

Preliminary Site Investigation

Block 45, Section 3, Hume

Forestrack Pty Ltd

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Executive Summary

Forestrack Pty Ltd engaged Lanterra Pty Ltd to complete a Preliminary Site Investigation (PSI) in support of an Environmental Impact Assessment (EIA) for the proposed TRG Bushfire Response and Training Centre located at Block 45 Section 3, Hume, ACT 2620.

The objective of the project was to assess the suitability of the site for the land uses permitted under the zoning of the site of NUZ1: Broadacre Zone from a contamination perspective, and if required, identify an appropriate remediation strategy to make the site suitable for these purposes.

The PSI included a historical review of the site, soil sampling and analysis to characterise the site.

Based on the historical use of the site and the sampling of twenty-four (24) soil samples and eleven (11) stockpile samples undertaken during the PSI, the findings of the PSI are summarised as follows:

- Patches of rubbish (plastics, bricks, roof tiles, tin, wood) were found across the site.
- Potential imported materials resembling topsoil were encountered across the site looking like topsoil. This material comprised a dark brown to brown silty clay, dry to moist and soft.
- Natural material was encountered at approximately 1.0m bgl in the cleared central area of the site. However, in the area surrounding the rocky outcrops and trees cover, natural material was found from 0.5m bgl. This soil was characterised as a brown to orange silty clay, dry to moist and soft to hard.
- Concentrations of contaminants of potential concern (COPC) were below the adopted assessment criteria for residential use (HIL A, HSL A, EIL and ESL) in all soil and stockpile samples.

Based on these findings, Lanterra considers that the site is suitable for the land uses permitted under the NUZ1: Broadacre Zone which includes residential use, from a contamination perspective.

Prior to construction works commencing, it is recommended that a Construction Environmental Management Plan (CEMP) with a suitable unexpected finds procedure is prepared by a suitably qualified environmental consultant to assist construction workers with managing soil that may exhibit visual or olfactory indications of contamination.

This investigation has not been completed with the intention of removing soil from the site. Should the removal of soil be necessary, then the soil must be assessed in accordance with the *ACT EPA (2019) Information Sheet 4 'Requirements for the Reuse and Disposal of Contaminated Soil in the ACT'* and a soil assessment report approved in writing by the ACT EPA.

1. Introduction

Forestrack Pty Ltd (Forestrack) engaged Lanterra Consulting Pty Ltd (Lanterra) to complete a Preliminary Site Investigation (PSI) in support of an Environmental Impact Assessment (EIA) for the proposed TRG Bushfire Response and Training Centre located at Block 45 Section 3, Hume, ACT 2620 (herein referred to as the site).

Based on the ACT Territory Plan, the site is currently zoned as NUZ1: Broadacre and has an area of 35,163 square metres (m²).

The PSI included a historical desktop review, soil sampling and analysis to assess the suitability of the site from a contamination perspective for the proposed development.

The location and layout of the site is illustrated in **Figure 1** and **Figure 2, Appendix A**.

1.1 Background

It is understood that the site is being prepared to build a new rescue helicopter base for the proposed Bushfire Response and Training Centre by TRG. Currently, the block is vacant.

1.2 Objectives

The purpose of the PSI is to assess the risk of contamination to the site and whether it is suitable for the land uses permitted under zone NUZ1: Broadacre.

1.3 Scope of Work

The following scope of work has been completed to meet the project objectives:

- Perform a site visit to characterise the property setting, including inspection of the site surface for obvious and visible signs of potential contamination and / or contaminant sources.
- A visual evaluation of surrounding land uses to identify any neighbouring activities which may have affected or present a potential risk to the environmental quality of the site.
- An evaluation of aerial photographs to assist in assessing historical land uses and conditions on and adjacent to the site.
- Review the results of an ACT EPA contaminated sites register and database search to assess whether there are any known contaminating activities either on the site or on neighbouring properties.
- A review of the environmental setting with regards to geology, topography, hydrology, and hydrogeology.
- Drill fifteen (15) boreholes across the site to a target depth of approximately 1m below ground level.
- Collection of soil samples at the surface and then at depths of 0.5 m and 1.0 m below ground level (bgl).
- Undertake soil analysis at National Association of Testing Authorities (NATA) accredited laboratory for the analyses of contaminants of potential concern (COPC).
- Assess laboratory results obtained from the investigation against the applicable land use criteria in the National Environment Protection Council 'National Environment Protection (Assessment of Site Contamination) Measure 1999' as amended in 2013 (ASC NEPM 2013).

- Preparation of this Preliminary Site Investigation (PSI) report in general accordance with the requirements of ACT EPA endorsed guidelines for submission to Forestrack.

1.4 Limitations

The findings of the report were based on the Scope of Work outlined above. Lanterra performed services in a manner consistent with the normal level of care and expertise exercised by members of the environmental assessment profession. No warranties express or implied, are made.

Subject to the Scope of Work, the assessment was limited strictly to identifying typical environmental conditions associated with the subject property area and does not include evaluation of any other issues.

The absence of any identified hazardous or toxic materials on the subject property should not be interpreted as a guarantee that such materials do not exist on the site. Lanterra will not investigate any waste materials from the property that may have been disposed of off the site, nor related waste management practices.

The results of this assessment are based upon the site inspection and the sampling specified above conducted by Lanterra personnel and information from the Client or regulatory agencies. All conclusions and recommendations regarding the property area will be the professional opinions of the Lanterra personnel involved with the project, subject to the qualifications made above.

While normal assessments of data reliability are made, Lanterra will not assume responsibility or liability for errors in any data obtained from regulatory agencies, statements from sources outside of Lanterra, or developments resulting from situations outside the scope of this project.

2. Site Characteristics

2.1 Site Location

The site location and a detailed site plan are presented in **Figure 1** and **Figure 2, Appendix A**.

Table 1: *Summary of Site Details*

Site Characteristics	Detail
Street Addresses	Intersection of Lanyon Drive and Sheppard Street, Hume, ACT 2620
Approximate MGA GDA 94 coordinates (centre of site)	X: 697459.79448 Y: 6082146.64023
Approximate Elevation (m AHD)	586-592 m
Block, Section, Division	Block 45, Section 3, Hume
Land Zoning	NUZ1: Broadacre Zone
Current Land Use	The block is vacant
Block Area	35,163 m ²

2.2 Site Description

The following description is based on observations made during a site visit conducted on Monday 11 May 2020 during the drilling of boreholes by a suitably qualified environmental scientist from Lanterra.

- At the time of the investigation, the site was a vacant grassland and secured by a 1.5m fence with access via a lockable gate along Sheppard Street.
- An above ground power line is present within the site crossing it in a north-west to south-east direction.
- A wired fence was present inside the site separating the vacant area from the trees cover area in the north-east section of the site (amenity native plants).
- Asbestos-containing materials (ACM) were found outside the site in the vicinities of the lockable gate (i.e. near the driveway).
- Patches of rubbish (plastics, bricks, roof tiles, tin, wood) were randomly distributed across the site.
- Three spoil stockpiles were located within the site. They are oriented in a north-west to south-east fashion.
- Bedrock outcrops were observed within the highest area across the site, located in the north-east portion.
- Trees are present in approximately one-third of the site mostly located within the north-east portion of the site.

A detailed site plan is presented in **Figure 2, Appendix A** while photographs of the site are provided in **Appendix B**.

2.3 Surrounding Land Uses

A summary of the land uses that surround the site are as follows:

- **North:** Lanyon Drive and Monaro Highway. Vacant paddocks in north-west and north-east directions;
- **South:** Sheppard Street, industry buildings including manufacturers, engineering, real estate, builder and soil supplies, fabricators, etc. to the south-east and south-west of the site. Beyond the buildings is the border with New South Wales;
- **East:** Sheppard Street and vacant paddocks beyond; and
- **West:** Monaro highway, vacant paddocks and general industry sites.

2.4 Sensitive Environments

The nearest sensitive environments are Dog Trap Creek to the north of the site and a small creek to the east, both within a 150 m radius from the site. These creeks are tributaries of Jerrabomberra Creek which is located approximately 230 m east of the site.

2.5 Proposed Land Use

Based on the project brief by Forestrack, it is understood that the site is being prepared to build a new rescue helicopter base and for the proposed Bushfire Response and Training Centre.

3. Site History

3.1 Previous Investigations

Lanterra was unaware of any previous investigations for the site.

3.2 Zoning

According to the ACT Territory Plan, the site is zoned NUZ1: Broadacre Zone.

Based on a link to the ACT Territory Plan, the objectives of the NUZ1: Broadacre Zone are as follows:

- Make provision in a predominantly rural landscape setting for a range of uses which require larger sites and/or a location outside urban areas.
- Make provision for activities requiring clearance zones or protection from conflicting development.
- Ensure that development does not adversely impact or visually intrude on the landscape and environmental quality of the locality.
- Ensure, where appropriate, that development and the use of land does not undermine the future use of land which may be required for urban and other purposes.

The NUZ1: Broadacre Zone also allows for residential care accommodation use which is the most sensitive under this zoning. As sites must be assessed in accordance with the most sensitive use permitted, the site must be assessed using residential care accommodation criteria.

3.3 Land Title Search

A land title search lodged with the ACT Land Information System indicated that there is no record of the site. A copy of the search is presented in **Appendix C**.

3.4 Aerial and Historical Photograph Review

A Lotsearch (Environmental Risk Report) was obtained, which included historical aerial photographs of the site. These were reviewed to assist with assessing the history of the site. A summary of each photograph examined as a part of the investigation is provided in Table 2 below.

Table 2: Details of the Review of Aerial Photographs

Date	Description of the Subject Site	Description of Surrounding Land
1944	The site is cleared and appears to be an undeveloped paddock. An unsealed dirt road appears to be crossing the site in the western boundary.	The surrounding land is predominantly undeveloped paddock. Two unsealed dirt roads were present to the north of the site. These tracks appear to be the origins of Lanyon Drive and Monaro. Dog Trap Creek is observed within 150m north of the site. There is a darker patch around the creek which appears to be used for agricultural purposes.
1951	The site presents a lighter coloured layer in the central and southern area. It is possible that this material could be related to floods associated with Dog Trap and Jerrabomberra Creeks and the deposition of sediments in their surroundings.	The surrounding land shows the same lighter-coloured patches, presumably, of sediment coming from the creeks due to floods. The previously recognised agricultural patch is not spotted in this image. A strip of dirt appears to have been stripped in the eastern portion of the photograph.

Date	Description of the Subject Site	Description of Surrounding Land
1961	The previous layer of sediments is not observed in this image.	It appears that to the east of the site a small drainage system, possibly natural, is developing. Close to the north boundary of the site a square-shaped object, possibly an excavation, is observed. To the north of the site, the dirt road which goes in a north-west south-east direction (Monaro) appears to have earthworks conducted. Dog Trap Creek appears to be flowing below the road (Monaro). Small bushes are present in the surroundings of Dog Trap Creek which could be an indicator of a more stable stream of the creek.
1967	The site does not exhibit any discernible differences.	The roads to the north appear to have been subject to more earthworks. More vegetation is observed around Dog Trap Creek. The small drainage to the east of the site appears more developed. A small pond is observed to the south east of the site.
1976	The photograph is of low resolution. Earthworks were conducted in the boundary adjacent to what currently is Sheppard Street and in the southern corner of the site. It is not clear what type of earthworks were undertaken. A small bump, possibly a stockpile, is observed in the eastern portion of the site. The bump has a north-west south-east direction.	Several buildings were constructed to the south-east of the site beyond Sheppard Street. The surrounding ground area to the south-east and east of the site appears heavily disturbed by earthworks. A building is also observed to the north of the site beyond Lanyon Drive.
1981	Earthworks occurred within the site. A dirt track appears to be separating the site into two sections. That track is currently a wired fence. An apparent stockpile (SP2 of this report) was placed in the eastern central area of the site, crossing the dirt track. A patch of trees, presumably, is occupying part of the north-west corner of the site.	Monaro Highway, Lanyon Drive and Sheppard Street appear asphalted. More buildings were built to the south-west of the site close to 150m away. Trees were planted along main roads around the site.
1985	Earthworks occurred within the site in which appears to be the location of the old stockpile SP1 characterised in this investigation. Trees are planted in north-east corner of the site.	Industrial infrastructure increased beyond Sheppard Street in front of the southernmost corner of the site.
1992	No discernible differences to the site are apparent but small plants and/or grass are covering SP1 and SP2.	Several buildings were constructed adjacent to the site and beyond. Earthworks are apparent to the north of the site beyond Lanyon Drive. To the east, there is a site holding several stockpiles.
1997	Earthworks occurred across the site. They appear to be dirt tracks mainly. One of them is adjacent and parallel to SP1.	No discernible differences to the site surroundings are apparent.
2005	Earthworks occurred around the south-west border of the site. These works may be related to services infrastructure. An above ground power line is crossing the site.	No discernible differences to the site surroundings are apparent.
2014	A gravel road was built across the site. A small bump which appears to be a stockpile (SP3 of this investigation) appears close to the northern end of SP1. Three stockpiles are located in the westernmost corner of the site.	A new building was built to the east of the site.

Date	Description of the Subject Site	Description of Surrounding Land
	Patches of rubbish are observable across the site.	
2019	The three stockpiles located in the westernmost corner of the site have been cleared.	No discernible differences to the site surroundings are apparent.

The site has been subject to earthworks since at least 1976. The site used to be crossed by a dirt road which was eventually covered within 1985 and 1992. Between 1981 and 1985, two stockpiles were deposited within the site that still remains on-site. Another stockpile was left within the site in 2014. Randomly distributed patches of rubbish are observed since 2014 across the site. **Figure 2 of Appendix A** shows the locations of the stockpiles characterised in this study.

A copy of the Lotsearch Report is presented in **Appendix D**.

3.5 ACT EPA Contaminated Site Search

Lanterra requested a contaminated land search under Section 21 (A) of the Environment Protection Act (1997) from the ACT EPA.

Records held by the EPA indicated that the block was not recorded on the EPA's contaminated sites management database or geographic information system.

The EPA noted that information only relates to records held by the EPA and may not represent the actual condition of the site. Therefore, this does not absolutely rule out the possibility of contamination and should not be interpreted as a warranty that there is no contamination.

A copy of the contaminated land search is presented in **Appendix E**.

3.6 Worksafe ACT Dangerous Goods Search

A search of the Worksafe ACT Dangerous Substances Register, Dangerous Goods database and Manifest Quality Notification was not submitted.

3.7 Building File Search

A building file search was not conducted.

3.8 Chemical Storage

3.9 Manufacturing Processes

There are no known manufacturing processes that currently occur or have previously occurred on the site.

3.10 Discharges to Land, Water and Air

No information regarding discharges to land, water and air was available for review at the time of writing this report. As no manufacturing operations are known to have occurred at the site, it is unlikely that there may have been previous discharges to land, water or air in the past.

4. Site Condition and Environmental Setting

4.1 Topography

The digital topographic map presented in ACTMAPi (available at <http://www.actmapi.act.gov.au/>) indicates the site has an elevation of approximately 586-592 m above the Australian Height Datum (m AHD).

The general topography of the block is relatively flat and overall tends to slope gently from north-east to south-west. The slope is more abrupt in the north-east section of the site.

4.2 Indications of Contamination

Based on the site visit on 11 May 2020 Patches of rubbish including bricks, fragments of PVC, tin, roof tiles, asphalt, concrete post remnants, and wood were randomly distributed across the site. In front of the entrance gate, outside the site, fragments of asbestos-containing material (ACM) were observed.

There was no evidence of storage tanks during the site walkover.

No hazardous materials were observed on-site during the assessment, with the exception of a potential asbestos-containing fragment observed near the driveway outside the property boundary.

There was no evidence of chemical storage on the site.

Photographs of these elements can be observed in **Appendix B**. No olfactory indicators of contamination were noted during the site visit or sampling of boreholes drilled across the site.

4.3 Fill Material

Possible fill material was encountered across the site looking like topsoil. Natural material was encountered at around 1.0m bgl in the cleared central area of the site. However, in the surroundings of rocky outcrops, natural material was found from 0.5m bgl.

5. Geology and Hydrogeology

5.1 Geology

The 1:100,000 Geological Series, Canberra, New South Wales and Australian Capital Territory, Sheet 8727 (Bureau of Mineral Resources, 1992) shows that the site is part of the Laidlaw Volcanic Suite of the Silurian period. Lithologies across the site would be comprised of rhyodacitic ignimbrite, and minor volcanoclastic and argillaceous sediments; tuff, tuffaceous sandstone, shale and ashstone; and rhyodacite lava.

5.2 Hydrogeology

A groundwater bore search was provided within the Lotsearch report (**Appendix D**). The purpose of the bore search was to document the location and depth of any nearby registered groundwater bores, and the associated quality of the groundwater so that potential impacts of contaminants from the site or surrounding land uses (if any) on local users of groundwater may be assessed.

This search indicated that there were two (2) abstraction groundwater boreholes according to the ACT Government data source within 2,000 m of the site and twenty-one (21) groundwater boreholes were registered with the Bureau of Mineralogy within 2,000 m of the site. The nearest of these boreholes is located approximately 651 m to the west of the site.

A review of the Bureau of Mineral Resources (1984) Hydrogeology of the Australian Capital Territory and Environs indicates that groundwater is hosted in fractured aquifers with high yielding zones associated with the upper and lower portions of the individual ash flow tuffs, and interbedded sediments. The quality of groundwater is expected to be variable, and the general total dissolved solids (TDS) is anticipated to be between 500 – 1000 milligrams per litre (mg/l) and the yield is estimated to be less than 0.5 litres per second (l/sec).

Based on the topography of the site and the nearest water bodies, which are Dog Trap and Jerrabomberra Creeks, the groundwater flow direction is inferred to be from south-west to north-east. Based on the level at which groundwater was encountered (30 m bgl) in borehole 158 located 706 m north from the site at an elevation of 583 m AHD, the depth to groundwater is conservatively estimated to be approximately 15 m below ground level or deeper.

5.3 Hydrology

The nearest surface water receptors are Dog Trap Creek to the north of the site and a small creek to the east, both within a 150 m radius from the site. These creeks are tributaries of Jerrabomberra Creek which is located approximately 230 m east of the site. Surface water on the site is expected to follow the topographic contours of the site and flow towards the east in the northernmost corner of the site and south to south-east in the rest of the site.

5.4 Acid Sulfate Soil Risk

A review of the Australian Soil Resource Information System (ASRIS) map shows the subject site to be situated in an area of 'extremely low' probability for acid sulfate soil. Based on the topography of the site, acid sulfate soil is not expected to be present on-site.

6. Preliminary Conceptual Site Model

Conceptual site models (CSM) are a method of presenting site contamination information and the relationships between sources of contamination, how it may have been introduced to the site, possible pathways for contaminant migration and exposure, and the receptors that may be affected by contaminants.

The following conceptual site model has been prepared based on the information presented in the Lotsearch Report and document reviews.

6.1 Areas of Environmental Concern

Based on the information presented in the Lotsearch report and contaminated land search, there following areas of environmental concern (AECs) are identified.

AEC 1

The unknown source of stockpiles SP1, SP2 and SP3 imported to the site circa 1908s present a contamination risk to the site. The stockpile locations are shown in **Figure 2** and **4, Appendix A**.

AEC 2

The site has been subjected to earthwork activities since the 70s, with potential material imported to the site during the access road construction. This creates a potential contamination risk to the site.

AEC 3

The present of waste debris across the site including the potential asbestos fragment on the driveway indicates the site may have been exposed to illegal domestic waste dumping and present a contamination risk

6.2 Contaminants of Potential Concern

AEC 1, AEC 2 and AEC 3

Based on the AECs identified, the following contaminants of potential concern (COPC) associated with imported fill and unknown source are:

- Total recoverable hydrocarbons (TRH);
- Benzene, toluene, ethylbenzene, xylene (BTEX);
- Polycyclic aromatic hydrocarbons (PAH);
- Polychlorinated biphenyls (PCB);
- Phenols;
- Organochlorine pesticides/organophosphorus pesticides (OCP/OPP);
- Heavy metals (arsenic, cadmium, chromium, copper, lead, mercury, nickel and zinc);
- Asbestos.

6.3 Exposure Pathways and Receptors

For a contaminant to pose a risk to either human health and/or the environment, there must be a potentially complete or complete pathway between the contaminant and the receptor.

Common pathways for contaminants to migrate through the environment and result in exposure to receptors are summarised in **Table 3** below.

Table 3: Summary of Exposure Pathways

Pathway	Contaminants of Concern	Exposure Pathway Complete or Potentially Complete (Yes/No)	Comments
Direct Contact with Soil including dermal contact and ingestion	TRH, BTEX, PCB, PAH, OCP/OPP, Heavy metals.	Potentially Complete	If these contaminants are present at the surface, then there is a potentially complete exposure pathway.
Direct Contact with Groundwater including dermal contact and ingestion	TRH, BTEX, PCB, PAH, Heavy metals.	Incomplete	With the exception of the potential presence of fill on the site, no contaminating activities have been identified. Furthermore, the risk of exposure to groundwater is considered negligible as there are no groundwater bores within 600 m of the site.
Inhalation of Asbestos Fibres	Asbestos	Potentially Complete	Asbestos was identified out side of the site boundary but not across the site. However, if asbestos is present in the fill at the surface, and the site is disturbed then this could create a complete exposure pathway for asbestos inhalation.
Inhalation of gasses and vapour	TRH, BTEX	Potentially Complete	If these contaminants are present at the surface, then there is a potentially complete exposure pathway.

In its current condition, there are potentially complete contaminant exposure pathways which are contingent on whether COPCs are present.

7. Data Quality Objectives

This section outlines the data quality objectives (DQOs) applied to the investigation.

The DQO process is planning tool that relies on scientific methods for establishing criteria for data quality and for designing data collection programs. The DQO defines the experimental process required to test a hypothesis. The DQO process aims to ensure that efforts relating to data collection are cost effective, by eliminating unnecessary, duplicative or overly precise data whilst at the same time, ensuring the data collected is of sufficient quality and quantity to support defensible decision making.

The DQO process consists of seven steps, which are designed to clarify the study objectives, define the appropriate type of data and specify tolerable levels of potential decision errors. The seven-step DQO process adopted for this PSI is as follows:

Step 1: State the Problem – concisely describe the problem to be studied. Review prior studies and existing information to gain a sufficient understanding to define the problem;

Step 2: Identify the Decision – identify what questions the study will attempt to resolve, and what actions may result;

Step 3: Identify the Inputs to the Decision – identify the information that needs to be obtained and the measurements that need to be taken to resolve the decision statement;

Step 4: Define the Study Boundaries – specify the time periods and spatial area to which decisions will apply. Determine when and where data should be collected;

Step 5: Develop a Decision Rule – define the statistical parameter of interest, specify the action level, and integrate the previous DQO outputs into a single statement that describes the logical basis for choosing among alternative actions;

Step 6: Specify Tolerable Limits on Decision Errors – define the decision maker’s tolerable decision error rates based on a consideration of the consequences of making an incorrect decision; and

Step 7: Optimise the Design –evaluate information from the previous steps and generate alternative data collection designs. Choose the most resource-effective design that meets all DQOs.

The DQOs derived for the investigation are presented in **Table 4**.

Table 4: DQOs derived for PSI

Step	Details
Step 1: State the Problem	The site has been subjected to historical earthwork activities that have the potential to introduce contaminants into the environment. The purpose of the investigation was to assess whether the site is suitable for land uses permitted under the current zone which includes residential care accommodation use.
Step 2: Identify the Decision	The purpose of the investigation is to assess whether the site is suitable for land uses permitted under the current zone which includes residential care accommodation use. Should COPCs be identified at concentrations that exceeded the adopted assessment criteria, then management and /or options for remediation to make the site suitable for residential land use may be necessary.
Step 3: Identify the Inputs into the Decision	The COPCs selected are based on the previous site activities. As the site’s zoning permits residential land use, the following assessment criteria from the National Environment Protection Council (NEPC) ‘ <i>National Environment Protection</i>

Step	Details
	<p>(Assessment of Site Contamination) Measure 1999' (revised in 2013; ASC NEPM 2013) has been selected:</p> <ul style="list-style-type: none"> • Health Based Investigation Levels for Residential Sites (HIL A) • Health Based Screening Levels for Residential Sites (HSL A) • Ecological Investigation Levels (EIL) for Urban Residential and Public Open Space • Ecological Screening Levels (ESL) for Urban Residential and Public Open Space <p>Values for each criteria are presented in Section 9 below.</p>
<p>Step 4: Define the Site Boundaries</p>	<p>The site boundary was restricted to the boundary of Block 45 Section 3, Hume as shown in Figures 1 and 2, Appendix A. The vertical boundary of the site was 1.0 m below ground level which was the maximum sampling depth. It is also noted that the results of the assessment are limited to the condition of the site as of 11 May 2020 when sampling was completed.</p>
<p>Step 5: Develop a Decision Rule</p>	<p>If analytical results for COPCs are below the adopted criteria for residential sites, then the site would be considered suitable for the land uses permitted under the current zone and no further management or remediation would be required. However, should the concentration of one or more COPC exceed the adopted criteria value then further investigation may be required to delineate the lateral and vertical extent of the impact and/or recommendations for the remediation/management of contamination that may be required.</p>
<p>Step 6: Specify Tolerable Limits</p>	<p>The tolerable limits for the investigation adopted for quality assurance/quality control (QA/QC) purposes are as follows:</p> <ul style="list-style-type: none"> • The relative percentage difference (RPD) for laboratory duplicates for TRH and BTEX analysis is less than 60%; and • Recovery of matrix spikes and surrogate spikes is as per the laboratory's Quality Assurance targets accepted under their NATA accreditation. <p>The tolerable limits for field QA/QC data are as follows:</p> <ul style="list-style-type: none"> • RPD criteria of 50% or less, for concentrations > or = 10 times practical quantitation limits (PQL); • RPD criteria of 75% or less, for concentrations between 5 and 10 times the PQL; and • RPD criteria of 100% or less, for concentrations < 5 times PQL. <p>Replicate data for field duplicates for inorganics, including metals is expected to be as follows:</p> <ul style="list-style-type: none"> • RPD criteria of 30% or less, for concentrations > or = 10 times PQL; • RPD criteria of 75% or less, for concentrations between 5 and 10 times the PQL; and • RPD criteria of 100% or less, for concentrations < 5 times PQL.
<p>Step 7: Optimise the Design</p>	<p>While the number of holes drilled was less than the recommended number presented in the NSW EPA (1995) 'Sampling Design Guidelines', samples were selected based on a systematic sampling pattern according to the history of the site. This was considered to be an acceptable sampling strategy for the site.</p>

8. Sampling and Analysis Quality

Details of the sampling and analytical plan adopted to meet the project objectives are presented in the following sections.

8.1 Sampling Plan

Soil Samples

Fifteen (15) sample locations for borehole drilling were placed in a systematic grid pattern over the site based on its history. It is noted that the number of sampling locations are below the recommended sampling locations recommended under the *NSW EPA (1995) Contaminated Sites: Sampling Design Guidelines* for a site of approximately 3.5 hectares. However, based on the systematic grid pattern applied to characterise the site for a preliminary site investigation, the reduced number of sampling locations is considered acceptable.

Twenty-four (24) samples were collected from the boreholes. The locations of boreholes drilled across the site are shown in **Figure 3, Appendix A**.

Stockpile Samples

Eleven (11) samples were collected from three (3) stockpiles. Five (5) from SP1 of approximately 70 m³, five (5) from SP2 which approach 200 m³ of material, and one (1) from SP3 which volume is approximately 7 m³. The stockpiles were sampled to characterize the material and not for disposal purposes.

The samples collected from stockpiles are shown in **Figure 4 of Appendix A**.

8.2 Analytical Plan

The analytical plan presented in Table 5 was executed to assess the identified COPCs from twenty-four (24) soil and eleven (11) stockpile samples.

Table 5: Analytical Plan Completed for the PSI

Sample Type	TRH	BTEX	PAH	OCP/OPP	PCB	Phenols	Heavy Metals	Asbestos
Primary	35	35	35	35	35	35	35	35
Duplicate	3	3	3	3	3	3	3	0
Triplicate	1	1	1	1	1	1	1	0

Physiochemical properties (cation exchange, pH and clay content) were analysed for three (3) samples to derive ecological investigation levels (see **Table 7**).

9. Assessment Criteria

The assessment criteria that was adopted for the investigation was based on the most sensitive land use under the zoning NUZ1: Broadacre Zone, residential care accommodation. Therefore, the following criteria have been adopted from the ASC NEPM 2013:

- Health Based Investigation Levels for Residential Sites (HIL A).
- Health Based Screening Levels for Residential Sites (HSL A) for a clay lithology and a depth of 0 m to <1 m below ground level. This assumption is considered appropriate as the soil was predominantly silty clay.
- Ecological Investigation Levels (EIL) for Urban Residential and Public Open Space.
- Ecological Screening Levels (ESL) for Urban Residential and Public Open Space for fine soil based on the clay content of the soil.

The criteria that was adopted for the investigation is presented in **Table 6** below.

Table 6: Assessment Criteria to be Adopted for Contaminants of Potential Concern

Contaminant Group	HIL/HSL – A (mg/kg)	EIL – Urban Residential and Public Open Space (mg/kg)	ESL-Urban Residential and Public Open Space (mg/kg)
Heavy Metals			
Arsenic	100	100	-
Cadmium	20	-	-
Chromium (VI)	100	530	-
Copper	6,000	160	-
Lead	300	1,100	-
Nickel	400	90	-
Zinc	7,400	400	-
Mercury	40	-	-
Pesticides			
Aldrin and Dieldrin	6	-	-
Chlordane	50	-	-
DDT	-	180	-
DDT+DDD+DDE	240	-	-
Endrin	10	-	-
HCB	10	-	-
Heptachlor	6	-	-
Methoxychlor	300	-	-
Mirex	10	-	-
Toxaphene	20	-	-
TRH and BTEX			

Contaminant Group	HIL/HSL – A (mg/kg)	EIL – Urban Residential and Public Open Space (mg/kg)	ESL-Urban Residential and Public Open Space (mg/kg)
TRH C ₆ -C ₁₀ – BTEX (F1)	50	-	180
TRH >C ₁₀ -C ₁₆ – Naphthalene (F2)	280	-	120
TRH >C ₁₆ -C ₃₄ (F3)	-	-	1,300
TRH >C ₃₄ -C ₄₀ (F4)	-	-	5,600
Benzene	0.7	-	65
Toluene	480	-	105
Ethylbenzene	NL	-	125
Xylene	110	-	45
PAHs and PCBs			
Total PAH	300	-	-
Benzo(a)pyrene	-	-	0.7
Carcinogenic PAHs as B(a)P TEQ	3	-	-
Naphthalene	5	170	-
Phenol	3,000	-	-
PCBs	1	-	-

*NL is considered to be non-limiting whereby the concentration of contaminant to pose a soil vapour risk exceeds the soil saturation volume.

EIL criteria was derived based on site specific physicochemical properties [pH, cation exchange capacity (CEC) and percent clay]. These properties were estimated based on the average of the measures obtained across the site. The values used for the determining EILs are summarised in **Table 7** below.

Table 7: Calculated Physicochemical Properties

Physicochemical Property	Unit	Value
pH	pH Unit	7
CEC	meq / 100g	7.55
% Clay	%w / w	23

The EIL criteria was calculated using the ASC NEPM 2013 EIL Interactive (Excel) Calculation Spreadsheet using values for aged contaminants. The results of the EIL calculations are presented in **Appendix F**.

The criteria values adopted for the assessment of the site are presented in **Table 1, Appendix G**.

10. Methods

Soil samples were collected by suitably qualified environmental scientist from Lanterra on Monday 11 May 2020. The methods for the samples collection was as follows:

- Boreholes were drilled using a 300 mm auger driven by a 4 ton excavator.
- Samples were collected from the drilled borehole at the surface (0.0-0.2 m), 0.5m bgl, and 1.0 m bgl or until refusal due to the presence of natural material. Each sample was collected directly from the auger with care taken not to collect soil that was in contact with the auger flights.
- Boreholes within stockpiles were drilled using a hand auger. Samples were collected from the drilled borehole at the surface (0.0-0.3 m).
- Each sample was collected with a new, clean pair of nitrile gloves. Soil samples were placed into a laboratory prepared 250ml glass jar, sealed with a Teflon lined screw-top lid, and zip lock plastic bag with the details of the sample, including the sample name, the job number, the date of sample and the sample depth.
- Each soil sample was described in general accordance with the Unified Soil Classification System (USCS) and details of any discolouration, staining, odours, or other indicators of contamination were also noted if present.
- Samples were placed and stored in an ice filled esky to keep them chilled.
- Samples were then transported to a NATA accredited laboratory with the signed chain of custody (COC) form with the required analysis.

11. Results

The visual and laboratory results of the investigation are presented in the following sections.

11.1 Observations

Borehole soil samples

The site was vacant and could be divided into two sections corresponding to a cleared grass-covered land in the central south-west portion of the site and an area where trees and volcanic rock outcrops are observed in the north-east side of the site.

Possible imported fill material was encountered across the site that resembles topsoil; however, this material likely corresponds to transferral soil. This material is largely classified as a silty clay, dark brown to brown in colour, with a dry to moist and soft texture.

A more compact natural material was encountered at around 1.0 m bgl in the cleared central area of the site. However, in the surroundings of bedrock outcrops and tree plantation areas, natural material was found from 0.5 m bgl. This soil was generally described as a brown to orange silty clay, dry to moist and soft to hard.

At five (5) borehole locations it appears that a crystal tuffaceous volcanic rock was encountered (LC11, LC12, LC13, LC14 and LC15). The presence of this rock unit caused refusal in boreholes LC13 and LC14 at 0.6 m and 0.9 m bgl. This material was a grey to pale grey silt, dry and hard, with a high amount of plagioclase and quartz crushed crystals.

A detailed site plan is presented in **Figures 2 and 3, Appendix A** while photographs of the site are provided in **Appendix B**.

Borehole logs are presented in **Appendix I**.

Stockpile samples

A total of eleven (11) samples were collected from the stockpiles; five (5) from SP1, five (5) from SP2 and one (1) sample from SP3. The stockpiles were covered by grass.

The material collected across the stockpiles was quite homogeneous and mostly composed of a brown silty clay, dry to moist and soft in texture.

Figures 4, Appendix A, shows the sample and stockpile locations across the site.

11.2 Analytical Results

Borehole soil samples

A total of twenty-four (24) primary soil samples were selected for analysis. A summary of the analytical results is presented in **Table 1, Appendix G**, while copies of the laboratory reports, sample receipt and COCs is presented in **Appendix H**.

BTEX, Phenols, OCP/OPP, PAH, TRH, PCB and Asbestos

Concentrations of BTEX, Phenols, OCP/OPP, PAH, TRH, PCB and Asbestos were below the laboratory limit of reporting (LOR) and therefore below the adopted assessment criteria.

No materials suspected of containing asbestos were encountered during sampling.

Heavy Metals

Heavy metals were detected in each sample analysed; however these were all below the adopted assessment criteria.

Stockpile samples

Eleven (11) samples from stockpiles were selected for analysis. A summary of the analytical results is presented in **Table 1, Appendix G**, while copies of the laboratory reports, sample receipt and COCs is presented in **Appendix H**.

BTEX, Phenols, OCP/OPP, TRH, PCB and Asbestos

Concentrations of BTEX, Phenols, OCP/OPP, TRH, PCB and Asbestos were below the laboratory limit of reporting (LOR) and therefore below the adopted assessment criteria.

