mg/kg	87	259	66	1160
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	< 250
TRH >C10-C16 less Naphthalene (F2)[N01]	50	mg/kg	< 50	< 50	< 50	< 250
TRH >C16-C34	100	mg/kg	< 100	200	< 100	880
TRH >C34-C40	100	mg/kg	120	230	100	1100
TRH >C10-C40 (total)*	100	mg/kg	120	430	100	1980
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	88	98	98
Polycyclic Aromatic Hydrocarbons						
Benzo(a)pyrene TEQ (lower bound) *	0.5	mg/kg	< 0.5	< 0.5	< 0.5	0.7
Benzo(a)pyrene TEQ (medium bound) *	0.5	mg/kg	0.6	0.6	0.6	1.0
Benzo(a)pyrene TEQ (upper bound) *	0.5	mg/kg	1.2	1.2	1.2	1.3
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	0.6
Benzo(b&j)fluoranthene[N07]	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5

Client Sample ID			TP26 1.0-1.2	DR01 0.0-0.2	DR02 0.0-0.2	DR03 0.0-0.2
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			S21-Oc38451	S21-Oc38452	S21-Oc38453	S21-Oc38454
Date Sampled			Oct 07, 2021	Oct 06, 2021	Oct 06, 2021	Oct 06, 2021
Test/Reference	LOR	Unit				
Polycyclic Aromatic Hydrocarbons						
Benzo(g.h.i)perylene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	1.4
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	0.7
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	2.7
2-Fluorobiphenyl (surr.)	1	%	64	84	96	89
p-Terphenyl-d14 (surr.)	1	%	90	88	88	84
Heavy Metals						
Arsenic	2	mg/kg	14	4.3	3.2	3.0
Cadmium	0.4	mg/kg	< 0.4	< 0.4	< 0.4	< 0.4
Chromium	5	mg/kg	30	24	19	17
Copper	5	mg/kg	38	34	21	52
Lead	5	mg/kg	35	21	13	15
Mercury	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Nickel	5	mg/kg	22	22	16	15
Zinc	5	mg/kg	86	84	48	46
% Moisture	1	%	13	5.3	4.0	5.3

Client Sample ID			DR04 0.0-0.1	DR05 0.0-0.1	DR06 0.0-0.1	DR07 0.0-0.1
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			S21-Oc38455	S21-Oc38456	S21-Oc38457	S21-Oc38458
Date Sampled			Oct 07, 2021	Oct 07, 2021	Oct 07, 2021	Oct 07, 2021
Test/Reference	LOR	Unit				
Total Recoverable Hydrocarbons						
TRH C6-C9	20	mg/kg	< 20	< 20	< 20	< 20
TRH C10-C14	20	mg/kg	< 20	< 20	< 40	< 20
TRH C15-C28	50	mg/kg	65	< 50	< 100	< 50
TRH C29-C36	50	mg/kg	150	53	130	< 50
TRH C10-C36 (Total)	50	mg/kg	215	53	130	< 50
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	< 100	< 50
TRH >C10-C16 less Naphthalene (F2)[N01]	50	mg/kg	< 50	< 50	< 100	< 50
TRH >C16-C34	100	mg/kg	170	< 100	< 200	< 100
TRH >C34-C40	100	mg/kg	170	< 100	< 200	< 100
TRH >C10-C40 (total)*	100	mg/kg	340	< 100	< 200	< 100

Client Sample ID			DR04 0.0-0.1	DR05 0.0-0.1	DR06 0.0-0.1	DR07 0.0-0.1
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			S21-Oc38455	S21-Oc38456	S21-Oc38457	S21-Oc38458
Date Sampled			Oct 07, 2021	Oct 07, 2021	Oct 07, 2021	Oct 07, 2021
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	%	101	98	122	129
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	93	91	105
p-Terphenyl-d14 (surr.)	1	%	86	81	79	86
Heavy Metals						
Arsenic	2	mg/kg	3.4	4.8	12	3.7
Cadmium	0.4	mg/kg	< 0.4	< 0.4	< 0.4	< 0.4
Chromium	5	mg/kg	14	59	33	18
Copper	5	mg/kg	41	14	35	9.3
Lead	5	mg/kg	13	17	25	14
Mercury	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Nickel	5	mg/kg	14	21	28	21
Zinc	5	mg/kg	93	37	95	34
% Moisture	1	%	3.3	5.7	12	4.7

Client Sample ID			DR08 0.0-0.1	[G01]SP1-1	SP1-2	SP1-3
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			S21-Oc38459	S21-Oc38460	S21-Oc38461	S21-Oc38462
Date Sampled			Oct 07, 2021	Oct 07, 2021	Oct 07, 2021	Oct 07, 2021
Test/Reference	LOR	Unit				
Total Recoverable Hydrocarbons						
TRH C6-C9	20	mg/kg	< 20	< 20	< 20	< 20
TRH C10-C14	20	mg/kg	< 20	< 20	< 40	< 40
TRH C15-C28	50	mg/kg	< 50	210	< 100	270
TRH C29-C36	50	mg/kg	< 50	280	160	390
TRH C10-C36 (Total)	50	mg/kg	< 50	490	160	660
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	< 100	< 100
TRH >C10-C16 less Naphthalene (F2)[N01]	50	mg/kg	< 50	< 50	< 100	< 100
TRH >C16-C34	100	mg/kg	< 100	430	< 200	590
TRH >C34-C40	100	mg/kg	< 100	180	< 200	< 200
TRH >C10-C40 (total)*	100	mg/kg	< 100	610	< 200	590
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	78	68	89
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	99	91	91
p-Terphenyl-d14 (surr.)	1	%	66	77	73	87
Organochlorine Pesticides						
Chlordanes - Total	0.1	mg/kg	-	< 1	< 1	< 1
4.4'-DDD	0.05	mg/kg	-	< 0.5	< 0.5	< 0.5
4.4'-DDE	0.05	mg/kg	-	< 0.5	< 0.5	< 0.5
4.4'-DDT	0.05	mg/kg	-	< 0.5	< 0.5	< 0.5

Client Sample ID			DR08 0.0-0.1	[G01]SP1-1	SP1-2	SP1-3
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			S21-Oc38459	S21-Oc38460	S21-Oc38461	S21-Oc38462
Date Sampled			Oct 07, 2021	Oct 07, 2021	Oct 07, 2021	Oct 07, 2021
Test/Reference	LOR	Unit				
Organochlorine Pesticides						
a-HCH	0.05	mg/kg	-	< 0.5	< 0.5	< 0.5
Aldrin	0.05	mg/kg	-	< 0.5	< 0.5	< 0.5
b-HCH	0.05	mg/kg	-	< 0.5	< 0.5	< 0.5
d-HCH	0.05	mg/kg	-	< 0.5	< 0.5	< 0.5
Dieldrin	0.05	mg/kg	-	< 0.5	< 0.5	< 0.5
Endosulfan I	0.05	mg/kg	-	< 0.5	< 0.5	< 0.5
Endosulfan II	0.05	mg/kg	-	< 0.5	< 0.5	< 0.5
Endosulfan sulphate	0.05	mg/kg	-	< 0.5	< 0.5	< 0.5
Endrin	0.05	mg/kg	-	< 0.5	< 0.5	< 0.5
Endrin aldehyde	0.05	mg/kg	-	< 0.5	< 0.5	< 0.5
Endrin ketone	0.05	mg/kg	-	< 0.5	< 0.5	< 0.5
g-HCH (Lindane)	0.05	mg/kg	-	< 0.5	< 0.5	< 0.5
Heptachlor	0.05	mg/kg	-	< 0.5	< 0.5	< 0.5
Heptachlor epoxide	0.05	mg/kg	-	< 0.5	< 0.5	< 0.5
Hexachlorobenzene	0.05	mg/kg	-	< 0.5	< 0.5	< 0.5
Methoxychlor	0.05	mg/kg	-	< 0.5	< 0.5	< 0.5
Toxaphene	0.5	mg/kg	-	< 10	< 10	< 10
Aldrin and Dieldrin (Total)*	0.05	mg/kg	-	< 0.5	< 0.5	< 0.5
DDT + DDE + DDD (Total)*	0.05	mg/kg	-	< 0.5	< 0.5	< 0.5
Vic EPA IWRG 621 OCP (Total)*	0.1	mg/kg	-	< 1	< 1	< 1
Vic EPA IWRG 621 Other OCP (Total)*	0.1	mg/kg	-	< 1	< 1	< 1
Dibutylchlorendate (surr.)	1	%	-	57	80	62
Tetrachloro-m-xylene (surr.)	1	%	-	59	70	58
Polychlorinated Biphenyls						
Aroclor-1016	0.1	mg/kg	-	< 1	< 1	< 1
Aroclor-1221	0.1	mg/kg	-	< 1	< 1	< 1
Aroclor-1232	0.1	mg/kg	-	< 1	< 1	< 1
Aroclor-1242	0.1	mg/kg	-	< 1	< 1	< 1
Aroclor-1248	0.1	mg/kg	-	< 1	< 1	< 1
Aroclor-1254	0.1	mg/kg	-	< 1	< 1	< 1
Aroclor-1260	0.1	mg/kg	-	< 1	< 1	< 1
Total PCB*	0.1	mg/kg	-	< 1	< 1	< 1
Dibutylchlorendate (surr.)	1	%	-	57	80	62
Tetrachloro-m-xylene (surr.)	1	%	-	59	70	58
Heavy Metals						
Arsenic	2	mg/kg	6.3	3.3	4.8	5.9
Cadmium	0.4	mg/kg	< 0.4	< 0.4	< 0.4	< 0.4
Chromium	5	mg/kg	13	9.8	14	18
Copper	5	mg/kg	8.4	260	120	150
Lead	5	mg/kg	14	12	16	24
Mercury	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Nickel	5	mg/kg	6.3	15	15	22
Zinc	5	mg/kg	21	1000	380	640
% Moisture	1	%	6.1	39	33	26
Ammonia (as N)	5	mg/kg	-	< 250	< 5	5.4
Nitrate & Nitrite (as N)	5	mg/kg	-	1800	750	760
Nitrate (as N)	5	mg/kg	-	1800	750	760
Nitrite (as N)	5	mg/kg	-	< 5	< 5	< 5

Client Sample ID			DR08 0.0-0.1	[G01]SP1-1	SP1-2	SP1-3
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			S21-Oc38459	S21-Oc38460	S21-Oc38461	S21-Oc38462
Date Sampled			Oct 07, 2021	Oct 07, 2021	Oct 07, 2021	Oct 07, 2021
Test/Reference	LOR	Unit				
Total Kjeldahl Nitrogen (as N)	10	mg/kg	-	24000	12000	23000
Total Nitrogen (as N)*	10	mg/kg	-	25800	12750	23760
Phosphorus	5	mg/kg	-	14000	13000	12000

Client Sample ID			DS01	DS02	DS03	DS04
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			S21-Oc38463	S21-Oc38464	S21-Oc38465	S21-Oc38466
Date Sampled			Oct 07, 2021	Oct 07, 2021	Oct 07, 2021	Oct 07, 2021
Test/Reference	LOR	Unit				
Total Recoverable Hydrocarbons						
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	56	< 50
TRH C10-C36 (Total)	50	mg/kg	< 50	< 50	56	< 50
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
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	%	73	73	93	71
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

Client Sample ID			DS01	DS02	DS03	DS04
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			S21-Oc38463	S21-Oc38464	S21-Oc38465	S21-Oc38466
Date Sampled			Oct 07, 2021	Oct 07, 2021	Oct 07, 2021	Oct 07, 2021
Test/Reference	LOR	Unit				
Polycyclic Aromatic Hydrocarbons						
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	89	122	90
p-Terphenyl-d14 (surr.)	1	%	90	77	106	87
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-HCH	0.05	mg/kg	< 0.05	< 0.05	-	-
Aldrin	0.05	mg/kg	< 0.05	< 0.05	-	-
b-HCH	0.05	mg/kg	< 0.05	< 0.05	-	-
d-HCH	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-HCH (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	0.05	mg/kg	< 0.05	< 0.05	-	-
Toxaphene	0.5	mg/kg	< 0.5	< 0.5	-	-
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	< 0.1	< 0.1	-	-
Vic EPA IWRG 621 Other OCP (Total)*	0.1	mg/kg	< 0.1	< 0.1	-	-
Dibutylchlorendate (surr.)	1	%	63	68	-	-
Tetrachloro-m-xylene (surr.)	1	%	83	61	-	-
Polychlorinated Biphenyls						
Aroclor-1016	0.1	mg/kg	< 0.1	< 0.1	-	-
Aroclor-1221	0.1	mg/kg	< 0.1	< 0.1	-	-
Aroclor-1232	0.1	mg/kg	< 0.1	< 0.1	-	-
Aroclor-1242	0.1	mg/kg	< 0.1	< 0.1	-	-
Aroclor-1248	0.1	mg/kg	< 0.1	< 0.1	-	-
Aroclor-1254	0.1	mg/kg	< 0.1	< 0.1	-	-
Aroclor-1260	0.1	mg/kg	< 0.1	< 0.1	-	-
Total PCB*	0.1	mg/kg	< 0.1	< 0.1	-	-
Dibutylchlorendate (surr.)	1	%	63	68	-	-
Tetrachloro-m-xylene (surr.)	1	%	83	61	-	-

Client Sample ID			DS01	DS02	DS03	DS04
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			S21-Oc38463	S21-Oc38464	S21-Oc38465	S21-Oc38466
Date Sampled			Oct 07, 2021	Oct 07, 2021	Oct 07, 2021	Oct 07, 2021
Test/Reference	LOR	Unit				
Heavy Metals						
Arsenic	2	mg/kg	18	4.4	8.0	7.2
Cadmium	0.4	mg/kg	< 0.4	< 0.4	< 0.4	< 0.4
Chromium	5	mg/kg	30	10	21	21
Copper	5	mg/kg	48	13	32	31
Lead	5	mg/kg	38	13	22	22
Mercury	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Nickel	5	mg/kg	24	6.3	15	17
Zinc	5	mg/kg	110	30	51	52
% Moisture	1	%	28	27	35	34
Ammonia (as N)	5	mg/kg	13	12	-	-
Nitrate & Nitrite (as N)	5	mg/kg	< 5	< 5	-	-
Nitrate (as N)	5	mg/kg	< 5	< 5	-	-
Nitrite (as N)	5	mg/kg	< 5	< 5	-	-
Total Kjeldahl Nitrogen (as N)	10	mg/kg	2200	1700	-	-
Total Nitrogen (as N)*	10	mg/kg	2200	1700	-	-
Phosphorus	5	mg/kg	650	730	-	-

Client Sample ID			DS05	DS06	BD1	BD2
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			S21-Oc38467	S21-Oc38468	S21-Oc38475	S21-Oc38476
Date Sampled			Oct 07, 2021	Oct 07, 2021	Oct 07, 2021	Oct 07, 2021
Test/Reference	LOR	Unit				
Total Recoverable Hydrocarbons						
TRH C6-C9	20	mg/kg	< 20	< 20	< 20	-
TRH C10-C14	20	mg/kg	< 20	< 20	< 20	-
TRH C15-C28	50	mg/kg	< 50	< 50	< 50	-
TRH C29-C36	50	mg/kg	< 50	< 50	< 50	-
TRH C10-C36 (Total)	50	mg/kg	< 50	< 50	< 50	-
Naphthalene[N02]	0.5	mg/kg	< 0.5	< 0.5	< 0.5	-
TRH C6-C10	20	mg/kg	< 20	< 20	< 20	-
TRH C6-C10 less BTEX (F1)[N04]	20	mg/kg	< 20	< 20	< 20	-
TRH >C10-C16	50	mg/kg	< 50	< 50	< 50	-
TRH >C10-C16 less Naphthalene (F2)[N01]	50	mg/kg	< 50	< 50	< 50	-
TRH >C16-C34	100	mg/kg	< 100	< 100	< 100	-
TRH >C34-C40	100	mg/kg	< 100	< 100	< 100	-
TRH >C10-C40 (total)*	100	mg/kg	< 100	< 100	< 100	-
BTEX						
Benzene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	-
Toluene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	-
Ethylbenzene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	-
m&p-Xylenes	0.2	mg/kg	< 0.2	< 0.2	< 0.2	-
o-Xylene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	-
Xylenes - Total*	0.3	mg/kg	< 0.3	< 0.3	< 0.3	-
4-Bromofluorobenzene (surr.)	1	%	107	90	95	-

Client Sample ID			DS05	DS06	BD1	BD2
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			S21-Oc38467	S21-Oc38468	S21-Oc38475	S21-Oc38476
Date Sampled			Oct 07, 2021	Oct 07, 2021	Oct 07, 2021	Oct 07, 2021
Test/Reference	LOR	Unit				
Polycyclic Aromatic Hydrocarbons						
Benzo(a)pyrene TEQ (lower bound) *	0.5	mg/kg	< 0.5	< 0.5	< 0.5	-
Benzo(a)pyrene TEQ (medium bound) *	0.5	mg/kg	0.6	0.6	0.6	-
Benzo(a)pyrene TEQ (upper bound) *	0.5	mg/kg	1.2	1.2	1.2	-
Acenaphthene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	-
Acenaphthylene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	-
Anthracene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	-
Benz(a)anthracene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	-
Benzo(a)pyrene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	-
Benzo(b&j)fluoranthene[N07]	0.5	mg/kg	< 0.5	< 0.5	< 0.5	-
Benzo(g.h.i)perylene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	-
Benzo(k)fluoranthene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	-
Chrysene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	-
Dibenz(a.h)anthracene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	-
Fluoranthene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	-
Fluorene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	-
Indeno(1.2.3-cd)pyrene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	-
Naphthalene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	-
Phenanthrene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	-
Pyrene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	-
Total PAH*	0.5	mg/kg	< 0.5	< 0.5	< 0.5	-
2-Fluorobiphenyl (surr.)	1	%	91	113	103	-
p-Terphenyl-d14 (surr.)	1	%	91	88	86	-
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-HCH	0.05	mg/kg	-	-	-	< 0.05
Aldrin	0.05	mg/kg	-	-	-	< 0.05
b-HCH	0.05	mg/kg	-	-	-	< 0.05
d-HCH	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-HCH (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	0.05	mg/kg	-	-	-	< 0.05
Toxaphene	0.5	mg/kg	-	-	-	< 0.5
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	-	-	-	< 0.1
Vic EPA IWRG 621 Other OCP (Total)*	0.1	mg/kg	-	-	-	< 0.1
Dibutylchlorendate (surr.)	1	%	-	-	-	90
Tetrachloro-m-xylene (surr.)	1	%	-	-	-	78

Client Sample ID			DS05	DS06	BD1	BD2
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			S21-Oc38467	S21-Oc38468	S21-Oc38475	S21-Oc38476
Date Sampled			Oct 07, 2021	Oct 07, 2021	Oct 07, 2021	Oct 07, 2021
Test/Reference	LOR	Unit				
Polychlorinated Biphenyls						
Aroclor-1016	0.1	mg/kg	-	-	-	< 0.1
Aroclor-1221	0.1	mg/kg	-	-	-	< 0.1
Aroclor-1232	0.1	mg/kg	-	-	-	< 0.1
Aroclor-1242	0.1	mg/kg	-	-	-	< 0.1
Aroclor-1248	0.1	mg/kg	-	-	-	< 0.1
Aroclor-1254	0.1	mg/kg	-	-	-	< 0.1
Aroclor-1260	0.1	mg/kg	-	-	-	< 0.1
Total PCB*	0.1	mg/kg	-	-	-	< 0.1
Dibutylchlorendate (surr.)	1	%	-	-	-	90
Tetrachloro-m-xylene (surr.)	1	%	-	-	-	78
Heavy Metals						
Arsenic	2	mg/kg	9.5	16	10	-
Cadmium	0.4	mg/kg	< 0.4	< 0.4	< 0.4	-
Chromium	5	mg/kg	21	27	23	-
Copper	5	mg/kg	26	26	28	-
Lead	5	mg/kg	13	41	27	-
Mercury	0.1	mg/kg	< 0.1	< 0.1	< 0.1	-
Nickel	5	mg/kg	17	16	15	-
Zinc	5	mg/kg	49	71	59	-
% Moisture	1	%	27	29	14	20

Client Sample ID			TRIP BLANK 1	TRIP BLANK 2	TRIP BLANK 3	TRIP BLANK 4
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			S21-Oc38477	S21-Oc38478	S21-Oc38479	S21-Oc38480
Date Sampled			Oct 07, 2021	Oct 07, 2021	Oct 07, 2021	Oct 07, 2021
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	%	78	78	81	81