No materials suspected of containing asbestos were encountered during sampling.

PAH

Concentration of PAH compounds were found above the LOR for samples SP1-5 and SP3-1. However, these values were all below the adopted assessment criteria.

Heavy Metals

Heavy metals were detected in each sample analysed; however, these were all below the adopted assessment criteria.

12. Quality Assurance / Quality Control

12.1 Field QA/QC

Three (3) duplicate and one (1) triplicate samples were collected for calculating the relative percentage difference (RPD) and assess the precision and accuracy of the laboratory. An RPD of less than 50% is considered acceptable where the analyte concentration is greater than five (5) times the laboratory LOR. Should the RPD be greater than 50%, then further investigation as to the reason for high RPD would occur.

The duplicate samples were collected with the following primary samples:

- QC1 was collected with primary sample LC10 0.5-0.6
- QC3 was collected with primary sample LC9 1.0-1.1
- QC4 was collected with primary sample SP1-1

The triplicate sample, QC2, was collected with the primary sample, LC10 0.5-0.6.

The calculated RPDs (where applicable) for detectable concentrations of COPCs was less than 50% except for the following:

- Arsenic between SP1-1 and QC4 with an RPD of 67%

These exceedance is related to sample heterogeneity and is considered fine as the difference between the primary and duplicate sample is less than five times the laboratory limit of report.

12.2 Laboratory QA/QC

A review of the laboratory QA/QC data is summarised below.

Holding Times

All holding times were reported within their tolerable ranges except for pH in soil samples LC1 0.5-0.6 and LC9 1.0-1.1. However, based on the nature of the site and the analytical results of soil samples these exceedances do not alter the outcome of this investigation.

Laboratory Accreditation

SGS Services was the primary laboratory used for the analysis of each sample. SGS is NATA accredited for the performed analysis under accreditation number 2562.

Surrogate and Spike Recoveries

All surrogate spike recoveries were within the tolerable limits except for the analyte and samples listed in Table 8.

Table 8: *Surrogate recovery samples that Exceed the Laboratory QA/QC criteria.*

Analyte	Sample Name	Sample Number	Recovery (%)
d5-nitrobenzene (Surrogate)	LC6 1.0-1.1	SE206178.011	69
	LC7 0.0-0.1	SE206178.012	69
	LC7 0.5-0.6	SE206178.013	69
	LC8 0.0-0.1	SE206178.014	70
d8-toluene (Surrogate)	LC12 0.0-0.1	SE206178.021	174

	LC13 0.0-0.1	SE206178.022	171
	LC14 0.5-0.6	SE206178.023	166
	LC15 0.0-0.1	SE206178.024	179
	QC1	SE206178.025	158
	QC3	SE206178.026	158
	QC4	SE206178.027	171
	SP1-1	SE206178.028	180
	SP1-2	SE206178.029	181
	SP1-3	SE206178.030	171
	SP1-4	SE206178.031	165
	SP1-4	SE206178.032	175
	SP2-1	SE206178.033	173
	SP2-2	SE206178.034	154
	SP2-3	SE206178.035	159
	SP2-4	SE206178.036	163
	SP2-5	SE206178.037	166
	SP3-1	SE206178.038	171

The laboratory informed that at least 2 of 3 surrogates are within the acceptance criteria, therefore the results of this investigation are not affected.

All matrix spike recoveries were within the tolerable limits with the exception of the samples listed in Table 9.

Table 9: Matrix spike recovery samples that exceed the Laboratory QA/QC criteria.

QC sample	Sample Number	Analyte	Recovery (%)
SE206178.038	LB199533.004	Lead	53

Based on the information provided by the laboratory, the above exceedances were attributed to sample heterogeneity. However, considering the characteristics of the site and the overall low concentration of Lead obtained across the data set, the exceedance does not alter the outcome of the investigation.

Laboratory Control Sample Results

All laboratory control sample results were within the tolerable limits.

Laboratory Duplicate Results

The duplicate sample RPDs were within the tolerable range for each sample with the exception of the samples listed in **Table 10** below.

Table 10: Laboratory Duplicate Samples that Exceed the Laboratory QA/QC criteria.

Primary	Duplicate	Analyte	RPD (%)
SE206178.019	LB199533.024	Nickel	51
SE206178.038	LB199534.024	Chromium	52

The laboratory advised that the above RPD exceedance was attributed to sample heterogeneity. Based on the analytical results of the primary sample, the above RPD exceedance does not alter the outcome of the investigation.

Laboratory Blank Results

All method laboratory blanks were below the laboratory LOR and therefore within tolerable limits.

13. Revised Conceptual Site Model

Based on the results of the intrusive investigation, the CSM was revised to reflect information obtained from drilling.

13.1 Summary of Site Condition

Based on the historical use of the site and the sampling of twenty-four (24) soil samples and eleven (11) stockpile samples undertaken during the PSI the site condition is summarised as follows:

- Asbestos-containing materials (ACM) were found outside the site in the vicinities of the lockable gate.
- Patches of rubbish (plastics, bricks, roof tiles, tin, wood) were scattered across the site.
- Possible fill material was encountered across the site that resembles topsoil. This material was largely a silty clay, dark brown to brown in colour, with a dry to moist and soft texture.
- Natural material was encountered at around 1.0m bgl in the cleared central area of the site. However, in the area surrounding the rocky outcrops and tree covers, natural material was found from 0.5m bgl. This soil was described as a brown to orange silty clay, dry to moist and soft to hard.
- No anthropogenic material and no olfactory signs of contamination were observed during soil or stockpile sampling.
- Concentrations of COPC were below the adopted assessment criteria in all samples.

13.2 Potential Receptors and Exposure Pathways

Based on the results of the investigation, the revised CSM is presented in **Table 11**.

Table 11: Revised Conceptual Site Model

Pathway	Potential Receptor			
	Site Users	Construction Workers	Ecological Receptors	Groundwater
Direct Dermal Contact with Soil and Ingestion	Incomplete Given that TRH, BTEX, PCB, PAH, OCP/OPP, Phenols and Heavy metals are below the adopted assessment criteria of this investigation, these are not considered to pose a risk to site users via direct contact.	Incomplete Given that COPCs are below the adopted assessment criteria of this investigation, these are not considered to pose a risk to on-site workers.	Incomplete COPCs are below the assessment criteria of this report, therefore they do not pose a risk to ecological receptors in the site's current state.	N/A
Direct Dermal Contact with Groundwater	Incomplete COPCs are below the adopted assessment criteria of this investigation therefore there is no risk of contamination of the underlying groundwater. Furthermore, as there are no extraction bores within at least 600 m of the site, the exposure pathway is incomplete.			

Pathway	Potential Receptor			
	Site Users	Construction Workers	Ecological Receptors	Groundwater
Exposure to respirable Asbestos	Incomplete Exposure pathway is incomplete as no asbestos was detected within the site boundary.			
Inhalation of Vapour or Gas	Incomplete TRH and BTEX concentrations were below the assessment criteria of this report. Then, inhalation of vapour or gas are not considered to pose a risk for potential receptors.			

14. Summary and Conclusions

Forestrack engaged Lanterra to complete a Preliminary Site Investigation (PSI) in support of an Environmental Impact Assessment (EIA) for the proposed TRG Bushfire Response and Training Centre – Block 45 Section 3, Hume, ACT 2620.

Based on the ACT Territory Plan, the site is currently zoned as NUZ1: Broadacre and has an area of 35,163 square metres (m²).

The PSI included a historical desktop review, soil sampling and analysis to assess the suitability of the site from a contamination perspective for the proposed development.

Based on the historical use of the site and the sampling of twenty-four (24) soil samples and eleven (11) stockpile samples undertaken during the PSI, the findings of the PSI are summarised as follows:

- Patches of rubbish (plastics, bricks, roof tiles, tin, wood) were found across the site.
- Possible fill material was encountered across the site that resembles topsoil. This material comprised a dark brown to brown silty clay, dry to moist and soft.
- Natural material was encountered at approximately 1.0m bgl in the cleared central area of the site. However, in the area surrounding the rocky outcrops and trees cover natural material was found from 0.5m bgl. This soil was characterised as a brown to orange silty clay, dry to moist and soft to hard.
- Concentrations of COPC were below the adopted assessment criteria for residential use (HIL A, HSL A, EIL and ESL) in all soil and stockpile samples.

Based on these findings, Lanterra considers that the site is suitable for the land uses permitted under the NUZ1: Broadacre Zone which includes residential use.

Prior to construction works commencing, it is recommended that a Construction Environmental Management Plan (CEMP) with a suitable unexpected finds procedure is prepared by a suitably qualified environmental consultant to assist construction workers with managing soil that may exhibit visual or olfactory indications of contamination.

This investigation has not been completed with the intention of removing soil from the site. Should the removal of soil be necessary, then the soil must be assessed in accordance with the ACT EPA (2019) *Information Sheet 4 'Requirements for the Reuse and Disposal of Contaminated Soil in the ACT'* and a soil assessment report approved in writing by the ACT EPA.

15. References

ACT EPA (2017) *'Contaminated Sites Environment Protection Policy'*

ACT EPA (2019) *'Information Sheet 4 – Requirements for the Reuse and Disposal of Contaminated Soil in the ACT'*

Bureau of Mineral Resources, Geology and Geophysics (1984) *'1:100,000 Hydrogeology of the Australian Capital Territory and Environs'*

Bureau of Mineral Resources, Geology and Geophysics (1992) *'1:100,000 Geological Series, Canberra, New South Wales and Australian Capital Territory, Sheet 8727'*

National Environment Protection Council (1999) *'National Environment Protection (Assessment of Site Contamination) Measure 1999'* (amended 2013).

NSW EPA (1995) Contaminated Sites: Sampling Design Guidelines

16. Glossary

ACM	Asbestos-containing material
ACT	Australian Capital Territory
AHD	Australian Height Datum
AEC	Area of Environmental Concern
ASC NEPM 2013	National Environment Protection (Assessment of Site Contamination Measure 1999' as amended 2013.
Bgl	Below ground level
BTEXN	Benzene, Toluene, Ethylbenzene, Xylenes, Napthathlene
CEMP	Construction Environmental Management Plan
COPC	Contaminants of Potential Concern
CSM	Conceptual Site Model
EIA	Environmental Impact Assessment
EIL	Ecological Investigation Level
ESL	Ecological Screening Level
EPA	Environment Protection Authority
Forestrack	Forestrack Pty Lrd
HIL	Health Investigation Level
HSL	Health Screening Level
kg	Kilogram
Lanterra	Lanterra Consulting Pty Limited
m ²	Square metres
LOR	Limit of Reporting
mg	milligram
NATA	National Association of Testing Authorities
NEPM	National Environment Protection Measure
NSW	New South Wales
OCP	Organochlorine Pesticides
OPP	Organophosphate Pesticides
QA	Quality Assurance
QC	Quality Control
PAH	Polycyclic Aromatic Hydrocarbon
PCB	Polychlorinated Biphenyls
PQL	Practical quantitation limit
PSI	Preliminary Site Investigation
RPD	Relative Percentage Difference
TEQ	Toxic Equivalence Quotient
TRH	Total Recoverable Hydrocarbon
USCS	Unified Soil Classification System

Figures





Legend

P20023

- - - Power line
- - - Wired fence
- Stockpile
- Bedrock Outcrop
- Site Boundary

ACM found here

0 25 50 m

Source: Google Images

LOCATION: Block 45 Section 3,
Hume, ACT

PROJECT No: P20023

FIGURE 2: Sampling Plan and Site Layout

Legend

P20023

- Sample Location
- Site Boundary



LOCATION: Block 45 Section 3,
Hume, ACT

FIGURE 3: Sampling Plan

PROJECT No: P20023



Source: Google Images



Site Photographs

Client Name
Forestrack

Site Location
Block 45 Section 3, Hume, ACT

Project No.
P20023

Photo No.	Date
1	11/05/2020

Description
Asbestos containing material observed in front of the entrance gate of the site.



Photo No.	Date
2	11/05/2020

Description
North-east view of the site entrance.



Client Name
Forestrack

Site Location
Block 45 Section 3, Hume, ACT

Project No.
P20023

<p>Photo No. 3</p>	<p>Date 11/05/2020</p>	
<p>Description South-west view from the site showing adjacent buildings</p>		
<p>Photo No. 4</p>	<p>Date 11/05/2020</p>	
<p>Description Photograph of a soil sample (LC3) obtained from the paddock area in the southern portion of the site.</p>		

Client Name
Forestrack

Site Location
Block 45 Section 3, Hume, ACT

Project No.
P20023

<p>Photo No. 5</p>	<p>Date 11/05/2020</p>	
<p>Description Photograph of a soil sample (LC9) obtained from the paddock area in the central portion of the site.</p>		
<p>Photo No. 6</p>	<p>Date 11/05/2020</p>	
<p>Description Photograph of a soil sample (LC11) obtained from the central-north portion of the site. Outcrops of volcanic rocks are observable.</p>		



Client Name
Forestrack

Site Location
Block 45 Section 3, Hume, ACT

Project No.
P20023

Photo No.	Date	
7	11/05/2020	
<p>Description</p> <p>Photograph of soil sample LC11. The greyish tone of the soil is observed and may be associated with drilling volcanic rock.</p>		
8	11/05/2020	
<p>Pile of rubbish observed within the site. Stockpile SP1 crossing the site is highlighted.</p>		



Client Name Forestrack	Site Location Block 45 Section 3, Hume, ACT	Project No. P20023
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Photo No. 9	Date 11/05/2020	
<p>Description</p> <p>Photograph of the location from where sample SP1-3 was collected. Soil appears to be like the soil collected across the site.</p>		
Photo No. 10	Date 11/05/2020	
<p>General view of stockpile SP2 looking north-east beyond the rubbish pile.</p>		


Client Name
Forestrack

Site Location
Block 45 Section 3, Hume, ACT

Project No.
P20023

Photo No.	Date	
11	11/05/2020	
<p>Description</p> <p>Photograph of the location from where sample SP2-2 was collected.</p>		
12	11/05/2020	
<p>General view of stockpile SP3 looking south-west. A pile of rubbish containing concrete, asphalt, and roof tiles is observed on the left.</p>		

Historical Land Title Search

 No results found.

[Address Search](#)

[Title Search](#)

[Parcel Search](#)

* denotes a mandatory field

Division/District *

Hume

Please enter the first four letters of the Division/District only

Section

3

Block

45

Unit

[Search](#)

No results found.



LOTSEARCH

LOTSEARCH ENVIRO PROFESSIONAL

Address: Cnr Sheppard St and Lanyon Drive, Hume, ACT 2620

Date: 17 Apr 2020 17:40:20

Reference: LS012021 EP

Report Buffer: 1000m

Disclaimer:

The purpose of this report is to provide an overview of some of the site history, environmental risk and planning information available, affecting an individual address or geographical area in which the property is located. It is not a substitute for an on-site inspection or review of other available reports and records. It is not intended to be, and should not be taken to be, a rating or assessment of the desirability or market value of the property or its features.

You should obtain independent advice before you make any decision based on the information within the report.

The detailed terms applicable to use of this report are set out at the end of this report.

Dataset Listing

Datasets contained within this report, detailing their source and data currency:

Dataset Name	Custodian	Supply Date	Currency Date	Update Frequency	No. Features Onsite	No. Features within 100m	No. Features within Buffer
Land Administration Databases	ACT Government	05/02/2020	05/02/2020	Quarterly	-	-	-
Register of Contaminated Sites	ACT Government - Environment Protection Authority	03/04/2020	03/04/2020	Monthly	0	0	0
National Waste Management Facilities Database	Geoscience Australia	12/02/2020	07/03/2017	Quarterly	0	0	0
National Liquid Fuel Facilities	Geoscience Australia	05/02/2020	15/03/2012	Quarterly	0	0	0
Defence PFAS Investigation & Management Program - Investigation Sites	Department of Defence	06/02/2020	06/02/2020	Monthly	0	0	0
Defence PFAS Investigation & Management Program - Management Sites	Department of Defence	06/02/2020	06/02/2020	Monthly	0	0	0
Airservices Australia National PFAS Management Program	Airservices Australia	20/03/2020	20/03/2020	Monthly	0	0	0
Defence 3 Year Regional Contamination Investigation Program	Department of Defence	03/04/2020	03/04/2020	Monthly	0	0	0
EPA Authorisations	Environment Protection Authority	20/03/2020	20/03/2020	Monthly	0	2	7
EPA Agreements	Environment Protection Authority	20/03/2020	20/03/2020	Monthly	0	0	0
UBD Business Directories (Premise & Intersection Matches)	Hardie Grant			Not required	0	26	38
UBD Business Directories (Road & Area Matches)	Hardie Grant			Not required	-	8	9
UBD Business Directory Dry Cleaners & Motor Garages/Service Stations (Premise & Intersection Matches)	Hardie Grant			Not required	0	0	0
UBD Business Directory Dry Cleaners & Motor Garages/Service Stations (Road & Area Matches)	Hardie Grant			Not required	-	0	0
Features of Interest	ACT Government	09/04/2020	09/04/2020	Quarterly	0	0	6
Hydrogeology Map of Australia	Commonwealth of Australia (Geoscience Australia)	08/10/2014	17/03/2000	As required	1	1	1
Hydrogeological Landscapes Units	ACT Government - Environment, Planning and Sustainable Development Directorate	04/01/2018	22/11/2017	As required	1	1	1
Groundwater Boreholes (ACT)	ACT Government	09/04/2020	09/04/2020	Quarterly	0	0	2
Groundwater Boreholes (Bureau of Meteorology)	Commonwealth of Australia (Bureau of Meteorology)	20/11/2017	25/08/2017	Annually	0	0	21
Geological Units 1:250,000	NSW Department of Industry, Resources & Energy	20/08/2014		None planned	3	-	4
Geological Structures 1:250,000	NSW Department of Industry, Resources & Energy	20/08/2014		None planned	0	-	0
Atlas of Australian Soils	ABARES	19/05/2017	17/02/2011	As required	1	1	1
Soil Landscapes	NSW Office of Environment & Heritage	12/08/2014		None planned	1	-	3
Atlas of Australian Acid Sulfate Soils	CSIRO	19/01/2017	21/02/2013	As required	1	1	1
Territory Plan Zones	ACT Government - Environment, Planning and Sustainable Development Directorate	09/04/2020	09/04/2020	Quarterly	1	7	12



Dataset Name	Custodian	Supply Date	Currency Date	Update Frequency	No. Features Onsite	No. Features within 100m	No. Features within Buffer
Territory Plan Overlays (Areas)	ACT Government - Environment, Planning and Sustainable Development Directorate	09/04/2020	09/04/2020	Quarterly	0	0	1
Territory Plan Overlays (Lines)	ACT Government - Environment, Planning and Sustainable Development Directorate	18/03/2019	18/03/2019	Quarterly	0	1	3
Commonwealth Heritage List	Australian Government Department of the Environment and Energy - Heritage Branch	04/02/2020	31/07/2018	Quarterly	0	0	1
National Heritage List	Australian Government Department of the Environment and Energy - Heritage Branch	04/02/2020	20/11/2019	Quarterly	0	1	1
Heritage Sites	ACT Government - Environment, Planning and Sustainable Development Directorate	09/04/2020	09/04/2020	Quarterly	0	0	7
Bushfire Prone Areas	ACT Government - Environment, Planning and Sustainable Development Directorate	09/04/2020	09/04/2020	Quarterly	1	1	1
Bushfire Abatement Zones	ACT Government - Environment, Planning and Sustainable Development Directorate	09/04/2020	09/04/2020	Quarterly	0	1	3
Bushfire Operational Plan - Access Management	ACT Government - Environment, Planning and Sustainable Development Directorate	07/01/2020	07/01/2020	Quarterly	0	0	0
Bushfire Operational Plan - Fuel Management	ACT Government - Environment, Planning and Sustainable Development Directorate	07/01/2020	07/01/2020	Quarterly	2	2	6
Flood 1 percent Annual Exceedance Probability	ACT Government - Environment, Planning and Sustainable Development Directorate	09/03/2018	18/01/2017	As required	0	0	0
Vegetation Communities	ACT Government	05/02/2020	05/02/2020	Annually	4	8	33
Vegetation Subformation	ACT Government	14/01/2019	14/01/2019	Annually	0	0	0
Threatened Woodland	ACT Government	05/02/2020	05/02/2020	Annually	0	0	2
Tree Register	ACT Government	09/04/2020	09/04/2020	Quarterly	0	0	0
Important Wetlands	ACT Government	09/04/2020	09/04/2020	Quarterly	0	0	0
Groundwater Dependent Ecosystems Atlas	Bureau of Meteorology	14/08/2017	15/05/2017	Unknown	0	0	1
NSW BioNet Species Sightings	NSW Office of Environment & Heritage	17/04/2020	17/04/2020	Daily	-	-	-

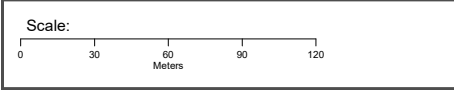
Aerial Imagery 2019

Cnr Sheppard St and Lanyon Drive, Hume, ACT 2620



Legend

-  Site Boundary
-  Buffer 150m



Data Sources: Aerial Imagery © Aerometrex Pty Ltd

Coordinate System:
GDA 1994 MGA Zone 55

Date: 16 April 2020

Contaminated Land

Cnr Sheppard St and Lanyon Drive, Hume, ACT 2620

Register of Contaminated Sites

Records from the ACT Register of Contaminated Sites within the report buffer:

Map Id	Site Description	Notification	District	Division	Section	Block	Status	Loc Conf	Dist	Direction
N/A	No records in buffer									

ACT Register of Contaminated Sites Data Source: ACT Government Environment Protection Authority
Creative Commons 4.0 © <https://creativecommons.org/licenses/by/4.0/>

Waste Management and Liquid Fuel Facilities

Cnr Sheppard St and Lanyon Drive, Hume, ACT 2620

National Waste Management Site Database

Sites on the National Waste Management Site Database within the report buffer:

Site Id	Owner	Name	Address	Suburb	Postcode	Landfill	Reprocess	Transfer	Loc Conf	Distance	Direction
N/A	No records in buffer										

Waste Management Facilities Data Source: Australian Government Geoscience Australia
Creative Commons 3.0 © Commonwealth of Australia <http://creativecommons.org/licenses/by/3.0/au/deed.en>

National Liquid Fuel Facilities

National Liquid Fuel Facilities within the dataset buffer:

Map Id	Owner	Name	Address	Suburb	Class	Operational Status	Operator	Revision Date	Loc Conf	Dist (m)	Direction
N/A	No records in buffer										

National Liquid Fuel Facilities Data Source: Geoscience Australia
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PFAS Investigation and Management Programs

Cnr Sheppard St and Lanyon Drive, Hume, ACT 2620

Defence PFAS Investigation and Management Program Investigation Sites

Sites being investigated by the Department of Defence for PFAS contamination within the dataset buffer:

Map ID	Base Name	Address	Location Confidence	Distance	Direction
N/A	No records in buffer				

Defence PFAS Investigation and Management Program Data Source: Department of Defence, Australian Government

Defence PFAS Investigation and Management Program Management Sites

Sites being managed by the Department of Defence for PFAS contamination within the dataset buffer:

Map ID	Base Name	Address	Location Confidence	Distance	Direction
N/A	No records in buffer				

Defence PFAS Investigation and Management Program Data Source: Department of Defence, Australian Government

Airservices Australia National PFAS Management Program

Sites being investigated or managed by Airservices Australia for PFAS contamination within the dataset buffer:

Map ID	Site Name	Impacts	Location Confidence	Distance	Direction
N/A	No records in buffer				

Airservices Australia National PFAS Management Program Data Custodian: Airservices Australia

Defence Sites

Cnr Sheppard St and Lanyon Drive, Hume, ACT 2620

Defence 3 Year Regional Contamination Investigation Program

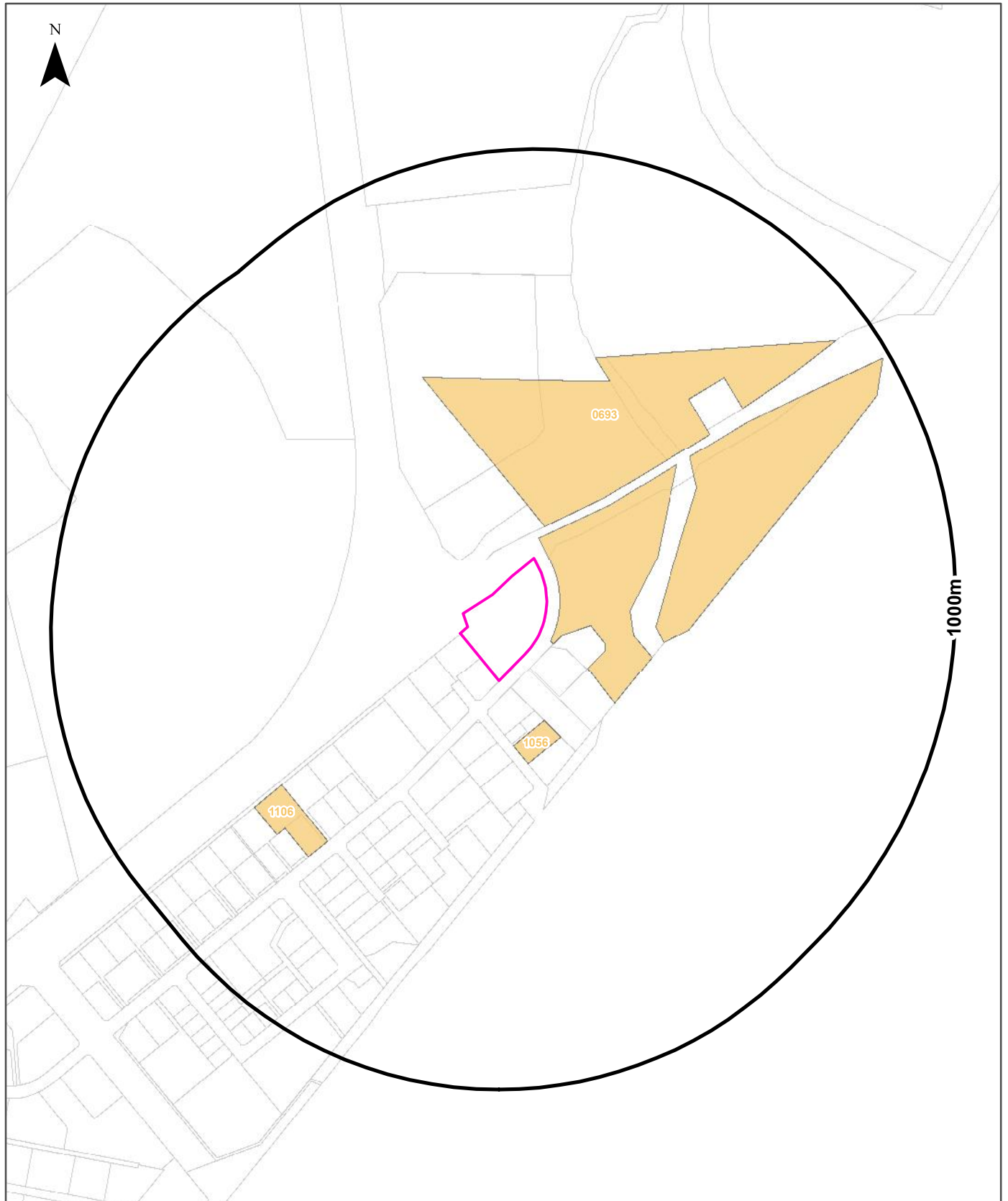
Sites which have been assessed as part of the Defence 3 Year Regional Contamination Investigation Program within the dataset buffer:

Property ID	Base Name	Address	Known Contamination	Loc Conf	Dist	Dir
N/A	No records in buffer					

Defence 3 Year Regional Contamination Investigation Program, Data Custodian: Department of Defence, Australian Government

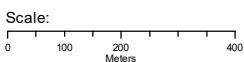
EPA Authorisations and Agreements

Cnr Sheppard St and Lanyon Drive, Hume, ACT 2620



Legend

- Site Boundary
- EPA Agreements
- Report Buffer
- EPA Authorisations
- Property Boundaries



Data Sources: Property Boundaries & Topographic Data - Environment, Planning and Sustainable Development Directorate

Coordinate System: GDA 1994 MGA Zone 55

Date: 17 April 2020

EPA Authorisations & Agreements

Cnr Sheppard St and Lanyon Drive, Hume, ACT 2620

EPA Authorisations

EPA Authorisations within the report buffer:

Note. Please click on ID Number to activate a hyperlink to online documentation. If link does not work, no documentation is accessible via the EPA.

ID Number	Activity	Business / Individual Name	Grant Date	Expiry Date	Status	Loc Conf	Distance	Direction
0693	Extraction of Material from waterways; Greater than 100m3 (Activity 1)	ACT Procurement Solutions	10/3/2009	10/3/2011	Expired	Premise Match	29m	North East
0693	Extraction of Material from waterways; Greater than 100m3 (Activity 1)	ACT Procurement Solutions	10/3/2009	10/3/2011	Expired	Premise Match	29m	North East
1056	Transport of Controlled Waste (Activity 8)	Cabiria Pty Ltd	12/2/2015	12/12/2017	Ceased	Premise Match	143m	South
1106	Petroleum storage (Activity 30)	Canberra Data Centres Pty Ltd - Hume	11/24/2016		Current	Premise Match	574m	South West
0109	Commercial use of chemicals (Activity 29)	Capital Pest Control	9/30/1998	11/16/2006	Ceased	Suburb/Area Match	-	-
0389	Timber (Activity 38)	Integrated Forest Products Pty Ltd	10/18/2002	12/12/2007	Ceased	Suburb/Area Match	-	-
1171	Operation of waste transfer (Activity 48)	Re-Cycle Operations (Canberra) Pty Ltd	11/30/2018		Cancelled	Suburb/Area Match	-	-

EPA Authorisations Data Source: ACT Government Environment Protection Authority
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EPA Agreements

Note. Due to the lack of premise details within the documentation, this list does not include the following agreement:

Land development

EPA Agreements within the report buffer:

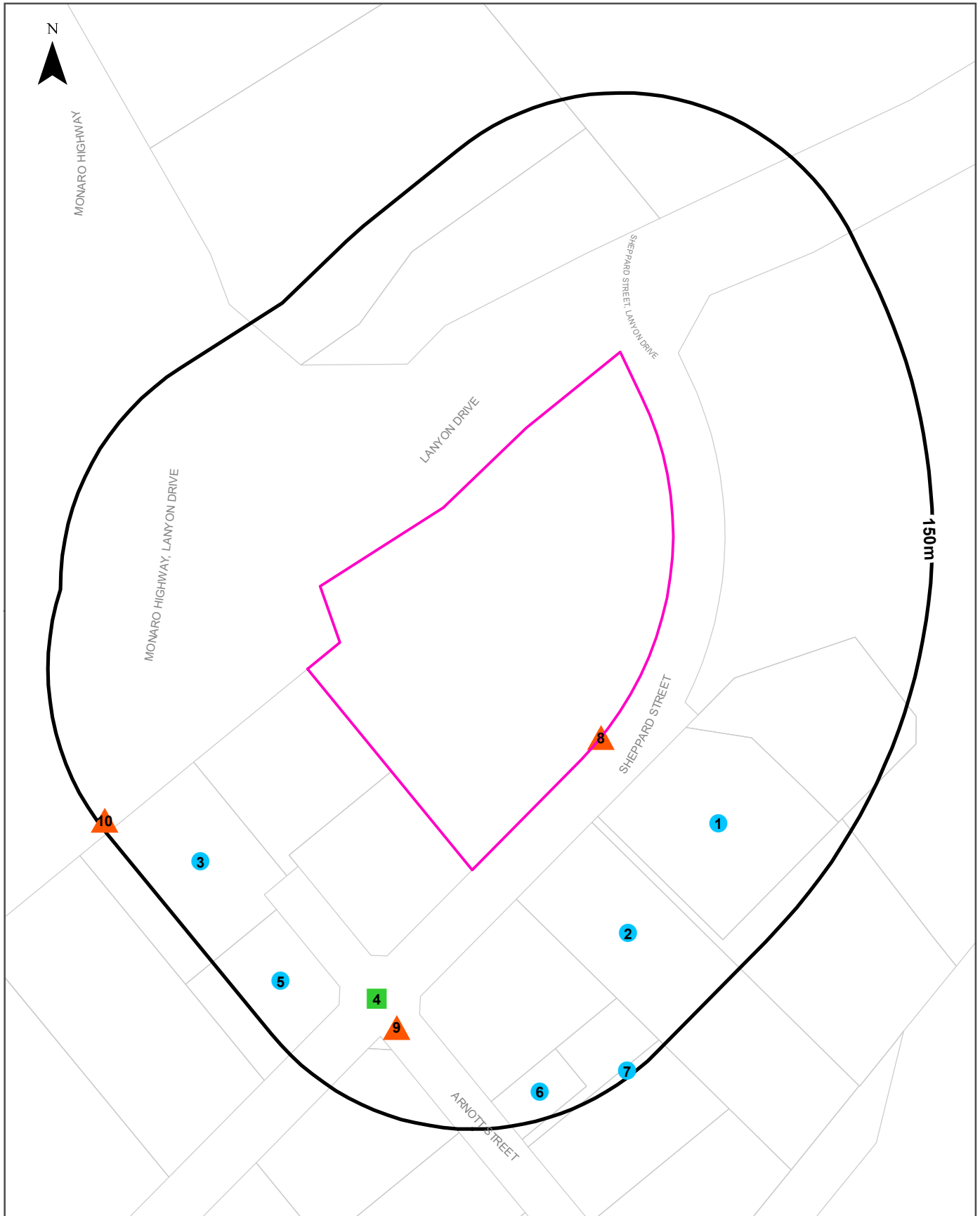
Note. Please click on ID Number to activate a hyperlink to online documentation. If link does not work, no documentation is accessible via the EPA.

ID Number	Agreement Type	Business / Individual Name	Grant Date	Expiry Date	Status	Loc Conf	Distance	Direction
N/A	No records in buffer							

EPA Agreements Data Source: ACT Government Environment Protection Authority
Creative Commons 4.0 © <https://creativecommons.org/licenses/by/4.0/>

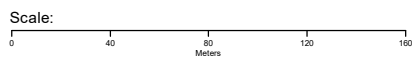
Historical Business Directories

Cnr Sheppard St and Lanyon Drive, Hume, ACT 2620



Legend

- Site Boundary
- Buffer 150m
- Property Boundary
- Business directory records mapped to a specific premise
- Business directory records mapped to a road intersection
- ▲ Business directory records mapped to a road corridor
- Business directory records mapped to a general area



Coordinate System:
GDA 1994 MGA Zone 55

Date: 17 April 2020

Data Sources: Reproduced with permission of UBD and Hardie Grant Media Pty Ltd DD 01/08/2018
Property Boundaries © Environment, Planning and Sustainable Development Directorate 2020

Historical Business Directories

Cnr Sheppard St and Lanyon Drive, Hume, ACT 2620

Business Directory Records 1950-1991 Premise or Road Intersection Matches

Universal Business Directory records from years 1950, 1961, 1970, 1982 and 1991, mapped to a premise or road intersection, within the dataset buffer:

Map Id	Business Activity	Premise	Ref No.	Year	Location Confidence	Distance to Property Boundary or Road Intersection	Direction
1	CUSTOM MADE STEEL SECURITY DOORS & GRILLES	A. B.I.S. Joinery., 15 Sheppard St Hume	7181	1991	Premise Match	30m	South East
	CUSTOM MADE STEEL SECURITY DOORS & GRILLES	A.B.I.S. Joinery., 15 Sheppard St Hume	7180	1991	Premise Match	30m	South East
	JOINERY MANUFACTURERS &/OR MERCHANTS.	A.B.I.S. Joinery., 15 Sheppard St Hume	4717	1991	Premise Match	30m	South East
	WINDOW FRAME MFRS. &/OR DIST. WOOD	A.B.I.S. Joinery., 15 Sheppard St Hume	5609	1991	Premise Match	30m	South East
	WALL FRAMES	A.C.T. Frames & Roof Trusses 15 Sheppard Street., Hume	5525	1991	Premise Match	30m	South East
	ROOF TRUSSES MFRS. &/OR DIST.	A.C.T. Frames & Roof Trusses., 15 Sheppard St Hume	7797	1991	Premise Match	30m	South East
	ROOF TRUSSES MFRS. &/OR DIST.	Act Frames & Roof Trusses., 15 Sheppard St Hume	7799	1991	Premise Match	30m	South East
	WALL TRUSSES & WALL FRAMES	Act Frames I Roof Trusses., 15 Sheppard St Hume	5526	1991	Premise Match	30m	South East
	TIMBER MERCHANTS &/OR SAWMILLERS.	Smith Em Building Supplies., 13 Sheppard St Hume	7416	1991	Premise Match	30m	South East
	BUILDERS SUPPLIES	Smith Ern Building Supplies., 13 Sheppard St Hume	324	1991	Premise Match	30m	South East
	TIMBER MERCHANTS &/OR SAWMILLERS	Smith E Building Supplies, 13 Sheppard St., Hume., Canberra .(A.C.T.)	7066	1982	Premise Match	30m	South East
	BUILDERS SUPPLIERS	Smith Em Building Supplies, 13 Sheppard St., Hume., Canberra .(A.C.T.)	1042	1982	Premise Match	30m	South East
	TIMBER MERCHANTS &/OR SAWMILLERS	Smith Em Building Supplies, 13 Sheppard St., Hume., Canberra .(A.C.T.)	7067	1982	Premise Match	30m	South East
2	ROOF TRUSSES MFRS. &/OR DIST.	Glenroy Roof Trusses., 17 Sheppard St Hume	7801	1991	Premise Match	30m	South
	ROOF TRUSSES MFRS. &/OR DIST.	Glenroy Roof Trusses Pty. Ltd., 17 Sheppard St Hume	7798	1991	Premise Match	30m	South
	WALL TRUSSES & WALL FRAMES	Glenroy Root Trusses., 17 Sheppard St Hume	5528	1991	Premise Match	30m	South
	ROOF TRUSSES MFRS. &/OR DIST	Glenroy Roof Trusses, 17 Sheppard St, Hume., Canberra .(A.C.T.)	6153	1982	Premise Match	30m	South
3	JOINERY MANUFACTURERS &/OR MERCHANTS.	A. C.T. Advanced Joinery., 2 Arnott Pl Hume	4718	1991	Premise Match	85m	South West
	ALUMINIUM FABRICATORS	Dee Bee Fabricators., 3/2 Arnott Pl Hume	1284	1991	Premise Match	85m	South West
	ENGINEERS - FABRICATING.	Dee Bee Fabricators., Unit 3/2 Arnett Place Hume	2824	1991	Premise Match	85m	South West
	WELDERS.	Felsdo Pty. Ltd., 6/2 Arnett Pl Hume	5575	1991	Premise Match	85m	South West
	ENGINEERS - FABRICATING.	Felsdo Pty. Ltd., 6/2 Arnott Pl Hume	2832	1991	Premise Match	85m	South West
ENGINEERS - GENERAL.	Felsdo Pty. Ltd., 6/2 Arnott Pl Hume	2843	1991	Premise Match	85m	South West	

Map Id	Business Activity	Premise	Ref No.	Year	Location Confidence	Distance to Property Boundary or Road Intersection	Direction
3	STAINLESS STEEL FABRICATORS.	Felsdo Pty. Ltd., 6/2 Arnott PI Hume	1999	1991	Premise Match	85m	South West
	STEEL FABRICATORS.	Felsdo Pty. Ltd., 6/2 Arnott PI Hume	2043	1991	Premise Match	85m	South West
4	PLUMBERS SUPPLIES.	Watson & Crane Canberra., Cnr Arnott & Sheppard Sts Hume, New South Wales	8984	1991	Road Intersection	93m	South
5	SHOP &/OR OFFICE FITTERS.	Earn Struct Industries Pty. Ltd., 4 Arnott PI Hume	3168	1991	Premise Match	102m	South West
	BUILDERS &/OR BUILDING CONTRACTORS.	Earn Struct Industries Pty. Ltd., 4 Arnott PI Hume	201	1991	Premise Match	102m	South West
	CONTRACTORS GENERAL.	Euro Struct Industries Pty. Ltd., 4 Arnott PI Hume	5427	1991	Premise Match	102m	South West
	REAL ESTATE DEVELOPERS.	Euro Struct Industries Pty. Ltd., 4 Arnott PI Hume	8551	1991	Premise Match	102m	South West
	BUILDERS &/OR BUILDING CONTRACTORS.	Euro Struct Industries Pty. Ltd., 4 Arnott Place Hume	175	1991	Premise Match	102m	South West
	SCAFFOLD MFRS. &/OR ERECTORS &/OR HIRERS.	Waco International Sales Pty. Limited 4 Arnott Place., Hume	7898	1991	Premise Match	102m	South West
	BUILDERS SUPPLIES	Waco International Sales Pty. Ltd., 4 Arnott PI Hume	333	1991	Premise Match	102m	South West
6	CRANE &/OR TRAVEL TOWER PROPRIETORS &/OR HIRERS	Sherrin M. J Pty. Ltd., 9 Arnott PI Hume	5467	1991	Premise Match	114m	South
7	CARRIERS &/OR CARTAGE CONTRACTORS.	Lo Pilato Bros Martel Transport Service., 13 Arnott PI Hume	1840	1991	Premise Match	144m	South
	GRAVEL, SAND &/OR SOIL SUPPLIES.	Lo Pilato Bros. Marfel Transport Service., 13 Arnott PI Hume	5715	1991	Premise Match	144m	South
	EARTH MOVING EQUIPMENT - HIRE	Lo Pilato Bros. Martel Transport Service., 13 Arnott PI Hume	7297	1991	Premise Match	144m	South
	HIRE SERVICES.	Lo Pilato Bros. Martel Transport Service., 13 Arnott PI Hume	6150	1991	Premise Match	144m	South

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Business Directory Records 1950-1991 Road or Area Matches

Universal Business Directory records from years 1950, 1961, 1970, 1982 and 1991, mapped to a road or an area, within the dataset buffer. Records are mapped to the road when a building number is not supplied, cannot be found, or the road has been renumbered since the directory was published.

Map Id	Business Activity	Premise	Ref No.	Year	Location Confidence	Distance to Road Corridor or Area
8	WALL FRAMES	Glenroy Wall Framing Pty. Ltd., 9 Sheppard St., Hume., Canberra .(A.C.T.)	7394	1982	Road Match	0m
	ENGINEERS - CIVIL	Holland, John .(Construction) Pty. Ltd., 4 Sheppard St, Hum., Canberra .(A.C.T.)	2568	1982	Road Match	0m
	BUILDERS &/OR BUILDING CONTRACTORS	Holland, John .(Construction) Pty. Ltd., 4 Sheppard St, Hume., Canberra .(A.C.T.)	918	1982	Road Match	0m
	CONTRACTORS GENERAL	Holland, John .(Construction) Pty. Ltd., 4 Sheppard St, Hume., Canberra .(A.C.T.)	1780	1982	Road Match	0m
	BUILDERS &/OR BUILDING CONTRACTORS	Holland, John .(Constructions) Pty. Ltd., 4 Sheppard St., Hume., Canberra .(A.C.T.)	919	1982	Road Match	0m
9	PLUMBERS SUPPLIES.	Watson & Crane., Arnott St Hume	1453	1991	Road Match	76m
	GRAVEL, SAND &/OR SOIL SUPPLIES	Lopilato Bros., Arnott St., Hume., Canberra .(A.C.T.)	3389	1982	Road Match	76m

Map Id	Business Activity	Premise	Ref No.	Year	Location Confidence	Distance to Road Corridor or Area
9	CRANES - MOBILE & TRAVEL TOWER - PROPRIETORS &/OR HIRERS	Sherrin, M. J., Arnott St., Hume., Canberra .(A.C.T.)	1832	1982	Road Match	76m
10	TIMBER MERCHANTS &/OR SAWMILLERS	Integrated Forest Products Pty. Ltd., Monaro H'way., Canberra .(A.C.T.)	7060	1982	Road Match	139m

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Historical Business Directories

Cnr Sheppard St and Lanyon Drive, Hume, ACT 2620

Dry Cleaners, Motor Garages & Service Stations 1950-1991 Premise or Road Intersection Matches

Dry Cleaners, Motor Garages & Service Stations from UBD Business Directories for years 1950, 1961, 1970, 1982 and 1991, mapped to a premise or road intersection, within the dataset buffer:

Map Id	Business Activity	Premise	Ref No.	Year	Location Confidence	Distance to Property Boundary or Road Intersection	Direction
	No records in buffer						

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Dry Cleaners, Motor Garages & Service Stations 1950-1991 Road or Area Matches

Dry Cleaners, Motor Garages & Service Stations from UBD Business Directories for years 1950, 1961, 1970, 1982 and 1991, mapped to a road or an area, within the dataset buffer. Records are mapped to the road when a building number is not supplied, cannot be found, or the road has been renumbered since the directory was published.

Map Id	Business Activity	Premise	Ref No.	Year	Location Confidence	Distance to Road Corridor or Area
	No records in buffer					

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Aerial Imagery 2014

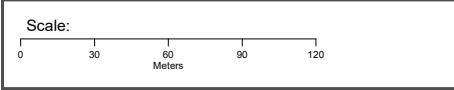
Cnr Sheppard St and Lanyon Drive, Hume, ACT 2620



150m

Legend

- Site Boundary
- Buffer 150m



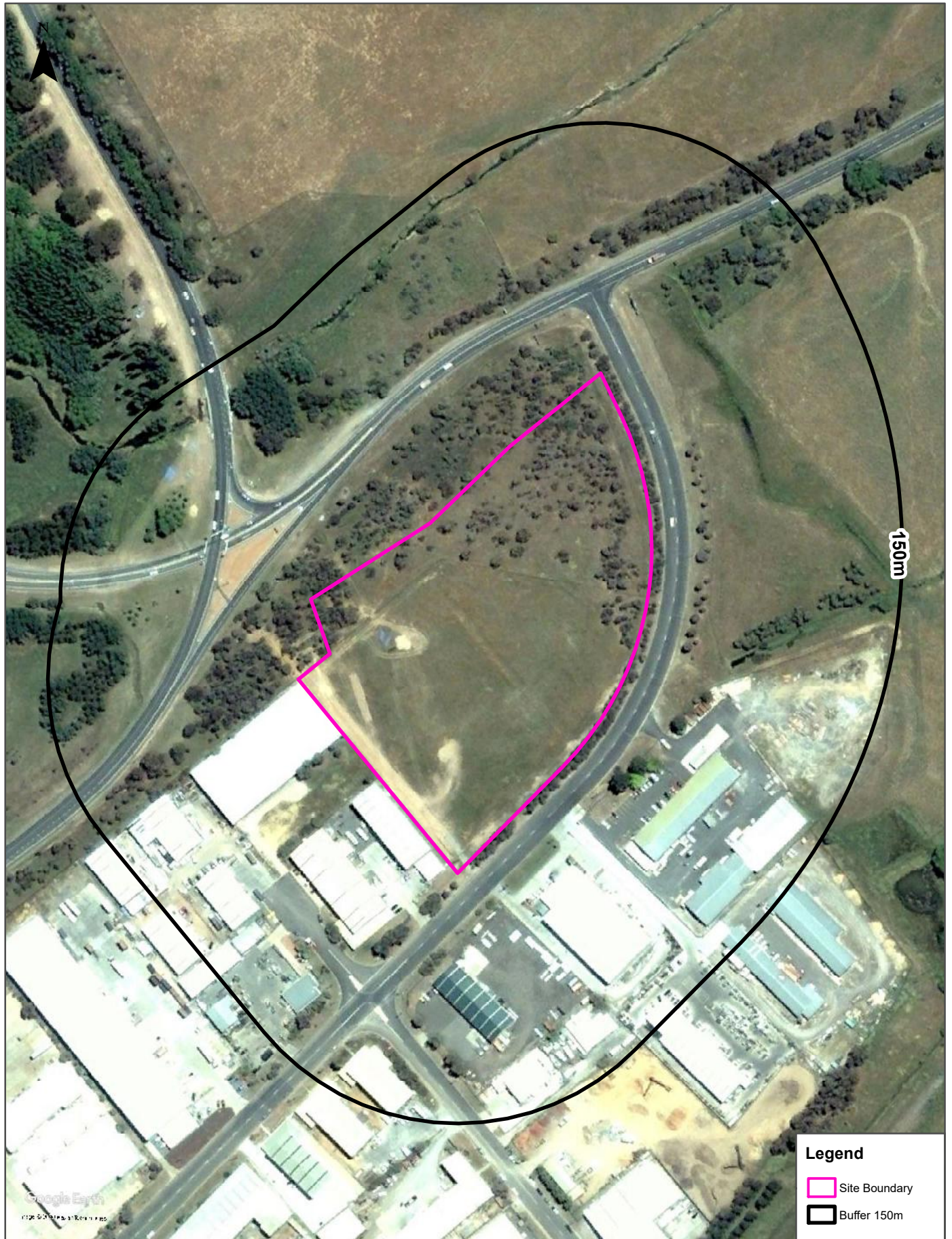
Data Sources: Aerial Imagery © Aerometrex Pty Ltd

Coordinate System:
GDA 1994 MGA Zone 55

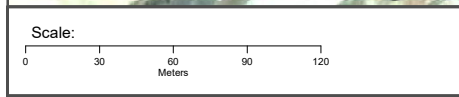
Date: 16 April 2020

Aerial Imagery 2005

Cnr Sheppard St and Lanyon Drive, Hume, ACT 2620



Legend	
	Site Boundary
	Buffer 150m



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Date: 16 April 2020

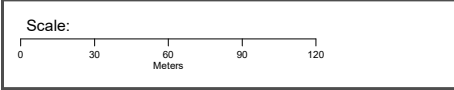
Aerial Imagery 1997

Cnr Sheppard St and Lanyon Drive, Hume, ACT 2620



Legend

-  Site Boundary
-  Buffer 150m



Data Source Aerial Imagery:
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Coordinate System:
GDA 1994 MGA Zone 55

Date: 16 April 2020

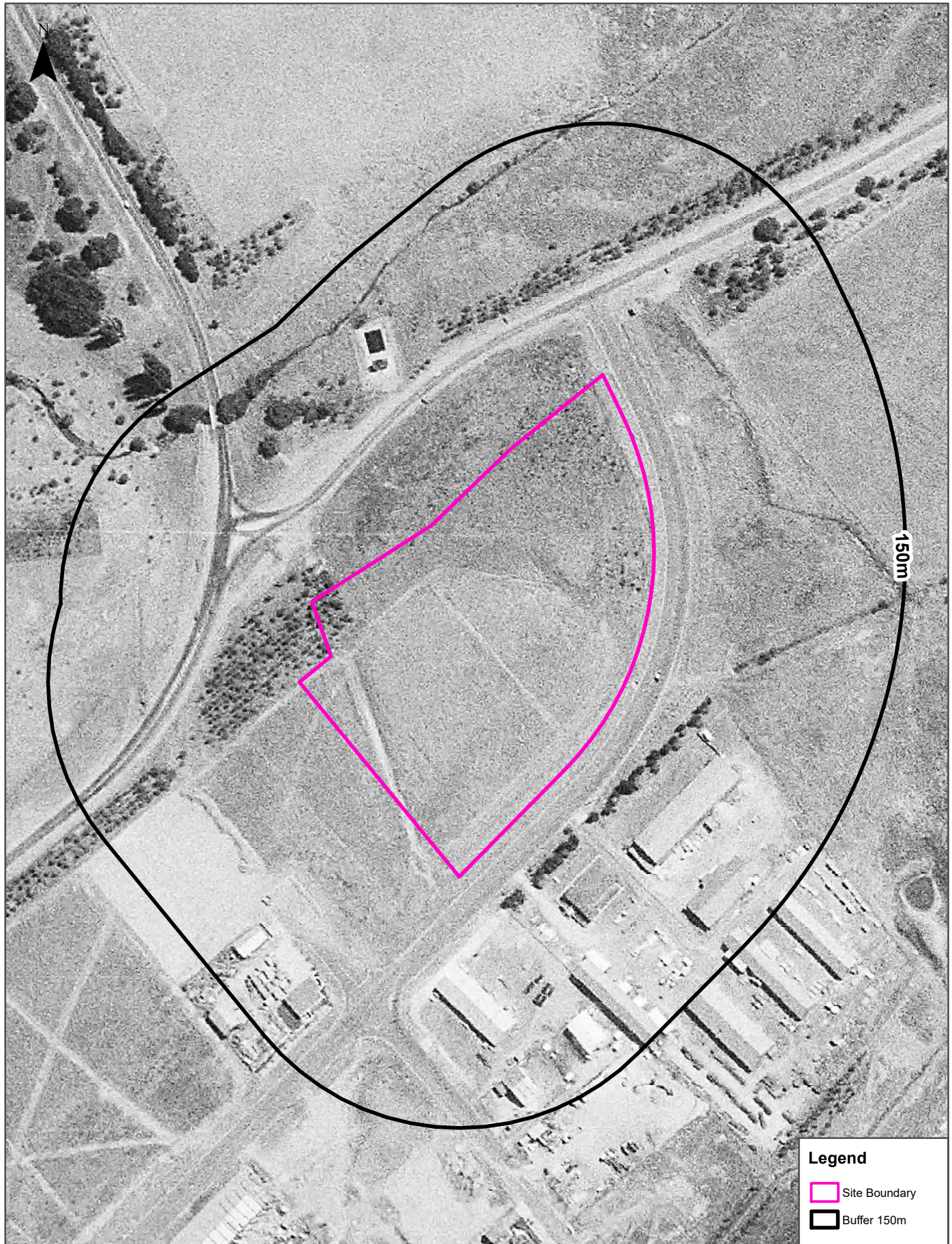
Aerial Imagery 1992

Cnr Sheppard St and Lanyon Drive, Hume, ACT 2620



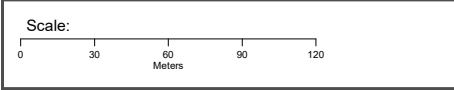
Aerial Imagery 1985

Cnr Sheppard St and Lanyon Drive, Hume, ACT 2620



Legend

- Site Boundary
- Buffer 150m



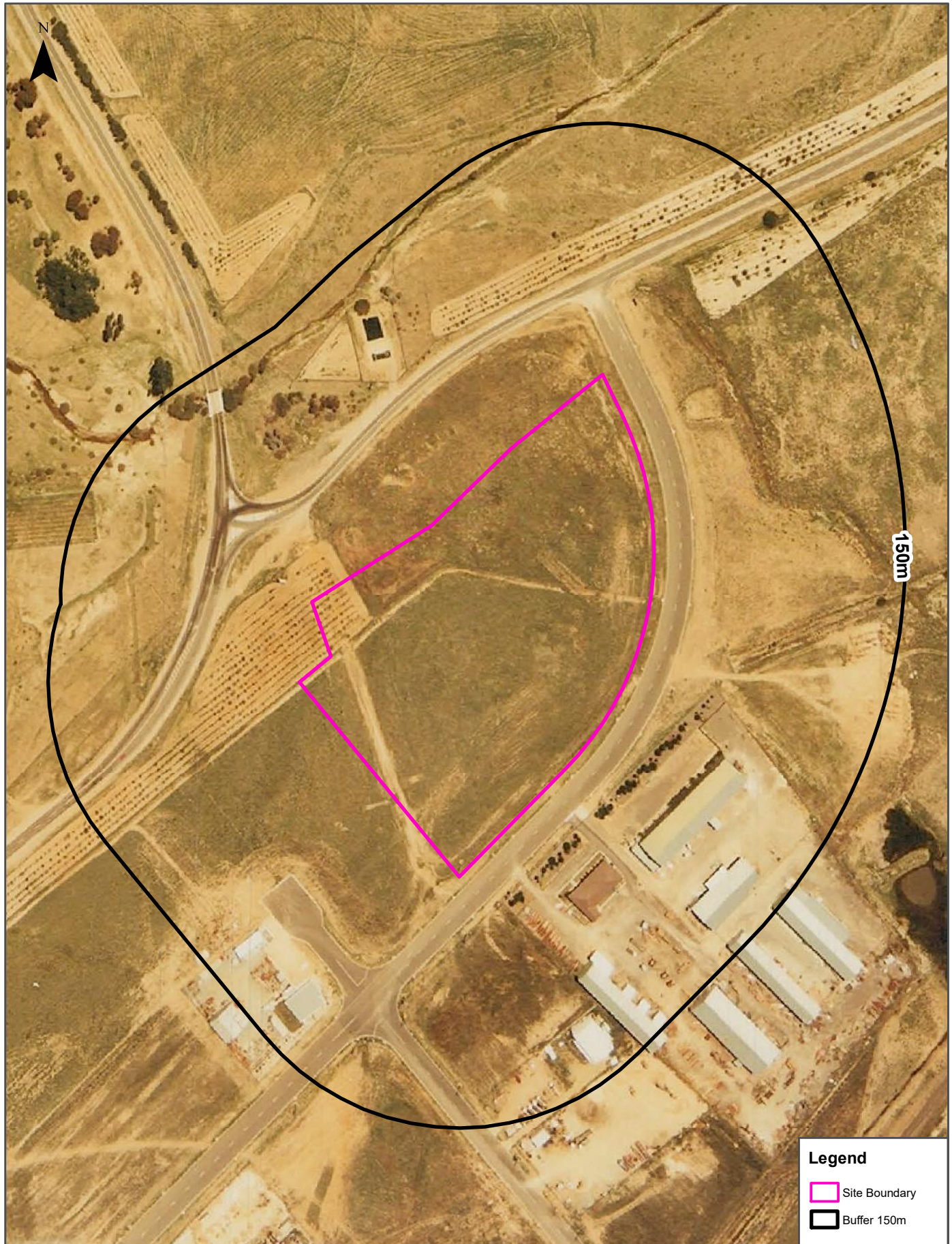
Data Sources: Aerial Imagery © Department of Finance, Services & Innovation

Coordinate System: GDA 1994 MGA Zone 55

Date: 17 April 2020

Aerial Imagery 1981

Cnr Sheppard St and Lanyon Drive, Hume, ACT 2620



Legend	
	Site Boundary
	Buffer 150m

Scale: 0 30 60 90 120 Meters

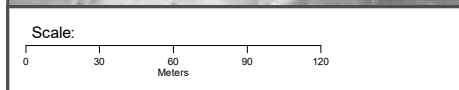
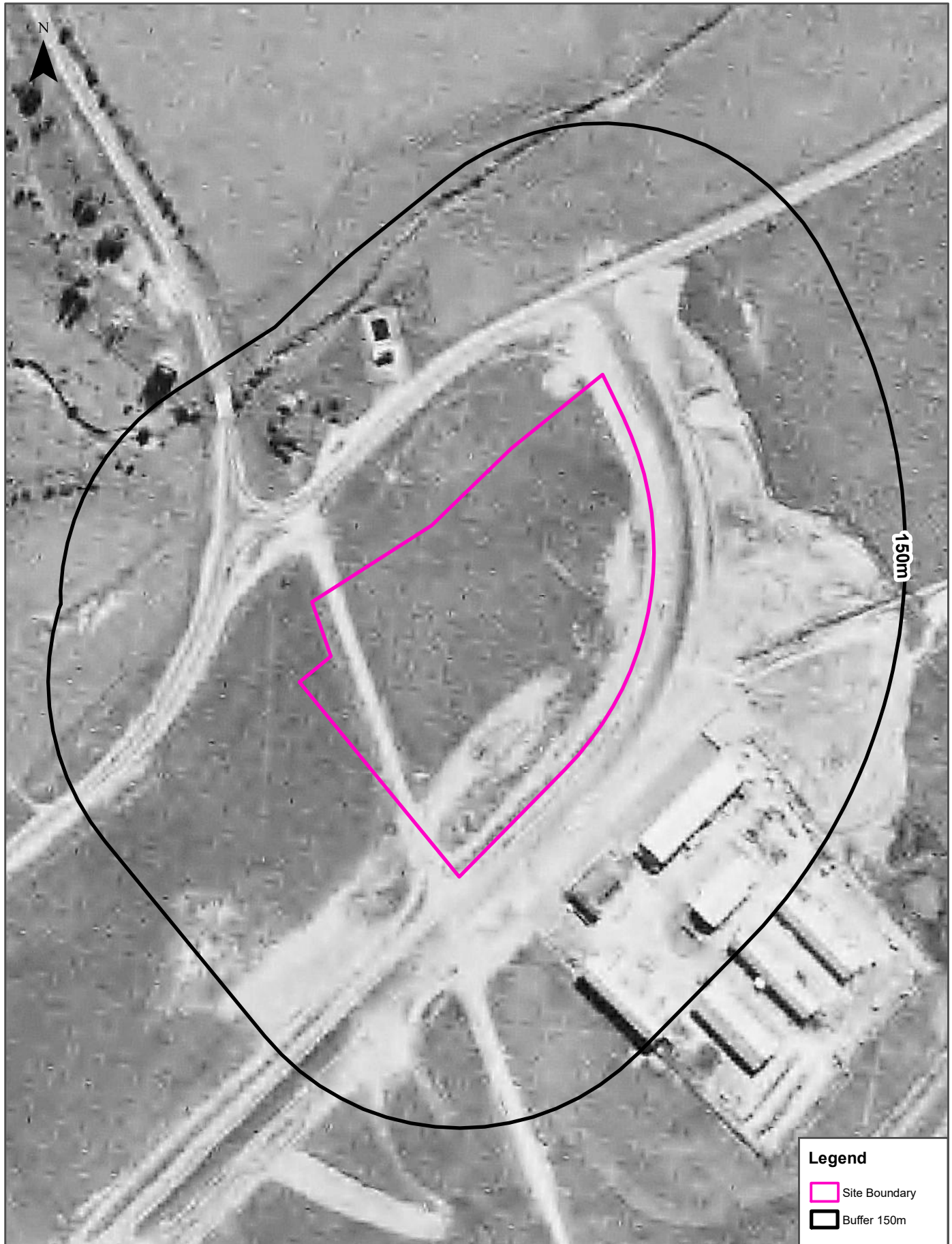
Data Source Aerial Imagery: © Office of the Surveyor-General, ACT
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Coordinate System: GDA 1994 MGA Zone 55
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Date: 17 April 2020

Aerial Imagery 1976

Cnr Sheppard St and Lanyon Drive, Hume, ACT 2620



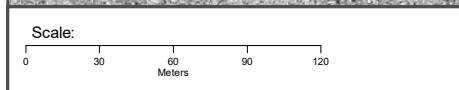
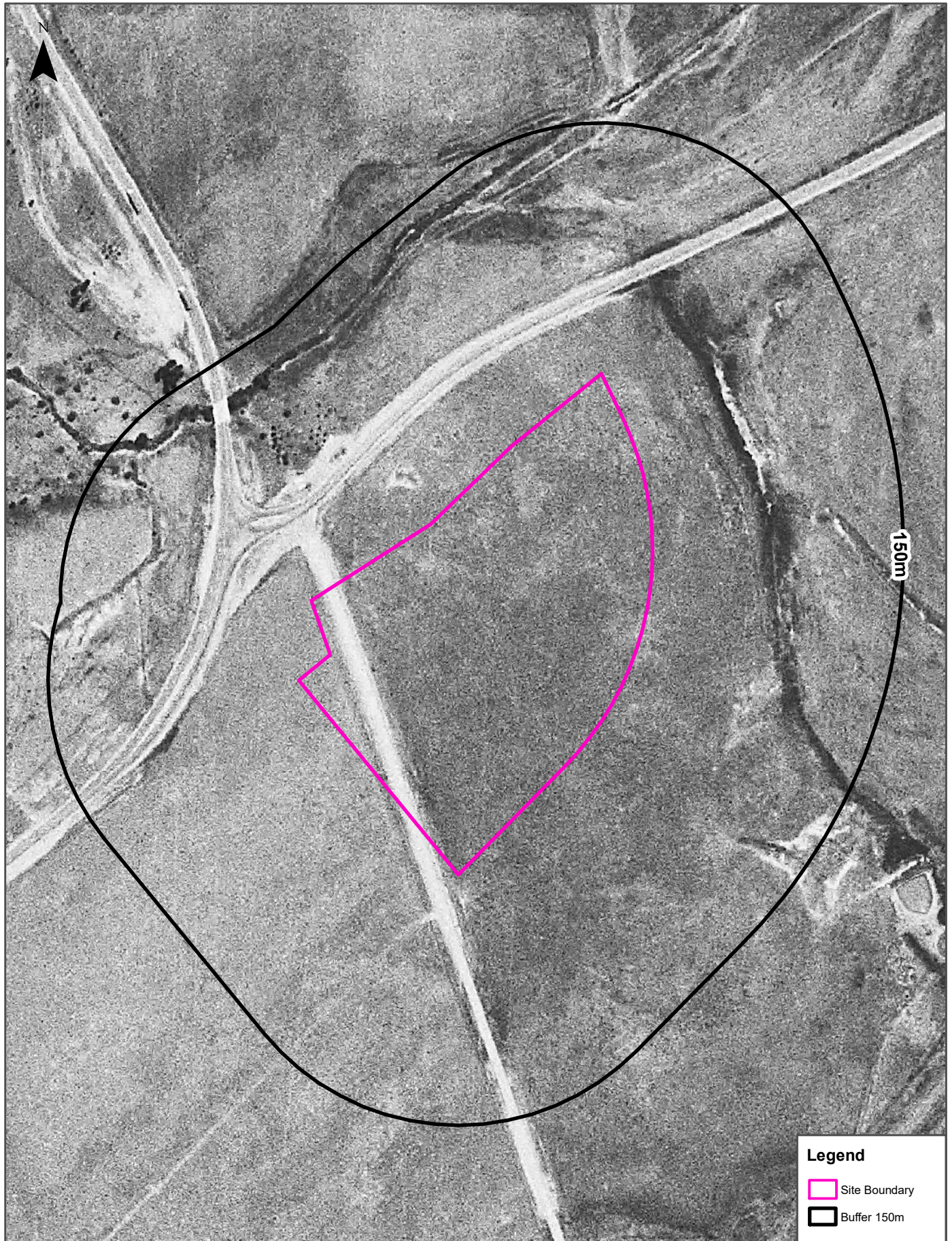
Data Source Aerial Imagery:
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Coordinate System:
GDA 1994 MGA Zone 55

Date: 17 April 2020

Aerial Imagery 1967

Cnr Sheppard St and Lanyon Drive, Hume, ACT 2620



Data Source Aerial Imagery:
© NSW Department Finance, Services & Innovation



Coordinate System:
GDA 1994 MGA Zone 55

Date: 17 April 2020

Aerial Imagery 1961

Cnr Sheppard St and Lanyon Drive, Hume, ACT 2620



Legend	
	Site Boundary
	Buffer 150m

Scale: 0 30 60 90 120 Meters

Data Source Aerial Imagery: © Office of the Surveyor-General, ACT
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Coordinate System: GDA 1994 MGA Zone 55
--