Client Sample ID			TRIP BLANK 5	TRIP SPIKE 1	TRIP SPIKE 2	TRIP SPIKE 3
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			S21-Oc38481	S21-Oc38482	S21-Oc38483	S21-Oc38484
Date Sampled			Oct 07, 2021	Oct 07, 2021	Oct 07, 2021	Oct 07, 2021
Test/Reference	LOR	Unit				
BTEX						
Benzene	0.1	mg/kg	< 0.1	-	-	-
Toluene	0.1	mg/kg	< 0.1	-	-	-
Ethylbenzene	0.1	mg/kg	< 0.1	-	-	-
m&p-Xylenes	0.2	mg/kg	< 0.2	-	-	-
o-Xylene	0.1	mg/kg	< 0.1	-	-	-
Xylenes - Total*	0.3	mg/kg	< 0.3	-	-	-
4-Bromofluorobenzene (surr.)	1	%	80	-	-	-
BTEX						
Benzene	1	%	-	94	100	100
Ethylbenzene	1	%	-	96	100	100
m&p-Xylenes	1	%	-	96	99	100
o-Xylene	1	%	-	95	100	100
Toluene	1	%	-	97	100	100
Xylenes - Total	1	%	-	95	100	100
4-Bromofluorobenzene (surr.)	1	%	-	74	76	74

Client Sample ID			TRIP SPIKE 4	TRIP SPIKE 5	BD3	PP2 0.0-0.1
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			S21-Oc38485	S21-Oc38486	S21-Oc38492	S21-Oc38493
Date Sampled			Oct 07, 2021	Oct 07, 2021	Mar 12, 2021	Aug 13, 2021
Test/Reference	LOR	Unit				
Total Recoverable Hydrocarbons						
TRH C6-C9	20	mg/kg	-	-	< 20	-
TRH C10-C14	20	mg/kg	-	-	< 20	-
TRH C15-C28	50	mg/kg	-	-	< 50	-
TRH C29-C36	50	mg/kg	-	-	66	-
TRH C10-C36 (Total)	50	mg/kg	-	-	66	-
Naphthalene[N02]	0.5	mg/kg	-	-	< 0.5	-
TRH C6-C10	20	mg/kg	-	-	< 20	-
TRH C6-C10 less BTEX (F1)[N04]	20	mg/kg	-	-	< 20	-
TRH >C10-C16	50	mg/kg	-	-	< 50	-
TRH >C10-C16 less Naphthalene (F2)[N01]	50	mg/kg	-	-	< 50	-
TRH >C16-C34	100	mg/kg	-	-	< 100	-
TRH >C34-C40	100	mg/kg	-	-	< 100	-
TRH >C10-C40 (total)*	100	mg/kg	-	-	< 100	-
BTEX						
Benzene	0.1	mg/kg	-	-	< 0.1	-
Toluene	0.1	mg/kg	-	-	< 0.1	-
Ethylbenzene	0.1	mg/kg	-	-	< 0.1	-
m&p-Xylenes	0.2	mg/kg	-	-	< 0.2	-
o-Xylene	0.1	mg/kg	-	-	< 0.1	-
Xylenes - Total*	0.3	mg/kg	-	-	< 0.3	-
4-Bromofluorobenzene (surr.)	1	%	-	-	89	-
Polycyclic Aromatic Hydrocarbons						
Benzo(a)pyrene TEQ (lower bound) *	0.5	mg/kg	-	-	< 0.5	-
Benzo(a)pyrene TEQ (medium bound) *	0.5	mg/kg	-	-	0.6	-
Benzo(a)pyrene TEQ (upper bound) *	0.5	mg/kg	-	-	1.2	-
Acenaphthene	0.5	mg/kg	-	-	< 0.5	-

Client Sample ID			TRIP SPIKE 4	TRIP SPIKE 5	BD3	PP2 0.0-0.1
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			S21-Oc38485	S21-Oc38486	S21-Oc38492	S21-Oc38493
Date Sampled			Oct 07, 2021	Oct 07, 2021	Mar 12, 2021	Aug 13, 2021
Test/Reference	LOR	Unit				
Polycyclic Aromatic Hydrocarbons						
Acenaphthylene	0.5	mg/kg	-	-	< 0.5	-
Anthracene	0.5	mg/kg	-	-	< 0.5	-
Benz(a)anthracene	0.5	mg/kg	-	-	< 0.5	-
Benzo(a)pyrene	0.5	mg/kg	-	-	< 0.5	-
Benzo(b&j)fluoranthene[N07]	0.5	mg/kg	-	-	< 0.5	-
Benzo(g.h.i)perylene	0.5	mg/kg	-	-	< 0.5	-
Benzo(k)fluoranthene	0.5	mg/kg	-	-	< 0.5	-
Chrysene	0.5	mg/kg	-	-	< 0.5	-
Dibenz(a.h)anthracene	0.5	mg/kg	-	-	< 0.5	-
Fluoranthene	0.5	mg/kg	-	-	< 0.5	-
Fluorene	0.5	mg/kg	-	-	< 0.5	-
Indeno(1.2.3-cd)pyrene	0.5	mg/kg	-	-	< 0.5	-
Naphthalene	0.5	mg/kg	-	-	< 0.5	-
Phenanthrene	0.5	mg/kg	-	-	< 0.5	-
Pyrene	0.5	mg/kg	-	-	< 0.5	-
Total PAH*	0.5	mg/kg	-	-	< 0.5	-
2-Fluorobiphenyl (surr.)	1	%	-	-	102	-
p-Terphenyl-d14 (surr.)	1	%	-	-	80	-
Heavy Metals						
Arsenic	2	mg/kg	-	-	15	20
Cadmium	0.4	mg/kg	-	-	< 0.4	< 0.4
Chromium	5	mg/kg	-	-	36	25
Copper	5	mg/kg	-	-	40	26
Lead	5	mg/kg	-	-	30	-
Mercury	0.1	mg/kg	-	-	< 0.1	-
Nickel	5	mg/kg	-	-	30	-
Zinc	5	mg/kg	-	-	220	-
% Moisture	1	%	-	-	9.1	13
BTEX						
Benzene	1	%	100	94	-	-
Ethylbenzene	1	%	110	92	-	-
m&p-Xylenes	1	%	100	92	-	-
o-Xylene	1	%	100	92	-	-
Toluene	1	%	100	93	-	-
Xylenes - Total	1	%	100	92	-	-
4-Bromofluorobenzene (surr.)	1	%	79	53	-	-

Client Sample ID			PP3 0.0-0.1	PP4 0.0-0.1	PP5 0.0-0.1	PP6 0.0-0.1
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			S21-Oc38494	S21-Oc38495	S21-Oc38496	S21-Oc38497
Date Sampled			Aug 13, 2021	Aug 12, 2021	Oct 13, 2021	Oct 12, 2021
Test/Reference	LOR	Unit				
Heavy Metals						
Arsenic	2	mg/kg	39	13	9.9	39
Cadmium	0.4	mg/kg	< 0.4	< 0.4	< 0.4	< 0.4
Chromium	5	mg/kg	21	23	16	23
Copper	5	mg/kg	24	30	21	41

Client Sample ID			PP3 0.0-0.1	PP4 0.0-0.1	PP5 0.0-0.1	PP6 0.0-0.1
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			S21-Oc38494	S21-Oc38495	S21-Oc38496	S21-Oc38497
Date Sampled			Aug 13, 2021	Aug 12, 2021	Oct 13, 2021	Oct 12, 2021
Test/Reference	LOR	Unit				
% Moisture	1	%	11	9.5	11	8.5

Client Sample ID			PP7 0.0-0.1	PP8 0.0-0.1	DR11 0.0-0.1	DR12 0.0-0.1
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			S21-Oc38498	S21-Oc38499	S21-Oc38500	S21-Oc38501
Date Sampled			Oct 12, 2021	Oct 12, 2021	Oct 13, 2021	Oct 13, 2021
Test/Reference	LOR	Unit				
Total Recoverable Hydrocarbons						
TRH C6-C9	20	mg/kg	-	-	< 20	< 20
TRH C10-C14	20	mg/kg	-	-	< 20	< 20
TRH C15-C28	50	mg/kg	-	-	< 50	60
TRH C29-C36	50	mg/kg	-	-	< 50	77
TRH C10-C36 (Total)	50	mg/kg	-	-	< 50	137
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	110
TRH >C34-C40	100	mg/kg	-	-	< 100	< 100
TRH >C10-C40 (total)*	100	mg/kg	-	-	< 100	110
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	%	-	-	69	85
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
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

Client Sample ID			PP7 0.0-0.1	PP8 0.0-0.1	DR11 0.0-0.1	DR12 0.0-0.1
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			S21-Oc38498	S21-Oc38499	S21-Oc38500	S21-Oc38501
Date Sampled			Oct 12, 2021	Oct 12, 2021	Oct 13, 2021	Oct 13, 2021
Test/Reference	LOR	Unit				
Polycyclic Aromatic Hydrocarbons						
Pyrene	0.5	mg/kg	-	-	< 0.5	< 0.5
Total PAH*	0.5	mg/kg	-	-	< 0.5	< 0.5
2-Fluorobiphenyl (surr.)	1	%	-	-	108	108
p-Terphenyl-d14 (surr.)	1	%	-	-	82	86
Heavy Metals						
Arsenic	2	mg/kg	4.9	7.0	< 2	17
Cadmium	0.4	mg/kg	< 0.4	< 0.4	< 0.4	< 0.4
Chromium	5	mg/kg	10	13	< 5	26
Copper	5	mg/kg	19	29	< 5	52
Lead	5	mg/kg	-	-	< 5	37
Mercury	0.1	mg/kg	-	-	< 0.1	< 0.1
Nickel	5	mg/kg	-	-	< 5	37
Zinc	5	mg/kg	-	-	< 5	110
% Moisture	1	%	7.0	18	7.8	11

Client Sample ID			DR13 0.0-0.1	DR14 0.0-0.1	DS07	DS08
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			S21-Oc38502	S21-Oc38503	S21-Oc38504	S21-Oc38505
Date Sampled			Oct 13, 2021	Oct 13, 2021	Oct 13, 2021	Oct 13, 2021
Test/Reference	LOR	Unit				
Total Recoverable Hydrocarbons						
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
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
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	85	78	75
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

Client Sample ID			DR13 0.0-0.1	DR14 0.0-0.1	DS07	DS08
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			S21-Oc38502	S21-Oc38503	S21-Oc38504	S21-Oc38505
Date Sampled			Oct 13, 2021	Oct 13, 2021	Oct 13, 2021	Oct 13, 2021
Test/Reference	LOR	Unit				
Polycyclic Aromatic Hydrocarbons						
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	%	95	110	86	84
p-Terphenyl-d14 (surr.)	1	%	76	94	95	92
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-HCH	0.05	mg/kg	-	-	< 0.05	< 0.05
Aldrin	0.05	mg/kg	-	-	< 0.05	< 0.05
b-HCH	0.05	mg/kg	-	-	< 0.05	< 0.05
d-HCH	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-HCH (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	0.05	mg/kg	-	-	< 0.05	< 0.05
Toxaphene	0.5	mg/kg	-	-	< 0.5	< 0.5
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	-	-	< 0.1	< 0.1
Vic EPA IWRG 621 Other OCP (Total)*	0.1	mg/kg	-	-	< 0.1	< 0.1
Dibutylchlorendate (surr.)	1	%	-	-	94	93
Tetrachloro-m-xylene (surr.)	1	%	-	-	89	85

Client Sample ID			DR13 0.0-0.1	DR14 0.0-0.1	DS07	DS08
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			S21-Oc38502	S21-Oc38503	S21-Oc38504	S21-Oc38505
Date Sampled			Oct 13, 2021	Oct 13, 2021	Oct 13, 2021	Oct 13, 2021
Test/Reference	LOR	Unit				
Polychlorinated Biphenyls						
Aroclor-1016	0.1	mg/kg	-	-	< 0.1	< 0.1
Aroclor-1221	0.1	mg/kg	-	-	< 0.1	< 0.1
Aroclor-1232	0.1	mg/kg	-	-	< 0.1	< 0.1
Aroclor-1242	0.1	mg/kg	-	-	< 0.1	< 0.1
Aroclor-1248	0.1	mg/kg	-	-	< 0.1	< 0.1
Aroclor-1254	0.1	mg/kg	-	-	< 0.1	< 0.1
Aroclor-1260	0.1	mg/kg	-	-	< 0.1	< 0.1
Total PCB*	0.1	mg/kg	-	-	< 0.1	< 0.1
Dibutylchlorendate (surr.)	1	%	-	-	94	93
Tetrachloro-m-xylene (surr.)	1	%	-	-	89	85
Heavy Metals						
Arsenic	2	mg/kg	12	7.8	18	16
Cadmium	0.4	mg/kg	< 0.4	< 0.4	< 0.4	< 0.4
Chromium	5	mg/kg	21	21	16	18
Copper	5	mg/kg	19	36	16	18
Lead	5	mg/kg	24	18	20	18
Mercury	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Nickel	5	mg/kg	14	26	15	13
Zinc	5	mg/kg	44	64	51	54
% Moisture	1	%	14	10	13	15

Client Sample ID			DS09	DS10	TP13-0.0-0.2	TP27-0.0-0.2
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			S21-Oc38506	S21-Oc38507	S21-Oc38510	S21-Oc38511
Date Sampled			Oct 13, 2021	Oct 13, 2021	Oct 08, 2021	Oct 08, 2021
Test/Reference	LOR	Unit				
Total Recoverable Hydrocarbons						
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	61	51	< 50	< 50
TRH C10-C36 (Total)	50	mg/kg	61	51	< 50	< 50
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
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	%	50	75	[Q09]INT	83

Client Sample ID			DS09	DS10	TP13-0.0-0.2	TP27-0.0-0.2
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			S21-Oc38506	S21-Oc38507	S21-Oc38510	S21-Oc38511
Date Sampled			Oct 13, 2021	Oct 13, 2021	Oct 08, 2021	Oct 08, 2021
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	%	79	79	106	109
p-Terphenyl-d14 (surr.)	1	%	79	75	82	84
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-HCH	0.05	mg/kg	< 0.05	< 0.05	-	-
Aldrin	0.05	mg/kg	< 0.05	< 0.05	-	-
b-HCH	0.05	mg/kg	< 0.05	< 0.05	-	-
d-HCH	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-HCH (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	0.05	mg/kg	< 0.05	< 0.05	-	-
Toxaphene	0.5	mg/kg	< 0.5	< 0.5	-	-
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	< 0.1	< 0.1	-	-
Vic EPA IWRG 621 Other OCP (Total)*	0.1	mg/kg	< 0.1	< 0.1	-	-
Dibutylchlorendate (surr.)	1	%	79	85	-	-
Tetrachloro-m-xylene (surr.)	1	%	83	80	-	-

Client Sample ID			DS09	DS10	TP13-0.0-0.2	TP27-0.0-0.2
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			S21-Oc38506	S21-Oc38507	S21-Oc38510	S21-Oc38511
Date Sampled			Oct 13, 2021	Oct 13, 2021	Oct 08, 2021	Oct 08, 2021
Test/Reference	LOR	Unit				
Polychlorinated Biphenyls						
Aroclor-1016	0.1	mg/kg	< 0.1	< 0.1	-	-
Aroclor-1221	0.1	mg/kg	< 0.1	< 0.1	-	-
Aroclor-1232	0.1	mg/kg	< 0.1	< 0.1	-	-
Aroclor-1242	0.1	mg/kg	< 0.1	< 0.1	-	-
Aroclor-1248	0.1	mg/kg	< 0.1	< 0.1	-	-
Aroclor-1254	0.1	mg/kg	< 0.1	< 0.1	-	-
Aroclor-1260	0.1	mg/kg	< 0.1	< 0.1	-	-
Total PCB*	0.1	mg/kg	< 0.1	< 0.1	-	-
Dibutylchlorendate (surr.)	1	%	79	85	-	-
Tetrachloro-m-xylene (surr.)	1	%	83	80	-	-
Heavy Metals						
Arsenic	2	mg/kg	9.1	13	11	9.9
Cadmium	0.4	mg/kg	< 0.4	< 0.4	< 0.4	< 0.4
Chromium	5	mg/kg	16	19	19	20
Copper	5	mg/kg	27	23	25	36
Lead	5	mg/kg	18	22	22	25
Mercury	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Nickel	5	mg/kg	16	20	11	21
Zinc	5	mg/kg	59	71	67	120
% Moisture	1	%	10	11	8.7	7.4
Ammonia (as N)	5	mg/kg	-	-	7.3	-
Nitrate & Nitrite (as N)	5	mg/kg	-	-	5.0	-
Nitrate (as N)	5	mg/kg	-	-	< 5	-
Nitrite (as N)	5	mg/kg	-	-	< 5	-
Total Kjeldahl Nitrogen (as N)	10	mg/kg	-	-	2200	-
Total Nitrogen (as N)*	10	mg/kg	-	-	2205	-
Phosphorus	5	mg/kg	-	-	1300	-

Client Sample ID			TP28-0.0-0.1	TP29-0.0-0.2	TP30-0.0-0.2	TP31-0.0.-0.2
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			S21-Oc38512	S21-Oc38513	S21-Oc38514	S21-Oc38515
Date Sampled			Oct 08, 2021	Oct 08, 2021	Oct 08, 2021	Oct 08, 2021
Test/Reference	LOR	Unit				
Total Recoverable Hydrocarbons						
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
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			TP28-0.0-0.1	TP29-0.0-0.2	TP30-0.0-0.2	TP31-0.0.-0.2
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			S21-Oc38512	S21-Oc38513	S21-Oc38514	S21-Oc38515
Date Sampled			Oct 08, 2021	Oct 08, 2021	Oct 08, 2021	Oct 08, 2021
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	%	86	81	92	91
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	%	103	79	89	88
p-Terphenyl-d14 (surr.)	1	%	82	75	97	89
Organochlorine Pesticides						
Chlordanes - Total	0.1	mg/kg	-	< 0.1	< 0.1	< 0.1
4.4'-DDD	0.05	mg/kg	-	< 0.05	< 0.05	< 0.05
4.4'-DDE	0.05	mg/kg	-	< 0.05	< 0.05	< 0.05
4.4'-DDT	0.05	mg/kg	-	< 0.05	< 0.05	< 0.05
a-HCH	0.05	mg/kg	-	< 0.05	< 0.05	< 0.05
Aldrin	0.05	mg/kg	-	< 0.05	< 0.05	< 0.05
b-HCH	0.05	mg/kg	-	< 0.05	< 0.05	< 0.05
d-HCH	0.05	mg/kg	-	< 0.05	< 0.05	< 0.05
Dieldrin	0.05	mg/kg	-	< 0.05	< 0.05	< 0.05
Endosulfan I	0.05	mg/kg	-	< 0.05	< 0.05	< 0.05
Endosulfan II	0.05	mg/kg	-	< 0.05	< 0.05	< 0.05
Endosulfan sulphate	0.05	mg/kg	-	< 0.05	< 0.05	< 0.05
Endrin	0.05	mg/kg	-	< 0.05	< 0.05	< 0.05
Endrin aldehyde	0.05	mg/kg	-	< 0.05	< 0.05	< 0.05
Endrin ketone	0.05	mg/kg	-	< 0.05	< 0.05	< 0.05
g-HCH (Lindane)	0.05	mg/kg	-	< 0.05	< 0.05	< 0.05
Heptachlor	0.05	mg/kg	-	< 0.05	< 0.05	< 0.05
Heptachlor epoxide	0.05	mg/kg	-	< 0.05	< 0.05	< 0.05