Date: 17 April 2020

Aerial Imagery 1951

Cnr Sheppard St and Lanyon Drive, Hume, ACT 2620



Aerial Imagery 1944

Cnr Sheppard St and Lanyon Drive, Hume, ACT 2620



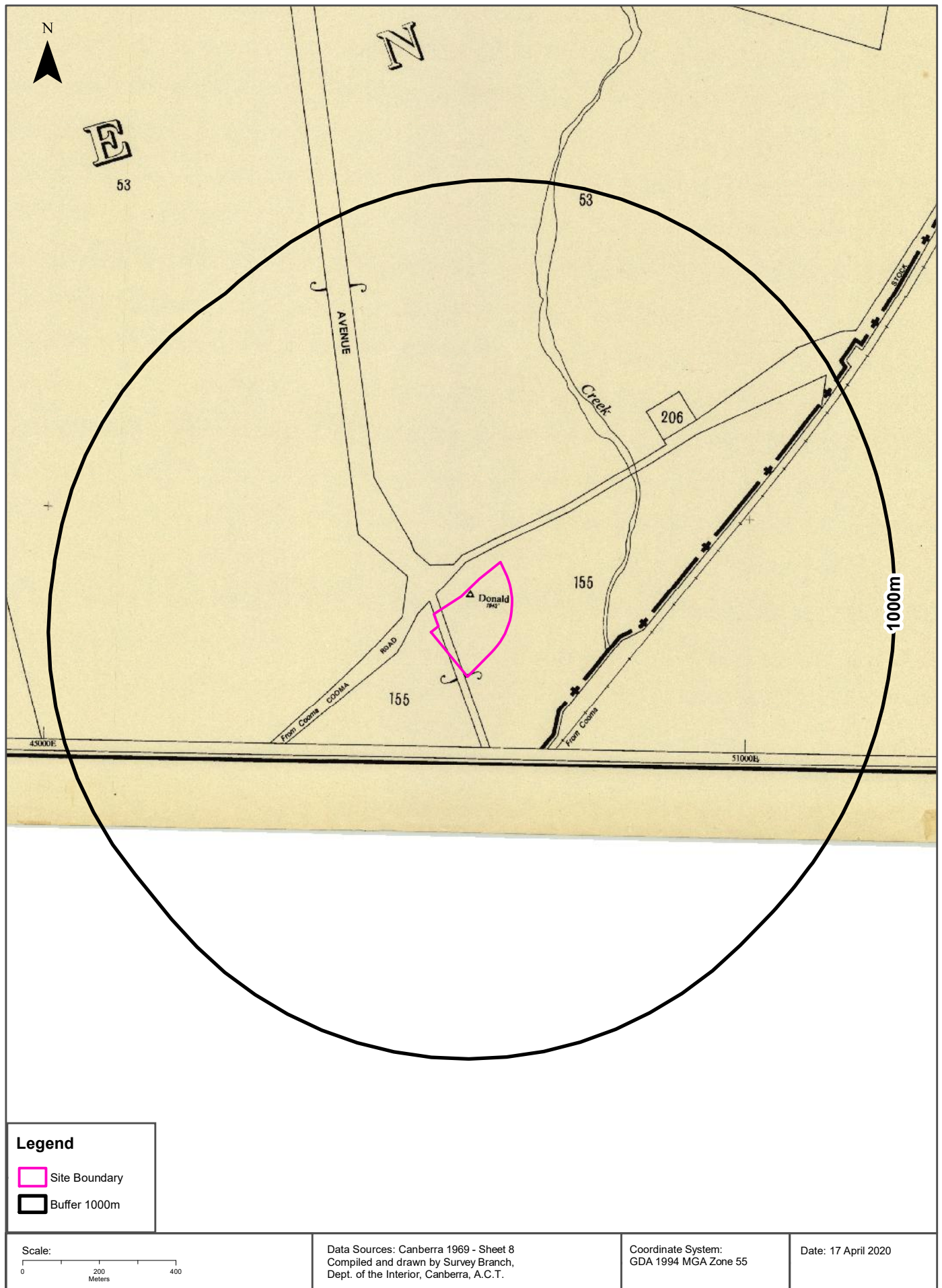
Historical Map 1987

Cnr Sheppard St and Lanyon Drive, Hume, ACT 2620



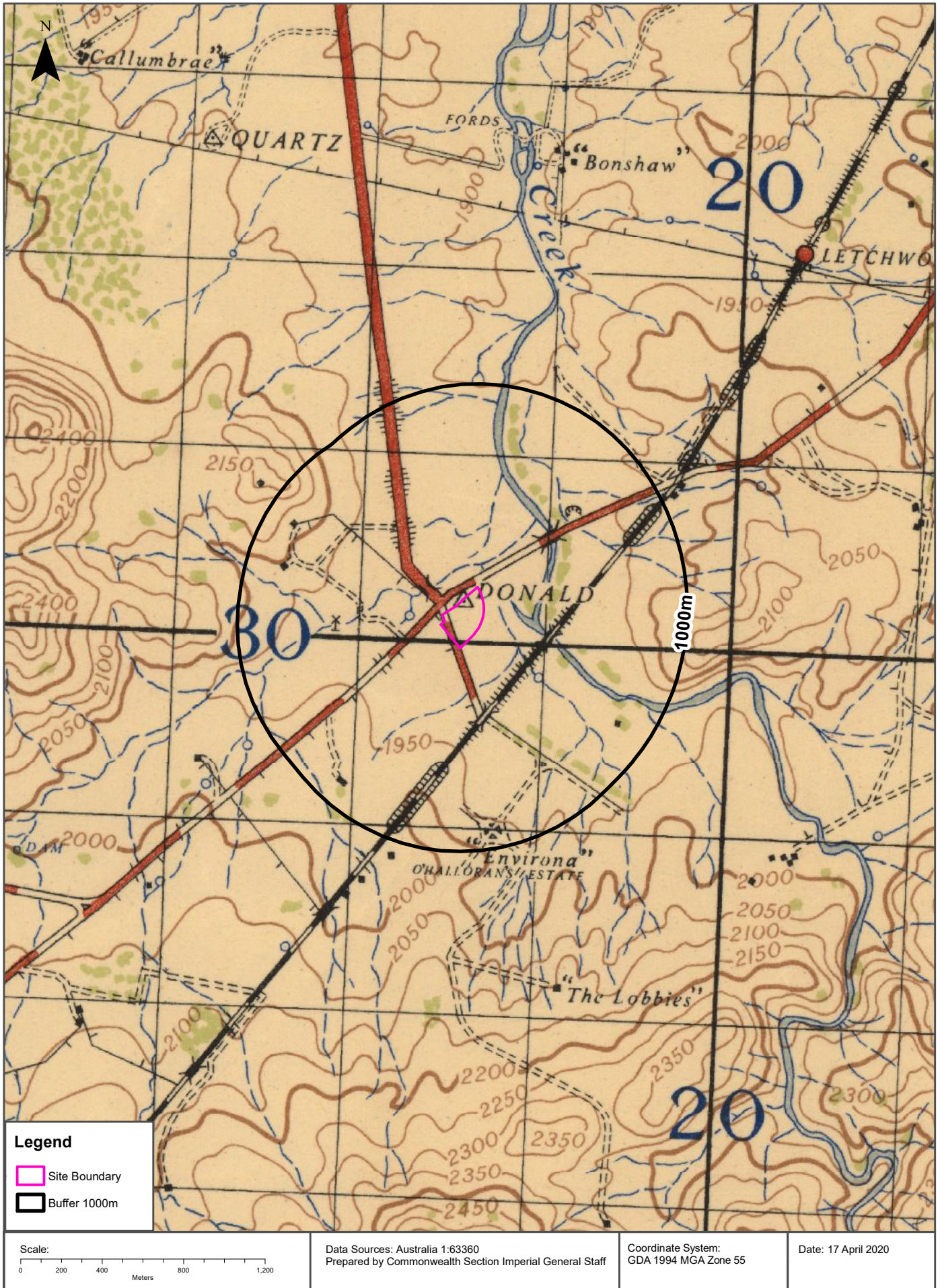
Historical Map 1969

Cnr Sheppard St and Lanyon Drive, Hume, ACT 2620



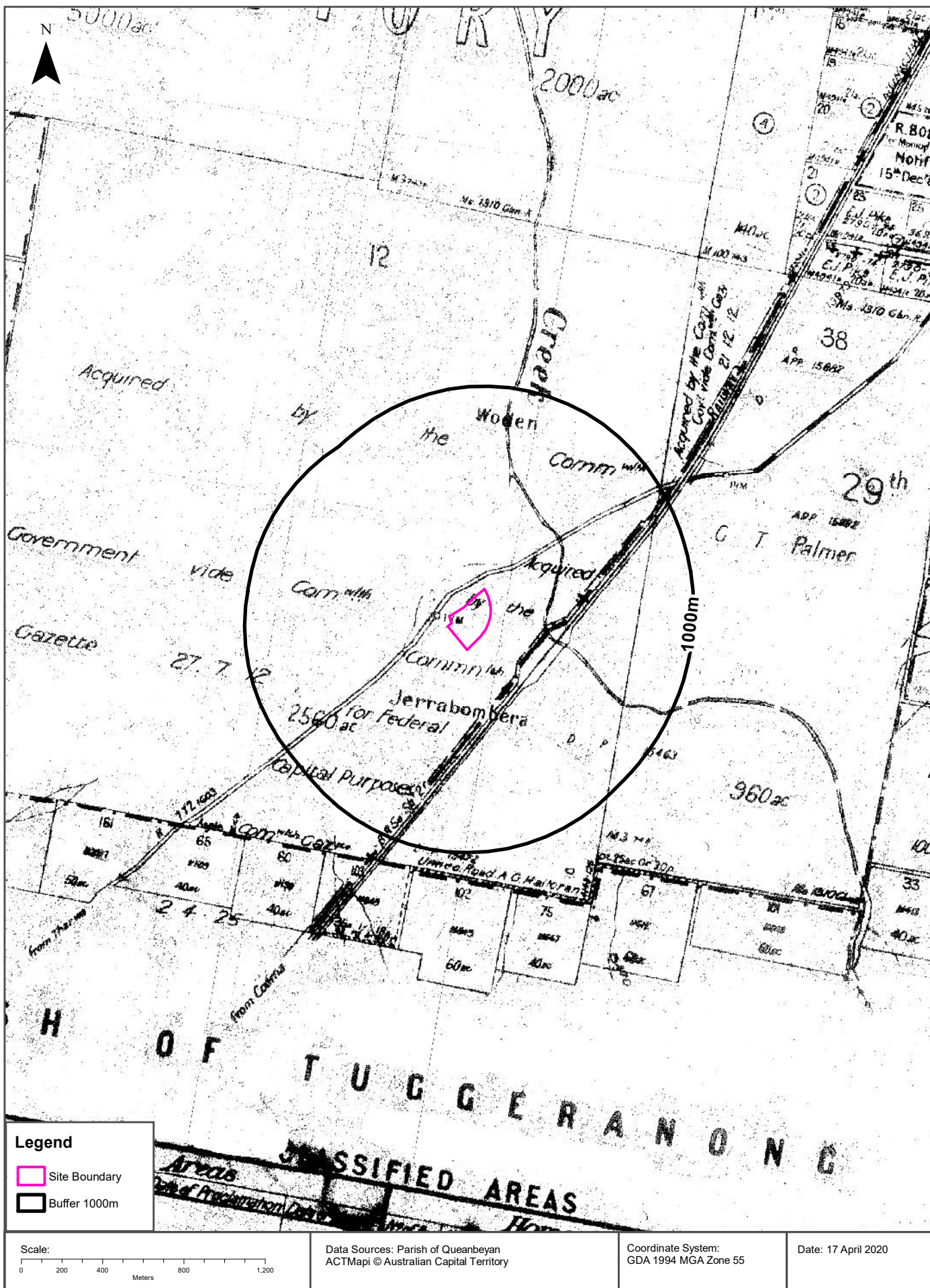
Historical Map c.1942

Cnr Sheppard St and Lanyon Drive, Hume, ACT 2620



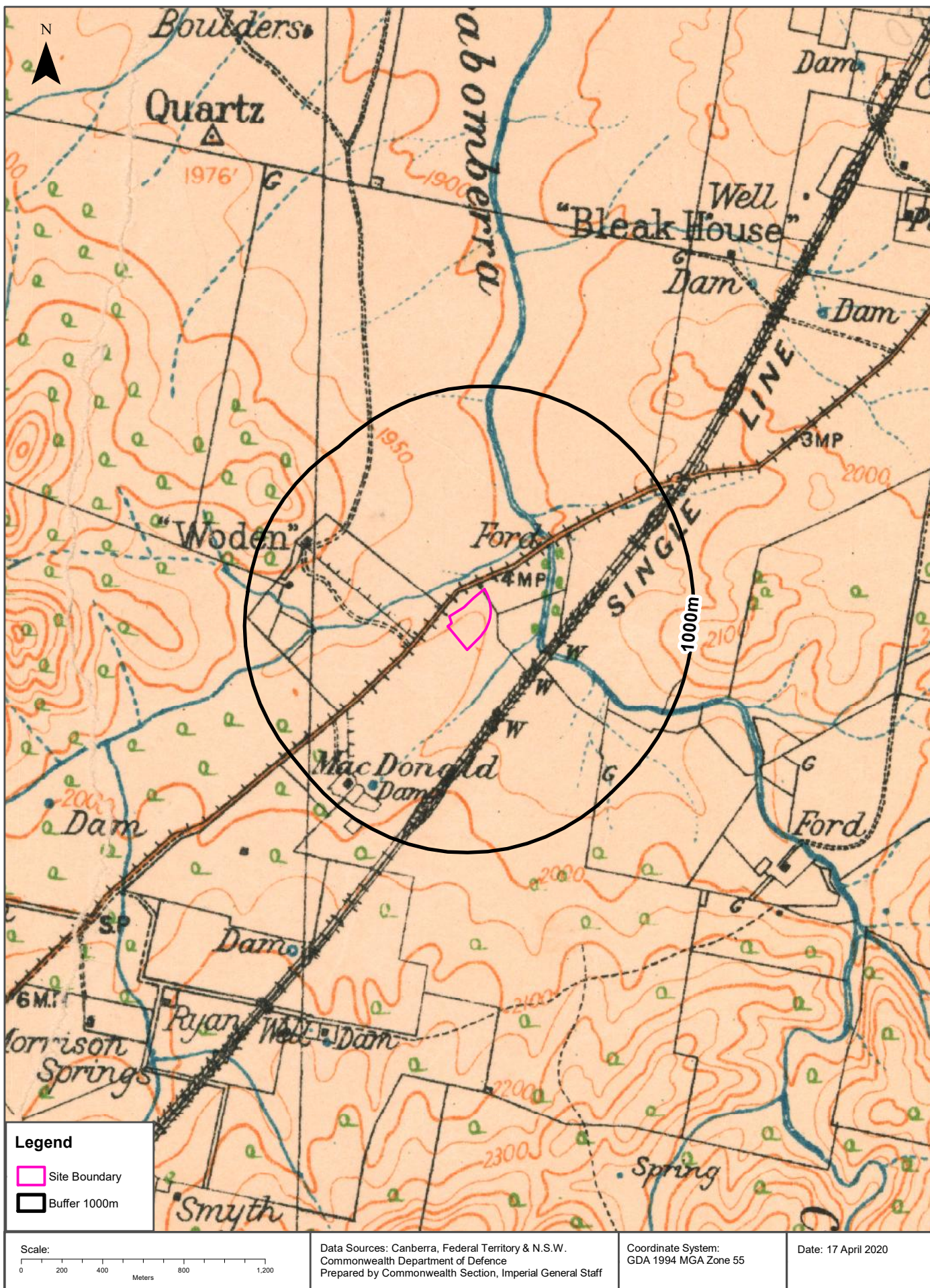
Historical Map 1931

Cnr Sheppard St and Lanyon Drive, Hume, ACT 2620



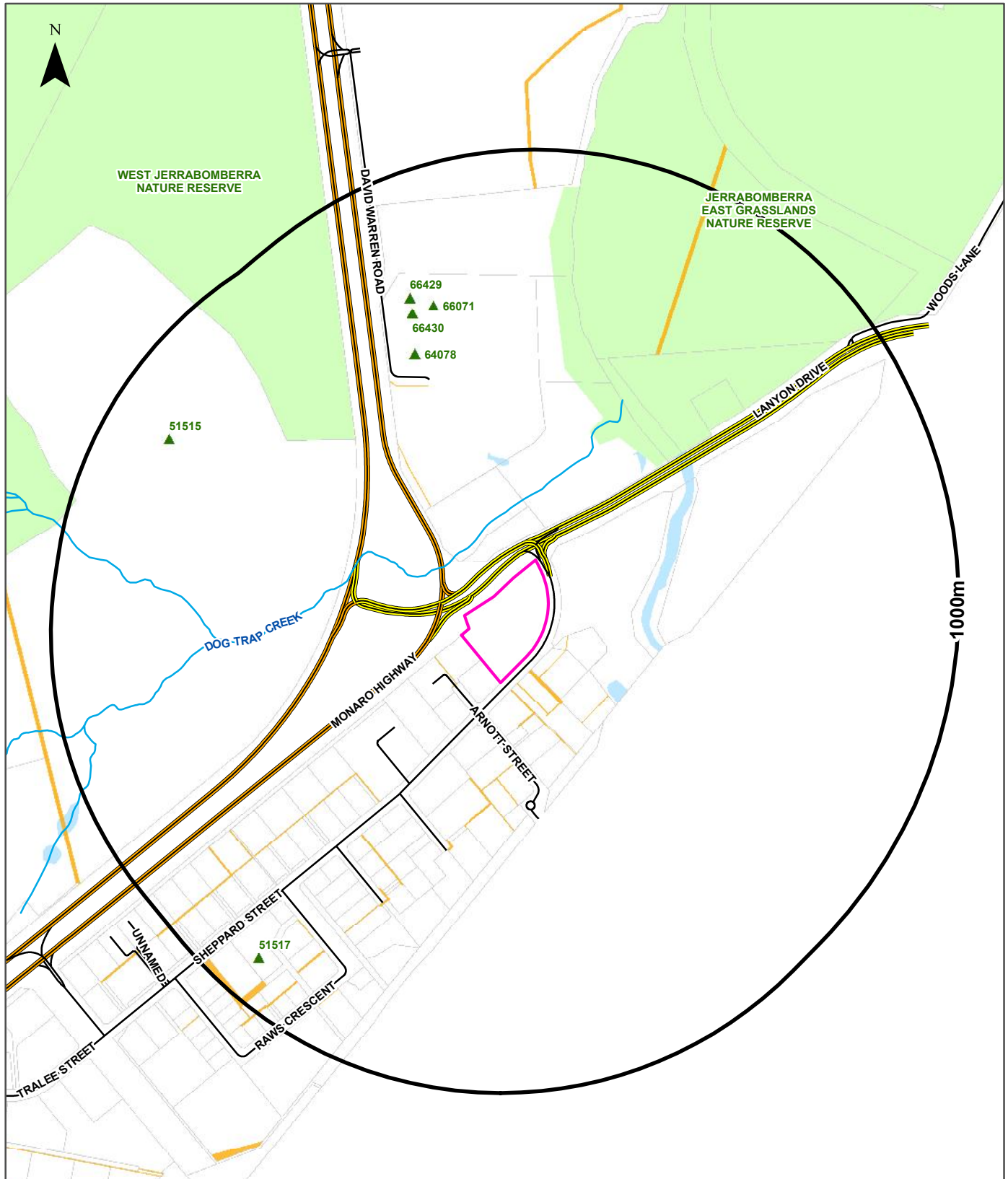
Historical Map 1914

Cnr Sheppard St and Lanyon Drive, Hume, ACT 2620

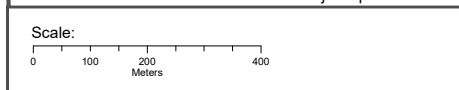


Topographic Features

Cnr Sheppard St and Lanyon Drive, Hume, ACT 2620



Legend			
	Points of Interest		Easements
	Site Boundary		Reserves
	Report Buffer		Airport
	Property Boundaries		Water Area
			Water Line
			Major Pipelines
			Highway
			Arterial Road
			Road
			Railway
			Major Powerlines



Data Sources: Property Boundaries & Topographic Data - Environment, Planning and Sustainable Development Directorate

Coordinate System: GDA 1994 MGA Zone 55

Date: 17 April 2020

Topographic Features

Cnr Sheppard St and Lanyon Drive, Hume, ACT 2620

Features of Interest

What Features of Interest exist within the report buffer?

Map Id	Feature Type	Name	Description	Distance	Direction
64078	HELIPAD, HELIPORT	Southcare Helicopter Base	HELICOPTER LANDING FACILITY	581m	North
66071	HELIPAD, HELIPORT	RFS Helicopter Base BASE	HELICOPTER LANDING FACILITY	666m	North
66430	HELIPAD, HELIPORT	Helipad RFS South Pod	HELICOPTER LANDING FACILITY	670m	North
66429	HELIPAD, HELIPORT	Helipad RFS North Pod	HELICOPTER LANDING FACILITY	706m	North
51515	HOMESTEAD, OUTSTATION, OUTCAMP, WOOLSHED	Woden Homestead	AGRICULTURE - HORSE AGISTMENT, LIVESTOCK GRAZING	837m	North West
51517	HOMESTEAD, OUTSTATION, OUTCAMP, WOOLSHED	Hill Station	CULTURAL FACILITY - ART GALLERY, LIBRARY, MUSEUM	892m	South West

Features of Interest Data Source: ACT Government Creative Commons 4.0 © <https://creativecommons.org/licenses/by/4.0/>

Elevation Contours (2015 - 1m)

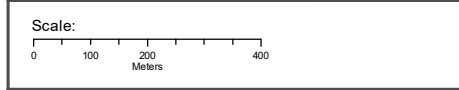
Cnr Sheppard St and Lanyon Drive, Hume, ACT 2620



Legend

- Site Boundary
- Report Buffer
- Property Boundaries
- Elevation Contour (m)

Automatically generated 1m contours of the ACT derived from 1m hydro-flattened DEM. Major lakes and dams within the ACT were assigned an elevation to produce a hydro-flattened DEM. 1m DEMs derived from 4ppm and 8ppm LiDAR were used as the input DEMs and polygons of major water bodies were used to determine the extent of lakes within the DEM extent. The input DEM defines the classified Australian Height Datum (AHD) LiDAR point cloud data as a 1 meter Digital Elevation Model (DEM). The Water Features data were digitised in 1995 from the following map sources - 1:10,000 Plan Series, 1:2,500 Cadastre, 1:2,500 Detail, 1:1,000 Detail and traced from Topobase. The mean elevation of each of these polygons was used to hydro-flatten the corresponding water bodies in the DEM. Contours were generated from the DEM using ESRI ArcGIS Contour tool.



Data Sources: Property Boundaries & Topographic Data - Environment, Planning and Sustainable Development Directorate

Coordinate System: GDA 1994 MGA Zone 55

Date: 17 April 2020

Hydrogeology & Groundwater

Cnr Sheppard St and Lanyon Drive, Hume, ACT 2620

Hydrogeology

Description of aquifers on-site:

Description
Fractured or fissured, extensive aquifers of low to moderate productivity

Description of aquifers within the report buffer:

Description
Fractured or fissured, extensive aquifers of low to moderate productivity

Hydrogeology Map of Australia : Commonwealth of Australia (Geoscience Australia)
Creative Commons 3.0 © Commonwealth of Australia <http://creativecommons.org/licenses/by/3.0/au/deed.en>

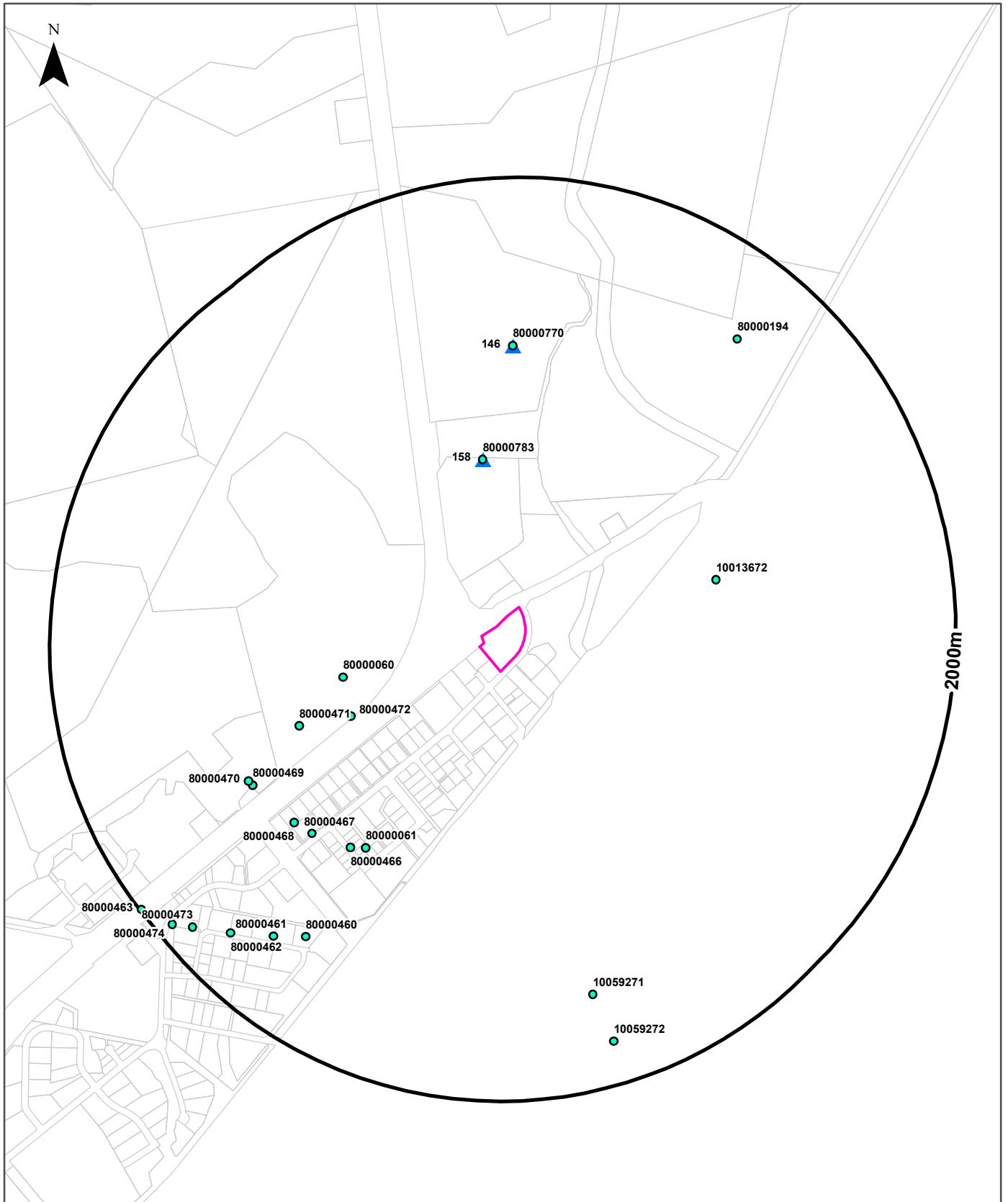
Hydrogeological Landscapes Units

Unit No	Landscape Name	Land Salinity	Stream Salinity	Stream EC	Salt Store	Salt Availability	Salt Mobility	Hazard Impact	Hazard Likelihood	Hazard Overall	Distance	Direction
24	Symonston	Low	Low	Low	Moderate	Moderate	Moderate	Limited	Moderate	Low	0m	Onsite






Hydrogeological Landscapes Units Data Source: ACT Government Creative Commons 4.0 ©
<https://creativecommons.org/licenses/by/4.0/>

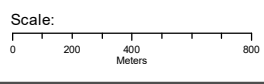
Groundwater Boreholes

Cnr Sheppard St and Lanyon Drive, Hume, ACT 2620



Legend

-  Site Boundary
-  Borehole (ACT)
-  Report Buffer
-  Borehole (Bureau of Meteorology)
-  Property Boundary



Data Sources: Property Boundaries & Topographic Data - Environment, Planning and Sustainable Development Directorate

Coordinate System: GDA 1994 MGA Zone 55

Date: 17 April 2020

Hydrogeology & Groundwater

Cnr Sheppard St and Lanyon Drive, Hume, ACT 2620

Groundwater Boreholes (ACT)

Please note that this dataset does not include investigation and/or monitoring bores associated with possible contaminated sites in the search area. If you require more information please contact the Environmental Quality team via email environment.protection@act.gov.au or phone via Access Canberra 13 22 81.

Boreholes from an ACT Government Data Source within 2km of the site:

Bore Id	Bore Type	Method	Date	Bore Depth To	Bit Diameter	1st Water Intersection Depth From	1st Water Intersection Depth To	Final Static GW Level IM	1st Est Yield	Final Yield	Dist	Direction
158	Abstraction	Rotary Air	14/07/2010	60.00	180	30.0	32.0	18.00	0.50	1.00	706m	North
146	Abstraction	Air blade, D	11/12/2007	90.00	250/170	69.0	71.0	4.00	0.90	2.50	1215m	North

Boreholes (ACT) Data Source: ACT Government Creative Commons 4.0 © <https://creativecommons.org/licenses/by/4.0/>

Hydrogeology & Groundwater

Cnr Sheppard St and Lanyon Drive, Hume, ACT 2620

Groundwater Boreholes (Bureau of Meteorology)

Boreholes (Bureau of Meteorology) within 2km of the site:

Hydro ID	State Bore ID	Drilled Date	Final Depth	Drilled Depth	Elevation	Distance	Direction
80000060	47	01/01/1952	24.69	24.69	591.14	651m	West
80000472	629		4.50	4.50	592.43	681m	South West
80000783	798	14/07/2010	60.00	60.00	583.34	706m	North
10013672	410716				597.48	913m	East
80000471	628		4.52	4.52	594.88	917m	South West
80000061	48	14/08/1954	39.62	39.62	608.17	1032m	South West
80000466	623		5.41	5.41	608.41	1075m	South West
80000467	624		5.71	5.71	607.56	1156m	South West
80000468	625		5.75	5.75	607.25	1188m	South West
80000770	578	11/12/2007	90.00	90.00	578.02	1215m	North
80000469	626		5.87	5.87	605.35	1237m	South West
80000470	627		5.85	5.85	606.13	1243m	South West
80000460	617		6.83	6.83	621.77	1531m	South West
10059271	GW043846	01/10/1969	40.50	40.50	634.14	1564m	South
80000194	223	13/05/1967	14.63	14.63	599.30	1608m	North East
80000461	618		4.06	4.06	618.17	1622m	South West
80000462	619		6.84	6.84	620.40	1748m	South West
10059272	GW043847	01/08/1969	37.70	37.80	650.52	1800m	South
80000473	630		5.17	5.17	620.60	1859m	South West
80000474	631		4.58	4.58	620.39	1925m	South West
80000463	620		5.67	5.67	619.37	1993m	South West

Borehole Data Source : © Commonwealth of Australia (Bureau of Meteorology) . Creative Commons 3.0 © Commonwealth of Australia <http://creativecommons.org/licenses/by/3.0/au/deed.en>

Driller's Logs (Bureau of Meteorology)

Drill log data relevant to the Boreholes (Bureau of Meteorology) within 2km of the site:

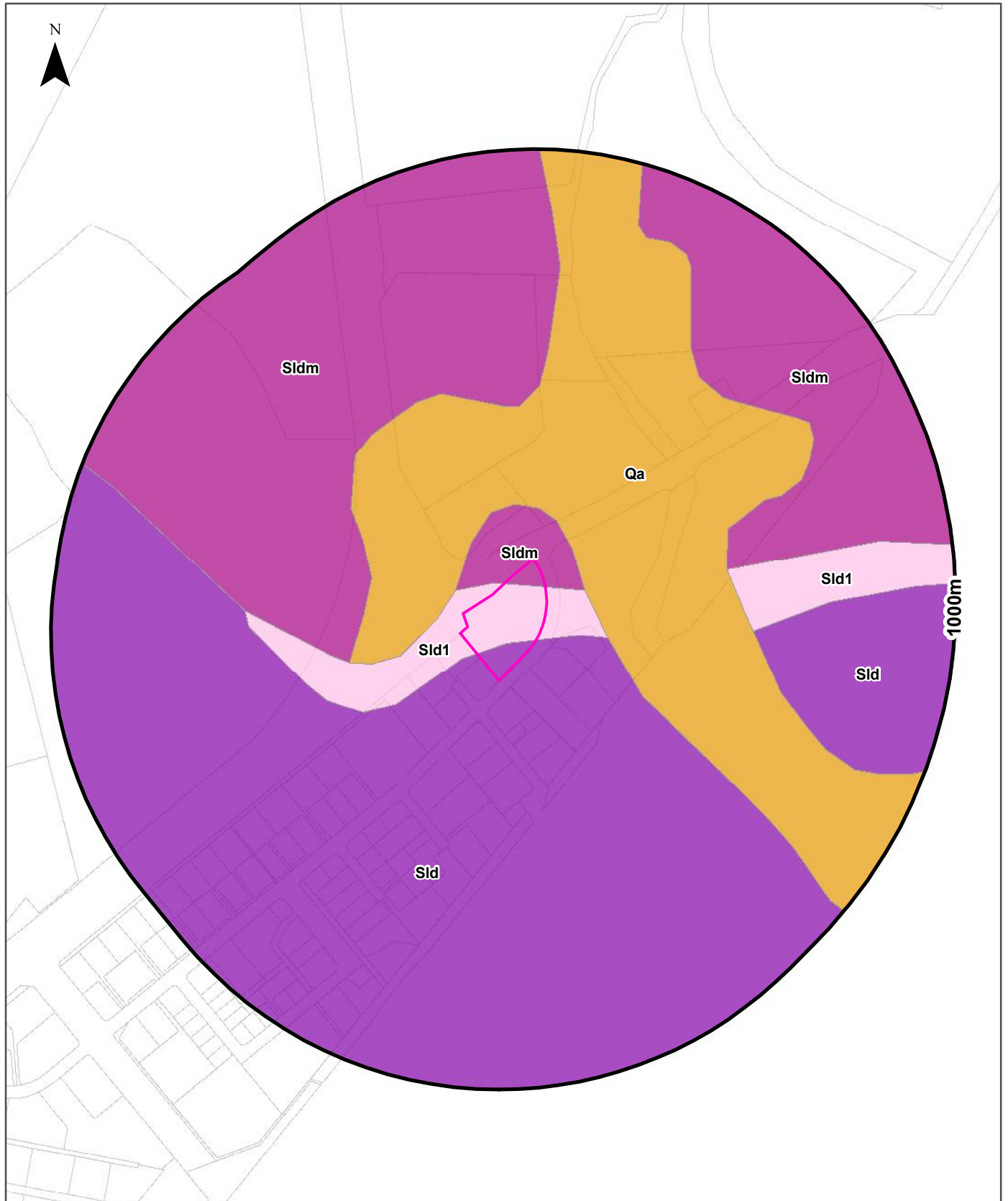
Hydro ID	State Bore ID	Drillers Log	Distance	Direction
80000060	47	0.00m-13.41m Clay or mud 13.41m-16.15m Sands on sandy clay 16.15m-16.46m Bedrock	651m	West

Hydro ID	State Bore ID	Drillers Log	Distance	Direction
10059271	GW043846	0.00m-1.83m Soil subsoil 0.00m-1.83m Clay 1.83m-17.98m Porphyry decomposed 17.98m-30.78m Porphyry very hard 30.78m-40.54m Porphyry hard	1564m	South
80000194	223	0.00m-5.18m Clay and sand 5.18m-14.63m Gravel and sand	1608m	North East
10059272	GW043847	0.00m-1.22m Soil subsoil 1.22m-25.30m Porphyry decomposed 25.30m-37.80m Porphyry hard 37.80m-37.81m Bedrock hard water supply	1800m	South

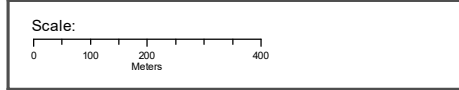
Drill Log Data Source: © Commonwealth of Australia (Bureau of Meteorology) .
Creative Commons 3.0 © Commonwealth of Australia <http://creativecommons.org/licenses/by/3.0/au/deed.en>

Geology 1:250,000

Cnr Sheppard St and Lanyon Drive, Hume, ACT 2620



Legend		
Site Boundary	Fault	Metamorphic Boundary
Report Buffer	Dyke	Shear Zone
Property Boundary	Fold	Structure
	Thrust Fault	Lineament
	Marker Bed	



Data Sources: Property Boundaries & Topographic Data - Environment, Planning and Sustainable Development Directorate

Coordinate System: GDA 1994 MGA Zone 55

Date: 17 April 2020

Geology

Cnr Sheppard St and Lanyon Drive, Hume, ACT 2620

Geological Units (1:250,000 scale)

What are the Geological Units onsite?

Symbol	Description	Unit Name	Group	Sub Group	Member	Era	Period	Dataset
Sld	Rhyodacitic ignimbrite and minor volcaniclastic and argillaceous sediments	Deakin Volcanics	Laidlaw Volcanic Suite			Palaeozoic	Silurian	1:250,000
Sld1	Tuff, tuffaceous sandstone, shale and ashstone	Deakin Volcanics	Laidlaw Volcanic Suite		unnamed member	Palaeozoic	Silurian	1:250,000
Sldm	Rhyodacite lava	Deakin Volcanics	Laidlaw Volcanic Suite		Mugga Mugga Porphyry Member	Palaeozoic	Silurian	1:250,000

What are the Geological Units within the report buffer?

Symbol	Description	Unit Name	Group	Sub Group	Member	Era	Period	Dataset
Qa	Alluvium, fluvial deposits: gravel, sand, silt and clay	undifferentiated	unknown			Cainozoic	Quaternary	1:250,000
Sld	Rhyodacitic ignimbrite and minor volcaniclastic and argillaceous sediments	Deakin Volcanics	Laidlaw Volcanic Suite			Palaeozoic	Silurian	1:250,000
Sld1	Tuff, tuffaceous sandstone, shale and ashstone	Deakin Volcanics	Laidlaw Volcanic Suite		unnamed member	Palaeozoic	Silurian	1:250,000
Sldm	Rhyodacite lava	Deakin Volcanics	Laidlaw Volcanic Suite		Mugga Mugga Porphyry Member	Palaeozoic	Silurian	1:250,000

Geological Structures (1:250,000 scale)

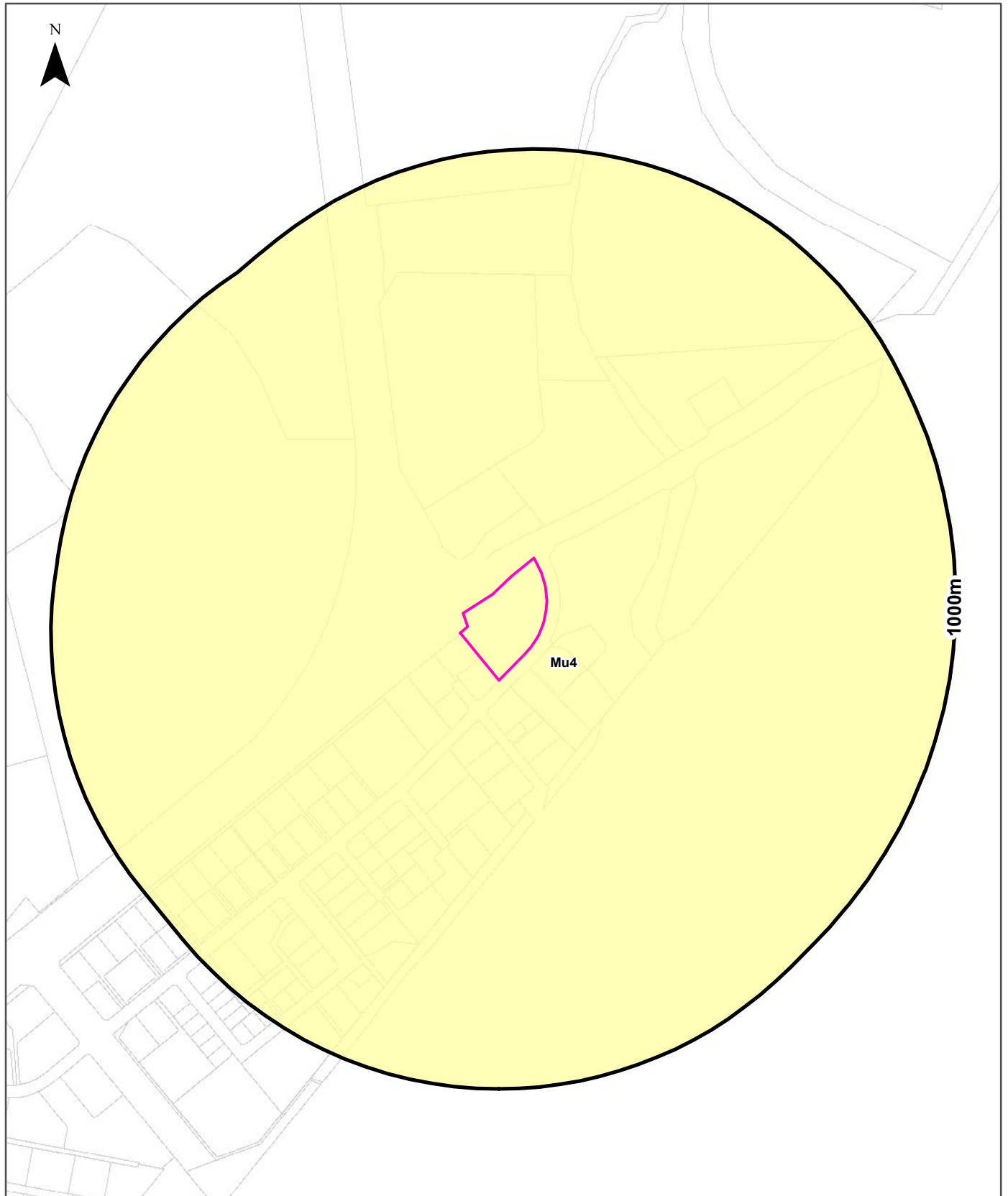
What are the Geological Structures onsite?

Feature	Name	Description	Map Sheet	Dataset
No features				1:250,000

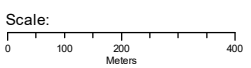
What are the Geological Structures within the report buffer?

Feature	Name	Description	Map Sheet	Dataset
No features				1:250,000

Geological Data Source : NSW Department of Industry, Resources & Energy
 © State of New South Wales through the NSW Department of Industry, Resources & Energy



Legend		Australian Soil Classification Orders				
Site Boundary	Anthroposol	Dermosol	Kandosol	Podosol	Tenosol	No Data
Report Buffer	Calcarosol	Ferrosol	Kurosol	Rudosol	Vertosol	
Property Boundary	Chromosol	Hydrosol	Organosol	Sodosol	Lake	



Data Sources: Property Boundaries & Topographic Data - Environment, Planning and Sustainable Development Directorate

Coordinate System: GDA 1994 MGA Zone 55

Date: 17 April 2020

Soils

Cnr Sheppard St and Lanyon Drive, Hume, ACT 2620

Atlas of Australian Soils

Australian soil types within the dataset buffer:

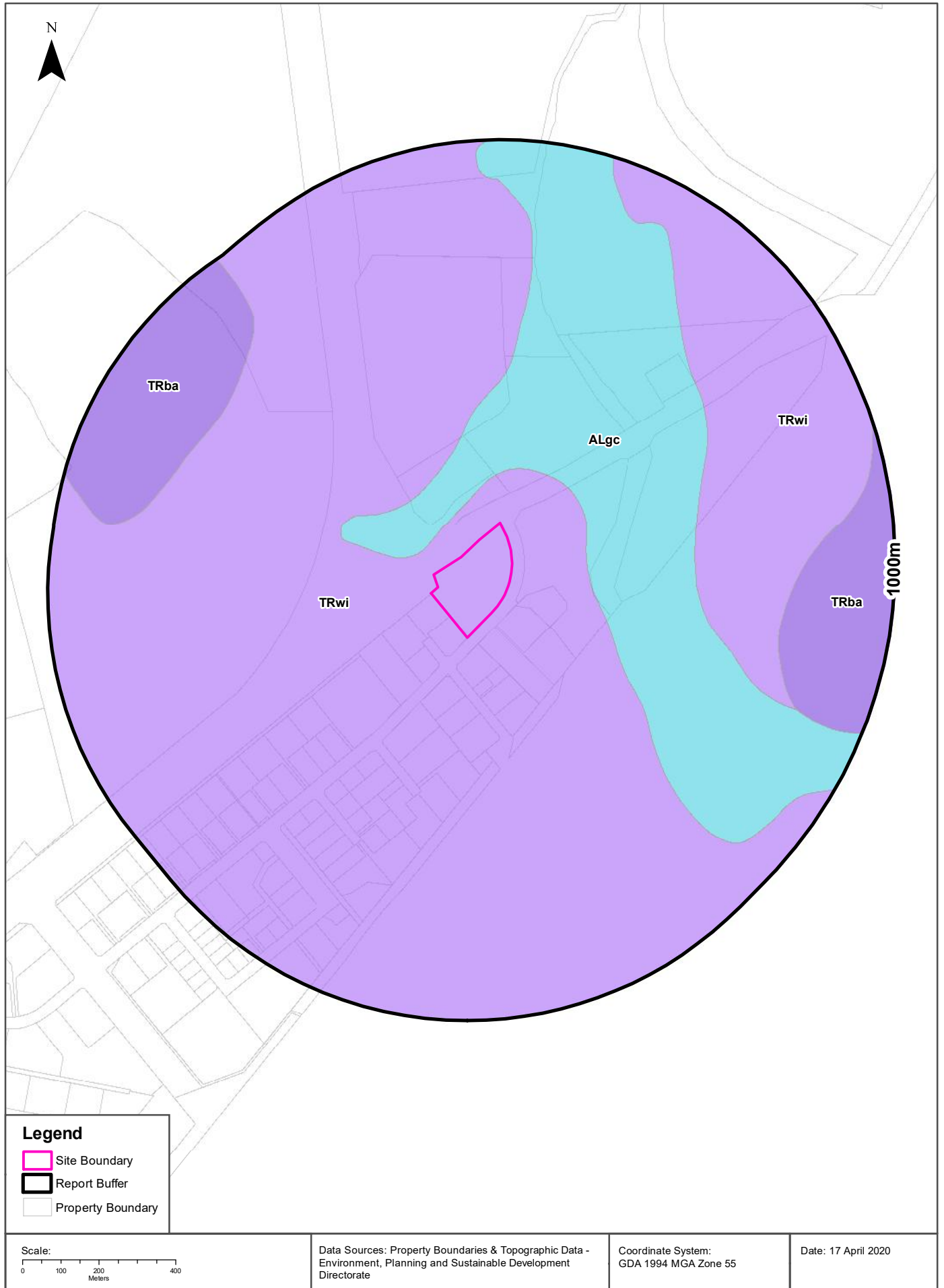
Symbol	Soil Order	Map Unit Description	Distance
Mu4	Kandosol	Gently to strongly undulating plains at moderate to low elevations (<2000 ft) with basins, stream terraces, and low residual hills and ridges; buried, layered soil materials are present: undulating plains of neutral leached red earths (Gn2.15) in the better-drained sites and yellow earths (Gn2.25) in intermediate drainage situations, with yellow leached earths (Gn2.75) often associated with hard neutral and/or alkaline yellow mottled soils (Dy3.42 and Dy3.43) in poorly drained areas, swampy sites, and seepage situations--all often with heavy clay D horizons below the solum. Associated are: low residual hills and ridges of (Dr2.22 and Dr2.42) or (Dy3.22 and Dy3.42) soils, with small areas of (Um4.2) soils and rock outcrops; basins of (Gn2.15 and Gn2.25) or (Dy3.42) soils; and stream terraces of variable width and development with (Um1) soils on present flood-plains, (Um6.11) soils on the youngest terraces, (Gn2.15, Gn2.25, and Gn2.75) in drainage sequence from well-drained to poorly drained sites on the next, and most extensive, terrace, adjacent to which sand sheets of (Uc1.2) soils may occur; (Dr2.42), (Dy3.42), and (Dy3.43) soils on remnants of the highest terrace, above which gravel fills and ironstone slabs may occur.	0m

Atlas of Australian Soils: CSIRO

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Soil Landscapes

Cnr Sheppard St and Lanyon Drive, Hume, ACT 2620



Soils

Cnr Sheppard St and Lanyon Drive, Hume, ACT 2620

Soil Landscapes

What are the onsite Soil Landscapes?

Soil Code	Name	Group	Process	Map Sheet	Scale
TRwi	WILLIAMSDALE		TRANSFERRAL	Canberra	1:100,000

What are the Soil Landscapes within the report buffer?

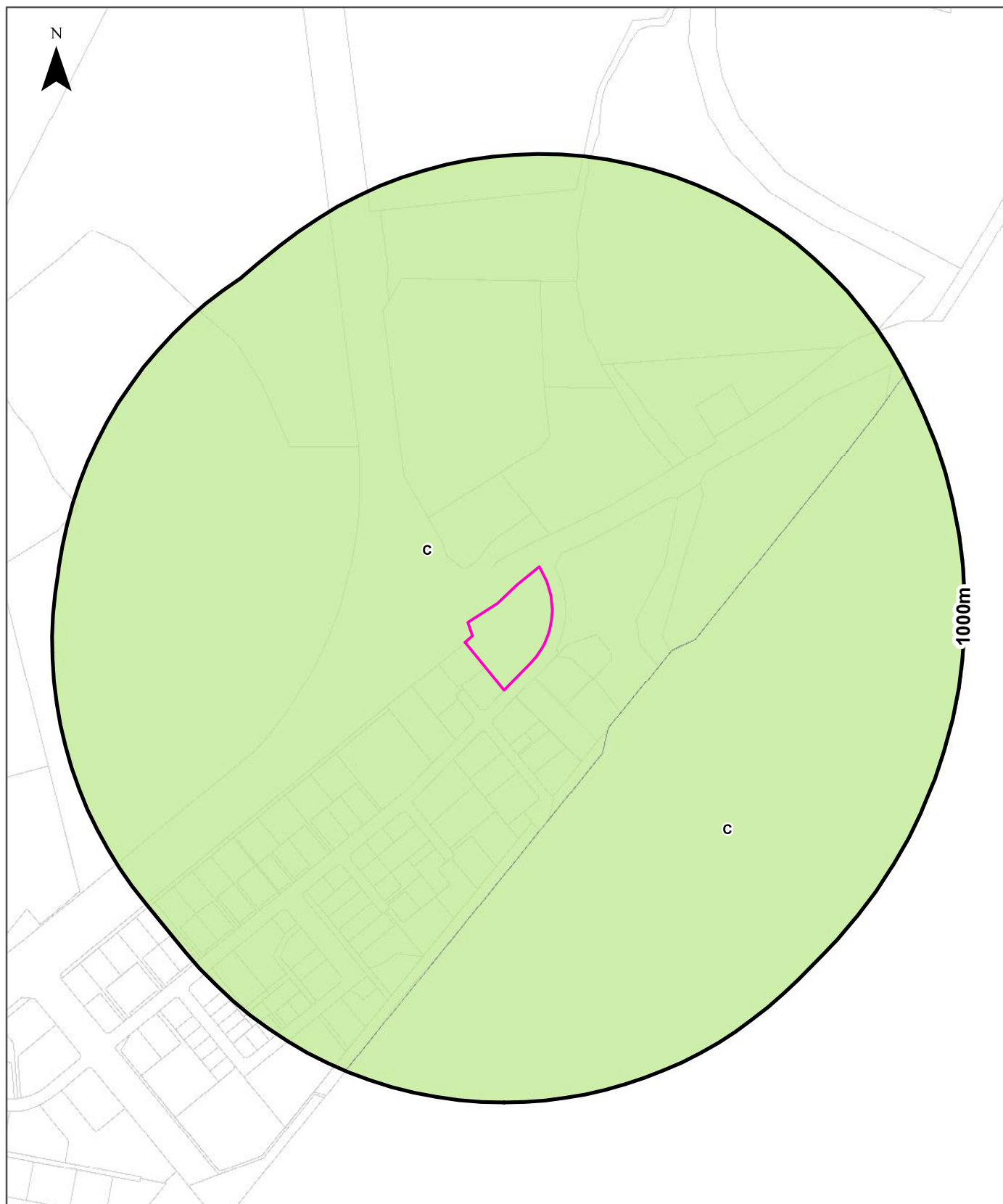
Soil Code	Name	Group	Process	Map Sheet	Scale
ALgc	GINNINDERRA CREEK		ALLUVIAL	Canberra	1:100,000
TRba	BURRA		TRANSFERRAL	Canberra	1:100,000
TRwi	WILLIAMSDALE		TRANSFERRAL	Canberra	1:100,000

Soils Landscapes Data Source : NSW Office of Environment and Heritage

Creative Commons 3.0 © Commonwealth of Australia <http://creativecommons.org/licenses/by/3.0/au/deed.en>

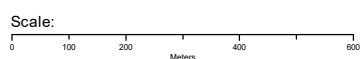
Atlas of Australian Acid Sulfate Soils

Cnr Sheppard St and Lanyon Drive, Hume, ACT 2620



Legend

Site Boundary	Probability of occurrence of Acid Sulfate Soils		No Data
Report Buffer	A. High (>70%)	C. Extremely Low (1-5%)	
Property Boundary	B. Low (6-70%)	D. No Chance (0%)	



Data Sources: Property Boundaries & Topographic Data - Environment, Planning and Sustainable Development Directorate

Coordinate System: GDA 1994 MGA Zone 55

Date: 17 April 2020

Acid Sulfate Soils

Cnr Sheppard St and Lanyon Drive, Hume, ACT 2620

Atlas of Australian Acid Sulfate Soils

Atlas of Australian Acid Sulfate Soil categories within the dataset buffer:

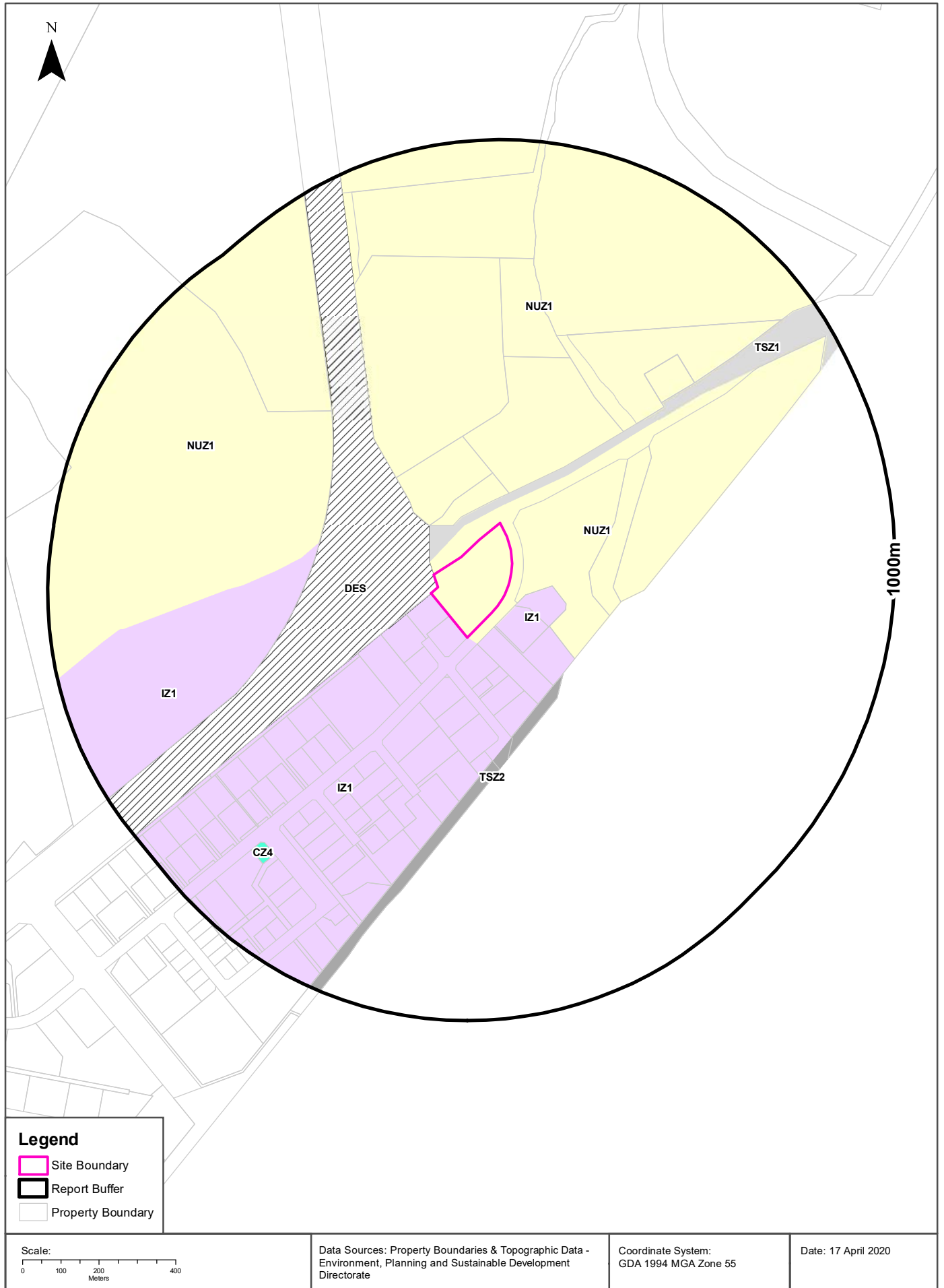
Class	Description	Distance
C	Extremely low probability of occurrence. 1-5% chance of occurrence with occurrences in small localised areas.	0m

Atlas of Australian Acid Sulfate Soils Data Source: CSIRO

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Territory Plan Zones

Cnr Sheppard St and Lanyon Drive, Hume, ACT 2620



Planning

Cnr Sheppard St and Lanyon Drive, Hume, ACT 2620

Territory Plan Zones

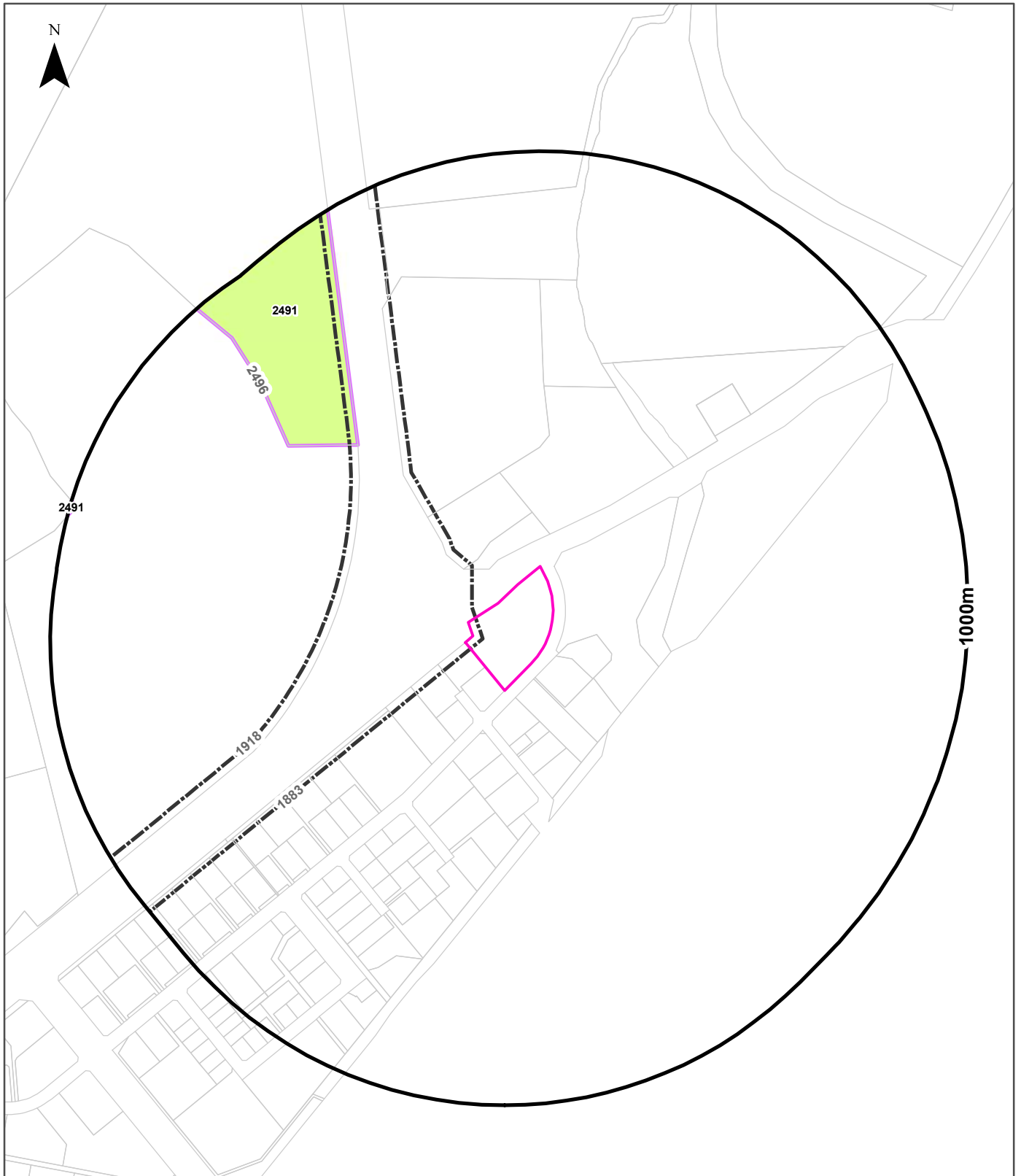
What Plan Zones exist within the report buffer?

Zone Code	Zone Name	Description	Variation	Gazettal Name	Gazettal Date	Distance	Direction
NUZ1	BROADACRE		TA2009-26	NI2010-22	22/01/2010	0m	Onsite
DES	DESIGNATED		TP 2008	NI2008-27	31/03/2008	0m	West
IZ1	GENERAL INDUSTRY		TA2009-37	NI2009-570	22/01/2010	0m	South West
IZ1	GENERAL INDUSTRY		TA2009-37	NI2009-570	13/11/2009	29m	South East
IZ1	GENERAL INDUSTRY		TA2009-26	NI2010-22	22/01/2010	29m	South East
TSZ1	TRANSPORT		TP 2008	NI2008-27	31/03/2008	34m	North East
NUZ1	BROADACRE		TP 2008	NI2008-27	31/03/2008	59m	North
TSZ2	SERVICES		TA2009-26	NI2010-22	22/01/2010	243m	South West
NUZ1	BROADACRE		TP 2008	NI2008-27	31/03/2008	309m	West
IZ1	GENERAL INDUSTRY		TP 2008	NI2008-27	31/03/2008	309m	West
IZ1	GENERAL INDUSTRY		TP 2008	NI2008-27	31/03/2008	318m	South West
CZ4	LOCAL CENTRE		TP 2008	NI2008-27	31/03/2008	751m	South West

Territory Plan Zones Data Source: ACT Government Creative Commons 4.0 © <https://creativecommons.org/licenses/by/4.0/>

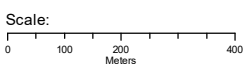
Territory Plan Overlays

Cnr Sheppard St and Lanyon Drive, Hume, ACT 2620



Legend

Site Boundary	Inter-town Public Transport	National Land	National Park	Protection of Water Supply
Report Buffer	Main Avenues & Approach Routes	Kingston Foreshore	Nature Reserve	Lake
Property Boundary	Future Urban Areas	Public Land	Special Purpose Reserve	Sport and Recreation Reserve
Special Requirements	Wilderness Area	Urban Open Space	National Land Proposed for Urban Development	
		Cemetery or Burial Ground		



Data Sources: Property Boundaries & Topographic Data - Environment, Planning and Sustainable Development Directorate

Coordinate System: GDA 1994 MGA Zone 55

Date: 17 April 2020

Planning

Cnr Sheppard St and Lanyon Drive, Hume, ACT 2620

Territory Plan Overlays (areas)

What Plan Overlays (areas) exist within the report buffer?

Id	Overlay Code	Overlay Name	Variation	Gazettal Name	Distance	Direction
2491	Pc	Nature Reserve.	TP 2008	NI2008-27	503m	North West

Territory Plan Overlays (lines)

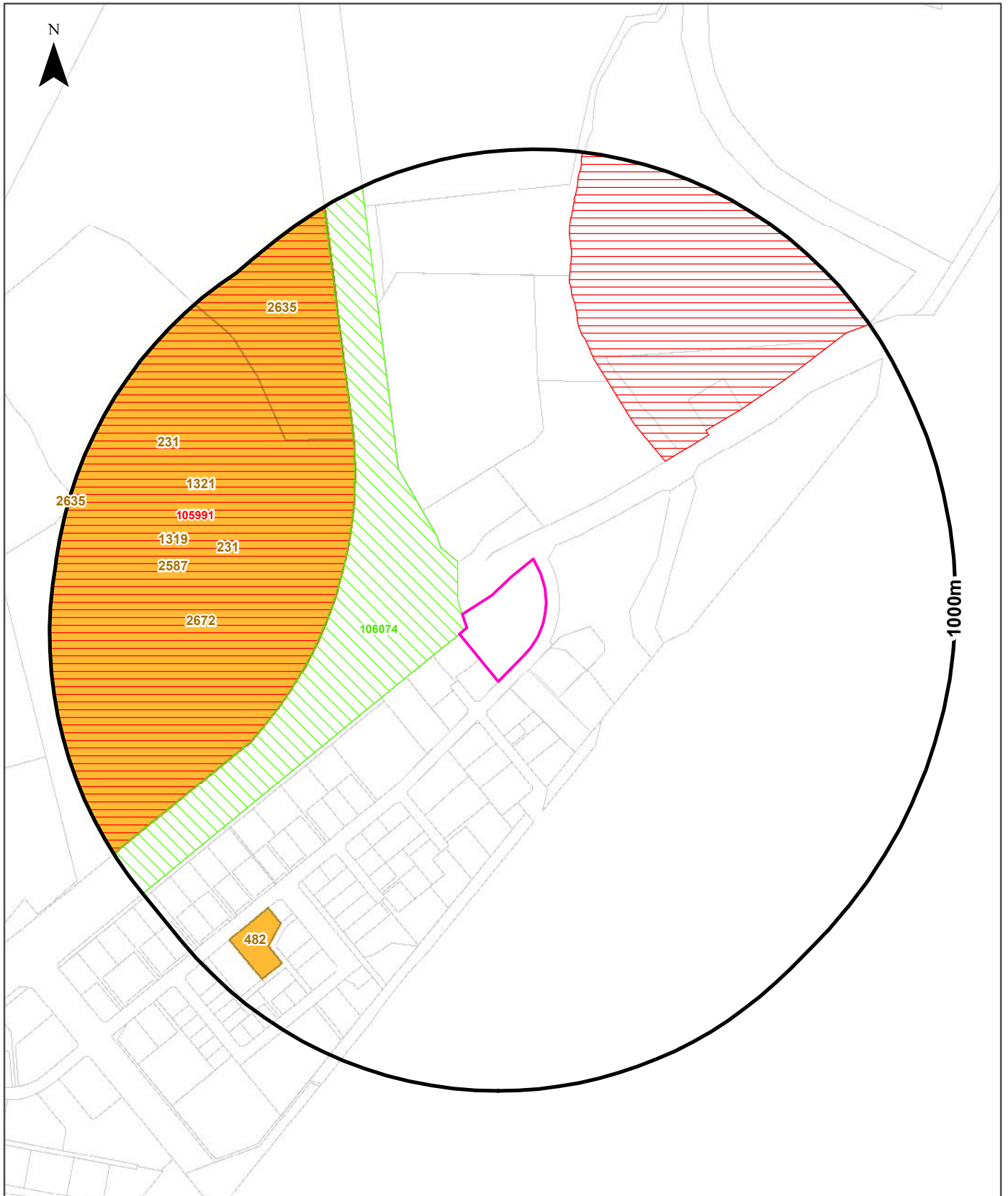
What Plan Overlays (lines) exist within the report buffer?

Id	Overlay Code	Overlay Name	Variation	Gazettal Name	Distance	Direction
1883	MAAR	Main Avenues and Approach Routes	TP 2008	NI2008-27	0m	West
1918	MAAR	Main Avenues and Approach Routes	TP 2008	NI2008-27	329m	West
2496	PUBLAN	Public Land	TP 2008	NI2008-27	503m	North West

Territory Plan Overlay Data Source: ACT Government Creative Commons 4.0 © <https://creativecommons.org/licenses/by/4.0/>

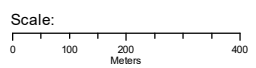
Heritage Items

Cnr Sheppard St and Lanyon Drive, Hume, ACT 2620



Legend

- Site Boundary
- Report Buffer
- Property Boundary
- Heritage Items
- Commonwealth Heritage List
- National Heritage List



Data Sources: Property Boundaries & Topographic Data - Environment, Planning and Sustainable Development Directorate

Coordinate System: GDA 1994 MGA Zone 55

Date: 17 April 2020

Heritage

Cnr Sheppard St and Lanyon Drive, Hume, ACT 2620

Commonwealth Heritage List

What are the Commonwealth Heritage List Items located within the dataset buffer?

Place Id	Name	Address	Place File No	Class	Status	Register Date	Distance	Direction
105991	Natural Areas around and within Majura, Pialligo and Jerrabomberra	Majuar Rd, Majura ACT	8/01/000/0132	Natural	Nominated place		310m	North

Heritage Data Source: Australian Government Department of the Environment and Energy - Heritage Branch
Creative Commons 3.0 © Commonwealth of Australia <https://creativecommons.org/licenses/by/3.0/au/deed.en>

National Heritage List

What are the National Heritage List Items located within the dataset buffer?

Note. Please click on Place Id to activate a hyperlink to online website.

Place Id	Name	Address	Place File No	Class	Status	Register Date	Distance	Direction
106074	Canberra and Surrounding Areas	Northbourne Av, Canberra ACT	8/01/000/0134	Historic	Nominated place		0m	South West

Heritage Data Source: Australian Government Department of the Environment and Energy - Heritage Branch
Creative Commons 3.0 © Commonwealth of Australia <https://creativecommons.org/licenses/by/3.0/au/deed.en>

Heritage Sites

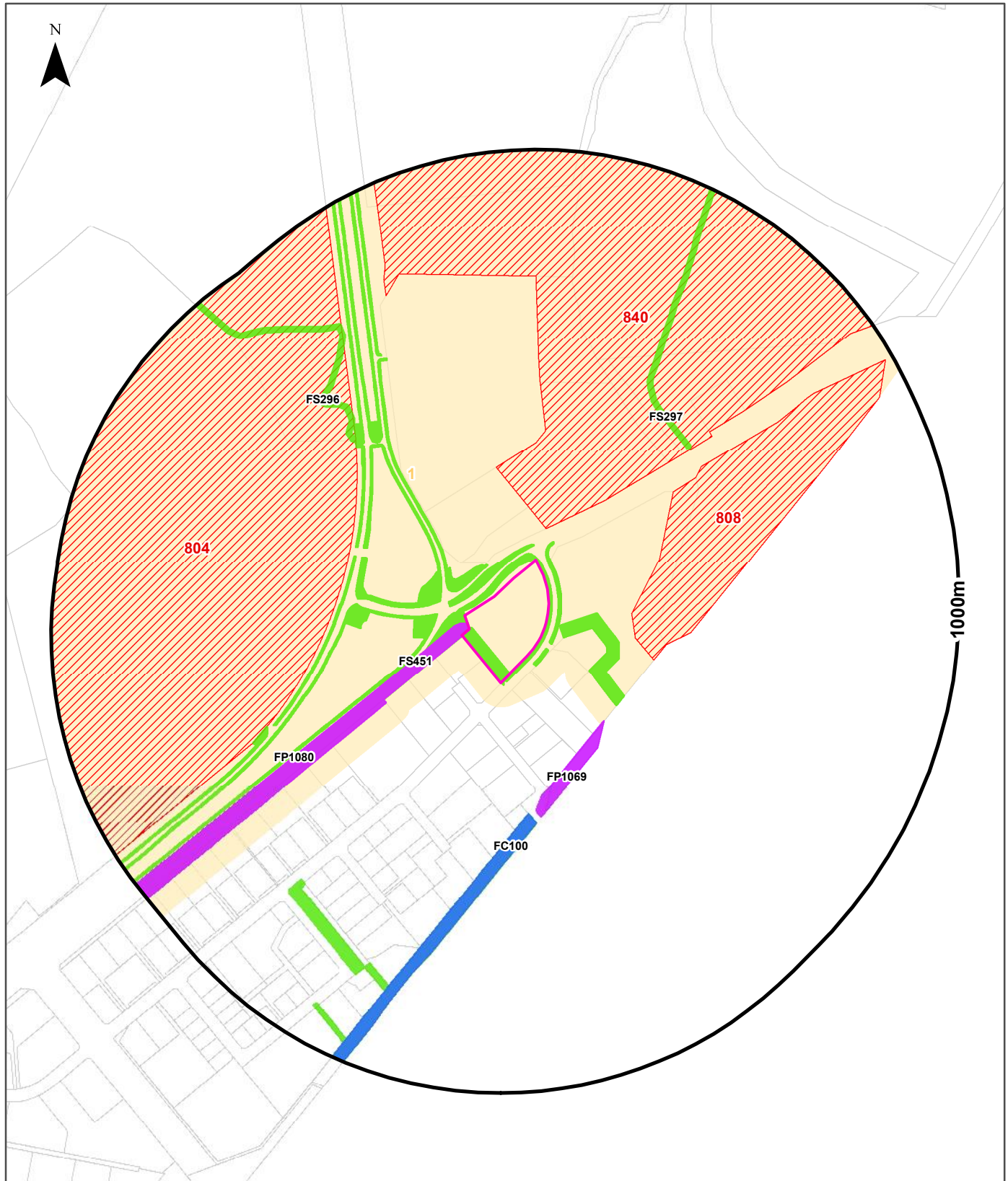
What Heritage Sites exist within the report buffer?