Client Sample ID			TP28-0.0-0.1	TP29-0.0-0.2	TP30-0.0-0.2	TP31-0.0.-0.2
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			S21-Oc38512	S21-Oc38513	S21-Oc38514	S21-Oc38515
Date Sampled			Oct 08, 2021	Oct 08, 2021	Oct 08, 2021	Oct 08, 2021
Test/Reference	LOR	Unit				
Organochlorine Pesticides						
Hexachlorobenzene	0.05	mg/kg	-	< 0.05	< 0.05	< 0.05
Methoxychlor	0.05	mg/kg	-	< 0.05	< 0.05	< 0.05
Toxaphene	0.5	mg/kg	-	< 0.5	< 0.5	< 0.5
Aldrin and Dieldrin (Total)*	0.05	mg/kg	-	< 0.05	< 0.05	< 0.05
DDT + DDE + DDD (Total)*	0.05	mg/kg	-	< 0.05	< 0.05	< 0.05
Vic EPA IWRG 621 OCP (Total)*	0.1	mg/kg	-	< 0.1	< 0.1	< 0.1
Vic EPA IWRG 621 Other OCP (Total)*	0.1	mg/kg	-	< 0.1	< 0.1	< 0.1
Dibutylchlorendate (surr.)	1	%	-	86	100	103
Tetrachloro-m-xylene (surr.)	1	%	-	80	94	88
Polychlorinated Biphenyls						
Aroclor-1016	0.1	mg/kg	-	< 0.1	< 0.1	< 0.1
Aroclor-1221	0.1	mg/kg	-	< 0.1	< 0.1	< 0.1
Aroclor-1232	0.1	mg/kg	-	< 0.1	< 0.1	< 0.1
Aroclor-1242	0.1	mg/kg	-	< 0.1	< 0.1	< 0.1
Aroclor-1248	0.1	mg/kg	-	< 0.1	< 0.1	< 0.1
Aroclor-1254	0.1	mg/kg	-	< 0.1	< 0.1	< 0.1
Aroclor-1260	0.1	mg/kg	-	< 0.1	< 0.1	< 0.1
Total PCB*	0.1	mg/kg	-	< 0.1	< 0.1	< 0.1
Dibutylchlorendate (surr.)	1	%	-	86	100	103
Tetrachloro-m-xylene (surr.)	1	%	-	80	94	88
Heavy Metals						
Arsenic	2	mg/kg	6.5	9.1	9.0	21
Cadmium	0.4	mg/kg	< 0.4	< 0.4	< 0.4	< 0.4
Chromium	5	mg/kg	14	16	18	20
Copper	5	mg/kg	32	47	46	46
Lead	5	mg/kg	20	21	26	26
Mercury	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Nickel	5	mg/kg	15	22	20	27
Zinc	5	mg/kg	84	93	79	110
% Moisture	1	%	8.9	5.4	4.4	7.8
Ammonia (as N)	5	mg/kg	-	1600	3100	< 5
Nitrate & Nitrite (as N)	5	mg/kg	-	1200	2400	< 5
Nitrate (as N)	5	mg/kg	-	1200	2400	< 5
Nitrite (as N)	5	mg/kg	-	< 5	< 5	< 5
Total Kjeldahl Nitrogen (as N)	10	mg/kg	-	3200	4600	510
Total Nitrogen (as N)*	10	mg/kg	-	4400	7000	510
Phosphorus	5	mg/kg	-	1800	490	1000

Client Sample ID			TP32-0.0-0.2	TP33-0.0-0.1	TP34-0.0-0.2	TP35-0.0-0.2
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			S21-Oc38516	S21-Oc38517	S21-Oc38518	S21-Oc38519
Date Sampled			Oct 08, 2021	Oct 08, 2021	Oct 08, 2021	Oct 08, 2021
Test/Reference	LOR	Unit				
Total Recoverable Hydrocarbons						
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	66	< 50
TRH C29-C36	50	mg/kg	< 50	< 50	110	< 50
TRH C10-C36 (Total)	50	mg/kg	< 50	< 50	176	< 50
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	140	< 100
TRH >C34-C40	100	mg/kg	< 100	< 100	< 100	< 100
TRH >C10-C40 (total)*	100	mg/kg	< 100	< 100	140	< 100
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	82	108	103
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	%	104	81	109	93
p-Terphenyl-d14 (surr.)	1	%	88	65	76	66
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	-	-

Client Sample ID			TP32-0.0-0.2	TP33-0.0-0.1	TP34-0.0-0.2	TP35-0.0-0.2
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			S21-Oc38516	S21-Oc38517	S21-Oc38518	S21-Oc38519
Date Sampled			Oct 08, 2021	Oct 08, 2021	Oct 08, 2021	Oct 08, 2021
Test/Reference	LOR	Unit				
Organochlorine Pesticides						
a-HCH	0.05	mg/kg	-	< 0.05	-	-
Aldrin	0.05	mg/kg	-	< 0.05	-	-
b-HCH	0.05	mg/kg	-	< 0.05	-	-
d-HCH	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-HCH (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	0.05	mg/kg	-	< 0.05	-	-
Toxaphene	0.5	mg/kg	-	< 0.5	-	-
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	-	< 0.1	-	-
Vic EPA IWRG 621 Other OCP (Total)*	0.1	mg/kg	-	< 0.1	-	-
Dibutylchlorendate (surr.)	1	%	-	103	-	-
Tetrachloro-m-xylene (surr.)	1	%	-	83	-	-
Polychlorinated Biphenyls						
Aroclor-1016	0.1	mg/kg	-	< 0.1	-	-
Aroclor-1221	0.1	mg/kg	-	< 0.1	-	-
Aroclor-1232	0.1	mg/kg	-	< 0.1	-	-
Aroclor-1242	0.1	mg/kg	-	< 0.1	-	-
Aroclor-1248	0.1	mg/kg	-	< 0.1	-	-
Aroclor-1254	0.1	mg/kg	-	< 0.1	-	-
Aroclor-1260	0.1	mg/kg	-	< 0.1	-	-
Total PCB*	0.1	mg/kg	-	< 0.1	-	-
Dibutylchlorendate (surr.)	1	%	-	103	-	-
Tetrachloro-m-xylene (surr.)	1	%	-	83	-	-
Heavy Metals						
Arsenic	2	mg/kg	11	11	9.5	9.8
Cadmium	0.4	mg/kg	< 0.4	< 0.4	< 0.4	< 0.4
Chromium	5	mg/kg	23	26	19	23
Copper	5	mg/kg	49	39	37	26
Lead	5	mg/kg	28	30	25	26
Mercury	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Nickel	5	mg/kg	24	21	16	18
Zinc	5	mg/kg	110	79	79	59
% Moisture	1	%	12	17	14	23

Client Sample ID			TP36-0.0-0.1	TP37-0.0-0.1	TP38-0.0-0.2	TP39-0.0-0.1
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			S21-Oc38520	S21-Oc38521	S21-Oc38522	S21-Oc38523
Date Sampled			Oct 08, 2021	Oct 08, 2021	Oct 08, 2021	Oct 08, 2021
Test/Reference	LOR	Unit				
Total Recoverable Hydrocarbons						
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	55	< 50	< 50	83
TRH C29-C36	50	mg/kg	140	74	91	230
TRH C10-C36 (Total)	50	mg/kg	195	74	91	313
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	160	< 100	< 100	260
TRH >C34-C40	100	mg/kg	120	< 100	100	140
TRH >C10-C40 (total)*	100	mg/kg	280	< 100	100	400
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	%	100	105	99	103
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	112	108	107
p-Terphenyl-d14 (surr.)	1	%	66	80	71	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	-	-	-

Client Sample ID			TP36-0.0-0.1	TP37-0.0-0.1	TP38-0.0-0.2	TP39-0.0-0.1
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			S21-Oc38520	S21-Oc38521	S21-Oc38522	S21-Oc38523
Date Sampled			Oct 08, 2021	Oct 08, 2021	Oct 08, 2021	Oct 08, 2021
Test/Reference	LOR	Unit				
Organochlorine Pesticides						
a-HCH	0.05	mg/kg	< 0.05	-	-	-
Aldrin	0.05	mg/kg	< 0.05	-	-	-
b-HCH	0.05	mg/kg	< 0.05	-	-	-
d-HCH	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-HCH (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	0.05	mg/kg	< 0.05	-	-	-
Toxaphene	0.5	mg/kg	< 0.5	-	-	-
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	< 0.1	-	-	-
Vic EPA IWRG 621 Other OCP (Total)*	0.1	mg/kg	< 0.1	-	-	-
Dibutylchlorendate (surr.)	1	%	103	-	-	-
Tetrachloro-m-xylene (surr.)	1	%	86	-	-	-
Polychlorinated Biphenyls						
Aroclor-1016	0.1	mg/kg	< 0.1	-	-	-
Aroclor-1221	0.1	mg/kg	< 0.1	-	-	-
Aroclor-1232	0.1	mg/kg	< 0.1	-	-	-
Aroclor-1242	0.1	mg/kg	< 0.1	-	-	-
Aroclor-1248	0.1	mg/kg	< 0.1	-	-	-
Aroclor-1254	0.1	mg/kg	< 0.1	-	-	-
Aroclor-1260	0.1	mg/kg	< 0.1	-	-	-
Total PCB*	0.1	mg/kg	< 0.1	-	-	-
Dibutylchlorendate (surr.)	1	%	103	-	-	-
Tetrachloro-m-xylene (surr.)	1	%	86	-	-	-
Heavy Metals						
Arsenic	2	mg/kg	6.6	4.0	8.3	2.8
Cadmium	0.4	mg/kg	< 0.4	< 0.4	< 0.4	< 0.4
Chromium	5	mg/kg	17	9.7	17	7.9
Copper	5	mg/kg	68	20	46	44
Lead	5	mg/kg	18	9.4	20	8.9
Mercury	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Nickel	5	mg/kg	19	6.3	20	6.6
Zinc	5	mg/kg	280	26	90	200
% Moisture	1	%	18	10	9.5	19

Client Sample ID			TP40-0.0-0.1	SAL01-0.5	SAL01-1.0	SAL01-1.5
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			S21-Oc38524	S21-Oc38525	S21-Oc38526	S21-Oc38527
Date Sampled			Oct 08, 2021	Oct 08, 2021	Oct 08, 2021	Oct 08, 2021
Test/Reference	LOR	Unit				
Total Recoverable Hydrocarbons						
TRH C6-C9	20	mg/kg	< 20	-	-	-
TRH C10-C14	20	mg/kg	< 20	-	-	-
TRH C15-C28	50	mg/kg	< 50	-	-	-
TRH C29-C36	50	mg/kg	61	-	-	-
TRH C10-C36 (Total)	50	mg/kg	61	-	-	-
Naphthalene[N02]	0.5	mg/kg	< 0.5	-	-	-
TRH C6-C10	20	mg/kg	< 20	-	-	-
TRH C6-C10 less BTEX (F1)[N04]	20	mg/kg	< 20	-	-	-
TRH >C10-C16	50	mg/kg	< 50	-	-	-
TRH >C10-C16 less Naphthalene (F2)[N01]	50	mg/kg	< 50	-	-	-
TRH >C16-C34	100	mg/kg	< 100	-	-	-
TRH >C34-C40	100	mg/kg	< 100	-	-	-
TRH >C10-C40 (total)*	100	mg/kg	< 100	-	-	-
BTEX						
Benzene	0.1	mg/kg	< 0.1	-	-	-
Toluene	0.1	mg/kg	< 0.1	-	-	-
Ethylbenzene	0.1	mg/kg	< 0.1	-	-	-
m&p-Xylenes	0.2	mg/kg	< 0.2	-	-	-
o-Xylene	0.1	mg/kg	< 0.1	-	-	-
Xylenes - Total*	0.3	mg/kg	< 0.3	-	-	-
4-Bromofluorobenzene (surr.)	1	%	107	-	-	-
Polycyclic Aromatic Hydrocarbons						
Benzo(a)pyrene TEQ (lower bound) *	0.5	mg/kg	< 0.5	-	-	-
Benzo(a)pyrene TEQ (medium bound) *	0.5	mg/kg	0.6	-	-	-
Benzo(a)pyrene TEQ (upper bound) *	0.5	mg/kg	1.2	-	-	-
Acenaphthene	0.5	mg/kg	< 0.5	-	-	-
Acenaphthylene	0.5	mg/kg	< 0.5	-	-	-
Anthracene	0.5	mg/kg	< 0.5	-	-	-
Benz(a)anthracene	0.5	mg/kg	< 0.5	-	-	-
Benzo(a)pyrene	0.5	mg/kg	< 0.5	-	-	-
Benzo(b&j)fluoranthene[N07]	0.5	mg/kg	< 0.5	-	-	-
Benzo(g.h.i)perylene	0.5	mg/kg	< 0.5	-	-	-
Benzo(k)fluoranthene	0.5	mg/kg	< 0.5	-	-	-
Chrysene	0.5	mg/kg	< 0.5	-	-	-
Dibenz(a.h)anthracene	0.5	mg/kg	< 0.5	-	-	-
Fluoranthene	0.5	mg/kg	< 0.5	-	-	-
Fluorene	0.5	mg/kg	< 0.5	-	-	-
Indeno(1.2.3-cd)pyrene	0.5	mg/kg	< 0.5	-	-	-
Naphthalene	0.5	mg/kg	< 0.5	-	-	-
Phenanthrene	0.5	mg/kg	< 0.5	-	-	-
Pyrene	0.5	mg/kg	< 0.5	-	-	-
Total PAH*	0.5	mg/kg	< 0.5	-	-	-
2-Fluorobiphenyl (surr.)	1	%	82	-	-	-
p-Terphenyl-d14 (surr.)	1	%	50	-	-	-
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	-	-	-

Client Sample ID			TP40-0.0-0.1	SAL01-0.5	SAL01-1.0	SAL01-1.5
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			S21-Oc38524	S21-Oc38525	S21-Oc38526	S21-Oc38527
Date Sampled			Oct 08, 2021	Oct 08, 2021	Oct 08, 2021	Oct 08, 2021
Test/Reference	LOR	Unit				
Organochlorine Pesticides						
a-HCH	0.05	mg/kg	< 0.05	-	-	-
Aldrin	0.05	mg/kg	< 0.05	-	-	-
b-HCH	0.05	mg/kg	< 0.05	-	-	-
d-HCH	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-HCH (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	0.05	mg/kg	< 0.05	-	-	-
Toxaphene	0.5	mg/kg	< 0.5	-	-	-
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	< 0.1	-	-	-
Vic EPA IWRG 621 Other OCP (Total)*	0.1	mg/kg	< 0.1	-	-	-
Dibutylchlorendate (surr.)	1	%	79	-	-	-
Tetrachloro-m-xylene (surr.)	1	%	83	-	-	-
Polychlorinated Biphenyls						
Aroclor-1016	0.1	mg/kg	< 0.1	-	-	-
Aroclor-1221	0.1	mg/kg	< 0.1	-	-	-
Aroclor-1232	0.1	mg/kg	< 0.1	-	-	-
Aroclor-1242	0.1	mg/kg	< 0.1	-	-	-
Aroclor-1248	0.1	mg/kg	< 0.1	-	-	-
Aroclor-1254	0.1	mg/kg	< 0.1	-	-	-
Aroclor-1260	0.1	mg/kg	< 0.1	-	-	-
Total PCB*	0.1	mg/kg	< 0.1	-	-	-
Dibutylchlorendate (surr.)	1	%	79	-	-	-
Tetrachloro-m-xylene (surr.)	1	%	83	-	-	-
Heavy Metals						
Arsenic	2	mg/kg	12	-	-	-
Cadmium	0.4	mg/kg	< 0.4	-	-	-
Chromium	5	mg/kg	24	-	-	-
Copper	5	mg/kg	23	-	-	-
Lead	5	mg/kg	28	-	-	-
Mercury	0.1	mg/kg	< 0.1	-	-	-
Nickel	5	mg/kg	11	-	-	-
Zinc	5	mg/kg	59	-	-	-
% Moisture	1	%	9.1	13	13	16
Conductivity (1:5 aqueous extract at 25°C as rec.)	10	uS/cm	-	280	250	280
pH (1:5 Aqueous extract at 25°C as rec.)	0.1	pH Units	-	5.0	6.9	7.5

Client Sample ID			SAL01-2.0	SAL02-0.5	SAL02-1.0	SAL02-1.5
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			S21-Oc38528	S21-Oc38529	S21-Oc38530	S21-Oc38531
Date Sampled			Oct 08, 2021	Oct 08, 2021	Oct 08, 2021	Oct 08, 2021
Test/Reference	LOR	Unit				
% Moisture	1	%	13	14	12	14
Conductivity (1:5 aqueous extract at 25°C as rec.)	10	uS/cm	260	290	230	300
pH (1:5 Aqueous extract at 25°C as rec.)	0.1	pH Units	8.7	5.1	6.7	7.8
Chloride	10	mg/kg	440	-	-	500
Resistivity*	0.5	ohm.m	38	-	-	33
Sulphate (as SO4)	10	mg/kg	42	-	-	31
Exchangeable Sodium Percentage (ESP)	0.1	%	28	-	-	22
Magnesium (exchangeable)	0.1	meq/100g	8.0	-	-	6.4
Potassium (exchangeable)	0.1	meq/100g	0.3	-	-	0.2
Sodium (exchangeable)	0.1	meq/100g	5.4	-	-	4.0
Cation Exchange Capacity						
Calcium (exchangeable)	0.1	meq/100g	5.7	-	-	7.7
Cation Exchange Capacity	0.05	meq/100g	19	-	-	18

Client Sample ID			SAL02-2.0	SAL03-0.5	SAL03-1.0	SAL03-1.5
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			S21-Oc38532	S21-Oc38533	S21-Oc38534	S21-Oc38535
Date Sampled			Oct 08, 2021	Oct 08, 2021	Oct 08, 2021	Oct 08, 2021
Test/Reference	LOR	Unit				
% Moisture	1	%	12	14	13	14
Conductivity (1:5 aqueous extract at 25°C as rec.)	10	uS/cm	150	250	250	280
pH (1:5 Aqueous extract at 25°C as rec.)	0.1	pH Units	9.0	5.0	6.9	7.7

Client Sample ID			SAL03-2.0	SAL03-2.5	SAL04-0.5	SAL04-1.0
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			S21-Oc38536	S21-Oc38537	S21-Oc38538	S21-Oc38539
Date Sampled			Oct 08, 2021	Oct 08, 2021	Oct 08, 2021	Oct 08, 2021
Test/Reference	LOR	Unit				
% Moisture	1	%	14	11	12	13
Conductivity (1:5 aqueous extract at 25°C as rec.)	10	uS/cm	280	200	67	55
pH (1:5 Aqueous extract at 25°C as rec.)	0.1	pH Units	7.4	8.8	5.8	5.6
Chloride	10	mg/kg	-	280	-	-
Resistivity*	0.5	ohm.m	-	50	-	-
Sulphate (as SO4)	10	mg/kg	-	26	-	-
Exchangeable Sodium Percentage (ESP)	0.1	%	-	14	-	-
Magnesium (exchangeable)	0.1	meq/100g	-	9.1	-	-
Potassium (exchangeable)	0.1	meq/100g	-	0.3	-	-
Sodium (exchangeable)	0.1	meq/100g	-	5.0	-	-
Cation Exchange Capacity						
Calcium (exchangeable)	0.1	meq/100g	-	22	-	-
Cation Exchange Capacity	0.05	meq/100g	-	37	-	-

Client Sample ID			SAL04-1.5	SAL04-2.0	SAL05-0.5	SAL05-1.0
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			S21-Oc38540	S21-Oc38541	S21-Oc38542	S21-Oc38543
Date Sampled			Oct 08, 2021	Oct 08, 2021	Oct 08, 2021	Oct 08, 2021
Test/Reference	LOR	Unit				
% Moisture	1	%	13	14	13	13
Conductivity (1:5 aqueous extract at 25°C as rec.)	10	uS/cm	73	60	64	53
pH (1:5 Aqueous extract at 25°C as rec.)	0.1	pH Units	7.0	7.3	5.6	5.6
Chloride	10	mg/kg	79	-	-	-
Resistivity*	0.5	ohm.m	140	-	-	-
Sulphate (as SO4)	10	mg/kg	18	-	-	-
Exchangeable Sodium Percentage (ESP)	0.1	%	34	-	-	-
Magnesium (exchangeable)	0.1	meq/100g	8.6	-	-	-
Potassium (exchangeable)	0.1	meq/100g	0.2	-	-	-
Sodium (exchangeable)	0.1	meq/100g	4.9	-	-	-
Cation Exchange Capacity						
Calcium (exchangeable)	0.1	meq/100g	0.7	-	-	-
Cation Exchange Capacity	0.05	meq/100g	14	-	-	-

Client Sample ID			SAL05-1.5	SAL05-2.0	DR02 0.2-0.4	TP47 0.0-0.1
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			S21-Oc38544	S21-Oc38545	S21-Oc38572	S21-Oc38620
Date Sampled			Oct 08, 2021	Oct 08, 2021	Oct 06, 2021	Oct 12, 2021
Test/Reference	LOR	Unit				
Total Recoverable Hydrocarbons						
TRH C6-C9	20	mg/kg	-	-	< 20	< 20
TRH C10-C14	20	mg/kg	-	-	< 20	< 20
TRH C15-C28	50	mg/kg	-	-	61	870
TRH C29-C36	50	mg/kg	-	-	< 50	300
TRH C10-C36 (Total)	50	mg/kg	-	-	61	1170
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	1000
TRH >C34-C40	100	mg/kg	-	-	< 100	180
TRH >C10-C40 (total)*	100	mg/kg	-	-	< 100	1180
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	%	-	-	77	118
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

Client Sample ID			SAL05-1.5	SAL05-2.0	DR02 0.2-0.4	TP47 0.0-0.1
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			S21-Oc38544	S21-Oc38545	S21-Oc38572	S21-Oc38620
Date Sampled			Oct 08, 2021	Oct 08, 2021	Oct 06, 2021	Oct 12, 2021
Test/Reference	LOR	Unit				
Polycyclic Aromatic Hydrocarbons						
Benz(a)anthracene	0.5	mg/kg	-	-	< 0.5	< 0.5
Benzo(a)pyrene	0.5	mg/kg	-	-	< 0.5	< 0.5
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	%	-	-	101	76
p-Terphenyl-d14 (surr.)	1	%	-	-	81	80
Heavy Metals						
Arsenic	2	mg/kg	-	-	11	9.5
Cadmium	0.4	mg/kg	-	-	< 0.4	< 0.4
Chromium	5	mg/kg	-	-	23	29
Copper	5	mg/kg	-	-	34	29
Lead	5	mg/kg	-	-	40	21
Mercury	0.1	mg/kg	-	-	< 0.1	< 0.1
Nickel	5	mg/kg	-	-	14	25
Zinc	5	mg/kg	-	-	58	120
% Moisture	1	%	15	14	14	13
Conductivity (1:5 aqueous extract at 25°C as rec.)	10	uS/cm	52	67	-	-
pH (1:5 Aqueous extract at 25°C as rec.)	0.1	pH Units	7.0	6.3	-	-
Chloride	10	mg/kg	-	61	-	-
Resistivity*	0.5	ohm.m	-	150	-	-
Sulphate (as SO4)	10	mg/kg	-	12	-	-
Exchangeable Sodium Percentage (ESP)	0.1	%	-	37	-	-
Magnesium (exchangeable)	0.1	meq/100g	-	11	-	-
Potassium (exchangeable)	0.1	meq/100g	-	0.4	-	-
Sodium (exchangeable)	0.1	meq/100g	-	8.4	-	-
Cation Exchange Capacity						
Calcium (exchangeable)	0.1	meq/100g	-	2.5	-	-
Cation Exchange Capacity	0.05	meq/100g	-	22	-	-

Sample History

Where samples are submitted/analysed over several days, the last date of extraction is reported.