Map Id	Heritage Id	Name	Description	Status	Status Date	Location Type	Block Key	District	Division	Dist	Dir
2672	1166	HA3		Final Registration	09/03/2005	Restricted	88020170008	JERRABOMBERRA	HUME	309m	West
1319	1166	HA8		Final Registration	09/03/2005	Restricted	88020170008	JERRABOMBERRA	HUME	309m	West
2587	1166	HA9		Final Registration	09/03/2005	Restricted	88020170008	JERRABOMBERRA	HUME	309m	West
1321	1166	HUME PAD 3		Final Registration	09/03/2005	Restricted	88020170008	JERRABOMBERRA	HUME	309m	West
231	139	Woden Homestead and grasslands	Section 17 Block 4 and 6 (part)	Final Registration		Historic		JERRABOMBERRA	HUME	310m	North West
2635	1166	HUME PAD 2		Final Registration	09/03/2005	Restricted	88020170007	JERRABOMBERRA	HUME	503m	North West
482	466	Hill Station	Section 5 Block 5	Final Registration		Historic		JERRABOMBERRA	HUME	790m	South West

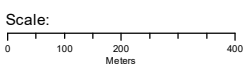
Heritage Data Source: ACT Government Creative Commons 4.0 © <https://creativecommons.org/licenses/by/4.0/>

Natural Hazards - Bushfire & Flood

Cnr Sheppard St and Lanyon Drive, Hume, ACT 2620



Legend		Access Management		Fuel Management	
Site Boundary	Bushfire Prone Area	Construction	Chemical	Physical Removal	
Report Buffer	Bushfire Abatement Zone	Maintenance	Cultural Burn	Prescribed Burn	
Property Boundaries	Flood 1% AEP	Upgrade	Ecological Burn	Prescribed Burn (RFS)	
		Vegetation Management	Grazing	Slashing	



Data Sources: Property Boundaries & Topographic Data - Environment, Planning and Sustainable Development Directorate

Coordinate System: GDA 1994 MGA Zone 55

Date: 17 April 2020

Natural Hazards

Cnr Sheppard St and Lanyon Drive, Hume, ACT 2620

Bushfire Prone Areas

What Bushfire Prone Areas exist within the report buffer?

Feature Id	Description	Distance	Direction
1	Bushfire Prone Areas ACT	0m	Onsite

Bushfire Prone Area Data Source: ACT Government Creative Commons 4.0 © <https://creativecommons.org/licenses/by/4.0/>

Bushfire Abatement Zones

What Bushfire Abatement Zones exist within the report buffer?

Feature Id	Feature	Distance	Direction
840	Bushfire Abatement Zone	80m	North
808	Bushfire Abatement Zone	201m	North East
804	Bushfire Abatement Zone	309m	North West

Bushfire Abatement Zone Data Source: ACT Government Creative Commons 4.0 © <https://creativecommons.org/licenses/by/4.0/>

Bushfire Operational Plan - Access Management

What Bushfire Operational Plan - Access Management exist within the report buffer?

Map Id	Treatment	Distance	Direction
N/A	No records within buffer		

Bushfire Operational Plan Data Source: ACT Government Creative Commons 4.0 © <https://creativecommons.org/licenses/by/4.0/>

Bushfire Operational Plan - Fuel Management

What Bushfire Operational Plan - Fuel Management exist within the report buffer?

Unique Id	Treatment	Hectares	Distance	Direction
FS451	Slashing	36.13	0m	Onsite
FP1080	Physical Removal	5.10	0m	Onsite
FP1069	Physical Removal	0.69	242m	South
FC100	Chemical	75.72	326m	North West

Unique Id	Treatment	Hectares	Distance	Direction
FS297	Slashing	6.88	455m	North East
FS296	Slashing	17.43	489m	North West

Bushfire Operational Plan Data Source: ACT Government Creative Commons 4.0 © <https://creativecommons.org/licenses/by/4.0/>

Flood (1 Percent Annual Exceedance Probability)

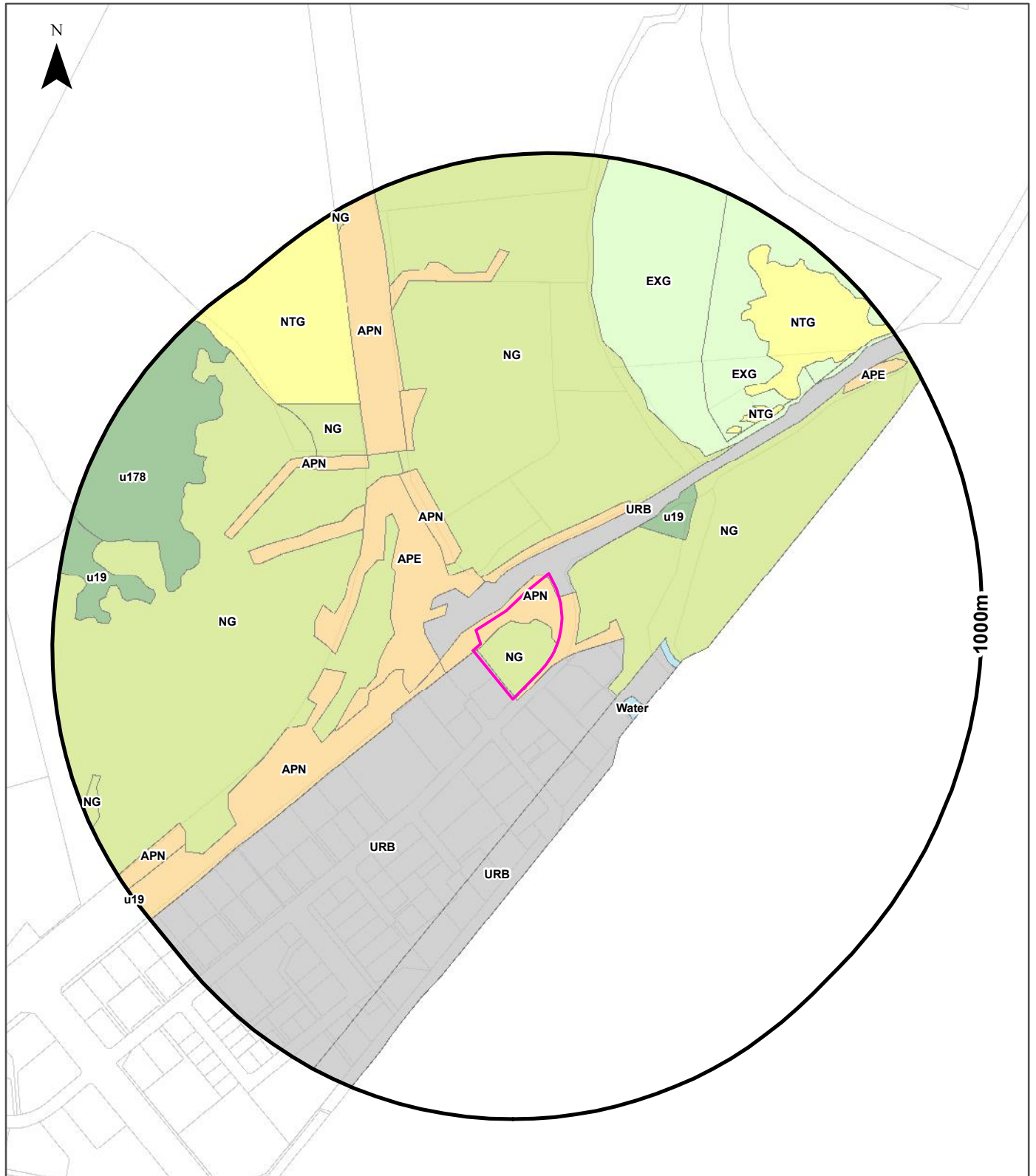
What Flood zone (1% AEP) exists within the report buffer?

Feature Id	Description	Distance	Direction
N/A	No records within buffer		

Flood Data Source: ACT Government Creative Commons 4.0 © <https://creativecommons.org/licenses/by/4.0/>

Ecological Constraints - Vegetation Communities

Cnr Sheppard St and Lanyon Drive, Hume, ACT 2620



Legend	
Site Boundary	u3 Mountain Gum
Report Buffer	u239 Alpine Ash
Property Boundaries	Grassy Woodlands
Alpine Complex	Grasslands
Dry Sclerophyll Forests	APN, APE, ARB, EPN
Freshwater Wetlands	EXG Exotic grassland
Forested Wetlands	EXF, EXS, EXW
u52 Ribbon Gum	PWR Power easement
NG Native grassland	Water
URB Urban and developed areas	
UOS Urban Open Space	
Sand	
Rock	
Water	

<p>Scale:</p>	<p>Data Sources: Property Boundaries & Topographic Data - Environment, Planning and Sustainable Development Directorate</p>	<p>Coordinate System: GDA 1994 MGA Zone 55</p>	<p>Date: 17 April 2020</p>
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Ecological Constraints

Cnr Sheppard St and Lanyon Drive, Hume, ACT 2620

Vegetation Communities

What Vegetation Communities exist within the report buffer?

UMC Id	Community	Formation	"Keith" Vegetation Class	Mean Height	Canopy Cover	Distance	Direction
NG	Native grassland_NG			5.39	0.48	0m	Onsite
APN	Amenity planting native_APN			6.47	28.73	0m	Onsite
URB	Urban and developed areas_URB			8.07	3.22	0m	Onsite
URB	Urban and developed areas_URB			6.60	0.85	0m	Onsite
NG	Native grassland_NG			7.56	0.68	34m	North East
APN	Amenity planting native_APN			8.23	44.10	53m	North
APE	Amenity planting exotic_APE			9.57	40.95	74m	West
APN	Amenity planting native_APN			7.34	17.88	83m	South West
APN	Amenity planting native_APN			8.88	43.96	163m	North West
URB	Urban and developed areas_URB			8.28	12.31	177m	South
NG	Native grassland_NG			8.48	1.24	191m	West
Water	Water			3.90	0.57	200m	South East
Water	Water			3.53	0.17	234m	East
u19	Blakely s Red Gum Yellow Box tall grassy woodland_u19	GRASSY WOODLANDS	Southern Tableland Grassy Woodlands	9.63	15.71	237m	North East
APN	Amenity planting native_APN			10.15	41.46	360m	North West
APN	Amenity planting native_APN			7.61	10.67	431m	North West
APN	Amenity planting native_APN			9.21	22.95	440m	North West
EXG	Exotic grassland_EXG			6.16	0.04	442m	North East
APN	Amenity planting native_APN			8.50	29.25	461m	North West
NG	Native grassland_NG			8.79	1.99	491m	North West
EXG	Exotic grassland_EXG			5.84	0.20	523m	North East
NTG	Natural Temperate Grassland_NTG	GRASSLANDS	Temperate Montane Grasslands	0.00	0.00	536m	North East
NTG	Natural Temperate Grassland_NTG	GRASSLANDS	Temperate Montane Grasslands	4.63	1.66	577m	North East
NTG	Natural Temperate Grassland_NTG	GRASSLANDS	Temperate Montane Grasslands	5.82	0.09	595m	North West
u178	Yellow Box ± Apple Box tall grassy woodland_u178	GRASSY WOODLANDS	Southern Tableland Grassy Woodlands	8.88	17.14	680m	North West
APN	Amenity planting native_APN			6.77	32.30	705m	North
u19	Blakely s Red Gum Yellow Box tall grassy woodland_u19	GRASSY WOODLANDS	Southern Tableland Grassy Woodlands	8.71	23.00	766m	North West
EXG	Exotic grassland_EXG			0.00	0.00	773m	North East
APN	Amenity planting native_APN			5.54	13.44	810m	South West

UMC Id	Community	Formation	"Keith" Vegetation Class	Mean Height	Canopy Cover	Distance	Direction
APE	Amenity planting exotic_APE			13.36	27.81	815m	North East
NG	Native grassland_NG			7.74	4.16	936m	South West
NG	Native grassland_NG			7.53	8.62	954m	North
u19	Blakely s Red Gum Yellow Box tall grassy woodland_u19	GRASSY WOODLANDS	Southern Tableland Grassy Woodlands	7.74	16.23	996m	South West

Vegetation Data Source: ACT Government Creative Commons 4.0 © <https://creativecommons.org/licenses/by/4.0/>

Ecological Constraints

Cnr Sheppard St and Lanyon Drive, Hume, ACT 2620

Vegetation Subformation

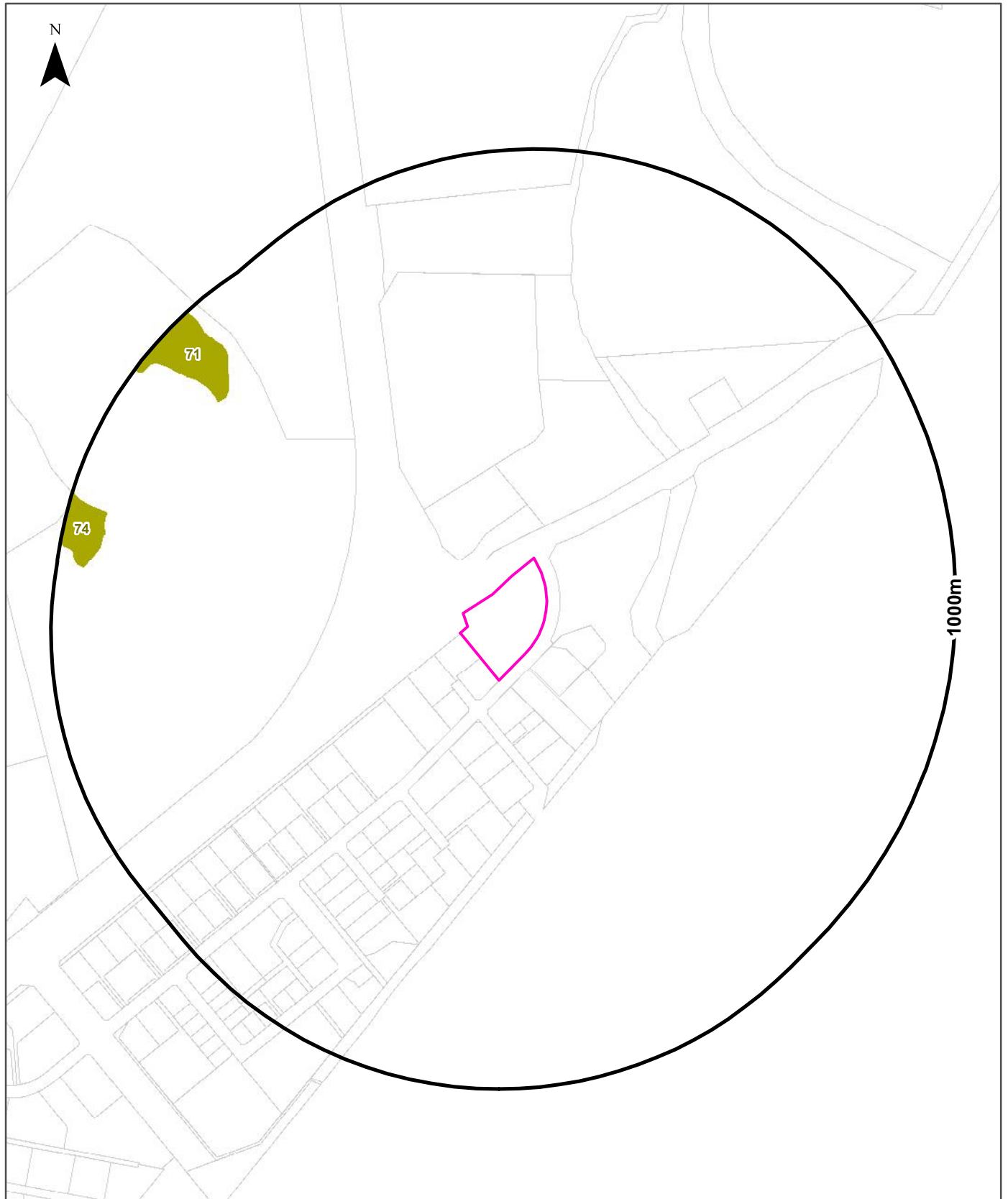
What Vegetation Subformations exist within the report buffer?

Object Id	Subformation	Distance	Direction
N/A	No records within buffer		

Vegetation Data Source: ACT Government Creative Commons 4.0 © <https://creativecommons.org/licenses/by/4.0/>

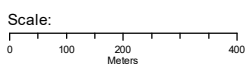
Ecological Constraints - Threatened Woodland, Wetlands & Tree Register

Cnr Sheppard St and Lanyon Drive, Hume, ACT 2620



Legend

- Site Boundary
- Report Buffer
- Property Boundary
- Threatened Woodland
- Trees on Register
- Important Wetlands



Data Sources: Property Boundaries & Topographic Data - Environment, Planning and Sustainable Development Directorate

Coordinate System: GDA 1994 MGA Zone 55

Date: 17 April 2020

Ecological Constraints

Cnr Sheppard St and Lanyon Drive, Hume, ACT 2620

Threatened Woodland

What ACT Listed Threatened Woodland exists within the report buffer?

Feature Id	Community	EPBCStatus	ACT Status	Distance	Direction
71	Yellow Box Red Gum Grassy Woodland	Not listed	Endangered Ecological Community	783m	North West
74	Yellow Box Red Gum Grassy Woodland	Not listed	Endangered Ecological Community	896m	West

Threatened Woodland Data Source: ACT Government Creative Commons 4.0 © <https://creativecommons.org/licenses/by/4.0/>

Tree Register

What Trees on the ACT register exists within the report buffer?

Feature Id	Genus	Species	Tree Ref	Tree Height	Status	Date Edit	Distance	Direction
N/A	No records within buffer							

Tree Register Data Source: ACT Government Creative Commons 4.0 © <https://creativecommons.org/licenses/by/4.0/>

Important Wetlands

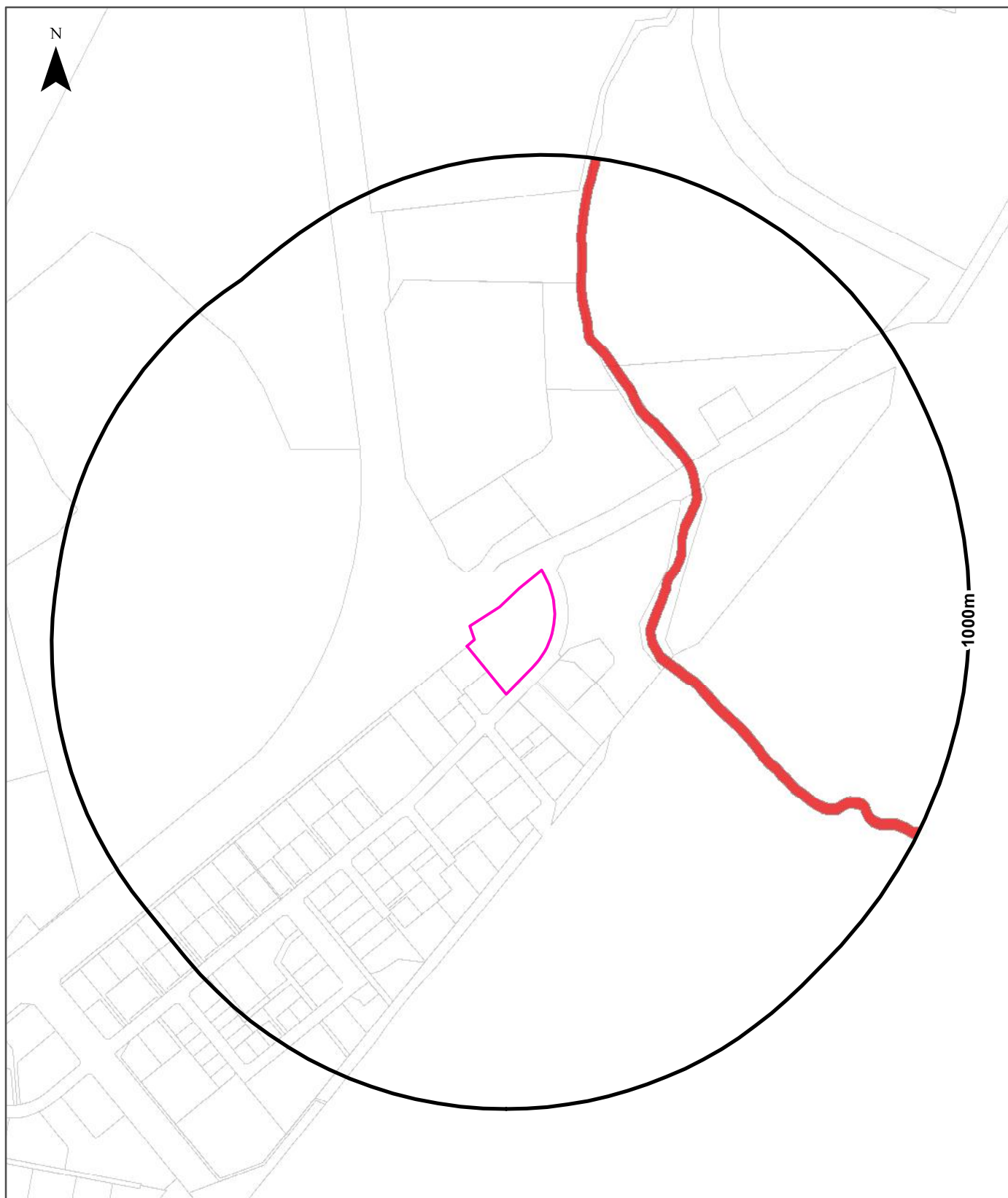
What Wetlands exist within the report buffer?

Feature Id	Name	Distance	Direction
N/A	No records within buffer		

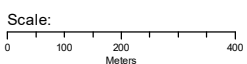
Important Wetlands Data Source: ACT Government Creative Commons 4.0 © <https://creativecommons.org/licenses/by/4.0/>

Ecological Constraints - Groundwater Dependent Ecosystems Atlas

Cnr Sheppard St and Lanyon Drive, Hume, ACT 2620



Legend			
	Site Boundary		High potential GDE - from national assessment
	Report Buffer		Low potential GDE - from national assessment
	Property Boundaries		Low potential GDE - from regional studies
			Moderate potential GDE - from national assessment
			Moderate potential GDE - from regional studies
			Known GDE - from regional studies
			Unclassified potential GDE - from national assessment
			Unclassified potential GDE - from regional studies



Data Sources: Property Boundaries & Topographic Data - Environment, Planning and Sustainable Development Directorate

Coordinate System: GDA 1994 MGA Zone 55

Date: 17 April 2020

Ecological Constraints

Cnr Sheppard St and Lanyon Drive, Hume, ACT 2620

Groundwater Dependent Ecosystems Atlas

GDEs within the dataset buffer:

Type	Name	GDE Potential	IDE Likelihood	Geomorphology	Ecosystem Type	Aquifer Geology	Distance	Direction
Aquatic		High potential GDE - from national assessment	6	Upland plains with separating strike-aligned hills, closed lake basins.	River		218m	North East

Groundwater Dependent Ecosystems Atlas Data Source: The Bureau of Meteorology

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Ecological Constraints

Cnr Sheppard St and Lanyon Drive, Hume, ACT 2620

NSW BioNet Atlas

Species on the NSW BioNet Atlas that have a NSW or federal conservation status, a NSW sensitivity status, or are listed under a migratory species agreement, and are within 10km of the site?

Kingdom	Class	Scientific	Common	NSW Conservation Status	NSW Sensitivity Class	Federal Conservation Status
Fauna	Amphibia	Litoria aurea	Green and Golden Bell Frog	Endangered, Protected		Vulnerable
Fauna	Amphibia	Litoria raniformis	Southern Bell Frog	Endangered, Protected		Vulnerable
Fauna	Aves	Chthonicola sagittata	Speckled Warbler	Vulnerable, Protected		
Fauna	Aves	Circus assimilis	Spotted Harrier	Vulnerable, Protected		
Fauna	Aves	Haliaeetus leucogaster	White-bellied Sea-Eagle	Vulnerable, Protected		CAMBA
Fauna	Aves	Hieraaetus morphnoides	Little Eagle	Vulnerable, Protected		
Fauna	Aves	Botaurus poiciloptilus	Australasian Bittern	Endangered, Protected		Endangered
Fauna	Aves	Artamus cyanopterus cyanopterus	Dusky Woodswallow	Vulnerable, Protected		
Fauna	Aves	Callocephalon fimbriatum	Gang-gang Cockatoo	Vulnerable, Protected, Category 3 Sensitive Species	Category 3	
Fauna	Aves	Calyptorhynchus lathami	Glossy Black-Cockatoo	Vulnerable, Protected, Category 2 Sensitive Species	Category 2	
Fauna	Aves	Climacteris picumnus victoriae	Brown Treecreeper (eastern subspecies)	Vulnerable, Protected		
Fauna	Aves	Stagonopleura guttata	Diamond Firetail	Vulnerable, Protected		
Fauna	Aves	Anthochaera phrygia	Regent Honeyeater	Critically Endangered Species, Protected		Critically Endangered
Fauna	Aves	Epthianura albifrons	White-fronted Chat	Vulnerable, Protected		
Fauna	Aves	Grantiella picta	Painted Honeyeater	Vulnerable, Protected		Vulnerable
Fauna	Aves	Melithreptus gularis gularis	Black-chinned Honeyeater (eastern subspecies)	Vulnerable, Protected		
Fauna	Aves	Daphoenositta chrysoptera	Varied Sittella	Vulnerable, Protected		
Fauna	Aves	Pachycephala olivacea	Olive Whistler	Vulnerable, Protected		
Fauna	Aves	Melanodryas cucullata cucullata	Hooded Robin (south-eastern form)	Vulnerable, Protected		
Fauna	Aves	Petroica boodang	Scarlet Robin	Vulnerable, Protected		
Fauna	Aves	Petroica phoenicea	Flame Robin	Vulnerable, Protected		
Fauna	Aves	Glossopsitta pusilla	Little Lorikeet	Vulnerable, Protected		
Fauna	Aves	Lathamus discolor	Swift Parrot	Endangered, Protected, Category 3 Sensitive Species	Category 3	Critically Endangered
Fauna	Aves	Polytelis swainsonii	Superb Parrot	Vulnerable, Protected, Category 3 Sensitive Species	Category 3	Vulnerable
Fauna	Insecta	Synemon plana	Golden Sun Moth	Endangered		Critically Endangered
Fauna	Mammalia	Dasyurus maculatus	Spotted-tailed Quoll	Vulnerable, Protected		Endangered
Fauna	Mammalia	Miniopterus orianae oceanensis	Large Bent-winged Bat	Vulnerable, Protected		

Kingdom	Class	Scientific	Common	NSW Conservation Status	NSW Sensitivity Class	Federal Conservation Status
Fauna	Mammalia	Phascolarctos cinereus	Koala	Vulnerable, Protected		Vulnerable
Fauna	Mammalia	Pteropus poliocephalus	Grey-headed Flying-fox	Vulnerable, Protected		Vulnerable
Fauna	Mammalia	Myotis macropus	Southern Myotis	Vulnerable, Protected		
Fauna	Reptilia	Tympanocryptis pinguicollis	Grassland Earless Dragon	Endangered, Protected		Endangered
Fauna	Reptilia	Aprasia parapulchella	Pink-tailed Legless Lizard	Vulnerable, Protected		Vulnerable
Fauna	Reptilia	Varanus rosenbergi	Rosenberg's Goanna	Vulnerable, Protected		
Flora	Flora	Rutidosis leptorrhynchoides	Button Wrinklewort	Endangered		Endangered
Flora	Flora	Swainsona recta	Small Purple-pea	Endangered		Endangered
Flora	Flora	Caladenia tessellata	Thick Lip Spider Orchid	Endangered, Protected, Category 2 Sensitive Species	Category 2	Vulnerable

Data does not include NSW category 1 sensitive species.

NSW BioNet: © State of NSW and Office of Environment and Heritage

Location Confidences

Where Lotsearch has had to georeference features from supplied addresses, a location confidence has been assigned to the data record. This indicates a confidence to the positional accuracy of the feature. Where applicable, a code is given under the field heading “LC” or “LocConf”. These codes lookup to the following location confidences:

LC Code	Location Confidence
Premise match	Georeferenced to the site location / premise or part of site
General area or suburb match	Georeferenced with the confidence of the general/approximate area
Road match	Georeferenced to the road or rail
Road intersection	Georeferenced to the road intersection
Feature is a buffered point	Feature is a buffered point
Land adjacent to geocoded site	Land adjacent to Georeferenced Site
Network of features	Georeferenced to a network of features

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ACT EPA Contaminated Land Search

From: Heckenberg, Mark <Mark.Heckenberg@act.gov.au> on behalf of Contaminated Sites <ContaminatedSites@act.gov.au>
Sent: Wednesday, 15 April 2020 12:08 PM
To: chris.gunton@lanterra.com.au
Subject: Contaminated Land Search - 45/3 Hume [SEC=UNCLASSIFIED, DLM=Sensitive: Personal]

Dear Dr Gunton

RE: CONTAMINATED LAND SEARCH

Thank you for your search form request of 15/04/2020 enquiring about:

Block 45 Section 3 Hume Jerrabomberra

Records held by the Environment Protection Authority (EPA) for the above block(s) indicate the following:

The block is not recorded on the EPA's contaminated sites management database or geographic information system.

The EPA has not issued any orders under sections 91C (1) or 91D (1), environment protection orders under section 125 (4), requested an audit under section 76(2) or received an audit notification under section 76A (1) of the *Environment Protection Act 1997* (the Act) over the site and as a result the site is not recorded on the Register of contaminated sites under section 21A of the Act.

The information detailed above only relates to records held by the EPA and may not represent the actual condition of the site.

At present the EPA has no information on contamination of the above block(s). However, this does not absolutely rule out the possibility of contamination and should not be interpreted as a warranty that there is no contamination.

I appreciate that this does not absolutely rule out the existence of contamination of the soils. If you or your clients wish to be completely sure, you, or they, should arrange to conduct independent tests.

Yours sincerely

Mark Heckenberg | Manager, Contaminated Sites

Phone: 02 6207 2151 | Email: mark.heckenberg@act.gov.au

Office of the Environment Protection Authority | Access Canberra | ACT Government

Ground Floor TransACT House, 470 Northbourne Avenue, Dickson 2602

GPO Box 158 Canberra ACT 2601 | <http://www.act.gov.au/accesscbr>

From: smartforms@act.gov.au [mailto:smartforms@act.gov.au]

Sent: Wednesday, 15 April 2020 11:31 AM

To: Contaminated Sites <ContaminatedSites@act.gov.au>

Subject: Contaminated Land Search - Application, YMZK4G9M, Chris Gunton [SEC=UNCLASSIFIED, DLM=Sensitive: Personal]

Contaminated Land Search - Application

Form data summary

Customer details	Chris Gunton
Reference code	YMZK4G9M

For issues or questions relating to SmartForms please contact the Payment Services Integration Team on *5 4607 or email smartforms.admin@act.gov.au.

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EIL Calculations

Inputs	
Select contaminant from list below	Zn
Below needed to calculate fresh and aged ACLs	
Enter cation exchange capacity (silver thiourea method) (values from 0 to 100 cmolc/kg dwt)	7.55
Enter soil pH (calcium chloride method) (values from 1 to 14)	7
Below needed to calculate fresh and aged ABCs	
Measured background concentration (mg/kg). Leave blank if no measured value	
or for fresh ABCs only	
Enter iron content (aqua regia method) (values from 0 to 50%) to obtain estimate of background concentration	7
or for aged ABCs only	
Enter State (or closest State)	NSW
Enter traffic volume (high or low)	low

Outputs		
Land use	Zn soil-specific EILs	
	(mg contaminant/kg dry soil)	
	Fresh	Aged
National parks and areas of high conservation value	65	150
Urban residential and open public spaces	160	400
Commercial and industrial	230	580

Inputs
Select contaminant from list below
As
Below needed to calculate fresh and aged ACLs
Below needed to calculate fresh and aged ABCs
or for fresh ABCs only
or for aged ABCs only

Outputs		
Land use	Arsenic generic EILs	
	<small>(mg contaminant/kg dry soil)</small>	
	Fresh	Aged
National parks and areas of high conservation value	20	40
Urban residential and open public spaces	50	100
Commercial and industrial	80	160

Inputs	
Select contaminant from list below	
Cr_III	
Below needed to calculate fresh and aged ACLs	
Enter % clay (values from 0 to 100%)	
23	
Below needed to calculate fresh and aged ABCs	
Measured background concentration (mg/kg). Leave blank if no measured value	
or for fresh ABCs only	
Enter iron content (aqua regia method) (values from 0 to 50%) to obtain estimate of background concentration	
7	
or for aged ABCs only	
Enter State (or closest State)	
NSW	
Enter traffic volume (high or low)	
low	

Outputs		
Land use	Cr III soil-specific EILs	
	(mg contaminant/kg dry soil)	
	Fresh	Aged
National parks and areas of high conservation value	140	180
Urban residential and open public spaces	280	530
Commercial and industrial	420	880

Inputs	
Select contaminant from list below	Cu
Below needed to calculate fresh and aged ACLs	
Enter cation exchange capacity (silver thiourea method) (values from 0 to 100 cmolc/kg dwt)	7.55
Enter soil pH (calcium chloride method) (values from 1 to 14)	7
Enter organic carbon content (%OC) (values from 0 to 50%)	1
Below needed to calculate fresh and aged ABCs	
Measured background concentration (mg/kg). Leave blank if no measured value	
or for fresh ABCs only	
Enter iron content (aqua regia method) (values from 0 to 50%) to obtain estimate of background concentration	7
or for aged ABCs only	
Enter State (or closest State)	NSW
Enter traffic volume (high or low)	low

Outputs		
Land use	Cu soil-specific EILs	
	(mg contaminant/kg dry soil)	
	Fresh	Aged
National parks and areas of high conservation value	55	65
Urban residential and open public spaces	95	160
Commercial and industrial	130	230

Inputs
Select contaminant from list below
DDT
Below needed to calculate fresh and aged ACLs
Below needed to calculate fresh and aged ABCs
or for fresh ABCs only
or for aged ABCs only

Outputs		
Land use	DDT generic EILs	
	(mg contaminant/kg dry soil)	
	Fresh	Aged
National parks and areas of high conservation value	3	3
Urban residential and open public spaces	180	180
Commercial and industrial	640	640

Inputs
Select contaminant from list below
Naphthalene
Below needed to calculate fresh and aged ACLs
Below needed to calculate fresh and aged ABCs
or for fresh ABCs only
or for aged ABCs only

Outputs		
Land use	Naphthalene generic EILs	
	<small>(mg contaminant/kg dry soil)</small>	
	Fresh	Aged
National parks and areas of high conservation value	10	10
Urban residential and open public spaces	170	170
Commercial and industrial	370	370

Inputs
Select contaminant from list below
Ni
Below needed to calculate fresh and aged ACLs
Enter cation exchange capacity (silver thiourea method) (values from 0 to 100 cmolc/kg dwt)
7.55
Below needed to calculate fresh and aged ABCs
Measured background concentration (mg/kg). Leave blank if no measured value
or for fresh ABCs only
Enter iron content (aqua regia method) (values from 0 to 50%) to obtain estimate of background concentration
7
or for aged ABCs only
Enter State (or closest State)
NSW
Enter traffic volume (high or low)
low

Outputs		
Land use	Ni soil-specific EILs	
	(mg contaminant/kg dry soil)	
	Fresh	Aged
National parks and areas of high conservation value	30	20
Urban residential and open public spaces	55	90
Commercial and industrial	80	150

Inputs
Select contaminant from list below
Pb
Below needed to calculate fresh and aged ACLs
Below needed to calculate fresh and aged ABCs
or for fresh ABCs only
or for aged ABCs only

Outputs		
Land use	Lead generic EILs	
	(mg contaminant/kg dry soil)	
	Fresh	Aged
National parks and areas of high conservation value	110	470
Urban residential and open public spaces	270	1100
Commercial and industrial	440	1800

Data Summary Table

P20023 - Preliminary Site Investigation, Block 45 Section 3, Hume, ACT

Table 1: Analytical Results

Method_Type	ChemName	Units	EQL	ASC NEPM (2013) ELU/ESL Urban Residential and Public Open Space	ASC NEPM (2013) HSL A (mg/kg) 0.0-1.0m/1.0-2.0m/2.0-4.0m	Field_ID	LC1 0.0-0.1	LC1 0.5-0.6	LC2 0.0-0.1	LC2 0.5-0.6	LC3 0.0-0.1	LC3 0.5-0.6	LC4 0.0-0.1	LC5 0.0-0.1	LC5 0.5-0.6	LC6 0.0-0.1	LC6 1.0-1.1	LC7 0.0-0.1	LC7 0.5-0.6	LC8 0.0-0.1	LC8 1.0-1.1	LC9 0.0-0.1	LC9 1.0-1.1	QC3	RPD
							11/05/2020	11/05/2020	11/05/2020	11/05/2020	11/05/2020	11/05/2020	11/05/2020	11/05/2020	11/05/2020	11/05/2020	11/05/2020	11/05/2020	11/05/2020	11/05/2020	11/05/2020	11/05/2020	11/05/2020	11/05/2020	11/05/2020
						ASC NEPM (2013) HIL A																			
Speciated Phenol	Phenol	mg/kg	0.5			3000	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-
	2-methyl phenol (o-cresol)	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	-
	3/4-methyl phenol (m/p-cresol)	mg/kg	1				<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	-
	Total Cresol	mg/kg	1.5			400	<1.5	<1.5	<1.5	<1.5	<1.5	<1.5	<1.5	<1.5	<1.5	<1.5	<1.5	<1.5	<1.5	<1.5	<1.5	<1.5	<1.5	<1.5	-
	2-chlorophenol	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	-
	2,4-dimethylphenol	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	-
	2,6-dichlorophenol	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	-
	2,4-dichlorophenol	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	-
	2,4,6-trichlorophenol	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	-
	2-nitrophenol	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	-
	4-nitrophenol	mg/kg	1				<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	-
	2,4,5-trichlorophenol	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	-
	2,3,4,6/2,3,5,6-tetrachlorophenol	mg/kg	1				<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	-
	Pentachlorophenol	mg/kg	0.5			100	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-
	2,4-dinitrophenol	mg/kg	2				<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	-
	4-chloro-3-methylphenol	mg/kg	2				<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	-
Asbestos	Asbestos Detected	No unit	0				No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	N.A.
	Estimated Fibres	%w/w	0.01				<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	-
Physicochemical Properties	pH	No unit	0.1				N.A.	6.7	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	7.3	-
	CEC	cmol/kg	0.02				N.A.	4.1	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	11	-
	%clay (<75 um)	%w/w	0.1				N.A.	14	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	32	-

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Table 1: Analytical Results

Method_Type	ChemName	Units	EQL	Field_ID	LC10 0.0-0.1	LC10 0.5-0.6	QC1	RPD	LC11 0.0-0.1	LC12 0.0-0.1	LC13 0.0-0.1	LC14 0.5-0.6	LC15 0.0-0.1	SPI-1	QC4	RPD	SPI-2	SPI-3	SPI-4	SPI-5	SP2-1	SP2-2	SP2-3
					Depth m	11/05/2020	11/05/2020		11/05/2020	0.0-0.1	0.0-0.1	0.0-0.1	0.5-0.6	0.0-0.1	11/05/2020		11/05/2020	11/05/2020	11/05/2020	11/05/2020	11/05/2020	11/05/2020	11/05/2020
				Fill/Natural	Natura	Natural		Natural	Natural	Natural	Natural	Natural	Natural	Fill	11/05/2020	Fill	Fill	Fill	Fill	Fill	Fill	Fill	Fill
				ASC NEPM (2013) ELU/ESS, Urban Residential and Public Open Space	ASC NEPM (2013) HSL A	ASC NEPM (2013) HSL A (mg/kg) 0.0-1.0m/1.0-2.0m/2.0-4.0m																	
Speciated Phenol	Phenol	mg/kg	0.5	3000	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	2-methyl phenol (o-cresol)	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
	3/4-methyl phenol (m/p-cresol)	mg/kg	1		<1	<1	<1	-	<1	<1	<1	<1	<1	<1	<1	-	<1	<1	<1	<1	<1	<1	<1
	Total Cresol	mg/kg	1.5	400	<1.5	<1.5	<1.5	-	<1.5	<1.5	<1.5	<1.5	<1.5	<1.5	<1.5	-	<1.5	<1.5	<1.5	<1.5	<1.5	<1.5	<1.5
	2-chlorophenol	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
	2,4-dimethylphenol	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
	2,6-dichlorophenol	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
	2,4-dichlorophenol	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
	2,4,6-trichlorophenol	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
	2-nitrophenol	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
	4-nitrophenol	mg/kg	1		<1	<1	<1	-	<1	<1	<1	<1	<1	<1	<1	-	<1	<1	<1	<1	<1	<1	<1
	2,4,5-trichlorophenol	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
	2,3,4,6/2,3,5,6-tetrachlorophenol	mg/kg	1		<1	<1	<1	-	<1	<1	<1	<1	<1	<1	<1	-	<1	<1	<1	<1	<1	<1	<1
	Pentachlorophenol	mg/kg	0.5	100	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	2,4-dinitrophenol	mg/kg	2		<2	<2	<2	-	<2	<2	<2	<2	<2	<2	<2	-	<2	<2	<2	<2	<2	<2	<2
	4-chloro-3-methylphenol	mg/kg	2		<2	<2	<2	-	<2	<2	<2	<2	<2	<2	<2	-	<2	<2	<2	<2	<2	<2	<2
Asbestos	Asbestos Detected	No unit	0		No	No	N.A.	-	No	No	No	No	No	No	N.A.	-	No	No	No	No	No	No	No
	Estimated Fibres	%w/w	0.01		<0.01	<0.01	N.A.	-	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	-	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Physicochemical Properties	pH	No unit	0.1		N.A.	N.A.	N.A.	-	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	-	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
	CEC	cmol/kg	0.02		N.A.	N.A.	N.A.	-	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	-	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
	%clay (<75 um)	%w/w	0.1		N.A.	N.A.	N.A.	-	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	-	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.

P20023 - Preliminary Site Investigation, Block 45 Section 3, Hume, ACT

Table 1: Analytical Results

Method_Type	ChemName	Units	EQL	ASC NEPM (2013) E1/ESL Urban Residential and Public Open Space	ASC NEPM (2013) HSL A (mg/kg) 0.0-1.0m/1.0-2.0m/2.0-4.0m	Field_ID	SP2-4	SP2-5	SP3-1
						Depth m			
						Sampled-date	11/05/2020	11/05/2020	11/05/2020
						Fill/Natural	Fill	Fill	Fill
Metals in soil	Arsenic, As	mg/kg	1	100	100	1	1	2	
	Cadmium, Cd	mg/kg	0.3		20	<0.3	<0.3	<0.3	
	Chromium, Cr	mg/kg	0.3	530	100	11	12	23	
	Copper, Cu	mg/kg	0.5	160	6000	4	3.3	4.8	
	Lead, Pb	mg/kg	1	1100	300	16	14	25	
	Nickel, Ni	mg/kg	0.5	90	400	3.5	3.8	4.1	
	Zinc, Zn	mg/kg	2	400	7400	25	24	37	
	Mercury	mg/kg	0.05		40	<0.05	<0.05	<0.05	
Organochlorine Pesticides	Hexachlorobenzene (HCB)	mg/kg	0.1		10	<0.1	<0.1	<0.1	
	Alpha BHC	mg/kg	0.1			<0.1	<0.1	<0.1	
	Lindane	mg/kg	0.1			<0.1	<0.1	<0.1	
	Heptachlor	mg/kg	0.1		6	<0.1	<0.1	<0.1	
	Aldrin	mg/kg	0.1		6	<0.1	<0.1	<0.1	
	Beta BHC	mg/kg	0.1			<0.1	<0.1	<0.1	
	Delta BHC	mg/kg	0.1			<0.1	<0.1	<0.1	
	Heptachlor epoxide	mg/kg	0.1			<0.1	<0.1	<0.1	
	o,p'-DDE	mg/kg	0.1			<0.1	<0.1	<0.1	
	Alpha Endosulfan	mg/kg	0.2		270	<0.2	<0.2	<0.2	
	Gamma Chlordane	mg/kg	0.1		50	<0.1	<0.1	<0.1	
	Alpha Chlordane	mg/kg	0.1		50	<0.1	<0.1	<0.1	
	trans-Nonachlor	mg/kg	0.1			<0.1	<0.1	<0.1	
	p,p'-DDE	mg/kg	0.1			<0.1	<0.1	<0.1	
	Dieldrin	mg/kg	0.2		6	<0.2	<0.2	<0.2	
	Endrin	mg/kg	0.2		10	<0.2	<0.2	<0.2	
	o,p'-DDD	mg/kg	0.1			<0.1	<0.1	<0.1	
	o,p'-DDT	mg/kg	0.1			<0.1	<0.1	<0.1	
	Beta Endosulfan	mg/kg	0.2			<0.2	<0.2	<0.2	
	p,p'-DDD	mg/kg	0.1		240	<0.1	<0.1	<0.1	
	p,p'-DDT	mg/kg	0.1	180	240	<0.1	<0.1	<0.1	
	Endosulfan sulphate	mg/kg	0.1			<0.1	<0.1	<0.1	
	Endrin Aldehyde	mg/kg	0.1		10	<0.1	<0.1	<0.1	
	Methoxychlor	mg/kg	0.1		300	<0.1	<0.1	<0.1	
	Endrin Ketone	mg/kg	0.1			<0.1	<0.1	<0.1	
	Isodrin	mg/kg	0.1			<0.1	<0.1	<0.1	
	Mirex	mg/kg	0.1		10	<0.1	<0.1	<0.1	
Organophosphorus Pesticides	Dichlorvos	mg/kg	0.5			<0.5	<0.5	<0.5	
	Dimethoate	mg/kg	0.5			<0.5	<0.5	<0.5	
	Diazinon (Dimpylate)	mg/kg	0.5			<0.5	<0.5	<0.5	
	Fenitrothion	mg/kg	0.2			<0.2	<0.2	<0.2	
	Malathion	mg/kg	0.2			<0.2	<0.2	<0.2	
	Chlorpyrifos (Chlorpyrifos Ethyl)	mg/kg	0.2		160	<0.2	<0.2	<0.2	
	Parathion-ethyl (Parathion)	mg/kg	0.2			<0.2	<0.2	<0.2	
	Bromophos Ethyl	mg/kg	0.2			<0.2	<0.2	<0.2	
	Methodathion	mg/kg	0.5			<0.5	<0.5	<0.5	
	Ethion	mg/kg	0.2			<0.2	<0.2	<0.2	
	Azinphos-methyl (Guthion)	mg/kg	0.2			<0.2	<0.2	<0.2	

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Table 1: Analytical Results

Method Type	ChemName	Units	EQL	ASC NEPM (2013) ELU/ESL Urban Residential and Public Open Space	ASC NEPM (2013) HSL A (mg/kg) 0.0-1.0m/1.0-2.0m/2.0-4.0m	Field_ID	SP2-4	SP2-5	SP3-1
						Depth m	SP2-4	SP2-5	SP3-1
						Sampled-date	11/05/2020	11/05/2020	11/05/2020
						Fill	Fill	Fill	Fill
						ASC NEPM (2013) HIL A			
PAHs in Soil	Naphthalene	mg/kg	0.1	170	5/NL/NL		<0.1	<0.1	<0.1
	2-methylnaphthalene	mg/kg	0.1				<0.1	<0.1	<0.1
	1-methylnaphthalene	mg/kg	0.1				<0.1	<0.1	<0.1
	Acenaphthylene	mg/kg	0.1				<0.1	<0.1	<0.1
	Acenaphthene	mg/kg	0.1				<0.1	<0.1	<0.1
	Fluorene	mg/kg	0.1				<0.1	<0.1	<0.1
	Phenanthrene	mg/kg	0.1				<0.1	<0.1	<0.1
	Anthracene	mg/kg	0.1				<0.1	<0.1	<0.1
	Fluoranthene	mg/kg	0.1				<0.1	<0.1	<0.1
	Pyrene	mg/kg	0.1				<0.1	<0.1	0.1
	Benzo(a)anthracene	mg/kg	0.1				<0.1	<0.1	<0.1
	Chrysene	mg/kg	0.1				<0.1	<0.1	<0.1
	Benzo(b)fluoranthene	mg/kg	0.1				<0.1	<0.1	<0.1
	Benzo(k)fluoranthene	mg/kg	0.1				<0.1	<0.1	<0.1
	Benzo(a)pyrene	mg/kg	0.1	0.7			<0.1	<0.1	<0.1
	Indeno(1,2,3-cd)pyrene	mg/kg	0.1				<0.1	<0.1	<0.1
	Dibenz(a,h)anthracene	mg/kg	0.1				<0.1	<0.1	<0.1
	Benzo(ghi)perylene	mg/kg	0.1				<0.1	<0.1	<0.1
	Carcinogenic PAHs, BaP TEQ <LOR=0	TEQ (mg/kg)	0.2			3	<0.2	<0.2	<0.2
	Carcinogenic PAHs, BaP TEQ <LOR=LOR	TEQ (mg/kg)	0.3			3	<0.3	<0.3	<0.3
	Carcinogenic PAHs, BaP TEQ <LOR=LOR/2	TEQ (mg/kg)	0.2			3	<0.2	<0.2	<0.2
	Total PAH (18)	mg/kg	0.8			300	<0.8	<0.8	<0.8
PCBs in Soil	Arochlor 1016	mg/kg	0.2				<0.2	<0.2	<0.2
	Arochlor 1221	mg/kg	0.2				<0.2	<0.2	<0.2
	Arochlor 1232	mg/kg	0.2				<0.2	<0.2	<0.2
	Arochlor 1242	mg/kg	0.2				<0.2	<0.2	<0.2
	Arochlor 1248	mg/kg	0.2				<0.2	<0.2	<0.2
	Arochlor 1254	mg/kg	0.2				<0.2	<0.2	<0.2
	Arochlor 1260	mg/kg	0.2				<0.2	<0.2	<0.2
	Arochlor 1262	mg/kg	0.2				<0.2	<0.2	<0.2
	Arochlor 1268	mg/kg	0.2				<0.2	<0.2	<0.2
	Total PCBs (Arochlors)	mg/kg	1			1	<1	<1	<1
TRH Soil C10-C40 NEMM	TRH C10-C14	mg/kg	20				<20	<20	<20
	TRH C15-C28	mg/kg	45				<45	<45	<45
	TRH C29-C36	mg/kg	45				<45	<45	<45
	TRH C37-C40	mg/kg	100				<100	<100	<100
	TRH <C10-C16	mg/kg	25				<25	<25	<25
	TRH <C10-C16 - Naphthalene (F2)	mg/kg	25	120	280/NL/NL		<25	<25	<25
	TRH <C16-C34 (F3)	mg/kg	90	1300			<90	<90	<90
	TRH <C34-C40 (F4)	mg/kg	120	5600			<120	<120	<120
	TRH C10-C36 Total	mg/kg	110				<110	<110	<110
	TRH <C10-C40 Total (F bands)	mg/kg	210				<210	<210	<210
BTEX + VOC	Benzene	mg/kg	0.1	65	0.7/1.0/2.0		<0.1	<0.1	<0.1
	Toluene	mg/kg	0.1	105	480/NL/NL/NL		<0.1	<0.1	<0.1
	Ethylbenzene	mg/kg	0.1	125	NL/NL/NL		<0.1	<0.1	<0.1
	m/p-xylene	mg/kg	0.2				<0.2	<0.2	<0.2
	o-xylene	mg/kg	0.1				<0.1	<0.1	<0.1
	Total Xylenes	mg/kg	0.3	45	110/310/NL		<0.3	<0.3	<0.3
	Total BTEX	mg/kg	0.6				<0.6	<0.6	<0.6
	Benzene (F0)	mg/kg	20		0.6/0.7/1		<0.1	<0.1	<0.1
	TRH C6-C9	mg/kg	0.1				<0.1	<0.1	<0.1
	TRH C6-C10	mg/kg	25				<25	<25	<25
	TRH C6-C10 minus BTEX (F1)	mg/kg	25	180	50/90/150		<25	<25	<25

P20023 - Preliminary Site Investigation, Block 45 Section 3, Hume, ACT

Table 1: Analytical Results

				Field_ID	SP2-4	SP2-5	SP3-1	
				Depth m				
				Sampled-date	11/05/2020	11/05/2020	11/05/2020	
				Fill/Natural	Fill	Fill	Fill	
				ASC NEPM (2013) HIL				
				A				
				ASC NEPM (2013) EIU/ESL Urban Residential and Public Open Space				
				ASC NEPM (2013) HSL A (mg/kg) 0.0-1.0m/1.0-2.0m/2.0-4.0m				
Method_Type	ChemName	Units	EQL					
Speciated Phenol	Phenol	mg/kg	0.5		3000	<0.5	<0.5	<0.5
	2-methyl phenol (o-cresol)	mg/kg	0.5			<0.5	<0.5	<0.5
	3/4-methyl phenol (m/p-cresol)	mg/kg	1			<1	<1	<1
	Total Cresol	mg/kg	1.5		400	<1.5	<1.5	<1.5
	2-chlorophenol	mg/kg	0.5			<0.5	<0.5	<0.5
	2,4-dimethylphenol	mg/kg	0.5			<0.5	<0.5	<0.5
	2,6-dichlorophenol	mg/kg	0.5			<0.5	<0.5	<0.5
	2,4-dichlorophenol	mg/kg	0.5			<0.5	<0.5	<0.5
	2,4,6-trichlorophenol	mg/kg	0.5			<0.5	<0.5	<0.5
	2-nitrophenol	mg/kg	0.5			<0.5	<0.5	<0.5
	4-nitrophenol	mg/kg	1			<1	<1	<1
	2,4,5-trichlorophenol	mg/kg	0.5			<0.5	<0.5	<0.5
	2,3,4,6/2,3,5,6-tetrachlorophenol	mg/kg	1			<1	<1	<1
	Pentachlorophenol	mg/kg	0.5		100	<0.5	<0.5	<0.5
	2,4-dinitrophenol	mg/kg	2			<2	<2	<2
	4-chloro-3-methylphenol	mg/kg	2			<2	<2	<2
Asbestos	Asbestos Detected	No unit	0			No	No	No
	Estimated Fibres	%w/w	0.01			<0.01	<0.01	<0.01
Physicochemical Properties	pH	No unit	0.1			N.A.	N.A.	N.A.
	CEC	cmol/kg	0.02			N.A.	N.A.	N.A.
	%clay (<75 um)	%w/w	0.1			N.A.	N.A.	N.A.

Laboratory Analytical Report, Sample Receipt and COC

CLIENT DETAILS

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Project **P20023-Block 45 Sect 3,Hume**
 Order Number **P20023**
 Samples 38

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SGS Reference **SE206178 R0**
 Date Received 13 May 2020
 Date Reported 20 May 2020

COMMENTS

Accredited for compliance with ISO/IEC 17025 - Testing. NATA accredited laboratory 2562(4354).

% Clay subcontracted to SGS Cairns, 2/58 Comport St, Portsmith QLD 4870, NATA Accreditation Number: 2562, Site Number: 3146. Report No: CE146121

No respirable fibres detected in all soil samples using trace analysis technique.

Sample # 1-24,28-31 :A portion of the sample supplied has been sub-sampled for asbestos analysis in soil according to SGS In-house procedures due to large volume.

We therefore cannot guarantee that the sub-sample is representative of the entire sample supplied. SGS Environmental Services recommends supplying approximately 50-100g of sample in a separate container.

Asbestos analysed by Approved Identifier Yusuf Kuthpudin.

SIGNATORIES

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 Chemist

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 Asbestos Analyst

Parameter	Units	LOR	SE206178.001	SE206178.002	SE206178.003	SE206178.004
Sample Number			SE206178.001	SE206178.002	SE206178.003	SE206178.004
Sample Matrix			Soil	Soil	Soil	Soil
Sample Date			11 May 2020	11 May 2020	11 May 2020	11 May 2020
Sample Name			LC1 0.0-0.1	LC1 0.5-0.6	LC2 0.0-0.1	LC2 0.5-0.6

VOC's in Soil Method: AN433 Tested: 14/5/2020

Monocyclic Aromatic Hydrocarbons

Parameter	Units	LOR	SE206178.001	SE206178.002	SE206178.003	SE206178.004
Benzene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Toluene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Ethylbenzene	mg/kg	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
o-xylene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1

Polycyclic VOCs

Parameter	Units	LOR	SE206178.001	SE206178.002	SE206178.003	SE206178.004
Naphthalene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1

Surrogates

Parameter	Units	LOR	SE206178.001	SE206178.002	SE206178.003	SE206178.004
d4-1,2-dichloroethane (Surrogate)	%	-	111	112	115	113
d8-toluene (Surrogate)	%	-	112	113	115	113
Bromofluorobenzene (Surrogate)	%	-	99	97	98	95

Totals

Parameter	Units	LOR	SE206178.001	SE206178.002	SE206178.003	SE206178.004
Total Xylenes	mg/kg	0.3	<0.3	<0.3	<0.3	<0.3
Total BTEX	mg/kg	0.6	<0.6	<0.6	<0.6	<0.6

Volatile Petroleum Hydrocarbons in Soil Method: AN433 Tested: 14/5/2020

Parameter	Units	LOR	SE206178.001	SE206178.002	SE206178.003	SE206178.004
TRH C6-C10	mg/kg	25	<25	<25	<25	<25
TRH C6-C9	mg/kg	20	<20	<20	<20	<20

Surrogates

Parameter	Units	LOR	SE206178.001	SE206178.002	SE206178.003	SE206178.004
d4-1,2-dichloroethane (Surrogate)	%	-	111	112	115	113
d8-toluene (Surrogate)	%	-	112	113	115	113
Bromofluorobenzene (Surrogate)	%	-	99	97	98	95

VPH F Bands

Parameter	Units	LOR	SE206178.001	SE206178.002	SE206178.003	SE206178.004
Benzene (F0)	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
TRH C6-C10 minus BTEX (F1)	mg/kg	25	<25	<25	<25	<25

Parameter	Units	LOR	SE206178.001	SE206178.002	SE206178.003	SE206178.004
Sample Number			SE206178.001	SE206178.002	SE206178.003	SE206178.004
Sample Matrix			Soil	Soil	Soil	Soil
Sample Date			11 May 2020	11 May 2020	11 May 2020	11 May 2020
Sample Name			LC1 0.0-0.1	LC1 0.5-0.6	LC2 0.0-0.1	LC2 0.5-0.6

TRH (Total Recoverable Hydrocarbons) in Soil Method: AN403 Tested: 14/5/2020

Parameter	Units	LOR	SE206178.001	SE206178.002	SE206178.003	SE206178.004
TRH C10-C14	mg/kg	20	<20	<20	<20	<20
TRH C15-C28	mg/kg	45	<45	<45	<45	<45
TRH C29-C36	mg/kg	45	<45	<45	<45	<45
TRH C37-C40	mg/kg	100	<100	<100	<100	<100
TRH C10-C36 Total	mg/kg	110	<110	<110	<110	<110
TRH >C10-C40 Total (F bands)	mg/kg	210	<210	<210	<210	<210

TRH F Bands

Parameter	Units	LOR	SE206178.001	SE206178.002	SE206178.003	SE206178.004
TRH >C10-C16	mg/kg	25	<25	<25	<25	<25
TRH >C10-C16 - Naphthalene (F2)	mg/kg	25	<25	<25	<25	<25
TRH >C16-C34 (F3)	mg/kg	90	<90	<90	<90	<90
TRH >C34-C40 (F4)	mg/kg	120	<120	<120	<120	<120

PAH (Polynuclear Aromatic Hydrocarbons) in Soil Method: AN420 Tested: 14/5/2020

Parameter	Units	LOR	SE206178.001	SE206178.002	SE206178.003	SE206178.004
Naphthalene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
2-methylnaphthalene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
1-methylnaphthalene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Acenaphthylene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Acenaphthene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Fluorene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Phenanthrene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Anthracene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Fluoranthene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Pyrene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Benzo(a)anthracene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Chrysene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Benzo(b&j)fluoranthene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Benzo(k)fluoranthene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Benzo(a)pyrene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Indeno(1,2,3-cd)pyrene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Dibenzo(ah)anthracene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Benzo(ghi)perylene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Carcinogenic PAHs, BaP TEQ <LOR=0	TEQ (mg/kg)	0.2	<0.2	<0.2	<0.2	<0.2
Carcinogenic PAHs, BaP TEQ <LOR=LOR	TEQ (mg/kg)	0.3	<0.3	<0.3	<0.3	<0.3
Carcinogenic PAHs, BaP TEQ <LOR=LOR/2	TEQ (mg/kg)	0.2	<0.2	<0.2	<0.2	<0.2
Total PAH (18)	mg/kg	0.8	<0.8	<0.8	<0.8	<0.8
Total PAH (NEPM/WHO 16)	mg/kg	0.8	<0.8	<0.8	<0.8	<0.8

Surrogates

Parameter	Units	LOR	SE206178.001	SE206178.002	SE206178.003	SE206178.004
d5-nitrobenzene (Surrogate)	%	-	84	85	88	86
2-fluorobiphenyl (Surrogate)	%	-	74	73	74	74
d14-p-terphenyl (Surrogate)	%	-	90	89	88	87

Speciated Phenols in Soil Method: AN420 Tested: 14/5/2020

Parameter	Units	LOR	SE206178.001	SE206178.002	SE206178.003	SE206178.004
Phenol	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5
2-methyl phenol (o-cresol)	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5
3/4-methyl phenol (m/p-cresol)	mg/kg	1	<1	<1	<1	<1
Total Cresol	mg/kg	1.5	<1.5	<1.5	<1.5	<1.5
2-chlorophenol	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5
2,4-dimethylphenol	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5
2,6-dichlorophenol	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5
2,4-dichlorophenol	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5
2,4,6-trichlorophenol	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5
2-nitrophenol	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5
4-nitrophenol	mg/kg	1	<1	<1	<1	<1
2,4,5-trichlorophenol	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5
2,3,4,6/2,3,5,6-tetrachlorophenol	mg/kg	1	<1	<1	<1	<1
Pentachlorophenol	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5
2,4-dinitrophenol	mg/kg	2	<2	<2	<2	<2
4-chloro-3-methylphenol	mg/kg	2	<2	<2	<2	<2

Parameter	Units	LOR	SE206178.001 Sample Number Sample Matrix Sample Date Sample Name	SE206178.002 Soil 11 May 2020 LC1 0.0-0.1	SE206178.003 Soil 11 May 2020 LC2 0.0-0.1	SE206178.004 Soil 11 May 2020 LC2 0.5-0.6
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Speciated Phenols in Soil Method: AN420 Tested: 14/5/2020 (continued)

Surrogates							
2,4,6-Tribromophenol (Surrogate)	%	-	100	92	78	99	
d5-phenol (Surrogate)	%	-	82	74	73	83	

OC Pesticides in Soil Method: AN420 Tested: 14/5/2020

Hexachlorobenzene (HCB)	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Alpha BHC	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Lindane	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Heptachlor	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Aldrin	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Beta BHC	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Delta BHC	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Heptachlor epoxide	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
o,p'-DDE	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Alpha Endosulfan	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Gamma Chlordane	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Alpha Chlordane	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
trans-Nonachlor	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
p,p'-DDE	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Dieldrin	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Endrin	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
o,p'-DDD	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
o,p'-DDT	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Beta Endosulfan	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
p,p'-DDD	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
p,p'-DDT	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Endosulfan sulphate	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Endrin Aldehyde	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Methoxychlor	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Endrin Ketone	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Isodrin	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Mirex	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Total CLP OC Pesticides	mg/kg	1	<1	<1	<1	<1	<1

Surrogates							
Tetrachloro-m-xylene (TCMX) (Surrogate)	%	-	99	99	98	93	

OP Pesticides in Soil Method: AN420 Tested: 14/5/2020

Dichlorvos	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Dimethoate	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Diazinon (Dimpylate)	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Fenitrothion	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Malathion	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Chlorpyrifos (Chlorpyrifos Ethyl)	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Parathion-ethyl (Parathion)	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Bromophos Ethyl	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Methidathion	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Ethion	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Azinphos-methyl (Guthion)	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Total OP Pesticides*	mg/kg	1.7	<1.7	<1.7	<1.7	<1.7	<1.7

Surrogates							
2-fluorobiphenyl (Surrogate)	%	-	74	73	74	74	
d14-p-terphenyl (Surrogate)	%	-	90	89	88	87	

Parameter	Units	LOR	SE206178.001 Soil 11 May 2020 LC1 0.0-0.1	SE206178.002 Soil 11 May 2020 LC1 0.5-0.6	SE206178.003 Soil 11 May 2020 LC2 0.0-0.1	SE206178.004 Soil 11 May 2020 LC2 0.5-0.6
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PCBs in Soil Method: AN420 Tested: 14/5/2020

Parameter	Units	LOR	SE206178.001	SE206178.002	SE206178.003	SE206178.004
Arochlor 1016	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2
Arochlor 1221	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2
Arochlor 1232	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2
Arochlor 1242	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2
Arochlor 1248	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2
Arochlor 1254	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2
Arochlor 1260	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2
Arochlor 1262	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2
Arochlor 1268	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2
Total PCBs (Arochlors)	mg/kg	1	<1	<1	<1	<1

Surrogates

Tetrachloro-m-xylene (TCMX) (Surrogate)	%	-	99	99	98	93
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pH in soil (1:5) Method: AN101 Tested: 19/5/2020

pH	pH Units	0.1	-	6.7	-	-
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Exchangeable Cations and Cation Exchange Capacity (CEC/ESP/SAR) Method: AN122 Tested: 20/5/2020

Exchangeable Sodium, Na	mg/kg	2	-	44	-	-
Exchangeable Sodium, Na	meq/100g	0.01	-	0.19	-	-
Exchangeable Sodium Percentage*	%	0.1	-	4.6	-	-
Exchangeable Potassium, K	mg/kg	2	-	110	-	-
Exchangeable Potassium, K	meq/100g	0.01	-	0.29	-	-
Exchangeable Potassium Percentage*	%	0.1	-	6.9	-	-
Exchangeable Calcium, Ca	mg/kg	2	-	520	-	-
Exchangeable Calcium, Ca	meq/100g	0.01	-	2.6	-	-
Exchangeable Calcium Percentage*	%	0.1	-	62.5	-	-
Exchangeable Magnesium, Mg	mg/kg	2	-	130	-	-
Exchangeable Magnesium, Mg	meq/100g	0.02	-	1.1	-	-
Exchangeable Magnesium Percentage*	%	0.1	-	26.0	-	-
Cation Exchange Capacity	meq/100g	0.02	-	4.1	-	-

Total Recoverable Elements in Soil/Waste Solids/Materials by ICPOES Method: AN040/AN320 Tested: 14/5/2020

Arsenic, As	mg/kg	1	3	4	3	1
Cadmium, Cd	mg/kg	0.3	<0.3	<0.3	<0.3	<0.3
Chromium, Cr	mg/kg	0.5	18	26	26	25
Copper, Cu	mg/kg	0.5	5.1	6.2	6.8	3.8
Nickel, Ni	mg/kg	0.5	4.7	4.8	5.2	2.7
Lead, Pb	mg/kg	1	63	70	26	8
Zinc, Zn	mg/kg	2	34	20	18	7.2

Mercury in Soil Method: AN312 Tested: 14/5/2020

Mercury	mg/kg	0.05	<0.05	<0.05	<0.05	<0.05
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Parameter	Units	LOR	SE206178.001	SE206178.002	SE206178.003	SE206178.004
Sample Number			SE206178.001	SE206178.002	SE206178.003	SE206178.004
Sample Matrix			Soil	Soil	Soil	Soil
Sample Date			11 May 2020	11 May 2020	11 May 2020	11 May 2020
Sample Name			LC1 0.0-0.1	LC1 0.5-0.6	LC2 0.0-0.1	LC2 0.5-0.6

Moisture Content Method: AN002 Tested: 14/5/2020

Parameter	Units	LOR	SE206178.001	SE206178.002	SE206178.003	SE206178.004
% Moisture	%w/w	1	13.5	11.4	15.6	13.1

Fibre Identification in soil Method: AN602 Tested: 19/5/2020

FibreID

Asbestos Detected	No unit	-	No	No	No	No

SemiQuant

Estimated Fibres*	%w/w	0.01	<0.01	<0.01	<0.01	<0.01

Gravimetric Determination of Asbestos in Soil Method: AN605 Tested: 20/5/2020

Parameter	Units	LOR	SE206178.001	SE206178.002	SE206178.003	SE206178.004
Total Sample Weight*	g	1	-	-	-	-
Bonded ACM in >7mm Sample*	g	0.001	-	-	-	-
AF/FA in >2mm to <7mm Sample*	g	0.00001	-	-	-	-
AF/FA in <2mm Sample*	g	0.00001	-	-	-	-
Asbestos in soil (>7mm ACM)*	%w/w	0.01	-	-	-	-
Asbestos in soil (>2mm to <7mm AF/FA)*	%w/w	0.001	-	-	-	-
Asbestos in soil (<2mm AF/FA)*	%w/w	0.001	-	-	-	-
Asbestos in soil (<7mm AF/FA)*	%w/w	0.001	-	-	-	-
Fibre Type*	No unit	-	-	-	-	-

Particle sizing of soils by sieving Method: AN005 Tested: 20/5/2020

Parameter	Units	LOR	SE206178.001	SE206178.002	SE206178.003	SE206178.004
Passing 75µm*	%w/w	1	-	57	-	-
Retained 75µm*	%w/w	1	-	44	-	-

Particle sizing of soils <75µm by hydrometer Method: AN005 Tested: 20/5/2020

Parameter	Units	LOR	SE206178.001	SE206178.002	SE206178.003	SE206178.004
Clay (<0.002mm)*	%w/w	0.1	-	14	-	-

Parameter	Units	LOR	SE206178.005	SE206178.006	SE206178.007	SE206178.008
Sample Number			SE206178.005	SE206178.006	SE206178.007	SE206178.008
Sample Matrix			Soil	Soil	Soil	Soil
Sample Date			11 May 2020	11 May 2020	11 May 2020	11 May 2020
Sample Name			LC3 0.0-0.1	LC3 0.5-0.6	LC4 0.0-0.1	LC5 0.0-0.1

VOC's in Soil Method: AN433 Tested: 14/5/2020

Monocyclic Aromatic Hydrocarbons

Parameter	Units	LOR	SE206178.005	SE206178.006	SE206178.007	SE206178.008
Benzene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Toluene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Ethylbenzene	mg/kg	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
o-xylene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1