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	Oct 27, 2021	14 Days
- Method: LTM-ORG-2010 TRH C6-C40			
Total Recoverable Hydrocarbons - 2013 NEPM Fractions	Sydney	Oct 27, 2021	14 Days
- Method: LTM-ORG-2010 TRH C6-C40			
Total Recoverable Hydrocarbons - 2013 NEPM Fractions	Sydney	Oct 27, 2021	14 Days
- Method: LTM-ORG-2010 TRH C6-C40			
BTEX	Sydney	Oct 27, 2021	14 Days
- Method: LTM-ORG-2010 TRH C6-C40			
Polycyclic Aromatic Hydrocarbons	Sydney	Oct 27, 2021	14 Days
- Method: LTM-ORG-2130 PAH and Phenols in Soil and Water			
Metals M8	Sydney	Oct 27, 2021	28 Days
- Method: LTM-MET-3040 Metals in Waters, Soils & Sediments by ICP-MS			
Organochlorine Pesticides	Sydney	Oct 27, 2021	14 Days
- Method: LTM-ORG-2220 OCP & PCB in Soil and Water			
Polychlorinated Biphenyls	Sydney	Oct 27, 2021	28 Days
- Method: LTM-ORG-2220 OCP & PCB in Soil and Water			
Heavy Metals	Sydney	Nov 18, 2021	28 Days
- Method: LTM-MET-3040 Metals in Waters, Soils & Sediments by ICP-MS			
% Moisture	Sydney	Oct 22, 2021	14 Days
- Method: LTM-GEN-7080 Moisture			
Eurofins Suite B19D: Total N, TKN, NOx, NO2, NO3, Total P			
Ammonia (as N)	Melbourne	Oct 28, 2021	28 Days
- Method: APHA 4500-NH3 Ammonia Nitrogen by FIA			
Nitrate & Nitrite (as N)	Melbourne	Oct 28, 2021	28 Days
- Method: LTM-INO-4120 Analysis of NOx NO2 NH3 by FIA			
Nitrate (as N)	Melbourne	Oct 28, 2021	28 Days
- Method: LTM-INO-4120 Analysis of NOx NO2 NH3 by FIA			
Nitrite (as N)	Melbourne	Oct 28, 2021	28 Days
- Method: LTM-INO-4120 Analysis of NOx NO2 NH3 by FIA			
Total Kjeldahl Nitrogen (as N)	Melbourne	Oct 28, 2021	28 Days
- Method: APHA 4500-Norg B,D Total Kjeldahl Nitrogen by FIA			
Phosphorus	Melbourne	Oct 28, 2021	180 Days
- Method: LTM-MET-3010 Alkali Metals Sulfur Silicon and Phosphorus by ICP-AES			
Conductivity (1:5 aqueous extract at 25°C as rec.)	Sydney	Oct 27, 2021	7 Days
- Method: LTM-INO-4030 Conductivity			
Magnesium (exchangeable)	Melbourne	Oct 29, 2021	180 Days
- Method: LTM-MET-3060 Cation Exchange Capacity and ESP			
Potassium (exchangeable)	Melbourne	Oct 29, 2021	180 Days
- Method: LTM-MET-3060 Cation Exchange Capacity and ESP			
Sodium (exchangeable)	Melbourne	Oct 29, 2021	180 Days
- Method: LTM-MET-3060 Cation Exchange Capacity and ESP			
Cation Exchange Capacity	Melbourne	Oct 29, 2021	28 Days
- Method: LTM-MET-3060 Cation Exchange Capacity by bases & Exchangeable Sodium Percentage			
pH (1:5 Aqueous extract at 25°C as rec.)	Sydney	Oct 27, 2021	7 Days
- Method: LTM-GEN-7090 pH by ISE			
Chloride	Sydney	Oct 27, 2021	28 Days
- Method: In-house method LTM-INO-4270 Anions by Ion Chromatography			
Sulphate (as SO4)	Sydney	Oct 27, 2021	28 Days
- Method: In-house method LTM-INO-4270 Sulphate by Ion Chromatograph			
Exchangeable Sodium Percentage (ESP)	Melbourne	Oct 29, 2021	28 Days
- Method: LTM-MET-3060 - Cation Exchange Capacity (CEC) & Exchangeable Sodium Percentage (ESP)			

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Company Name: Alliance Geotechnical
Address: 10 Welder Road
Seven Hills
NSW 2147

Project Name: KEMPS CREEK
Project ID: 13546

Order No.:
Report #: 833263
Phone: 1800 288 188
Fax: 02 9675 1888

Received: Oct 18, 2021 3:41 PM
Due: Oct 25, 2021
Priority: 5 Day
Contact Name: Jacob Walker

Eurofins Analytical Services Manager : Andrew Black

Sample Detail						Arsenic	Cadmium	CANCELLED	Conductivity (1:5 aqueous extract at 25°C as rec.)	Copper	HOLD	pH (1:5 Aqueous extract at 25°C as rec.)	BTEX	Suite B13: OCP/PCB	Aggressivity Soil Set	Eurofins Suite B20	Moisture Set	Eurofins Suite B7	Eurofins Suite B19D: Total N, TKN, NOx, NO2, NO3, Total P	BTEX
Melbourne Laboratory - NATA # 1261 Site # 1254															X	X	X		X	
Sydney Laboratory - NATA # 1261 Site # 18217						X	X	X	X	X	X	X	X	X	X		X	X	X	X
Brisbane Laboratory - NATA # 1261 Site # 20794																				
Mayfield Laboratory - NATA # 1261 Site # 25079																				
Perth Laboratory - NATA # 2377 Site # 2370																				
External Laboratory																				
No	**Sample ID**	**Sample Date**	**Sampling Time**	**Matrix**	**LAB ID**															
1	TP01 0.0-0.2	Oct 06, 2021		Soil	S21-Oc38427									X			X	X		
2	TP02 0.0-0.2	Oct 06, 2021		Soil	S21-Oc38428												X	X		
3	TP03 0.0-0.2	Oct 06, 2021		Soil	S21-Oc38429												X	X		
4	TP04 0.0-0.1	Oct 06, 2021		Soil	S21-Oc38430									X			X	X	X	
5	TP05 0.0-0.1	Oct 06, 2021		Soil	S21-Oc38431									X			X	X	X	
6	TP06 0.0-0.2	Oct 06, 2021		Soil	S21-Oc38432									X			X	X	X	
7	TP07 0.0-0.2	Oct 06, 2021		Soil	S21-Oc38433												X	X		
8	TP08 0.0-0.2	Oct 06, 2021		Soil	S21-Oc38434												X	X		
9	TP09 0.0-0.2	Oct 06, 2021		Soil	S21-Oc38435									X			X	X		

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Melbourne Laboratory - NATA # 1261 Site # 1254															X	X	X		X	
Sydney Laboratory - NATA # 1261 Site # 18217						X	X	X	X	X	X	X	X	X	X		X	X	X	X
Brisbane Laboratory - NATA # 1261 Site # 20794																				
Mayfield Laboratory - NATA # 1261 Site # 25079																				
Perth Laboratory - NATA # 2377 Site # 2370																				
External Laboratory																				
10	TP10 0.0-0.2	Oct 06, 2021		Soil	S21-Oc38436												X	X		
11	TP11 0.0-0.1	Oct 06, 2021		Soil	S21-Oc38437									X			X	X	X	
12	TP12 0.0-0.1	Oct 06, 2021		Soil	S21-Oc38438									X			X	X	X	
13	TP14 0.0-0.2	Oct 06, 2021		Soil	S21-Oc38439												X	X		
14	TP15 0.0-0.2	Oct 06, 2021		Soil	S21-Oc38440									X			X	X		
15	TP16 0.0-0.2	Oct 06, 2021		Soil	S21-Oc38441												X	X		
16	TP17 0.0-0.2	Oct 06, 2021		Soil	S21-Oc38442												X	X		
17	TP18 0.0-0.2	Oct 06, 2021		Soil	S21-Oc38443												X	X		
18	TP19 0.0-0.1	Oct 07, 2021		Soil	S21-Oc38444									X			X	X	X	
19	TP20 0.0-0.1	Oct 07, 2021		Soil	S21-Oc38445									X			X	X	X	
20	TP21 0.0-0.2	Oct 07, 2021		Soil	S21-Oc38446									X			X	X	X	

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Melbourne Laboratory - NATA # 1261 Site # 1254															X	X	X		X	
Sydney Laboratory - NATA # 1261 Site # 18217						X	X	X	X	X	X	X	X	X	X		X	X	X	X
Brisbane Laboratory - NATA # 1261 Site # 20794																				
Mayfield Laboratory - NATA # 1261 Site # 25079																				
Perth Laboratory - NATA # 2377 Site # 2370																				
External Laboratory																				
21	TP22 0.0-0.1	Oct 06, 2021		Soil	S21-Oc38447									X			X	X		
22	TP23 0.0-0.1	Oct 07, 2021		Soil	S21-Oc38448												X	X		
23	TP24 0.0-0.1	Oct 07, 2021		Soil	S21-Oc38449												X	X		
24	TP25 0.0-0.1	Oct 07, 2021		Soil	S21-Oc38450									X			X	X		
25	TP26 1.0-1.2	Oct 07, 2021		Soil	S21-Oc38451												X	X		
26	DR01 0.0-0.2	Oct 06, 2021		Soil	S21-Oc38452												X	X		
27	DR02 0.0-0.2	Oct 06, 2021		Soil	S21-Oc38453												X	X		
28	DR03 0.0-0.2	Oct 06, 2021		Soil	S21-Oc38454												X	X		
29	DR04 0.0-0.1	Oct 07, 2021		Soil	S21-Oc38455												X	X		
30	DR05 0.0-0.1	Oct 07, 2021		Soil	S21-Oc38456												X	X		
31	DR06 0.0-0.1	Oct 07, 2021		Soil	S21-Oc38457												X	X		

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Melbourne Laboratory - NATA # 1261 Site # 1254															X	X	X		X	
Sydney Laboratory - NATA # 1261 Site # 18217						X	X	X	X	X	X	X	X	X	X		X	X	X	X
Brisbane Laboratory - NATA # 1261 Site # 20794																				
Mayfield Laboratory - NATA # 1261 Site # 25079																				
Perth Laboratory - NATA # 2377 Site # 2370																				
External Laboratory																				
32	DR07 0.0-0.1	Oct 07, 2021		Soil	S21-Oc38458												X	X		
33	DR08 0.0-0.1	Oct 07, 2021		Soil	S21-Oc38459												X	X		
34	SP1-1	Oct 07, 2021		Soil	S21-Oc38460									X			X	X	X	
35	SP1-2	Oct 07, 2021		Soil	S21-Oc38461									X			X	X	X	
36	SP1-3	Oct 07, 2021		Soil	S21-Oc38462									X			X	X	X	
37	DS01	Oct 07, 2021		Soil	S21-Oc38463									X			X	X	X	
38	DS02	Oct 07, 2021		Soil	S21-Oc38464									X			X	X	X	
39	DS03	Oct 07, 2021		Soil	S21-Oc38465												X	X		
40	DS04	Oct 07, 2021		Soil	S21-Oc38466												X	X		
41	DS05	Oct 07, 2021		Soil	S21-Oc38467												X	X		
42	DS06	Oct 07, 2021		Soil	S21-Oc38468												X	X		

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Melbourne Laboratory - NATA # 1261 Site # 1254															X	X	X		X	
Sydney Laboratory - NATA # 1261 Site # 18217						X	X	X	X	X	X	X	X	X	X		X	X	X	X
Brisbane Laboratory - NATA # 1261 Site # 20794																				
Mayfield Laboratory - NATA # 1261 Site # 25079																				
Perth Laboratory - NATA # 2377 Site # 2370																				
External Laboratory																				
43	SW01	Oct 07, 2021		Water	S21-Oc38469									X				X		
44	SW02	Oct 07, 2021		Water	S21-Oc38470									X				X		
45	SW03	Oct 07, 2021		Water	S21-Oc38471									X				X		
46	SW04	Oct 07, 2021		Water	S21-Oc38472									X				X		
47	SW05	Oct 07, 2021		Water	S21-Oc38473									X				X		
48	SW06	Oct 07, 2021		Water	S21-Oc38474									X				X		
49	BD1	Oct 07, 2021		Soil	S21-Oc38475												X	X		
50	BD2	Oct 07, 2021		Soil	S21-Oc38476									X			X			
51	TRIP BLANK 1	Oct 07, 2021		Soil	S21-Oc38477								X							
52	TRIP BLANK 2	Oct 07, 2021		Soil	S21-Oc38478								X							
53	TRIP BLANK 3	Oct 07, 2021		Soil	S21-Oc38479								X							

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Melbourne Laboratory - NATA # 1261 Site # 1254															X	X	X		X	
Sydney Laboratory - NATA # 1261 Site # 18217						X	X	X	X	X	X	X	X	X	X		X	X	X	X
Brisbane Laboratory - NATA # 1261 Site # 20794																				
Mayfield Laboratory - NATA # 1261 Site # 25079																				
Perth Laboratory - NATA # 2377 Site # 2370																				
External Laboratory																				
54	TRIP BLANK 4	Oct 07, 2021		Soil	S21-Oc38480								X							
55	TRIP BLANK 5	Oct 07, 2021		Soil	S21-Oc38481								X							
56	TRIP SPIKE 1	Oct 07, 2021		Soil	S21-Oc38482															X
57	TRIP SPIKE 2	Oct 07, 2021		Soil	S21-Oc38483															X
58	TRIP SPIKE 3	Oct 07, 2021		Soil	S21-Oc38484															X
59	TRIP SPIKE 4	Oct 07, 2021		Soil	S21-Oc38485															X
60	TRIP SPIKE 5	Oct 07, 2021		Soil	S21-Oc38486															X
61	BD3	Mar 12, 2021		Soil	S21-Oc38492												X	X		
62	PP2 0.0-0.1	Aug 13, 2021		Soil	S21-Oc38493	X	X			X							X			
63	PP3 0.0-0.1	Aug 13, 2021		Soil	S21-Oc38494	X	X			X							X			
64	PP4 0.0-0.1	Aug 12, 2021		Soil	S21-Oc38495	X	X			X							X			

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Melbourne Laboratory - NATA # 1261 Site # 1254															X	X	X		X	
Sydney Laboratory - NATA # 1261 Site # 18217						X	X	X	X	X	X	X	X	X	X		X	X	X	X
Brisbane Laboratory - NATA # 1261 Site # 20794																				
Mayfield Laboratory - NATA # 1261 Site # 25079																				
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External Laboratory																				
65	PP5 0.0-0.1	Oct 13, 2021		Soil	S21-Oc38496	X	X			X							X			
66	PP6 0.0-0.1	Oct 12, 2021		Soil	S21-Oc38497	X	X			X							X			
67	PP7 0.0-0.1	Oct 12, 2021		Soil	S21-Oc38498	X	X			X							X			
68	PP8 0.0-0.1	Oct 12, 2021		Soil	S21-Oc38499	X	X			X							X			
69	DR11 0.0-0.1	Oct 13, 2021		Soil	S21-Oc38500												X	X		
70	DR12 0.0-0.1	Oct 13, 2021		Soil	S21-Oc38501												X	X		
71	DR13 0.0-0.1	Oct 13, 2021		Soil	S21-Oc38502												X	X		
72	DR14 0.0-0.1	Oct 13, 2021		Soil	S21-Oc38503												X	X		
73	DS07	Oct 13, 2021		Soil	S21-Oc38504									X			X	X		
74	DS08	Oct 13, 2021		Soil	S21-Oc38505									X			X	X		
75	DS09	Oct 13, 2021		Soil	S21-Oc38506									X			X	X		

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Company Name: Alliance Geotechnical
Address: 10 Welder Road
Seven Hills
NSW 2147

Project Name: KEMPS CREEK
Project ID: 13546

Order No.:
Report #: 833263
Phone: 1800 288 188
Fax: 02 9675 1888

Received: Oct 18, 2021 3:41 PM
Due: Oct 25, 2021
Priority: 5 Day
Contact Name: Jacob Walker

Eurofins Analytical Services Manager : Andrew Black

Sample Detail						Arsenic	Cadmium	CANCELLED	Conductivity (1:5 aqueous extract at 25°C as rec.)	Copper	HOLD	pH (1:5 Aqueous extract at 25°C as rec.)	BTEX	Suite B13: OCP/PCB	Aggressivity Soil Set	Eurofins Suite B20	Moisture Set	Eurofins Suite B7	Eurofins Suite B19D: Total N, TKN, NOx, NO2, NO3, Total P	BTEX
Melbourne Laboratory - NATA # 1261 Site # 1254															X	X	X		X	
Sydney Laboratory - NATA # 1261 Site # 18217						X	X	X	X	X	X	X	X	X	X		X	X	X	X
Brisbane Laboratory - NATA # 1261 Site # 20794																				
Mayfield Laboratory - NATA # 1261 Site # 25079																				
Perth Laboratory - NATA # 2377 Site # 2370																				
External Laboratory																				
76	DS10	Oct 13, 2021		Soil	S21-Oc38507									X			X	X		
77	SW07	Oct 13, 2021		Water	S21-Oc38508									X				X		
78	SW08	Oct 13, 2021		Water	S21-Oc38509									X				X		
79	TP13-0.0-0.2	Oct 08, 2021		Soil	S21-Oc38510												X	X	X	
80	TP27-0.0-0.2	Oct 08, 2021		Soil	S21-Oc38511												X	X		
81	TP28-0.0-0.1	Oct 08, 2021		Soil	S21-Oc38512												X	X		
82	TP29-0.0-0.2	Oct 08, 2021		Soil	S21-Oc38513									X			X	X	X	
83	TP30-0.0-0.2	Oct 08, 2021		Soil	S21-Oc38514									X			X	X	X	
84	TP31-0.0.-0.2	Oct 08, 2021		Soil	S21-Oc38515									X			X	X	X	
85	TP32-0.0-0.2	Oct 08, 2021		Soil	S21-Oc38516												X	X		
86	TP33-0.0-0.1	Oct 08, 2021		Soil	S21-Oc38517									X			X	X		

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Sydney Laboratory - NATA # 1261 Site # 18217						X	X	X	X	X	X	X	X	X	X		X	X	X	X
Brisbane Laboratory - NATA # 1261 Site # 20794																				
Mayfield Laboratory - NATA # 1261 Site # 25079																				
Perth Laboratory - NATA # 2377 Site # 2370																				
External Laboratory																				
87	TP34-0.0-0.2	Oct 08, 2021		Soil	S21-Oc38518												X	X		
88	TP35-0.0-0.2	Oct 08, 2021		Soil	S21-Oc38519												X	X		
89	TP36-0.0-0.1	Oct 08, 2021		Soil	S21-Oc38520									X			X	X		
90	TP37-0.0-0.1	Oct 08, 2021		Soil	S21-Oc38521												X	X		
91	TP38-0.0-0.2	Oct 08, 2021		Soil	S21-Oc38522												X	X		
92	TP39-0.0-0.1	Oct 08, 2021		Soil	S21-Oc38523												X	X		
93	TP40-0.0-0.1	Oct 08, 2021		Soil	S21-Oc38524									X			X	X		
94	SAL01-0.5	Oct 08, 2021		Soil	S21-Oc38525				X			X					X			
95	SAL01-1.0	Oct 08, 2021		Soil	S21-Oc38526				X			X					X			
96	SAL01-1.5	Oct 08, 2021		Soil	S21-Oc38527				X			X					X			
97	SAL01-2.0	Oct 08, 2021		Soil	S21-Oc38528										X	X	X			

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Melbourne Laboratory - NATA # 1261 Site # 1254															X	X	X		X	
Sydney Laboratory - NATA # 1261 Site # 18217						X	X	X	X	X	X	X	X	X	X		X	X	X	X
Brisbane Laboratory - NATA # 1261 Site # 20794																				
Mayfield Laboratory - NATA # 1261 Site # 25079																				
Perth Laboratory - NATA # 2377 Site # 2370																				
External Laboratory																				
98	SAL02-0.5	Oct 08, 2021		Soil	S21-Oc38529				X			X					X			
99	SAL02-1.0	Oct 08, 2021		Soil	S21-Oc38530				X			X					X			
100	SAL02-1.5	Oct 08, 2021		Soil	S21-Oc38531										X	X	X			
101	SAL02-2.0	Oct 08, 2021		Soil	S21-Oc38532				X			X					X			
102	SAL03-0.5	Oct 08, 2021		Soil	S21-Oc38533				X			X					X			
103	SAL03-1.0	Oct 08, 2021		Soil	S21-Oc38534				X			X					X			
104	SAL03-1.5	Oct 08, 2021		Soil	S21-Oc38535				X			X					X			
105	SAL03-2.0	Oct 08, 2021		Soil	S21-Oc38536				X			X					X			
106	SAL03-2.5	Oct 08, 2021		Soil	S21-Oc38537										X	X	X			
107	SAL04-0.5	Oct 08, 2021		Soil	S21-Oc38538				X			X					X			
108	SAL04-1.0	Oct 08, 2021		Soil	S21-Oc38539				X			X					X			

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Melbourne Laboratory - NATA # 1261 Site # 1254															X	X	X		X	
Sydney Laboratory - NATA # 1261 Site # 18217						X	X	X	X	X	X	X	X	X	X		X	X	X	X
Brisbane Laboratory - NATA # 1261 Site # 20794																				
Mayfield Laboratory - NATA # 1261 Site # 25079																				
Perth Laboratory - NATA # 2377 Site # 2370																				
External Laboratory																				
109	SAL04-1.5	Oct 08, 2021		Soil	S21-Oc38540										X	X	X			
110	SAL04-2.0	Oct 08, 2021		Soil	S21-Oc38541				X			X					X			
111	SAL05-0.5	Oct 08, 2021		Soil	S21-Oc38542				X			X					X			
112	SAL05-1.0	Oct 08, 2021		Soil	S21-Oc38543				X			X					X			
113	SAL05-1.5	Oct 08, 2021		Soil	S21-Oc38544				X			X					X			
114	SAL05-2.0	Oct 08, 2021		Soil	S21-Oc38545										X	X	X			
115	TP01 0.4-0.6	Oct 06, 2021		Soil	S21-Oc38546						X									
116	TP03 0.4-0.6	Oct 06, 2021		Soil	S21-Oc38547						X									
117	TP06 0.8-1.0	Oct 06, 2021		Soil	S21-Oc38548						X									
118	TP06 1.0-1.2	Oct 06, 2021		Soil	S21-Oc38549						X									
119	TP06 1.2-1.4	Oct 06, 2021		Soil	S21-Oc38550						X									

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Melbourne Laboratory - NATA # 1261 Site # 1254															X	X	X		X	
Sydney Laboratory - NATA # 1261 Site # 18217						X	X	X	X	X	X	X	X	X	X		X	X	X	X
Brisbane Laboratory - NATA # 1261 Site # 20794																				
Mayfield Laboratory - NATA # 1261 Site # 25079																				
Perth Laboratory - NATA # 2377 Site # 2370																				
External Laboratory																				
120	TP07 0.5-0.7	Oct 06, 2021		Soil	S21-Oc38551						X									
121	TP08 0.4-0.6	Oct 06, 2021		Soil	S21-Oc38552						X									
122	TP09 0.4-0.6	Oct 06, 2021		Soil	S21-Oc38553						X									
123	TP10 0.3-0.4	Oct 06, 2021		Soil	S21-Oc38554						X									
124	TP14 0.5-0.7	Oct 06, 2021		Soil	S21-Oc38555						X									
125	TP15 0.4-0.4	Oct 06, 2021		Soil	S21-Oc38556						X									
126	TP16 0.4-0.6	Oct 06, 2021		Soil	S21-Oc38557						X									
127	TP17 0.3-0.5	Oct 06, 2021		Soil	S21-Oc38558						X									
128	TP18 0.5-0.7	Oct 06, 2021		Soil	S21-Oc38559						X									
129	TP21 1.0-1.2	Oct 07, 2021		Soil	S21-Oc38560						X									
130	TP21 1.5-1.5	Oct 07, 2021		Soil	S21-Oc38561						X									

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Sydney Laboratory - NATA # 1261 Site # 18217						X	X	X	X	X	X	X	X	X	X		X	X	X	X
Brisbane Laboratory - NATA # 1261 Site # 20794																				
Mayfield Laboratory - NATA # 1261 Site # 25079																				
Perth Laboratory - NATA # 2377 Site # 2370																				
External Laboratory																				
131	TP22 1.0-1.2	Oct 06, 2021		Soil	S21-Oc38562						X									
132	TP22 1.8-2.0	Oct 06, 2021		Soil	S21-Oc38563						X									
133	TP23 1.0-1.2	Oct 07, 2021		Soil	S21-Oc38564						X									
134	TP23 1.5-1.7	Oct 07, 2021		Soil	S21-Oc38565						X									
135	TP24 0.5-0.7	Oct 07, 2021		Soil	S21-Oc38566						X									
136	TP25 0.5-0.6	Oct 07, 2021		Soil	S21-Oc38567						X									
137	TP26 1.8-2.0	Oct 07, 2021		Soil	S21-Oc38568						X									
138	TP26 0.0-0.1	Oct 07, 2021		Soil	S21-Oc38569						X									
139	DR01 0.3-0.5	Oct 06, 2021		Soil	S21-Oc38570						X									
140	DR01 0.7-0.9	Oct 06, 2021		Soil	S21-Oc38571						X									
141	DR02 0.2-0.4	Oct 06, 2021		Soil	S21-Oc38572												X	X		

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Melbourne Laboratory - NATA # 1261 Site # 1254															X	X	X		X	
Sydney Laboratory - NATA # 1261 Site # 18217						X	X	X	X	X	X	X	X	X	X		X	X	X	X
Brisbane Laboratory - NATA # 1261 Site # 20794																				
Mayfield Laboratory - NATA # 1261 Site # 25079																				
Perth Laboratory - NATA # 2377 Site # 2370																				
External Laboratory																				
142	DR02 0.5-0.7	Oct 06, 2021		Soil	S21-Oc38573						X									
143	DR03 0.3-0.5	Oct 06, 2021		Soil	S21-Oc38574						X									
144	DR03 0.6-0.8	Oct 06, 2021		Soil	S21-Oc38575						X									
145	DR03 1.5-1.7	Oct 06, 2021		Soil	S21-Oc38576						X									
146	DR04 0.1-0.2	Oct 07, 2021		Soil	S21-Oc38577						X									
147	DR05 0.3-0.4	Oct 07, 2021		Soil	S21-Oc38578						X									
148	DR06 0.3-0.5	Oct 07, 2021		Soil	S21-Oc38579						X									
149	DR07 0.3-0.5	Oct 07, 2021		Soil	S21-Oc38580						X									
150	DR08 0.1-0.2	Oct 07, 2021		Soil	S21-Oc38581						X									
151	DW01	Oct 07, 2021		Soil	S21-Oc38582						X									
152	DW02	Oct 07, 2021		Soil	S21-Oc38583						X									

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Company Name: Alliance Geotechnical
Address: 10 Welder Road
Seven Hills
NSW 2147

Project Name: KEMPS CREEK
Project ID: 13546

Order No.:
Report #: 833263
Phone: 1800 288 188
Fax: 02 9675 1888

Received: Oct 18, 2021 3:41 PM
Due: Oct 25, 2021
Priority: 5 Day
Contact Name: Jacob Walker

Eurofins Analytical Services Manager : Andrew Black

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Melbourne Laboratory - NATA # 1261 Site # 1254															X	X	X		X	
Sydney Laboratory - NATA # 1261 Site # 18217						X	X	X	X	X	X	X	X	X	X		X	X	X	X
Brisbane Laboratory - NATA # 1261 Site # 20794																				
Mayfield Laboratory - NATA # 1261 Site # 25079																				
Perth Laboratory - NATA # 2377 Site # 2370																				
External Laboratory																				
153	DW03	Oct 07, 2021		Soil	S21-Oc38584						X									
154	DW04	Oct 07, 2021		Soil	S21-Oc38585						X									
155	DW05	Oct 07, 2021		Soil	S21-Oc38586						X									
156	DW06	Oct 07, 2021		Soil	S21-Oc38587						X									
157	DW07	Oct 07, 2021		Soil	S21-Oc38588						X									
158	DW08	Oct 07, 2021		Soil	S21-Oc38589						X									
159	PP4 0.5-0.6	Aug 12, 2021		Soil	S21-Oc38590						X									
160	PP4 1.0-1.1	Aug 12, 2021		Soil	S21-Oc38591						X									
161	PP4 1.5-1.6	Aug 12, 2021		Soil	S21-Oc38592						X									
162	PP4 2.0-2.1	Aug 12, 2021		Soil	S21-Oc38593						X									
163	PP6 0.5-0.6	Oct 12, 2021		Soil	S21-Oc38594						X									

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Melbourne Laboratory - NATA # 1261 Site # 1254															X	X	X		X	
Sydney Laboratory - NATA # 1261 Site # 18217						X	X	X	X	X	X	X	X	X	X		X	X	X	X
Brisbane Laboratory - NATA # 1261 Site # 20794																				
Mayfield Laboratory - NATA # 1261 Site # 25079																				
Perth Laboratory - NATA # 2377 Site # 2370																				
External Laboratory																				
164	PP6 1.0-1.1	Oct 12, 2021		Soil	S21-Oc38595						X									
165	PP6 1.5-1.6	Oct 12, 2021		Soil	S21-Oc38596						X									
166	PP6 2.0-2.1	Oct 12, 2021		Soil	S21-Oc38597						X									
167	PP6 2.4-2.5	Oct 12, 2021		Soil	S21-Oc38598						X									
168	PP7 0.4-0.5	Oct 12, 2021		Soil	S21-Oc38599						X									
169	PP8 0.1-0.2	Oct 12, 2021		Soil	S21-Oc38600						X									
170	TP41 0.0-0.1	Oct 12, 2021		Soil	S21-Oc38601						X									
171	TP41 0.9-1.0	Oct 12, 2021		Soil	S21-Oc38602						X									
172	TP42 0.0-0.1	Oct 12, 2021		Soil	S21-Oc38603						X									
173	TP42 1.0-1.1	Oct 12, 2021		Soil	S21-Oc38604						X									
174	TP42 1.4-1.5	Oct 12, 2021		Soil	S21-Oc38605						X									

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Melbourne Laboratory - NATA # 1261 Site # 1254															X	X	X		X	
Sydney Laboratory - NATA # 1261 Site # 18217						X	X	X	X	X	X	X	X	X	X		X	X	X	X
Brisbane Laboratory - NATA # 1261 Site # 20794																				
Mayfield Laboratory - NATA # 1261 Site # 25079																				
Perth Laboratory - NATA # 2377 Site # 2370																				
External Laboratory																				
175	TP43 0.0-0.1	Oct 12, 2021		Soil	S21-Oc38606						X									
176	TP43 1.0-1.1	Oct 12, 2021		Soil	S21-Oc38607						X									
177	TP43 1.2-1.3	Oct 12, 2021		Soil	S21-Oc38608						X									
178	TP44 0.0-0.1	Oct 12, 2021		Soil	S21-Oc38609						X									
179	TP44 0.4-0.5	Oct 12, 2021		Soil	S21-Oc38610						X									
180	TP44 1.0-1.1	Oct 12, 2021		Soil	S21-Oc38611						X									
181	TP44 1.4-1.5	Oct 12, 2021		Soil	S21-Oc38612						X									
182	TP44 2.0-2.1	Oct 12, 2021		Soil	S21-Oc38613						X									
183	TP44 2.4-2.5	Oct 12, 2021		Soil	S21-Oc38614						X									
184	TP45 0.0-0.1	Oct 12, 2021		Soil	S21-Oc38615						X									
185	TP45 0.5-0.6	Oct 12, 2021		Soil	S21-Oc38616						X									

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Melbourne Laboratory - NATA # 1261 Site # 1254															X	X	X		X	
Sydney Laboratory - NATA # 1261 Site # 18217						X	X	X	X	X	X	X	X	X	X		X	X	X	X
Brisbane Laboratory - NATA # 1261 Site # 20794																				
Mayfield Laboratory - NATA # 1261 Site # 25079																				
Perth Laboratory - NATA # 2377 Site # 2370																				
External Laboratory																				
186	TP45 0.7-0.8	Oct 12, 2021		Soil	S21-Oc38617						X									
187	TP46 0.0-0.1	Oct 12, 2021		Soil	S21-Oc38618						X									
188	TP46 0.3-0.4	Oct 12, 2021		Soil	S21-Oc38619						X									
189	TP47 0.0-0.1	Oct 12, 2021		Soil	S21-Oc38620												X	X		
190	TP47 0.2-0.3	Oct 12, 2021		Soil	S21-Oc38621						X									
191	TP48 0.0-0.1	Oct 12, 2021		Soil	S21-Oc38622						X									
192	TP48 0.2-0.3	Oct 12, 2021		Soil	S21-Oc38623						X									
193	TP49 0.0-0.1	Oct 12, 2021		Soil	S21-Oc38624						X									
194	TP49 0.1-0.2	Oct 12, 2021		Soil	S21-Oc38625						X									
195	DR11 0.1-0.2	Oct 13, 2021		Soil	S21-Oc38626						X									
196	DR12 0.1-0.2	Oct 13, 2021		Soil	S21-Oc38627						X									

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Melbourne Laboratory - NATA # 1261 Site # 1254															X	X	X		X	
Sydney Laboratory - NATA # 1261 Site # 18217						X	X	X	X	X	X	X	X	X	X		X	X	X	X
Brisbane Laboratory - NATA # 1261 Site # 20794																				
Mayfield Laboratory - NATA # 1261 Site # 25079																				
Perth Laboratory - NATA # 2377 Site # 2370																				
External Laboratory																				
197	DR13 0.1-0.2	Oct 13, 2021		Soil	S21-Oc38628						X									
198	DR14 0.1-0.2	Oct 13, 2021		Soil	S21-Oc38629						X									
199	DW09	Oct 13, 2021		Soil	S21-Oc38630						X									
200	DW10	Oct 13, 2021		Soil	S21-Oc38631						X									
201	DW11	Oct 13, 2021		Soil	S21-Oc38632						X									
202	DW12	Oct 13, 2021		Soil	S21-Oc38633						X									
203	TP13-0.4-0.6	Oct 08, 2021		Soil	S21-Oc38634						X									
204	TP27-1.0-1.2	Oct 08, 2021		Soil	S21-Oc38635						X									
205	TP28-0.1-0.3	Oct 08, 2021		Soil	S21-Oc38636						X									
206	TP29-0.3-0.5	Oct 08, 2021		Soil	S21-Oc38637						X									
207	TP30-0.5-0.7	Oct 08, 2021		Soil	S21-Oc38638						X									

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Melbourne Laboratory - NATA # 1261 Site # 1254															X	X	X		X	
Sydney Laboratory - NATA # 1261 Site # 18217						X	X	X	X	X	X	X	X	X	X		X	X	X	X
Brisbane Laboratory - NATA # 1261 Site # 20794																				
Mayfield Laboratory - NATA # 1261 Site # 25079																				
Perth Laboratory - NATA # 2377 Site # 2370																				
External Laboratory																				
208	TP31-1.0-1.2	Oct 08, 2021		Soil	S21-Oc38639						X									
209	TP31-2.0-2.2	Oct 08, 2021		Soil	S21-Oc38640						X									
210	TP32-1.0-1.2	Oct 08, 2021		Soil	S21-Oc38641						X									
211	TP32-1.5-1.7	Oct 08, 2021		Soil	S21-Oc38642						X									
212	TP33-0.1-0.3	Oct 08, 2021		Soil	S21-Oc38643						X									
213	TP34-0.6-0.8	Oct 08, 2021		Soil	S21-Oc38644						X									
214	TP35-0.6-0.8	Oct 08, 2021		Soil	S21-Oc38645						X									
215	TP36-0.1-0.3	Oct 08, 2021		Soil	S21-Oc38646						X									
216	TP37-0.1-0.3	Oct 08, 2021		Soil	S21-Oc38647						X									
217	TP38-0.4-0.6	Oct 08, 2021		Soil	S21-Oc38648						X									
218	TP39-0.1-0.3	Oct 08, 2021		Soil	S21-Oc38649			X												

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Sample Detail						Arsenic	Cadmium	CANCELLED	Conductivity (1:5 aqueous extract at 25°C as rec.)	Copper	HOLD	pH (1:5 Aqueous extract at 25°C as rec.)	BTEX	Suite B13: OCP/PCB	Aggressivity Soil Set	Eurofins Suite B20	Moisture Set	Eurofins Suite B7	Eurofins Suite B19D: Total N, TKN, NOx, NO2, NO3, Total P	BTEX
Melbourne Laboratory - NATA # 1261 Site # 1254															X	X	X		X	
Sydney Laboratory - NATA # 1261 Site # 18217						X	X	X	X	X	X	X	X	X	X		X	X	X	X
Brisbane Laboratory - NATA # 1261 Site # 20794																				
Mayfield Laboratory - NATA # 1261 Site # 25079																				
Perth Laboratory - NATA # 2377 Site # 2370																				
External Laboratory																				
219	TP40-0.1-0.3	Oct 08, 2021		Soil	S21-Oc38650						X									
220	TP55-0.0-0.2	Oct 08, 2021		Soil	S21-Oc38651						X									
221	TP55-0.3-0.5	Oct 08, 2021		Soil	S21-Oc38652						X									
222	TP56-0.0-0.2	Oct 08, 2021		Soil	S21-Oc38653						X									
223	TP56-0.7-0.9	Oct 08, 2021		Soil	S21-Oc38654						X									
224	TP57-0.1-0.1	Oct 08, 2021		Soil	S21-Oc38655						X									
225	TP57-0.1-0.3	Oct 08, 2021		Soil	S21-Oc38656						X									
226	TP58-0.0-0.1	Oct 08, 2021		Soil	S21-Oc38657						X									
227	TP58-0.1-0.3	Oct 08, 2021		Soil	S21-Oc38658			X												
228	TP59-0.0-0.2	Oct 08, 2021		Soil	S21-Oc38659						X									
229	TP59-0.7-0.9	Oct 08, 2021		Soil	S21-Oc38660						X									

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Project ID: 13546

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Received: Oct 18, 2021 3:41 PM
Due: Oct 25, 2021
Priority: 5 Day
Contact Name: Jacob Walker

Eurofins Analytical Services Manager : Andrew Black

Sample Detail						Arsenic	Cadmium	CANCELLED	Conductivity (1:5 aqueous extract at 25°C as rec.)	Copper	HOLD	pH (1:5 Aqueous extract at 25°C as rec.)	BTEX	Suite B13: OCP/PCB	Aggressivity Soil Set	Eurofins Suite B20	Moisture Set	Eurofins Suite B7	Eurofins Suite B19D: Total N, TKN, NOx, NO2, NO3, Total P	BTEX
Melbourne Laboratory - NATA # 1261 Site # 1254															X	X	X		X	
Sydney Laboratory - NATA # 1261 Site # 18217						X	X	X	X	X	X	X	X	X	X		X	X	X	X
Brisbane Laboratory - NATA # 1261 Site # 20794																				
Mayfield Laboratory - NATA # 1261 Site # 25079																				
Perth Laboratory - NATA # 2377 Site # 2370																				
External Laboratory																				
230	TP60-0.0-0.2	Oct 08, 2021		Soil	S21-Oc38661						X									
231	TP60-0.5-0.7	Oct 08, 2021		Soil	S21-Oc38662						X									
Test Counts						7	7	2	16	7	113	16	5	37	5	5	98	77	17	5

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.

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
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
WA DWER	Sum of PFBA, PFPeA, PFHxA, PFHpA, PFOA, PFBS, PFHxS, PFOS, 6:2 FTSA, 8:2 FTSA

QC - Acceptance Criteria

The acceptance criteria should be used as a guide only and may be different when site specific Sampling Analysis and Quality Plan (SAQP) have been implemented

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%

NOTE: pH duplicates are reported as a range not as RPD

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 where no positive PFAS results have been reported have been reviewed and no data was affected.

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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. 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.
4. Recovery Data (Spikes & Surrogates) - where chromatographic interference does not allow the determination of recovery the term "INT" appears against that analyte.
5. For Matrix Spikes and LCS results a dash "-" in the report means that the specific analyte was not added to the QC sample.
6. 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							
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	
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							
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							
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-HCH	mg/kg	< 0.05			0.05	Pass	
Aldrin	mg/kg	< 0.05			0.05	Pass	
b-HCH	mg/kg	< 0.05			0.05	Pass	
d-HCH	mg/kg	< 0.05			0.05	Pass	
Dieldrin	mg/kg	< 0.05			0.05	Pass	
Endosulfan I	mg/kg	< 0.05			0.05	Pass	
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	

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Endrin aldehyde	mg/kg	< 0.05			0.05	Pass	
Endrin ketone	mg/kg	< 0.05			0.05	Pass	
g-HCH (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	< 0.05			0.05	Pass	
Toxaphene	mg/kg	< 0.5			0.5	Pass	
Method Blank							
Polychlorinated Biphenyls							
Aroclor-1016	mg/kg	< 0.1			0.1	Pass	
Aroclor-1221	mg/kg	< 0.1			0.1	Pass	
Aroclor-1232	mg/kg	< 0.1			0.1	Pass	
Aroclor-1242	mg/kg	< 0.1			0.1	Pass	
Aroclor-1248	mg/kg	< 0.1			0.1	Pass	
Aroclor-1254	mg/kg	< 0.1			0.1	Pass	
Aroclor-1260	mg/kg	< 0.1			0.1	Pass	
Total PCB*	mg/kg	< 0.1			0.1	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	
Method Blank							
Ammonia (as N)	mg/kg	< 5			5	Pass	
Nitrate & Nitrite (as N)	mg/kg	< 5			5	Pass	
Nitrate (as N)	mg/kg	< 5			5	Pass	
Nitrite (as N)	mg/kg	< 5			5	Pass	
Phosphorus	mg/kg	< 10			10	Pass	
Conductivity (1:5 aqueous extract at 25°C as rec.)	uS/cm	< 10			10	Pass	
Exchangeable Sodium Percentage (ESP)	%	< 0.1			0.1	Pass	
Magnesium (exchangeable)	meq/100g	< 0.1			0.1	Pass	
Potassium (exchangeable)	meq/100g	< 0.1			0.1	Pass	
Sodium (exchangeable)	meq/100g	< 0.1			0.1	Pass	
Method Blank							
Cation Exchange Capacity							
Calcium (exchangeable)	meq/100g	< 0.1			0.1	Pass	
Cation Exchange Capacity	meq/100g	< 0.05			0.05	Pass	
LCS - % Recovery							
Total Recoverable Hydrocarbons							
TRH C6-C9	%	87			70-130	Pass	
TRH C10-C14	%	98			70-130	Pass	
Naphthalene	%	92			70-130	Pass	
TRH C6-C10	%	99			70-130	Pass	
TRH >C10-C16	%	92			70-130	Pass	
LCS - % Recovery							
BTEX							
Benzene	%	106			70-130	Pass	
Toluene	%	96			70-130	Pass	

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Ethylbenzene	%	99			70-130	Pass	
m&p-Xylenes	%	101			70-130	Pass	
o-Xylene	%	100			70-130	Pass	
Xylenes - Total*	%	101			70-130	Pass	
LCS - % Recovery							
Polycyclic Aromatic Hydrocarbons							
Acenaphthene	%	98			70-130	Pass	
Acenaphthylene	%	98			70-130	Pass	
Anthracene	%	98			70-130	Pass	
Benz(a)anthracene	%	92			70-130	Pass	
Benzo(a)pyrene	%	99			70-130	Pass	
Benzo(b&j)fluoranthene	%	90			70-130	Pass	
Benzo(g.h.i)perylene	%	87			70-130	Pass	
Benzo(k)fluoranthene	%	105			70-130	Pass	
Chrysene	%	94			70-130	Pass	
Dibenz(a.h)anthracene	%	87			70-130	Pass	
Fluoranthene	%	96			70-130	Pass	
Fluorene	%	101			70-130	Pass	
Indeno(1.2.3-cd)pyrene	%	86			70-130	Pass	
Naphthalene	%	95			70-130	Pass	
Phenanthrene	%	99			70-130	Pass	
Pyrene	%	96			70-130	Pass	
LCS - % Recovery							
Organochlorine Pesticides							
Chlordanes - Total	%	78			70-130	Pass	
4.4'-DDD	%	77			70-130	Pass	
4.4'-DDE	%	84			70-130	Pass	
4.4'-DDT	%	87			70-130	Pass	
a-HCH	%	79			70-130	Pass	
Aldrin	%	82			70-130	Pass	
b-HCH	%	110			70-130	Pass	
d-HCH	%	78			70-130	Pass	
Dieldrin	%	79			70-130	Pass	
Endosulfan I	%	83			70-130	Pass	
Endosulfan II	%	70			70-130	Pass	
Endosulfan sulphate	%	108			70-130	Pass	
Endrin	%	73			70-130	Pass	
Endrin aldehyde	%	80			70-130	Pass	
Endrin ketone	%	110			70-130	Pass	
g-HCH (Lindane)	%	89			70-130	Pass	
Heptachlor	%	71			70-130	Pass	
Heptachlor epoxide	%	80			70-130	Pass	
Hexachlorobenzene	%	76			70-130	Pass	
Methoxychlor	%	110			70-130	Pass	
LCS - % Recovery							
Polychlorinated Biphenyls							
Aroclor-1016	%	74			70-130	Pass	
Aroclor-1221	%	86			70-130	Pass	
Aroclor-1260	%	71			70-130	Pass	
LCS - % Recovery							
Heavy Metals							
Arsenic	%	93			80-120	Pass	
Cadmium	%	96			80-120	Pass	
Chromium	%	92			80-120	Pass	

Test			Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Copper			%	90			80-120	Pass	
Lead			%	97			80-120	Pass	
Mercury			%	99			80-120	Pass	
Nickel			%	92			80-120	Pass	
Zinc			%	90			80-120	Pass	
LCS - % Recovery									
Ammonia (as N)			%	105			70-130	Pass	
Nitrate & Nitrite (as N)			%	105			70-130	Pass	
Nitrate (as N)			%	105			70-130	Pass	
Nitrite (as N)			%	105			70-130	Pass	
Phosphorus			%	89			80-120	Pass	
Conductivity (1:5 aqueous extract at 25°C as rec.)			%	93			70-130	Pass	
Resistivity*			%	93			70-130	Pass	
Test	**Lab Sample ID**	**QA Source**	**Units**	**Result 1**			**Acceptance Limits**	**Pass Limits**	**Qualifying Code**
Spike - % Recovery									
Total Recoverable Hydrocarbons				Result 1					
TRH C10-C14	S21-Oc38427	CP	%	98			70-130	Pass	
TRH >C10-C16	S21-Oc38427	CP	%	97			70-130	Pass	
Spike - % Recovery									
Organochlorine Pesticides				Result 1					
Endosulfan sulphate	S21-Oc44056	NCP	%	92			70-130	Pass	
Spike - % Recovery									
Polychlorinated Biphenyls				Result 1					
Aroclor-1221	S21-Oc44056	NCP	%	98			70-130	Pass	
Spike - % Recovery									
Heavy Metals				Result 1					
Arsenic	S21-Oc38427	CP	%	89			75-125	Pass	
Cadmium	S21-Oc38427	CP	%	98			75-125	Pass	
Chromium	S21-Oc38427	CP	%	105			75-125	Pass	
Copper	S21-Oc38427	CP	%	110			75-125	Pass	
Lead	S21-Oc38427	CP	%	106			75-125	Pass	
Mercury	S21-Oc38427	CP	%	111			75-125	Pass	
Nickel	S21-Oc38427	CP	%	106			75-125	Pass	
Zinc	S21-Oc38427	CP	%	95			75-125	Pass	
Spike - % Recovery									
				Result 1					
Total Kjeldahl Nitrogen (as N)	M21-Oc46724	NCP	%	110			70-130	Pass	
Spike - % Recovery									
				Result 1					
Phosphorus	S21-Oc45948	NCP	%	86			75-125	Pass	
Spike - % Recovery									
Total Recoverable Hydrocarbons				Result 1					
TRH C6-C9	S21-Oc38448	CP	%	77			70-130	Pass	
TRH C10-C14	S21-Oc38448	CP	%	101			70-130	Pass	
Naphthalene	S21-Oc38448	CP	%	86			70-130	Pass	
TRH C6-C10	S21-Oc38448	CP	%	79			70-130	Pass	
TRH >C10-C16	S21-Oc38448	CP	%	98			70-130	Pass	
Spike - % Recovery									
BTEX				Result 1					
Benzene	S21-Oc38448	CP	%	79			70-130	Pass	
Toluene	S21-Oc38448	CP	%	81			70-130	Pass	
Ethylbenzene	S21-Oc38448	CP	%	84			70-130	Pass	
m&p-Xylenes	S21-Oc38448	CP	%	86			70-130	Pass	
o-Xylene	S21-Oc38448	CP	%	87			70-130	Pass	

Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Xylenes - Total*	S21-Oc38448	CP	%	86			70-130	Pass	
Spike - % Recovery									
Polycyclic Aromatic Hydrocarbons				Result 1					
Acenaphthene	S21-Oc38448	CP	%	72			70-130	Pass	
Acenaphthylene	S21-Oc38448	CP	%	73			70-130	Pass	
Benzo(a)pyrene	S21-Oc38448	CP	%	99			70-130	Pass	
Benzo(b&j)fluoranthene	S21-Oc38448	CP	%	88			70-130	Pass	
Benzo(g.h.i)perylene	S21-Oc38448	CP	%	90			70-130	Pass	
Benzo(k)fluoranthene	S21-Oc38448	CP	%	81			70-130	Pass	
Chrysene	S21-Oc38448	CP	%	72			70-130	Pass	
Dibenz(a.h)anthracene	S21-Oc38448	CP	%	81			70-130	Pass	
Fluoranthene	S21-Oc38448	CP	%	76			70-130	Pass	
Fluorene	S21-Oc38448	CP	%	76			70-130	Pass	
Indeno(1.2.3-cd)pyrene	S21-Oc38448	CP	%	80			70-130	Pass	
Phenanthrene	S21-Oc38448	CP	%	74			70-130	Pass	
Pyrene	S21-Oc38448	CP	%	75			70-130	Pass	
Spike - % Recovery									
Heavy Metals				Result 1					
Arsenic	S21-Oc38448	CP	%	110			75-125	Pass	
Cadmium	S21-Oc38448	CP	%	119			75-125	Pass	
Chromium	S21-Oc38448	CP	%	108			75-125	Pass	
Copper	S21-Oc38448	CP	%	96			75-125	Pass	
Nickel	S21-Oc38448	CP	%	89			75-125	Pass	
Spike - % Recovery									
Total Recoverable Hydrocarbons				Result 1					
TRH C6-C9	S21-Oc38458	CP	%	79			70-130	Pass	
TRH C10-C14	S21-Oc38458	CP	%	82			70-130	Pass	
Naphthalene	S21-Oc38458	CP	%	102			70-130	Pass	
TRH C6-C10	S21-Oc38458	CP	%	80			70-130	Pass	
TRH >C10-C16	S21-Oc38458	CP	%	78			70-130	Pass	
Spike - % Recovery									
BTEX				Result 1					
Benzene	S21-Oc38458	CP	%	79			70-130	Pass	
Toluene	S21-Oc38458	CP	%	86			70-130	Pass	
Ethylbenzene	S21-Oc38458	CP	%	92			70-130	Pass	
m&p-Xylenes	S21-Oc38458	CP	%	95			70-130	Pass	
o-Xylene	S21-Oc38458	CP	%	94			70-130	Pass	
Xylenes - Total*	S21-Oc38458	CP	%	95			70-130	Pass	
Spike - % Recovery									
Polycyclic Aromatic Hydrocarbons				Result 1					
Acenaphthene	S21-Oc38458	CP	%	92			70-130	Pass	
Acenaphthylene	S21-Oc38458	CP	%	89			70-130	Pass	
Anthracene	S21-Oc38458	CP	%	85			70-130	Pass	
Benz(a)anthracene	S21-Oc38458	CP	%	83			70-130	Pass	
Benzo(a)pyrene	S21-Oc38458	CP	%	81			70-130	Pass	
Benzo(b&j)fluoranthene	S21-Oc38458	CP	%	77			70-130	Pass	
Benzo(g.h.i)perylene	S21-Oc38458	CP	%	76			70-130	Pass	
Benzo(k)fluoranthene	S21-Oc38458	CP	%	83			70-130	Pass	
Chrysene	S21-Oc38458	CP	%	92			70-130	Pass	
Dibenz(a.h)anthracene	S21-Oc38458	CP	%	78			70-130	Pass	
Fluoranthene	S21-Oc38458	CP	%	86			70-130	Pass	
Fluorene	S21-Oc38458	CP	%	89			70-130	Pass	
Indeno(1.2.3-cd)pyrene	S21-Oc38458	CP	%	73			70-130	Pass	
Naphthalene	S21-Oc38458	CP	%	95			70-130	Pass	

Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Phenanthrene	S21-Oc38458	CP	%	89			70-130	Pass	
Pyrene	S21-Oc38458	CP	%	84			70-130	Pass	
Spike - % Recovery									
Organochlorine Pesticides				Result 1					
4.4'-DDT	S21-Oc38458	CP	%	114			70-130	Pass	
a-HCH	S21-Oc38458	CP	%	74			70-130	Pass	
b-HCH	S21-Oc38458	CP	%	74			70-130	Pass	
Dieldrin	S21-Oc38458	CP	%	78			70-130	Pass	
Endrin	S21-Oc38458	CP	%	107			70-130	Pass	
Endrin ketone	S21-Oc38458	CP	%	105			70-130	Pass	
g-HCH (Lindane)	S21-Oc38458	CP	%	77			70-130	Pass	
Heptachlor	S21-Oc38458	CP	%	77			70-130	Pass	
Heptachlor epoxide	S21-Oc38458	CP	%	74			70-130	Pass	
Hexachlorobenzene	S21-Oc38458	CP	%	77			70-130	Pass	
Spike - % Recovery									
Polychlorinated Biphenyls				Result 1					
Aroclor-1016	S21-Oc38458	CP	%	76			70-130	Pass	
Aroclor-1260	S21-Oc38458	CP	%	84			70-130	Pass	
Spike - % Recovery									
Heavy Metals				Result 1					
Arsenic	S21-Oc38468	CP	%	89			75-125	Pass	
Cadmium	S21-Oc38468	CP	%	97			75-125	Pass	
Chromium	S21-Oc38468	CP	%	89			75-125	Pass	
Copper	S21-Oc38468	CP	%	86			75-125	Pass	
Lead	S21-Oc38468	CP	%	99			75-125	Pass	
Mercury	S21-Oc38468	CP	%	101			75-125	Pass	
Nickel	S21-Oc38468	CP	%	88			75-125	Pass	
Zinc	S21-Oc38468	CP	%	78			75-125	Pass	
Spike - % Recovery									
Total Recoverable Hydrocarbons				Result 1					
TRH C10-C14	S21-Oc38507	CP	%	95			70-130	Pass	
Naphthalene	S21-Oc38507	CP	%	72			70-130	Pass	
TRH >C10-C16	S21-Oc38507	CP	%	91			70-130	Pass	
Spike - % Recovery									
BTEX				Result 1					
Benzene	S21-Oc38507	CP	%	73			70-130	Pass	
Toluene	S21-Oc38507	CP	%	71			70-130	Pass	
Ethylbenzene	S21-Oc38507	CP	%	72			70-130	Pass	
m&p-Xylenes	S21-Oc38507	CP	%	72			70-130	Pass	
o-Xylene	S21-Oc38507	CP	%	72			70-130	Pass	
Xylenes - Total*	S21-Oc38507	CP	%	72			70-130	Pass	
Spike - % Recovery									
Polycyclic Aromatic Hydrocarbons				Result 1					
Acenaphthene	S21-Oc38507	CP	%	90			70-130	Pass	
Acenaphthylene	S21-Oc38507	CP	%	87			70-130	Pass	
Anthracene	S21-Oc38507	CP	%	84			70-130	Pass	
Benz(a)anthracene	S21-Oc38507	CP	%	81			70-130	Pass	
Benzo(a)pyrene	S21-Oc38507	CP	%	80			70-130	Pass	
Benzo(b&j)fluoranthene	S21-Oc38507	CP	%	78			70-130	Pass	
Benzo(g.h.i)perylene	S21-Oc38507	CP	%	80			70-130	Pass	
Benzo(k)fluoranthene	S21-Oc38507	CP	%	99			70-130	Pass	
Chrysene	S21-Oc38507	CP	%	94			70-130	Pass	
Dibenz(a.h)anthracene	S21-Oc38507	CP	%	72			70-130	Pass	
Fluoranthene	S21-Oc38507	CP	%	82			70-130	Pass	

Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Fluorene	S21-Oc38507	CP	%	89			70-130	Pass	
Indeno(1.2.3-cd)pyrene	S21-Oc38507	CP	%	70			70-130	Pass	
Naphthalene	S21-Oc38507	CP	%	87			70-130	Pass	
Phenanthrene	S21-Oc38507	CP	%	84			70-130	Pass	
Pyrene	S21-Oc38507	CP	%	78			70-130	Pass	
Spike - % Recovery									
Organochlorine Pesticides				Result 1					
Chlordanes - Total	S21-Oc38507	CP	%	77			70-130	Pass	
4.4'-DDD	S21-Oc38507	CP	%	76			70-130	Pass	
4.4'-DDE	S21-Oc38507	CP	%	85			70-130	Pass	
4.4'-DDT	S21-Oc38507	CP	%	72			70-130	Pass	
a-HCH	S21-Oc38507	CP	%	80			70-130	Pass	
Aldrin	S21-Oc38507	CP	%	78			70-130	Pass	
b-HCH	S21-Oc38507	CP	%	87			70-130	Pass	
d-HCH	S21-Oc38507	CP	%	81			70-130	Pass	
Dieldrin	S21-Oc38507	CP	%	78			70-130	Pass	
Endosulfan I	S21-Oc38507	CP	%	81			70-130	Pass	
Endosulfan II	S21-Oc38507	CP	%	78			70-130	Pass	
Endrin	S21-Oc38507	CP	%	82			70-130	Pass	
Endrin aldehyde	S21-Oc38507	CP	%	71			70-130	Pass	
g-HCH (Lindane)	S21-Oc38507	CP	%	90			70-130	Pass	
Heptachlor	S21-Oc38507	CP	%	70			70-130	Pass	
Heptachlor epoxide	S21-Oc38507	CP	%	80			70-130	Pass	
Hexachlorobenzene	S21-Oc38507	CP	%	75			70-130	Pass	
Methoxychlor	S21-Oc38507	CP	%	116			70-130	Pass	
Spike - % Recovery									
Polychlorinated Biphenyls				Result 1					
Aroclor-1260	S21-Oc38507	CP	%	83			70-130	Pass	
Spike - % Recovery									
Heavy Metals				Result 1					
Arsenic	S21-Oc38507	CP	%	104			75-125	Pass	
Cadmium	S21-Oc38507	CP	%	104			75-125	Pass	
Chromium	S21-Oc38507	CP	%	100			75-125	Pass	
Copper	S21-Oc38507	CP	%	96			75-125	Pass	
Lead	S21-Oc38507	CP	%	109			75-125	Pass	
Mercury	S21-Oc38507	CP	%	108			75-125	Pass	
Nickel	S21-Oc38507	CP	%	91			75-125	Pass	
Spike - % Recovery									
Total Recoverable Hydrocarbons				Result 1					
TRH C10-C14	S21-Oc38519	CP	%	124			70-130	Pass	
TRH >C10-C16	S21-Oc38519	CP	%	120			70-130	Pass	
Spike - % Recovery									
Polycyclic Aromatic Hydrocarbons				Result 1					
Acenaphthene	S21-Oc38519	CP	%	77			70-130	Pass	
Acenaphthylene	S21-Oc38519	CP	%	78			70-130	Pass	
Anthracene	S21-Oc38519	CP	%	78			70-130	Pass	
Benzo(a)pyrene	S21-Oc38519	CP	%	100			70-130	Pass	
Benzo(b&j)fluoranthene	S21-Oc38519	CP	%	98			70-130	Pass	
Benzo(g.h.i)perylene	S21-Oc38519	CP	%	80			70-130	Pass	
Benzo(k)fluoranthene	S21-Oc38519	CP	%	94			70-130	Pass	
Chrysene	S21-Oc38519	CP	%	79			70-130	Pass	
Dibenz(a.h)anthracene	S21-Oc38519	CP	%	78			70-130	Pass	
Fluoranthene	S21-Oc38519	CP	%	83			70-130	Pass	
Fluorene	S21-Oc38519	CP	%	79			70-130	Pass	

Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Indeno(1.2.3-cd)pyrene	S21-Oc38519	CP	%	73			70-130	Pass	
Naphthalene	S21-Oc38519	CP	%	76			70-130	Pass	
Phenanthrene	S21-Oc38519	CP	%	80			70-130	Pass	
Pyrene	S21-Oc38519	CP	%	83			70-130	Pass	
Spike - % Recovery									
				Result 1					
Chloride	S21-Oc38525	CP	%	101			70-130	Pass	
Sulphate (as SO4)	S21-Oc38525	CP	%	92			70-130	Pass	
Test	**Lab Sample ID**	**QA Source**	**Units**	**Result 1**			**Acceptance Limits**	**Pass Limits**	**Qualifying Code**
Duplicate									
Total Recoverable Hydrocarbons				Result 1	Result 2	RPD			
TRH C6-C9	S21-Oc38430	CP	mg/kg	< 20	< 20	<1	30%	Pass	
TRH C10-C14	S21-Oc38430	CP	mg/kg	< 20	< 20	<1	30%	Pass	
TRH C15-C28	S21-Oc38430	CP	mg/kg	< 50	< 50	<1	30%	Pass	
TRH C29-C36	S21-Oc38430	CP	mg/kg	< 50	< 50	<1	30%	Pass	
Naphthalene	S21-Oc38430	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
TRH C6-C10	S21-Oc38430	CP	mg/kg	< 20	< 20	<1	30%	Pass	
TRH >C10-C16	S21-Oc38430	CP	mg/kg	< 50	< 50	<1	30%	Pass	
TRH >C16-C34	S21-Oc38430	CP	mg/kg	< 100	< 100	<1	30%	Pass	
TRH >C34-C40	S21-Oc38430	CP	mg/kg	< 100	< 100	<1	30%	Pass	
Duplicate									
BTEX				Result 1	Result 2	RPD			
Benzene	S21-Oc38430	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Toluene	S21-Oc38430	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Ethylbenzene	S21-Oc38430	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
m&p-Xylenes	S21-Oc38430	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
o-Xylene	S21-Oc38430	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Xylenes - Total*	S21-Oc38430	CP	mg/kg	< 0.3	< 0.3	<1	30%	Pass	
Duplicate									
				Result 1	Result 2	RPD			
% Moisture	S21-Oc38430	CP	%	9.7	9.0	7.0	30%	Pass	
Duplicate									
Total Recoverable Hydrocarbons				Result 1	Result 2	RPD			
TRH C10-C14	S21-Oc38437	CP	mg/kg	< 20	< 20	<1	30%	Pass	
TRH C15-C28	S21-Oc38437	CP	mg/kg	< 50	< 50	<1	30%	Pass	
TRH C29-C36	S21-Oc38437	CP	mg/kg	< 50	< 50	<1	30%	Pass	
TRH >C10-C16	S21-Oc38437	CP	mg/kg	< 50	< 50	<1	30%	Pass	
TRH >C16-C34	S21-Oc38437	CP	mg/kg	< 100	< 100	<1	30%	Pass	
TRH >C34-C40	S21-Oc38437	CP	mg/kg	< 100	< 100	<1	30%	Pass	
Duplicate									
Polycyclic Aromatic Hydrocarbons				Result 1	Result 2	RPD			
Acenaphthene	S21-Oc38437	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Acenaphthylene	S21-Oc38437	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Anthracene	S21-Oc38437	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benz(a)anthracene	S21-Oc38437	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benzo(a)pyrene	S21-Oc38437	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benzo(b&j)fluoranthene	S21-Oc38437	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benzo(g.h.i)perylene	S21-Oc38437	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benzo(k)fluoranthene	S21-Oc38437	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Chrysene	S21-Oc38437	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Dibenz(a.h)anthracene	S21-Oc38437	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Fluoranthene	S21-Oc38437	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Fluorene	S21-Oc38437	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Indeno(1.2.3-cd)pyrene	S21-Oc38437	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	

Duplicate									
Polycyclic Aromatic Hydrocarbons				Result 1	Result 2	RPD			
Naphthalene	S21-Oc38437	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Phenanthrene	S21-Oc38437	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Pyrene	S21-Oc38437	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Duplicate									
Organochlorine Pesticides				Result 1	Result 2	RPD			
Chlordanes - Total	S21-Oc38437	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
4.4'-DDD	S21-Oc38437	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
4.4'-DDE	S21-Oc38437	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
4.4'-DDT	S21-Oc38437	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
a-HCH	S21-Oc38437	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Aldrin	S21-Oc38437	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
b-HCH	S21-Oc38437	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
d-HCH	S21-Oc38437	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Dieldrin	S21-Oc38437	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Endosulfan I	S21-Oc38437	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Endosulfan II	S21-Oc38437	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Endosulfan sulphate	S21-Oc38437	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Endrin	S21-Oc38437	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Endrin aldehyde	S21-Oc38437	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Endrin ketone	S21-Oc38437	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
g-HCH (Lindane)	S21-Oc38437	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Heptachlor	S21-Oc38437	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Heptachlor epoxide	S21-Oc38437	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Hexachlorobenzene	S21-Oc38437	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Methoxychlor	S21-Oc38437	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Toxaphene	S21-Oc38437	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Duplicate									
Polychlorinated Biphenyls				Result 1	Result 2	RPD			
Aroclor-1016	S21-Oc38437	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Aroclor-1221	S21-Oc38437	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Aroclor-1232	S21-Oc38437	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Aroclor-1242	S21-Oc38437	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Aroclor-1248	S21-Oc38437	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Aroclor-1254	S21-Oc38437	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Aroclor-1260	S21-Oc38437	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Total PCB*	S21-Oc38437	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Duplicate									
				Result 1	Result 2	RPD			
% Moisture	S21-Oc38437	CP	%	12	12	6.0	30%	Pass	
Ammonia (as N)	S21-Oc38437	CP	mg/kg	1700	1700	<1	30%	Pass	
Nitrate & Nitrite (as N)	S21-Oc38437	CP	mg/kg	2000	2100	6.0	30%	Pass	
Nitrate (as N)	S21-Oc38437	CP	mg/kg	2000	2100	6.0	30%	Pass	
Nitrite (as N)	S21-Oc38437	CP	mg/kg	< 5	< 5	<1	30%	Pass	
Duplicate									
Total Recoverable Hydrocarbons				Result 1	Result 2	RPD			
TRH C6-C9	S21-Oc38447	CP	mg/kg	< 20	< 20	<1	30%	Pass	
Naphthalene	S21-Oc38447	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
TRH C6-C10	S21-Oc38447	CP	mg/kg	< 20	< 20	<1	30%	Pass	
Duplicate									
BTEX				Result 1	Result 2	RPD			
Benzene	S21-Oc38447	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Toluene	S21-Oc38447	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Ethylbenzene	S21-Oc38447	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
m&p-Xylenes	S21-Oc38447	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	

Duplicate									
BTEX				Result 1	Result 2	RPD			
o-Xylene	S21-Oc38447	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Xylenes - Total*	S21-Oc38447	CP	mg/kg	< 0.3	< 0.3	<1	30%	Pass	
Duplicate									
Polycyclic Aromatic Hydrocarbons				Result 1	Result 2	RPD			
Acenaphthene	S21-Oc38447	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Acenaphthylene	S21-Oc38447	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Anthracene	S21-Oc38447	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benz(a)anthracene	S21-Oc38447	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benzo(a)pyrene	S21-Oc38447	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benzo(b&j)fluoranthene	S21-Oc38447	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benzo(g.h.i)perylene	S21-Oc38447	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benzo(k)fluoranthene	S21-Oc38447	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Chrysene	S21-Oc38447	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Dibenz(a.h)anthracene	S21-Oc38447	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Fluoranthene	S21-Oc38447	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Fluorene	S21-Oc38447	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Indeno(1.2.3-cd)pyrene	S21-Oc38447	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Naphthalene	S21-Oc38447	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Phenanthrene	S21-Oc38447	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Pyrene	S21-Oc38447	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Duplicate									
Organochlorine Pesticides				Result 1	Result 2	RPD			
Chlordanes - Total	S21-Oc38447	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
4.4'-DDD	S21-Oc38447	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
4.4'-DDE	S21-Oc38447	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
4.4'-DDT	S21-Oc38447	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
a-HCH	S21-Oc38447	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Aldrin	S21-Oc38447	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
b-HCH	S21-Oc38447	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
d-HCH	S21-Oc38447	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Dieldrin	S21-Oc38447	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Endosulfan I	S21-Oc38447	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Endosulfan II	S21-Oc38447	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Endosulfan sulphate	S21-Oc38447	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Endrin	S21-Oc38447	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Endrin aldehyde	S21-Oc38447	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Endrin ketone	S21-Oc38447	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
g-HCH (Lindane)	S21-Oc38447	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Heptachlor	S21-Oc38447	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Heptachlor epoxide	S21-Oc38447	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Hexachlorobenzene	S21-Oc38447	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Methoxychlor	S21-Oc38447	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Toxaphene	S21-Oc38447	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Duplicate									
Polychlorinated Biphenyls				Result 1	Result 2	RPD			
Aroclor-1016	S21-Oc38447	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Aroclor-1221	S21-Oc38447	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Aroclor-1232	S21-Oc38447	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Aroclor-1242	S21-Oc38447	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Aroclor-1248	S21-Oc38447	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Aroclor-1254	S21-Oc38447	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Aroclor-1260	S21-Oc38447	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Total PCB*	S21-Oc38447	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	

Duplicate									
Heavy Metals				Result 1	Result 2	RPD			
Arsenic	S21-Oc38447	CP	mg/kg	15	15	6.0	30%	Pass	
Cadmium	S21-Oc38447	CP	mg/kg	< 0.4	< 0.4	<1	30%	Pass	
Chromium	S21-Oc38447	CP	mg/kg	19	17	12	30%	Pass	
Copper	S21-Oc38447	CP	mg/kg	46	38	18	30%	Pass	
Lead	S21-Oc38447	CP	mg/kg	26	30	12	30%	Pass	
Mercury	S21-Oc38447	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Nickel	S21-Oc38447	CP	mg/kg	21	18	18	30%	Pass	
Zinc	S21-Oc38447	CP	mg/kg	180	150	17	30%	Pass	
Duplicate									
				Result 1	Result 2	RPD			
% Moisture	S21-Oc38447	CP	%	16	14	10	30%	Pass	
Phosphorus	S21-Oc38447	CP	mg/kg	1500	1300	8.0	30%	Pass	
Duplicate									
Total Recoverable Hydrocarbons				Result 1	Result 2	RPD			
TRH C10-C14	S21-Oc38456	CP	mg/kg	< 20	< 20	<1	30%	Pass	
TRH C15-C28	S21-Oc38456	CP	mg/kg	< 50	< 50	<1	30%	Pass	
TRH C29-C36	S21-Oc38456	CP	mg/kg	53	62	15	30%	Pass	
TRH >C10-C16	S21-Oc38456	CP	mg/kg	< 50	< 50	<1	30%	Pass	
TRH >C16-C34	S21-Oc38456	CP	mg/kg	< 100	< 100	<1	30%	Pass	
TRH >C34-C40	S21-Oc38456	CP	mg/kg	< 100	110	15	30%	Pass	
Duplicate									
Polycyclic Aromatic Hydrocarbons				Result 1	Result 2	RPD			
Acenaphthene	S21-Oc38456	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Acenaphthylene	S21-Oc38456	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Anthracene	S21-Oc38456	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benz(a)anthracene	S21-Oc38456	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benzo(a)pyrene	S21-Oc38456	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benzo(b&j)fluoranthene	S21-Oc38456	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benzo(g.h.i)perylene	S21-Oc38456	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benzo(k)fluoranthene	S21-Oc38456	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Chrysene	S21-Oc38456	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Dibenz(a.h)anthracene	S21-Oc38456	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Fluoranthene	S21-Oc38456	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Fluorene	S21-Oc38456	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Indeno(1.2.3-cd)pyrene	S21-Oc38456	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Naphthalene	S21-Oc38456	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Phenanthrene	S21-Oc38456	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Pyrene	S21-Oc38456	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Duplicate									
Total Recoverable Hydrocarbons				Result 1	Result 2	RPD			
TRH C6-C9	S21-Oc38457	CP	mg/kg	< 20	< 20	<1	30%	Pass	
Naphthalene	S21-Oc38457	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
TRH C6-C10	S21-Oc38457	CP	mg/kg	< 20	< 20	<1	30%	Pass	
Duplicate									
BTEX				Result 1	Result 2	RPD			
Benzene	S21-Oc38457	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Toluene	S21-Oc38457	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Ethylbenzene	S21-Oc38457	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
m&p-Xylenes	S21-Oc38457	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
o-Xylene	S21-Oc38457	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Xylenes - Total*	S21-Oc38457	CP	mg/kg	< 0.3	< 0.3	<1	30%	Pass	

Duplicate									
Polycyclic Aromatic Hydrocarbons				Result 1	Result 2	RPD			
Acenaphthene	S21-Oc38457	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Acenaphthylene	S21-Oc38457	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Anthracene	S21-Oc38457	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benz(a)anthracene	S21-Oc38457	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benzo(a)pyrene	S21-Oc38457	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benzo(b&j)fluoranthene	S21-Oc38457	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benzo(g.h.i)perylene	S21-Oc38457	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benzo(k)fluoranthene	S21-Oc38457	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Chrysene	S21-Oc38457	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Dibenz(a.h)anthracene	S21-Oc38457	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Fluoranthene	S21-Oc38457	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Fluorene	S21-Oc38457	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Indeno(1.2.3-cd)pyrene	S21-Oc38457	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Naphthalene	S21-Oc38457	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Phenanthrene	S21-Oc38457	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Pyrene	S21-Oc38457	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Duplicate									
Organochlorine Pesticides				Result 1	Result 2	RPD			
Chlordanes - Total	S21-Oc38457	CP	mg/kg	< 1	< 1	<1	30%	Pass	
4.4'-DDD	S21-Oc38457	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
4.4'-DDE	S21-Oc38457	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
4.4'-DDT	S21-Oc38457	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
a-HCH	S21-Oc38457	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Aldrin	S21-Oc38457	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
b-HCH	S21-Oc38457	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
d-HCH	S21-Oc38457	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Dieldrin	S21-Oc38457	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Endosulfan I	S21-Oc38457	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Endosulfan II	S21-Oc38457	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Endosulfan sulphate	S21-Oc38457	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Endrin	S21-Oc38457	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Endrin aldehyde	S21-Oc38457	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Endrin ketone	S21-Oc38457	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
g-HCH (Lindane)	S21-Oc38457	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Heptachlor	S21-Oc38457	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Heptachlor epoxide	S21-Oc38457	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Hexachlorobenzene	S21-Oc38457	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Methoxychlor	S21-Oc38457	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Duplicate									
Polychlorinated Biphenyls				Result 1	Result 2	RPD			
Aroclor-1016	S21-Oc38457	CP	mg/kg	< 1	< 1	<1	30%	Pass	
Aroclor-1221	S21-Oc38457	CP	mg/kg	< 1	< 1	<1	30%	Pass	
Aroclor-1232	S21-Oc38457	CP	mg/kg	< 1	< 1	<1	30%	Pass	
Aroclor-1242	S21-Oc38457	CP	mg/kg	< 1	< 1	<1	30%	Pass	
Aroclor-1248	S21-Oc38457	CP	mg/kg	< 1	< 1	<1	30%	Pass	
Aroclor-1254	S21-Oc38457	CP	mg/kg	< 1	< 1	<1	30%	Pass	
Aroclor-1260	S21-Oc38457	CP	mg/kg	< 1	< 1	<1	30%	Pass	
Duplicate									
Heavy Metals				Result 1	Result 2	RPD			
Arsenic	S21-Oc38457	CP	mg/kg	12	8.0	41	30%	Fail	Q15
Cadmium	S21-Oc38457	CP	mg/kg	< 0.4	< 0.4	<1	30%	Pass	
Chromium	S21-Oc38457	CP	mg/kg	33	29	14	30%	Pass	
Copper	S21-Oc38457	CP	mg/kg	35	41	16	30%	Pass	
Lead	S21-Oc38457	CP	mg/kg	25	25	1.0	30%	Pass	

Duplicate									
Heavy Metals				Result 1	Result 2	RPD			
Mercury	S21-Oc38457	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Nickel	S21-Oc38457	CP	mg/kg	28	34	17	30%	Pass	
Zinc	S21-Oc38457	CP	mg/kg	95	86	10	30%	Pass	
Duplicate									
				Result 1	Result 2	RPD			
% Moisture	S21-Oc38457	CP	%	12	16	28	30%	Pass	
Phosphorus	S21-Oc38457	CP	mg/kg	820	730	11	30%	Pass	
Duplicate									
Total Recoverable Hydrocarbons				Result 1	Result 2	RPD			
TRH C10-C14	S21-Oc38467	CP	mg/kg	< 20	< 20	<1	30%	Pass	
TRH C15-C28	S21-Oc38467	CP	mg/kg	< 50	< 50	<1	30%	Pass	
TRH C29-C36	S21-Oc38467	CP	mg/kg	< 50	< 50	<1	30%	Pass	
TRH >C10-C16	S21-Oc38467	CP	mg/kg	< 50	< 50	<1	30%	Pass	
TRH >C16-C34	S21-Oc38467	CP	mg/kg	< 100	< 100	<1	30%	Pass	
TRH >C34-C40	S21-Oc38467	CP	mg/kg	< 100	< 100	<1	30%	Pass	
Duplicate									
Heavy Metals				Result 1	Result 2	RPD			
Arsenic	S21-Oc38467	CP	mg/kg	9.5	8.1	16	30%	Pass	
Cadmium	S21-Oc38467	CP	mg/kg	< 0.4	< 0.4	<1	30%	Pass	
Chromium	S21-Oc38467	CP	mg/kg	21	19	12	30%	Pass	
Copper	S21-Oc38467	CP	mg/kg	26	23	12	30%	Pass	
Lead	S21-Oc38467	CP	mg/kg	13	12	6.0	30%	Pass	
Mercury	S21-Oc38467	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Nickel	S21-Oc38467	CP	mg/kg	17	15	13	30%	Pass	
Zinc	S21-Oc38467	CP	mg/kg	49	46	6.0	30%	Pass	
Duplicate									
				Result 1	Result 2	RPD			
% Moisture	S21-Oc38467	CP	%	27	29	7.0	30%	Pass	
Phosphorus	S21-Oc38467	CP	mg/kg	160	130	20	30%	Pass	
Duplicate									
				Result 1	Result 2	RPD			
% Moisture	S21-Oc38498	CP	%	7.0	9.0	25	30%	Pass	
Duplicate									
Heavy Metals				Result 1	Result 2	RPD			
Arsenic	S21-Oc38499	CP	mg/kg	7.0	6.1	13	30%	Pass	
Cadmium	S21-Oc38499	CP	mg/kg	< 0.4	< 0.4	<1	30%	Pass	
Chromium	S21-Oc38499	CP	mg/kg	13	10	20	30%	Pass	
Copper	S21-Oc38499	CP	mg/kg	29	23	24	30%	Pass	
Lead	S21-Oc38499	CP	mg/kg	21	17	19	30%	Pass	
Mercury	S21-Oc38499	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Nickel	S21-Oc38499	CP	mg/kg	13	11	20	30%	Pass	
Zinc	S21-Oc38499	CP	mg/kg	520	380	32	30%	Fail	Q02
Duplicate									
				Result 1	Result 2	RPD			
Phosphorus	S21-Oc38499	CP	mg/kg	730	550	29	30%	Pass	
Duplicate									
Total Recoverable Hydrocarbons				Result 1	Result 2	RPD			
TRH C6-C9	S21-Oc38506	CP	mg/kg	< 20	< 20	<1	30%	Pass	
TRH C10-C14	S21-Oc38506	CP	mg/kg	< 20	< 20	<1	30%	Pass	
TRH C15-C28	S21-Oc38506	CP	mg/kg	< 50	< 50	<1	30%	Pass	
TRH C29-C36	S21-Oc38506	CP	mg/kg	61	< 50	25	30%	Pass	
Naphthalene	S21-Oc38506	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
TRH C6-C10	S21-Oc38506	CP	mg/kg	< 20	< 20	<1	30%	Pass	
TRH >C10-C16	S21-Oc38506	CP	mg/kg	< 50	< 50	<1	30%	Pass	

Duplicate									
Total Recoverable Hydrocarbons				Result 1	Result 2	RPD			
TRH >C16-C34	S21-Oc38506	CP	mg/kg	< 100	< 100	<1	30%	Pass	
TRH >C34-C40	S21-Oc38506	CP	mg/kg	< 100	< 100	<1	30%	Pass	
Duplicate									
BTEX				Result 1	Result 2	RPD			
Benzene	S21-Oc38506	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Toluene	S21-Oc38506	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Ethylbenzene	S21-Oc38506	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
m&p-Xylenes	S21-Oc38506	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
o-Xylene	S21-Oc38506	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Xylenes - Total*	S21-Oc38506	CP	mg/kg	< 0.3	< 0.3	<1	30%	Pass	
Duplicate									
Polycyclic Aromatic Hydrocarbons				Result 1	Result 2	RPD			
Acenaphthene	S21-Oc38506	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Acenaphthylene	S21-Oc38506	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Anthracene	S21-Oc38506	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benz(a)anthracene	S21-Oc38506	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benzo(a)pyrene	S21-Oc38506	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benzo(b&j)fluoranthene	S21-Oc38506	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benzo(g.h.i)perylene	S21-Oc38506	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benzo(k)fluoranthene	S21-Oc38506	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Chrysene	S21-Oc38506	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Dibenz(a.h)anthracene	S21-Oc38506	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Fluoranthene	S21-Oc38506	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Fluorene	S21-Oc38506	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Indeno(1.2.3-cd)pyrene	S21-Oc38506	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Naphthalene	S21-Oc38506	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Phenanthrene	S21-Oc38506	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Pyrene	S21-Oc38506	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Duplicate									
Organochlorine Pesticides				Result 1	Result 2	RPD			
Chlordanes - Total	S21-Oc38506	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
4.4'-DDD	S21-Oc38506	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
4.4'-DDE	S21-Oc38506	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
4.4'-DDT	S21-Oc38506	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
a-HCH	S21-Oc38506	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Aldrin	S21-Oc38506	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
b-HCH	S21-Oc38506	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
d-HCH	S21-Oc38506	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Dieldrin	S21-Oc38506	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Endosulfan I	S21-Oc38506	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Endosulfan II	S21-Oc38506	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Endosulfan sulphate	S21-Oc38506	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Endrin	S21-Oc38506	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Endrin aldehyde	S21-Oc38506	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Endrin ketone	S21-Oc38506	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
g-HCH (Lindane)	S21-Oc38506	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Heptachlor	S21-Oc38506	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Heptachlor epoxide	S21-Oc38506	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Hexachlorobenzene	S21-Oc38506	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Methoxychlor	S21-Oc38506	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Toxaphene	S21-Oc38506	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	

Duplicate									
Polychlorinated Biphenyls				Result 1	Result 2	RPD			
Aroclor-1016	S21-Oc38506	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Aroclor-1221	S21-Oc38506	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Aroclor-1232	S21-Oc38506	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Aroclor-1242	S21-Oc38506	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Aroclor-1248	S21-Oc38506	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Aroclor-1254	S21-Oc38506	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Aroclor-1260	S21-Oc38506	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Total PCB*	S21-Oc38506	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Duplicate									
Heavy Metals				Result 1	Result 2	RPD			
Arsenic	S21-Oc38506	CP	mg/kg	9.1	11	16	30%	Pass	
Cadmium	S21-Oc38506	CP	mg/kg	< 0.4	< 0.4	<1	30%	Pass	
Chromium	S21-Oc38506	CP	mg/kg	16	17	10	30%	Pass	
Copper	S21-Oc38506	CP	mg/kg	27	27	<1	30%	Pass	
Lead	S21-Oc38506	CP	mg/kg	18	19	4.0	30%	Pass	
Mercury	S21-Oc38506	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Nickel	S21-Oc38506	CP	mg/kg	16	17	3.0	30%	Pass	
Zinc	S21-Oc38506	CP	mg/kg	59	60	2.0	30%	Pass	
Duplicate									
				Result 1	Result 2	RPD			
Phosphorus	S21-Oc38506	CP	mg/kg	400	400	<1	30%	Pass	
Duplicate									
				Result 1	Result 2	RPD			
% Moisture	S21-Oc38510	CP	%	8.7	7.7	13	30%	Pass	
Duplicate									
Heavy Metals				Result 1	Result 2	RPD			
Arsenic	S21-Oc38511	CP	mg/kg	9.9	8.4	17	30%	Pass	
Cadmium	S21-Oc38511	CP	mg/kg	< 0.4	< 0.4	<1	30%	Pass	
Chromium	S21-Oc38511	CP	mg/kg	20	17	13	30%	Pass	
Copper	S21-Oc38511	CP	mg/kg	36	35	3.0	30%	Pass	
Lead	S21-Oc38511	CP	mg/kg	25	24	5.0	30%	Pass	
Mercury	S21-Oc38511	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Nickel	S21-Oc38511	CP	mg/kg	21	20	8.0	30%	Pass	
Zinc	S21-Oc38511	CP	mg/kg	120	110	4.0	30%	Pass	
Duplicate									
				Result 1	Result 2	RPD			
Phosphorus	S21-Oc38511	CP	mg/kg	1800	1900	3.0	30%	Pass	
Duplicate									
Total Recoverable Hydrocarbons				Result 1	Result 2	RPD			
TRH C10-C14	S21-Oc38516	CP	mg/kg	< 20	< 20	<1	30%	Pass	
TRH C15-C28	S21-Oc38516	CP	mg/kg	< 50	< 50	<1	30%	Pass	
TRH C29-C36	S21-Oc38516	CP	mg/kg	< 50	< 50	<1	30%	Pass	
TRH >C10-C16	S21-Oc38516	CP	mg/kg	< 50	< 50	<1	30%	Pass	
TRH >C16-C34	S21-Oc38516	CP	mg/kg	< 100	< 100	<1	30%	Pass	
TRH >C34-C40	S21-Oc38516	CP	mg/kg	< 100	< 100	<1	30%	Pass	
Duplicate									
Polycyclic Aromatic Hydrocarbons				Result 1	Result 2	RPD			
Acenaphthene	S21-Oc38516	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Acenaphthylene	S21-Oc38516	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Anthracene	S21-Oc38516	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benz(a)anthracene	S21-Oc38516	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benzo(a)pyrene	S21-Oc38516	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benzo(b&j)fluoranthene	S21-Oc38516	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benzo(g.h.i)perylene	S21-Oc38516	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	

Duplicate									
Polycyclic Aromatic Hydrocarbons				Result 1	Result 2	RPD			
Benzo(k)fluoranthene	S21-Oc38516	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Chrysene	S21-Oc38516	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Dibenz(a.h)anthracene	S21-Oc38516	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Fluoranthene	S21-Oc38516	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Fluorene	S21-Oc38516	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Indeno(1.2.3-cd)pyrene	S21-Oc38516	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Naphthalene	S21-Oc38516	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Phenanthrene	S21-Oc38516	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Pyrene	S21-Oc38516	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Duplicate									
Polycyclic Aromatic Hydrocarbons				Result 1	Result 2	RPD			
Acenaphthene	S21-Oc38518	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Acenaphthylene	S21-Oc38518	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Anthracene	S21-Oc38518	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benz(a)anthracene	S21-Oc38518	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benzo(a)pyrene	S21-Oc38518	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benzo(b&j)fluoranthene	S21-Oc38518	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benzo(g.h.i)perylene	S21-Oc38518	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benzo(k)fluoranthene	S21-Oc38518	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Chrysene	S21-Oc38518	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Dibenz(a.h)anthracene	S21-Oc38518	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Fluoranthene	S21-Oc38518	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Fluorene	S21-Oc38518	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Indeno(1.2.3-cd)pyrene	S21-Oc38518	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Naphthalene	S21-Oc38518	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Phenanthrene	S21-Oc38518	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Pyrene	S21-Oc38518	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Duplicate									
				Result 1	Result 2	RPD			
% Moisture	S21-Oc38520	CP	%	18	19	8.0	30%	Pass	
Duplicate									
				Result 1	Result 2	RPD			
Conductivity (1:5 aqueous extract at 25°C as rec.)	S21-Oc38525	CP	uS/cm	280	220	26	30%	Pass	
pH (1:5 Aqueous extract at 25°C as rec.)	S21-Oc38525	CP	pH Units	5.0	5.0	<1	30%	Pass	
Resistivity*	S21-Oc38525	CP	ohm.m	36	46	26	30%	Pass	
Duplicate									
				Result 1	Result 2	RPD			
Exchangeable Sodium Percentage (ESP)	S21-Oc46965	NCP	%	21	19	11	30%	Pass	
Magnesium (exchangeable)	S21-Oc46965	NCP	meq/100g	2.1	2.0	4.0	30%	Pass	
Potassium (exchangeable)	S21-Oc46965	NCP	meq/100g	0.1	0.1	3.0	30%	Pass	
Sodium (exchangeable)	S21-Oc46965	NCP	meq/100g	0.6	0.5	18	30%	Pass	
Duplicate									
Cation Exchange Capacity				Result 1	Result 2	RPD			
Calcium (exchangeable)	S21-Oc46965	NCP	meq/100g	< 0.1	< 0.1	<1	30%	Pass	
Cation Exchange Capacity	S21-Oc46965	NCP	meq/100g	2.8	2.6	7.0	30%	Pass	
Duplicate									
				Result 1	Result 2	RPD			
Chloride	S21-Oc38529	CP	mg/kg	440	440	<1	30%	Pass	
Sulphate (as SO4)	S21-Oc38529	CP	mg/kg	< 10	< 10	<1	30%	Pass	
Duplicate									
				Result 1	Result 2	RPD			
% Moisture	S21-Oc38530	CP	%	12	9.9	22	30%	Pass	

Duplicate									
				Result 1	Result 2	RPD			
Conductivity (1:5 aqueous extract at 25°C as rec.)	S21-Oc38535	CP	uS/cm	280	240	16	30%	Pass	
pH (1:5 Aqueous extract at 25°C as rec.)	S21-Oc38535	CP	pH Units	7.7	7.7	<1	30%	Pass	
Resistivity*	S21-Oc38535	CP	ohm.m	36	42	16	30%	Pass	
Duplicate									
				Result 1	Result 2	RPD			
% Moisture	S21-Oc38540	CP	%	13	14	1.0	30%	Pass	
Duplicate									
				Result 1	Result 2	RPD			
Conductivity (1:5 aqueous extract at 25°C as rec.)	S21-Oc38545	CP	uS/cm	67	60	11	30%	Pass	
Resistivity*	S21-Oc38545	CP	ohm.m	150	170	11	30%	Pass	

Comments

Microbiological analysis cancelled due to incorrect containers. B19D cancelled on SW01, SW02, SW03 and SW04 due to incorrect containers. Samples TP39-0.1-0.3 and TP58-0.1-0.3 not received. Samples BT1, BT2 and BT3 forwarded to ALS.

V2- new version to import Cr on all "PP" samples for metals as per client request.

Sample Integrity

Custody Seals Intact (if used)	N/A
Attempt to Chill was evident	Yes
Sample correctly preserved	No
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
G01	The LORs have been raised due to matrix interference
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
Q02	The duplicate %RPD is outside the recommended acceptance criteria. Further analysis indicates sample heterogeneity as the cause
Q09	The Surrogate recovery is outside of the recommended acceptance criteria due to matrix interference. Acceptance criteria were met for all other QC
Q15	The RPD reported passes Eurofins Environment Testing's QC - Acceptance Criteria as defined in the Internal Quality Control Review and Glossary page of this report.
R09	Theoretically the TKN result should be greater or equal to the ammonia concentration. However the difference reported is within the measurement uncertainty of the individual tests

Authorised by:

Andrew Black	Analytical Services Manager
Andrew Sullivan	Senior Analyst-Organic (NSW)
Charl Du Preez	Senior Analyst-Inorganic (NSW)
Scott Beddoes	Senior Analyst-Inorganic (VIC)
John Nguyen	Senior Analyst-Metal (NSW)
Roopesh Rangarajan	Senior Analyst-Volatile (NSW)
Emily Rosenberg	Senior Analyst-Metal (VIC)

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.

CHAIN OF CUSTODY RECORD

ABN 50 005 085 521

- ☑ **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	ALLIANCE GEOTECHNICAL	Project №	13546	Project Manager	Jacob W	Sampler(s)	SJ
Address	10 WELDER ROAD, SEVEN HILLS NSW	Project Name	Kemps Creek	EDD Format (ESdat, EQuIS, Custom)		Handed over by	
Contact Name	Sam J					Email for Invoice	admin@allgeo.com.au
Phone №	430214402					Email for Results	samjones@allgeo.com.au, enviro@allgeo.com.au, & jacob.walker@allgeo.com.au
Special Directions							
Purchase Order							
Quote ID №							

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

Turnaround Time (TAT) Requirements (Default will be 5 days if not ticked)
☐ Overnight (9am)*
☐ 1 Day* ☐ 2 Day*
☐ 3 Day* ☐ 5 Day
☐ Other ( )
* S[illegible]

№	Client Sample ID	Sampled Date/Time (dd/mm/yy hh:mm)	Matrix (Solid (S) Water (W))	Suite B7: TRH, BTEXN, PAH, Metals	Suite B13 : OCP, PCB	EC and pH	L2 Aggressivity Suite	Suite BH19D: Total N, TKN, NOX, NO2, NO3, NH3, Total P	E.Coli and total coliforms - thermotolerant	TRH & BTEX	VOC	HOLD	1L Plastic	250mL Plastic	125mL Plastic	200mL Amber Glass	40mL VOA vial	500mL PFAS Bottle	Jar (Glass or HDPE)	Other (Asbestos AS4964 WA Guidelines)	Sample Comments / Dangerous Goods Hazard Warning
1	TP01 0.0-0.2	6/10/21	S	x	x														X		
2	TP01 0.4-0.6	6/10/21	S									x							X		
3	TP02 0.0-0.2	6/10/21	S	x															X		
4	TP03 0.0-0.2	6/10/21	S	x															X		
5	TP03 0.4-0.6	6/10/21	S									x							X		
6	TP04 0.0-0.1	6/10/21	S	x	x			x	x										X		
7	TP05 0.0-0.1	6/10/21	S	x	x			x	x										X		
8	TP06 0.0-0.2	6/10/21	S	x	x			x	x										X		
9	TP06 0.8-1.0	6/10/21	S									x							X		
10	TP06 1.0-1.2	6/10/21	S									x							X		
11	TP06 1.2-1.4	6/10/21	S									x							X		
12	TP07 0.0-0.2	6/10/21	S	x															X		
13	TP07 0.5-0.7	6/10/21	S									x							X		
14	TP08 0.0-0.2	6/10/21	S	x															X		
15	TP08 0.4-0.6	6/10/21	S									x							X		
16	TP09 0.0-0.2	6/10/21	S	x	x														X		
17	TP09 0.4-0.6	6/10/21	S									x							X		
18	TP10 0.0-0.2	6/10/21	S	x															X		
19	TP10 0.3-0.4	6/10/21	S									x							X		
20	TP11 0.0-0.1	6/10/21	S	x	x			x	x										X		
21	TP12 0.0-0.1	6/10/21	S	x	x			x	x										X		
22	TP14 0.0-0.2	6/10/21	S	x															X		
	Total Counts			13	7			5	5			9							22		PAGE 1 OF 11

Method of Shipment	☑ Courier (#) ☐ Hand Delivered ☐ Postal	Name	SJ	Signature	[signature]	Date	8/10/2021
						Time	
Eurofins | mgt Laboratory Use Only	Received By NC	(SYD) | BNE | MEL | PER | ADL | NTL | DRW	Signature [signature]	Date 8/10/21	Time 3:41	Temperature	16.8
	Received By	SYD | BNE | MEL | PER | ADL | NTL | DRW	Signature	Date __/__/__	Time __:__	Report №	833263

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

CHAIN OF CUSTODY RECORD

ABN 50 005 085 521

☑ 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	ALLIANCE GEOTECHNICAL	Project №	13546	Project Manager	Jacob W
Address	10 WELDER ROAD, SEVEN HILLS NSW	Project Name	Kemps Creek	EDD Format (ESdat, EQuIS, Custom)	
Contact Name	Sam J				
Phone №	430214402				
Special Directions					
Purchase Order					
Quote ID №					

Sampler(s)	SJ	
Handed over by		
Email for Invoice	admin@allgeo.com.au	
Email for Results	samjones@allgeo.com.au, enviro@allgeo.com.au, & jacob.walker@allgeo.com.au	

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

№	Client Sample ID	Sampled Date/Time (dd/mm/yy hh:mm)	Matrix (Solid (S) Water (W))	Suite B7: TRH, BTEXN, PAH, Metals	Suite B13 : OCP, PCB	EC and pH	L2 Aggressivity Suite	Suite BH19D: Total N, TKN, NOX, NO2, NO3, NH3, Total P	E.Coli and total coliforms - thermotolerant	TRH & BTEX	VOC	HOLD	Containers: 1L Plastic	250mL Plastic	125mL Plastic	200mL Amber Glass	40mL VOA vial	500mL PFAS Bottle	Jar (Glass or HDPE)	Other (Asbestos AS4964, WA Guidelines)	Sample Comments / Dangerous Goods Hazard Warning
1	TP14 0.5-0.7	6/10/21	S									X							X		
	TP15 0.0-0.2	6/10/21	S	X	X														X		
2	TP15 0.4-0.4	6/10/21	S									X							X		
3	TP16 0.0-0.2	6/10/21	S	X															X		
4	TP16 0.4-0.6	6/10/21	S									X							X		
5	TP17 0.0-0.2	6/10/21	S	X															X		
6	TP17 0.3-0.5	6/10/21	S									X							X		
7	TP18 0.0-0.2	6/10/21	S	X															X		
8	TP18 0.5-0.7	6/10/21	S									X							X		
9	TP19 0.0-0.1	7/10/21	S	X	X			X	X										X		
10	TP20 0.0-0.1	7/10/21	S	X	X			X	X										X		
11	TP21 0.0-0.2	7/10/21	S	X	X			X	X										X		
12	TP21 1.0-1.2	7/10/21	S									X							X		
13	TP21 1.5-1.5	7/10/21	S									X							X		
14	TP22 0.0-0.1	6/10/21	S	X	X														X		
15	TP22 1.0-1.2	6/10/21	S									X							X		
16	TP22 1.8-2.0	6/10/21	S									X							X		
17	TP23 0.0-0.1	7/10/21	S	X															X		
18	TP23 1.0-1.2	7/10/21	S									X							X		
19	TP23 1.5-1.7	7/10/21	S									X							X		
20	TP24 0.0-0.1	7/10/21	S	X															X		
21	TP24 0.5-0.7	7/10/21	S									X							X		
22	TP25 0.0-0.1	7/10/21	S	X	X														X		
	Total Counts			11	6			3	3			12							23		

Containers: ☐ Other ( )

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

☐ Overnight (9am)* ☐ 1 Day* ☐ 2 Day* ☐ 3 Day* ☐ 5 Day * (Surcharge Applies)

PAGE 1 OF 11

Method of Shipment	☑ Courier (#) ☐ Hand Delivered	☐ Postal	Name	SJ	Signature		Date 8/10/2021 Time
Eurofins | mgt Laboratory Use Only	Received By NC	SYD | BNE | MEL | PER | ADL | NTL | DRW	Signature		Date 8/10/21	Time 3:41	Temperature 16.8
	Received By	SYD | BNE | MEL | PER | ADL | NTL | DRW	Signature		Date __/__/__	Time __:__	Report № 833269