Polycyclic VOCs

Parameter	Units	LOR	SE206178.005	SE206178.006	SE206178.007	SE206178.008
Naphthalene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1

Surrogates

Parameter	Units	LOR	SE206178.005	SE206178.006	SE206178.007	SE206178.008
d4-1,2-dichloroethane (Surrogate)	%	-	107	113	111	110
d8-toluene (Surrogate)	%	-	107	116	111	109
Bromofluorobenzene (Surrogate)	%	-	90	98	92	92

Totals

Parameter	Units	LOR	SE206178.005	SE206178.006	SE206178.007	SE206178.008
Total Xylenes	mg/kg	0.3	<0.3	<0.3	<0.3	<0.3
Total BTEX	mg/kg	0.6	<0.6	<0.6	<0.6	<0.6

Volatile Petroleum Hydrocarbons in Soil Method: AN433 Tested: 14/5/2020

Parameter	Units	LOR	SE206178.005	SE206178.006	SE206178.007	SE206178.008
TRH C6-C10	mg/kg	25	<25	<25	<25	<25
TRH C6-C9	mg/kg	20	<20	<20	<20	<20

Surrogates

Parameter	Units	LOR	SE206178.005	SE206178.006	SE206178.007	SE206178.008
d4-1,2-dichloroethane (Surrogate)	%	-	107	113	111	110
d8-toluene (Surrogate)	%	-	107	116	111	109
Bromofluorobenzene (Surrogate)	%	-	90	98	92	92

VPH F Bands

Parameter	Units	LOR	SE206178.005	SE206178.006	SE206178.007	SE206178.008
Benzene (F0)	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
TRH C6-C10 minus BTEX (F1)	mg/kg	25	<25	<25	<25	<25

Parameter	Units	LOR	Sample Number	SE206178.005	SE206178.006	SE206178.007	SE206178.008
			Sample Matrix	Soil	Soil	Soil	Soil
			Sample Date	11 May 2020	11 May 2020	11 May 2020	11 May 2020
			Sample Name	LC3 0.0-0.1	LC3 0.5-0.6	LC4 0.0-0.1	LC5 0.0-0.1

TRH (Total Recoverable Hydrocarbons) in Soil Method: AN403 Tested: 14/5/2020

Parameter	Units	LOR	SE206178.005	SE206178.006	SE206178.007	SE206178.008
TRH C10-C14	mg/kg	20	<20	<20	<20	<20
TRH C15-C28	mg/kg	45	<45	<45	<45	<45
TRH C29-C36	mg/kg	45	<45	<45	<45	<45
TRH C37-C40	mg/kg	100	<100	<100	<100	<100
TRH C10-C36 Total	mg/kg	110	<110	<110	<110	<110
TRH >C10-C40 Total (F bands)	mg/kg	210	<210	<210	<210	<210

TRH F Bands

Parameter	Units	LOR	SE206178.005	SE206178.006	SE206178.007	SE206178.008
TRH >C10-C16	mg/kg	25	<25	<25	<25	<25
TRH >C10-C16 - Naphthalene (F2)	mg/kg	25	<25	<25	<25	<25
TRH >C16-C34 (F3)	mg/kg	90	<90	<90	<90	<90
TRH >C34-C40 (F4)	mg/kg	120	<120	<120	<120	<120

PAH (Polynuclear Aromatic Hydrocarbons) in Soil Method: AN420 Tested: 14/5/2020

Parameter	Units	LOR	SE206178.005	SE206178.006	SE206178.007	SE206178.008
Naphthalene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
2-methylnaphthalene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
1-methylnaphthalene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Acenaphthylene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Acenaphthene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Fluorene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Phenanthrene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Anthracene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Fluoranthene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Pyrene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Benzo(a)anthracene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Chrysene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Benzo(b&j)fluoranthene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Benzo(k)fluoranthene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Benzo(a)pyrene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Indeno(1,2,3-cd)pyrene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Dibenzo(ah)anthracene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Benzo(ghi)perylene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Carcinogenic PAHs, BaP TEQ <LOR=0	TEQ (mg/kg)	0.2	<0.2	<0.2	<0.2	<0.2
Carcinogenic PAHs, BaP TEQ <LOR=LOR	TEQ (mg/kg)	0.3	<0.3	<0.3	<0.3	<0.3
Carcinogenic PAHs, BaP TEQ <LOR=LOR/2	TEQ (mg/kg)	0.2	<0.2	<0.2	<0.2	<0.2
Total PAH (18)	mg/kg	0.8	<0.8	<0.8	<0.8	<0.8
Total PAH (NEPM/WHO 16)	mg/kg	0.8	<0.8	<0.8	<0.8	<0.8

Surrogates

Parameter	Units	LOR	SE206178.005	SE206178.006	SE206178.007	SE206178.008
d5-nitrobenzene (Surrogate)	%	-	88	85	84	83
2-fluorobiphenyl (Surrogate)	%	-	75	73	77	83
d14-p-terphenyl (Surrogate)	%	-	71	74	73	82

Speciated Phenols in Soil Method: AN420 Tested: 14/5/2020

Parameter	Units	LOR	SE206178.005	SE206178.006	SE206178.007	SE206178.008
Phenol	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5
2-methyl phenol (o-cresol)	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5
3/4-methyl phenol (m/p-cresol)	mg/kg	1	<1	<1	<1	<1
Total Cresol	mg/kg	1.5	<1.5	<1.5	<1.5	<1.5
2-chlorophenol	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5
2,4-dimethylphenol	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5
2,6-dichlorophenol	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5
2,4-dichlorophenol	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5
2,4,6-trichlorophenol	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5
2-nitrophenol	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5
4-nitrophenol	mg/kg	1	<1	<1	<1	<1
2,4,5-trichlorophenol	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5
2,3,4,6/2,3,5,6-tetrachlorophenol	mg/kg	1	<1	<1	<1	<1
Pentachlorophenol	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5
2,4-dinitrophenol	mg/kg	2	<2	<2	<2	<2
4-chloro-3-methylphenol	mg/kg	2	<2	<2	<2	<2

Parameter	Units	LOR	SE206178.005	SE206178.006	SE206178.007	SE206178.008
Sample Number			SE206178.005	SE206178.006	SE206178.007	SE206178.008
Sample Matrix			Soil	Soil	Soil	Soil
Sample Date			11 May 2020	11 May 2020	11 May 2020	11 May 2020
Sample Name			LC3 0.0-0.1	LC3 0.5-0.6	LC4 0.0-0.1	LC5 0.0-0.1

Speciated Phenols in Soil Method: AN420 Tested: 14/5/2020 (continued)

Surrogates	Units	LOR	SE206178.005	SE206178.006	SE206178.007	SE206178.008
2,4,6-Tribromophenol (Surrogate)	%	-	73	103	103	102
d5-phenol (Surrogate)	%	-	71	70	71	71

OC Pesticides in Soil Method: AN420 Tested: 14/5/2020

Parameter	Units	LOR	SE206178.005	SE206178.006	SE206178.007	SE206178.008
Hexachlorobenzene (HCB)	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Alpha BHC	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Lindane	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Heptachlor	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Aldrin	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Beta BHC	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Delta BHC	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Heptachlor epoxide	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
o,p'-DDE	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Alpha Endosulfan	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2
Gamma Chlordane	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Alpha Chlordane	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
trans-Nonachlor	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
p,p'-DDE	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Dieldrin	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2
Endrin	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2
o,p'-DDD	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
o,p'-DDT	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Beta Endosulfan	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2
p,p'-DDD	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
p,p'-DDT	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Endosulfan sulphate	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Endrin Aldehyde	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Methoxychlor	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Endrin Ketone	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Isodrin	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Mirex	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Total CLP OC Pesticides	mg/kg	1	<1	<1	<1	<1

Surrogates	Units	LOR	SE206178.005	SE206178.006	SE206178.007	SE206178.008
Tetrachloro-m-xylene (TCMX) (Surrogate)	%	-	97	95	97	99

OP Pesticides in Soil Method: AN420 Tested: 14/5/2020

Parameter	Units	LOR	SE206178.005	SE206178.006	SE206178.007	SE206178.008
Dichlorvos	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5
Dimethoate	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5
Diazinon (Dimpylate)	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5
Fenitrothion	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2
Malathion	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2
Chlorpyrifos (Chlorpyrifos Ethyl)	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2
Parathion-ethyl (Parathion)	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2
Bromophos Ethyl	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2
Methidathion	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5
Ethion	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2
Azinphos-methyl (Guthion)	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2
Total OP Pesticides*	mg/kg	1.7	<1.7	<1.7	<1.7	<1.7

Surrogates	Units	LOR	SE206178.005	SE206178.006	SE206178.007	SE206178.008
2-fluorobiphenyl (Surrogate)	%	-	75	73	77	83
d14-p-terphenyl (Surrogate)	%	-	71	74	73	82

Parameter	Units	LOR	SE206178.005 Soil 11 May 2020 LC3 0.0-0.1	SE206178.006 Soil 11 May 2020 LC3 0.5-0.6	SE206178.007 Soil 11 May 2020 LC4 0.0-0.1	SE206178.008 Soil 11 May 2020 LC5 0.0-0.1
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PCBs in Soil Method: AN420 Tested: 14/5/2020

Arochlor 1016	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2
Arochlor 1221	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2
Arochlor 1232	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2
Arochlor 1242	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2
Arochlor 1248	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2
Arochlor 1254	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2
Arochlor 1260	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2
Arochlor 1262	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2
Arochlor 1268	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2
Total PCBs (Arochlors)	mg/kg	1	<1	<1	<1	<1

Surrogates

Tetrachloro-m-xylene (TCMX) (Surrogate)	%	-	97	95	97	99
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pH in soil (1:5) Method: AN101 Tested: 19/5/2020

pH	pH Units	0.1	-	-	-	-
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Exchangeable Cations and Cation Exchange Capacity (CEC/ESP/SAR) Method: AN122 Tested: 20/5/2020

Exchangeable Sodium, Na	mg/kg	2	-	-	-	-
Exchangeable Sodium, Na	meq/100g	0.01	-	-	-	-
Exchangeable Sodium Percentage*	%	0.1	-	-	-	-
Exchangeable Potassium, K	mg/kg	2	-	-	-	-
Exchangeable Potassium, K	meq/100g	0.01	-	-	-	-
Exchangeable Potassium Percentage*	%	0.1	-	-	-	-
Exchangeable Calcium, Ca	mg/kg	2	-	-	-	-
Exchangeable Calcium, Ca	meq/100g	0.01	-	-	-	-
Exchangeable Calcium Percentage*	%	0.1	-	-	-	-
Exchangeable Magnesium, Mg	mg/kg	2	-	-	-	-
Exchangeable Magnesium, Mg	meq/100g	0.02	-	-	-	-
Exchangeable Magnesium Percentage*	%	0.1	-	-	-	-
Cation Exchange Capacity	meq/100g	0.02	-	-	-	-

Total Recoverable Elements in Soil/Waste Solids/Materials by ICPOES Method: AN040/AN320 Tested: 14/5/2020

Arsenic, As	mg/kg	1	2	4	2	2
Cadmium, Cd	mg/kg	0.3	<0.3	<0.3	<0.3	<0.3
Chromium, Cr	mg/kg	0.5	21	36	24	22
Copper, Cu	mg/kg	0.5	4.1	8.4	4.2	4.1
Nickel, Ni	mg/kg	0.5	3.5	4.8	3.1	3.5
Lead, Pb	mg/kg	1	11	24	22	16
Zinc, Zn	mg/kg	2	13	12	19	16

Mercury in Soil Method: AN312 Tested: 14/5/2020

Mercury	mg/kg	0.05	<0.05	<0.05	<0.05	<0.05
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Parameter	Units	LOR	SE206178.005	SE206178.006	SE206178.007	SE206178.008
Sample Number			SE206178.005	SE206178.006	SE206178.007	SE206178.008
Sample Matrix			Soil	Soil	Soil	Soil
Sample Date			11 May 2020	11 May 2020	11 May 2020	11 May 2020
Sample Name			LC3 0.0-0.1	LC3 0.5-0.6	LC4 0.0-0.1	LC5 0.0-0.1

Moisture Content Method: AN002 Tested: 14/5/2020

Parameter	Units	LOR	SE206178.005	SE206178.006	SE206178.007	SE206178.008
% Moisture	%w/w	1	15.8	13.0	15.0	14.9

Fibre Identification in soil Method: AN602 Tested: 19/5/2020

FibreID

Asbestos Detected	No unit	-	No	No	No	No

SemiQuant

Estimated Fibres*	%w/w	0.01	<0.01	<0.01	<0.01	<0.01

Gravimetric Determination of Asbestos in Soil Method: AN605 Tested: 20/5/2020

Parameter	Units	LOR	SE206178.005	SE206178.006	SE206178.007	SE206178.008
Total Sample Weight*	g	1	-	-	-	-
Bonded ACM in >7mm Sample*	g	0.001	-	-	-	-
AF/FA in >2mm to <7mm Sample*	g	0.00001	-	-	-	-
AF/FA in <2mm Sample*	g	0.00001	-	-	-	-
Asbestos in soil (>7mm ACM)*	%w/w	0.01	-	-	-	-
Asbestos in soil (>2mm to <7mm AF/FA)*	%w/w	0.001	-	-	-	-
Asbestos in soil (<2mm AF/FA)*	%w/w	0.001	-	-	-	-
Asbestos in soil (<7mm AF/FA)*	%w/w	0.001	-	-	-	-
Fibre Type*	No unit	-	-	-	-	-

Particle sizing of soils by sieving Method: AN005 Tested: 20/5/2020

Parameter	Units	LOR	SE206178.005	SE206178.006	SE206178.007	SE206178.008
Passing 75µm*	%w/w	1	-	-	-	-
Retained 75µm*	%w/w	1	-	-	-	-

Particle sizing of soils <75µm by hydrometer Method: AN005 Tested: 20/5/2020

Parameter	Units	LOR	SE206178.005	SE206178.006	SE206178.007	SE206178.008
Clay (<0.002mm)*	%w/w	0.1	-	-	-	-

Parameter	Units	LOR	SE206178.009	SE206178.010	SE206178.011	SE206178.012
Sample Number			SE206178.009	SE206178.010	SE206178.011	SE206178.012
Sample Matrix			Soil	Soil	Soil	Soil
Sample Date			11 May 2020	11 May 2020	11 May 2020	11 May 2020
Sample Name			LC5 0.5-0.6	LC6 0.0-0.1	LC6 1.0-1.1	LC7 0.0-0.1

VOC's in Soil Method: AN433 Tested: 14/5/2020

Monocyclic Aromatic Hydrocarbons

Parameter	Units	LOR	SE206178.009	SE206178.010	SE206178.011	SE206178.012
Benzene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Toluene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Ethylbenzene	mg/kg	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
o-xylene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1

Polycyclic VOCs

Naphthalene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
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Surrogates

d4-1,2-dichloroethane (Surrogate)	%	-	111	108	102	109
d8-toluene (Surrogate)	%	-	112	107	89	111
Bromofluorobenzene (Surrogate)	%	-	94	89	88	93

Totals

Total Xylenes	mg/kg	0.3	<0.3	<0.3	<0.3	<0.3
Total BTEX	mg/kg	0.6	<0.6	<0.6	<0.6	<0.6

Volatile Petroleum Hydrocarbons in Soil Method: AN433 Tested: 14/5/2020

TRH C6-C10	mg/kg	25	<25	<25	<25	<25
TRH C6-C9	mg/kg	20	<20	<20	<20	<20

Surrogates

d4-1,2-dichloroethane (Surrogate)	%	-	111	108	102	109
d8-toluene (Surrogate)	%	-	112	107	89	111
Bromofluorobenzene (Surrogate)	%	-	94	89	88	93

VPH F Bands

Benzene (F0)	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
TRH C6-C10 minus BTEX (F1)	mg/kg	25	<25	<25	<25	<25

Parameter	Units	LOR	Sample Number	SE206178.009	SE206178.010	SE206178.011	SE206178.012
			Sample Matrix	Soil	Soil	Soil	Soil
			Sample Date	11 May 2020	11 May 2020	11 May 2020	11 May 2020
			Sample Name	LC5 0.5-0.6	LC6 0.0-0.1	LC6 1.0-1.1	LC7 0.0-0.1

TRH (Total Recoverable Hydrocarbons) in Soil Method: AN403 Tested: 14/5/2020

Parameter	Units	LOR	Sample Number	SE206178.009	SE206178.010	SE206178.011	SE206178.012
TRH C10-C14	mg/kg	20		<20	<20	<20	<20
TRH C15-C28	mg/kg	45		<45	<45	<45	<45
TRH C29-C36	mg/kg	45		<45	<45	<45	<45
TRH C37-C40	mg/kg	100		<100	<100	<100	<100
TRH C10-C36 Total	mg/kg	110		<110	<110	<110	<110
TRH >C10-C40 Total (F bands)	mg/kg	210		<210	<210	<210	<210

TRH F Bands

Parameter	Units	LOR	Sample Number	SE206178.009	SE206178.010	SE206178.011	SE206178.012
TRH >C10-C16	mg/kg	25		<25	<25	<25	<25
TRH >C10-C16 - Naphthalene (F2)	mg/kg	25		<25	<25	<25	<25
TRH >C16-C34 (F3)	mg/kg	90		<90	<90	<90	<90
TRH >C34-C40 (F4)	mg/kg	120		<120	<120	<120	<120

PAH (Polynuclear Aromatic Hydrocarbons) in Soil Method: AN420 Tested: 14/5/2020

Parameter	Units	LOR	Sample Number	SE206178.009	SE206178.010	SE206178.011	SE206178.012
Naphthalene	mg/kg	0.1		<0.1	<0.1	<0.1	<0.1
2-methylnaphthalene	mg/kg	0.1		<0.1	<0.1	<0.1	<0.1
1-methylnaphthalene	mg/kg	0.1		<0.1	<0.1	<0.1	<0.1
Acenaphthylene	mg/kg	0.1		<0.1	<0.1	<0.1	<0.1
Acenaphthene	mg/kg	0.1		<0.1	<0.1	<0.1	<0.1
Fluorene	mg/kg	0.1		<0.1	<0.1	<0.1	<0.1
Phenanthrene	mg/kg	0.1		<0.1	<0.1	<0.1	<0.1
Anthracene	mg/kg	0.1		<0.1	<0.1	<0.1	<0.1
Fluoranthene	mg/kg	0.1		<0.1	<0.1	<0.1	<0.1
Pyrene	mg/kg	0.1		<0.1	<0.1	<0.1	<0.1
Benzo(a)anthracene	mg/kg	0.1		<0.1	<0.1	<0.1	<0.1
Chrysene	mg/kg	0.1		<0.1	<0.1	<0.1	<0.1
Benzo(b&j)fluoranthene	mg/kg	0.1		<0.1	<0.1	<0.1	<0.1
Benzo(k)fluoranthene	mg/kg	0.1		<0.1	<0.1	<0.1	<0.1
Benzo(a)pyrene	mg/kg	0.1		<0.1	<0.1	<0.1	<0.1
Indeno(1,2,3-cd)pyrene	mg/kg	0.1		<0.1	<0.1	<0.1	<0.1
Dibenzo(ah)anthracene	mg/kg	0.1		<0.1	<0.1	<0.1	<0.1
Benzo(ghi)perylene	mg/kg	0.1		<0.1	<0.1	<0.1	<0.1
Carcinogenic PAHs, BaP TEQ <LOR=0	TEQ (mg/kg)	0.2		<0.2	<0.2	<0.2	<0.2
Carcinogenic PAHs, BaP TEQ <LOR=LOR	TEQ (mg/kg)	0.3		<0.3	<0.3	<0.3	<0.3
Carcinogenic PAHs, BaP TEQ <LOR=LOR/2	TEQ (mg/kg)	0.2		<0.2	<0.2	<0.2	<0.2
Total PAH (18)	mg/kg	0.8		<0.8	<0.8	<0.8	<0.8
Total PAH (NEPM/WHO 16)	mg/kg	0.8		<0.8	<0.8	<0.8	<0.8

Surrogates

Parameter	Units	LOR	Sample Number	SE206178.009	SE206178.010	SE206178.011	SE206178.012
d5-nitrobenzene (Surrogate)	%	-		80	70	69	69
2-fluorobiphenyl (Surrogate)	%	-		78	90	98	87
d14-p-terphenyl (Surrogate)	%	-		72	87	83	83

Speciated Phenols in Soil Method: AN420 Tested: 14/5/2020

Parameter	Units	LOR	Sample Number	SE206178.009	SE206178.010	SE206178.011	SE206178.012
Phenol	mg/kg	0.5		<0.5	<0.5	<0.5	<0.5
2-methyl phenol (o-cresol)	mg/kg	0.5		<0.5	<0.5	<0.5	<0.5
3/4-methyl phenol (m/p-cresol)	mg/kg	1		<1	<1	<1	<1
Total Cresol	mg/kg	1.5		<1.5	<1.5	<1.5	<1.5
2-chlorophenol	mg/kg	0.5		<0.5	<0.5	<0.5	<0.5
2,4-dimethylphenol	mg/kg	0.5		<0.5	<0.5	<0.5	<0.5
2,6-dichlorophenol	mg/kg	0.5		<0.5	<0.5	<0.5	<0.5
2,4-dichlorophenol	mg/kg	0.5		<0.5	<0.5	<0.5	<0.5
2,4,6-trichlorophenol	mg/kg	0.5		<0.5	<0.5	<0.5	<0.5
2-nitrophenol	mg/kg	0.5		<0.5	<0.5	<0.5	<0.5
4-nitrophenol	mg/kg	1		<1	<1	<1	<1
2,4,5-trichlorophenol	mg/kg	0.5		<0.5	<0.5	<0.5	<0.5
2,3,4,6/2,3,5,6-tetrachlorophenol	mg/kg	1		<1	<1	<1	<1
Pentachlorophenol	mg/kg	0.5		<0.5	<0.5	<0.5	<0.5
2,4-dinitrophenol	mg/kg	2		<2	<2	<2	<2
4-chloro-3-methylphenol	mg/kg	2		<2	<2	<2	<2

Parameter	Units	LOR	SE206178.009	SE206178.010	SE206178.011	SE206178.012
Sample Number			SE206178.009	SE206178.010	SE206178.011	SE206178.012
Sample Matrix			Soil	Soil	Soil	Soil
Sample Date			11 May 2020	11 May 2020	11 May 2020	11 May 2020
Sample Name			LC5 0.5-0.6	LC6 0.0-0.1	LC6 1.0-1.1	LC7 0.0-0.1

Speciated Phenols in Soil Method: AN420 Tested: 14/5/2020 (continued)

Surrogates

2,4,6-Tribromophenol (Surrogate)	%	-	105	94	87	87
d5-phenol (Surrogate)	%	-	72	73	77	71

OC Pesticides in Soil Method: AN420 Tested: 14/5/2020

Hexachlorobenzene (HCB)	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Alpha BHC	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Lindane	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Heptachlor	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Aldrin	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Beta BHC	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Delta BHC	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Heptachlor epoxide	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
o,p'-DDE	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Alpha Endosulfan	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2
Gamma Chlordane	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Alpha Chlordane	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
trans-Nonachlor	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
p,p'-DDE	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Dieldrin	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2
Endrin	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2
o,p'-DDD	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
o,p'-DDT	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Beta Endosulfan	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2
p,p'-DDD	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
p,p'-DDT	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Endosulfan sulphate	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Endrin Aldehyde	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Methoxychlor	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Endrin Ketone	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Isodrin	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Mirex	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Total CLP OC Pesticides	mg/kg	1	<1	<1	<1	<1

Surrogates

Tetrachloro-m-xylene (TCMX) (Surrogate)	%	-	97	97	97	98
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OP Pesticides in Soil Method: AN420 Tested: 14/5/2020

Dichlorvos	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5
Dimethoate	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5
Diazinon (Dimpylate)	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5
Fenitrothion	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2
Malathion	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2
Chlorpyrifos (Chlorpyrifos Ethyl)	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2
Parathion-ethyl (Parathion)	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2
Bromophos Ethyl	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2
Methidathion	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5
Ethion	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2
Azinphos-methyl (Guthion)	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2
Total OP Pesticides*	mg/kg	1.7	<1.7	<1.7	<1.7	<1.7

Surrogates

2-fluorobiphenyl (Surrogate)	%	-	78	90	98	87
d14-p-terphenyl (Surrogate)	%	-	72	87	83	83

Parameter	Units	LOR	SE206178.009	SE206178.010	SE206178.011	SE206178.012
Sample Number			SE206178.009	SE206178.010	SE206178.011	SE206178.012
Sample Matrix			Soil	Soil	Soil	Soil
Sample Date			11 May 2020	11 May 2020	11 May 2020	11 May 2020
Sample Name			LC5 0.5-0.6	LC6 0.0-0.1	LC6 1.0-1.1	LC7 0.0-0.1

PCBs in Soil Method: AN420 Tested: 14/5/2020

Parameter	Units	LOR	SE206178.009	SE206178.010	SE206178.011	SE206178.012
Arochlor 1016	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2
Arochlor 1221	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2
Arochlor 1232	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2
Arochlor 1242	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2
Arochlor 1248	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2
Arochlor 1254	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2
Arochlor 1260	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2
Arochlor 1262	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2
Arochlor 1268	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2
Total PCBs (Arochlors)	mg/kg	1	<1	<1	<1	<1

Surrogates

Tetrachloro-m-xylene (TCMX) (Surrogate)	%	-	97	97	97	98
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pH in soil (1:5) Method: AN101 Tested: 19/5/2020

pH	pH Units	0.1	-	-	-	-
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Exchangeable Cations and Cation Exchange Capacity (CEC/ESP/SAR) Method: AN122 Tested: 20/5/2020

Exchangeable Sodium, Na	mg/kg	2	-	-	-	-
Exchangeable Sodium, Na	meq/100g	0.01	-	-	-	-
Exchangeable Sodium Percentage*	%	0.1	-	-	-	-
Exchangeable Potassium, K	mg/kg	2	-	-	-	-
Exchangeable Potassium, K	meq/100g	0.01	-	-	-	-
Exchangeable Potassium Percentage*	%	0.1	-	-	-	-
Exchangeable Calcium, Ca	mg/kg	2	-	-	-	-
Exchangeable Calcium, Ca	meq/100g	0.01	-	-	-	-
Exchangeable Calcium Percentage*	%	0.1	-	-	-	-
Exchangeable Magnesium, Mg	mg/kg	2	-	-	-	-
Exchangeable Magnesium, Mg	meq/100g	0.02	-	-	-	-
Exchangeable Magnesium Percentage*	%	0.1	-	-	-	-
Cation Exchange Capacity	meq/100g	0.02	-	-	-	-

Total Recoverable Elements in Soil/Waste Solids/Materials by ICPOES Method: AN040/AN320 Tested: 14/5/2020

Arsenic, As	mg/kg	1	3	1	4	2
Cadmium, Cd	mg/kg	0.3	<0.3	<0.3	<0.3	<0.3
Chromium, Cr	mg/kg	0.5	32	28	37	24
Copper, Cu	mg/kg	0.5	7.4	3.5	13	3.8
Nickel, Ni	mg/kg	0.5	6.9	4.1	6.4	3.6
Lead, Pb	mg/kg	1	31	7	28	10
Zinc, Zn	mg/kg	2	10	7.0	12	8.8

Mercury in Soil Method: AN312 Tested: 14/5/2020

Mercury	mg/kg	0.05	<0.05	<0.05	0.10	<0.05
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Parameter	Units	LOR	SE206178.009	SE206178.010	SE206178.011	SE206178.012
Sample Number			SE206178.009	SE206178.010	SE206178.011	SE206178.012
Sample Matrix			Soil	Soil	Soil	Soil
Sample Date			11 May 2020	11 May 2020	11 May 2020	11 May 2020
Sample Name			LC5 0.5-0.6	LC6 0.0-0.1	LC6 1.0-1.1	LC7 0.0-0.1

Moisture Content Method: AN002 Tested: 14/5/2020

Parameter	Units	LOR	SE206178.009	SE206178.010	SE206178.011	SE206178.012
% Moisture	%w/w	1	12.8	10.8	12.8	16.8

Fibre Identification in soil Method: AN602 Tested: 19/5/2020

FibreID

Asbestos Detected	No unit	-	No	No	No	No

SemiQuant

Estimated Fibres*	%w/w	0.01	<0.01	<0.01	<0.01	<0.01

Gravimetric Determination of Asbestos in Soil Method: AN605 Tested: 20/5/2020

Parameter	Units	LOR	SE206178.009	SE206178.010	SE206178.011	SE206178.012
Total Sample Weight*	g	1	-	-	-	-
Bonded ACM in >7mm Sample*	g	0.001	-	-	-	-
AF/FA in >2mm to <7mm Sample*	g	0.00001	-	-	-	-
AF/FA in <2mm Sample*	g	0.00001	-	-	-	-
Asbestos in soil (>7mm ACM)*	%w/w	0.01	-	-	-	-
Asbestos in soil (>2mm to <7mm AF/FA)*	%w/w	0.001	-	-	-	-
Asbestos in soil (<2mm AF/FA)*	%w/w	0.001	-	-	-	-
Asbestos in soil (<7mm AF/FA)*	%w/w	0.001	-	-	-	-
Fibre Type*	No unit	-	-	-	-	-

Particle sizing of soils by sieving Method: AN005 Tested: 20/5/2020

Parameter	Units	LOR	SE206178.009	SE206178.010	SE206178.011	SE206178.012
Passing 75µm*	%w/w	1	-	-	-	-
Retained 75µm*	%w/w	1	-	-	-	-

Particle sizing of soils <75µm by hydrometer Method: AN005 Tested: 20/5/2020

Parameter	Units	LOR	SE206178.009	SE206178.010	SE206178.011	SE206178.012
Clay (<0.002mm)*	%w/w	0.1	-	-	-	-

Parameter	Units	LOR	SE206178.013	SE206178.014	SE206178.015	SE206178.016
Sample Number			SE206178.013	SE206178.014	SE206178.015	SE206178.016
Sample Matrix			Soil	Soil	Soil	Soil
Sample Date			11 May 2020	11 May 2020	11 May 2020	11 May 2020
Sample Name			LC7 0.5-0.6	LC8 0.0-0.1	LC8 1.0-1.1	LC9 0.0-0.1

VOC's in Soil Method: AN433 Tested: 14/5/2020

Monocyclic Aromatic Hydrocarbons

Parameter	Units	LOR	SE206178.013	SE206178.014	SE206178.015	SE206178.016
Benzene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Toluene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Ethylbenzene	mg/kg	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
o-xylene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1

Polycyclic VOCs

Parameter	Units	LOR	SE206178.013	SE206178.014	SE206178.015	SE206178.016
Naphthalene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1

Surrogates

Parameter	Units	LOR	SE206178.013	SE206178.014	SE206178.015	SE206178.016
d4-1,2-dichloroethane (Surrogate)	%	-	116	112	111	116
d8-toluene (Surrogate)	%	-	118	113	113	118
Bromofluorobenzene (Surrogate)	%	-	100	95	95	97

Totals

Parameter	Units	LOR	SE206178.013	SE206178.014	SE206178.015	SE206178.016
Total Xylenes	mg/kg	0.3	<0.3	<0.3	<0.3	<0.3
Total BTEX	mg/kg	0.6	<0.6	<0.6	<0.6	<0.6

Volatile Petroleum Hydrocarbons in Soil Method: AN433 Tested: 14/5/2020

Parameter	Units	LOR	SE206178.013	SE206178.014	SE206178.015	SE206178.016
TRH C6-C10	mg/kg	25	<25	<25	<25	<25
TRH C6-C9	mg/kg	20	<20	<20	<20	<20

Surrogates

Parameter	Units	LOR	SE206178.013	SE206178.014	SE206178.015	SE206178.016
d4-1,2-dichloroethane (Surrogate)	%	-	116	112	111	116
d8-toluene (Surrogate)	%	-	118	113	113	118
Bromofluorobenzene (Surrogate)	%	-	100	95	95	97

VPH F Bands

Parameter	Units	LOR	SE206178.013	SE206178.014	SE206178.015	SE206178.016
Benzene (F0)	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
TRH C6-C10 minus BTEX (F1)	mg/kg	25	<25	<25	<25	<25

Parameter	Units	LOR	SE206178.013	SE206178.014	SE206178.015	SE206178.016
Sample Number			SE206178.013	SE206178.014	SE206178.015	SE206178.016
Sample Matrix			Soil	Soil	Soil	Soil
Sample Date			11 May 2020	11 May 2020	11 May 2020	11 May 2020
Sample Name			LC7 0.5-0.6	LC8 0.0-0.1	LC8 1.0-1.1	LC9 0.0-0.1

TRH (Total Recoverable Hydrocarbons) in Soil Method: AN403 Tested: 14/5/2020

Parameter	Units	LOR	SE206178.013	SE206178.014	SE206178.015	SE206178.016
TRH C10-C14	mg/kg	20	<20	<20	<20	<20
TRH C15-C28	mg/kg	45	<45	<45	<45	<45
TRH C29-C36	mg/kg	45	<45	<45	<45	<45
TRH C37-C40	mg/kg	100	<100	<100	<100	<100
TRH C10-C36 Total	mg/kg	110	<110	<110	<110	<110
TRH >C10-C40 Total (F bands)	mg/kg	210	<210	<210	<210	<210

TRH F Bands

Parameter	Units	LOR	SE206178.013	SE206178.014	SE206178.015	SE206178.016
TRH >C10-C16	mg/kg	25	<25	<25	<25	<25
TRH >C10-C16 - Naphthalene (F2)	mg/kg	25	<25	<25	<25	<25
TRH >C16-C34 (F3)	mg/kg	90	<90	<90	<90	<90
TRH >C34-C40 (F4)	mg/kg	120	<120	<120	<120	<120

PAH (Polynuclear Aromatic Hydrocarbons) in Soil Method: AN420 Tested: 14/5/2020

Parameter	Units	LOR	SE206178.013	SE206178.014	SE206178.015	SE206178.016
Naphthalene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
2-methylnaphthalene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
1-methylnaphthalene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Acenaphthylene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Acenaphthene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Fluorene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Phenanthrene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Anthracene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Fluoranthene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Pyrene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Benzo(a)anthracene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Chrysene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Benzo(b&j)fluoranthene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Benzo(k)fluoranthene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Benzo(a)pyrene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Indeno(1,2,3-cd)pyrene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Dibenzo(ah)anthracene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Benzo(ghi)perylene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Carcinogenic PAHs, BaP TEQ <LOR=0	TEQ (mg/kg)	0.2	<0.2	<0.2	<0.2	<0.2
Carcinogenic PAHs, BaP TEQ <LOR=LOR	TEQ (mg/kg)	0.3	<0.3	<0.3	<0.3	<0.3
Carcinogenic PAHs, BaP TEQ <LOR=LOR/2	TEQ (mg/kg)	0.2	<0.2	<0.2	<0.2	<0.2
Total PAH (18)	mg/kg	0.8	<0.8	<0.8	<0.8	<0.8
Total PAH (NEPM/WHO 16)	mg/kg	0.8	<0.8	<0.8	<0.8	<0.8

Surrogates

Parameter	Units	LOR	SE206178.013	SE206178.014	SE206178.015	SE206178.016
d5-nitrobenzene (Surrogate)	%	-	69	70	72	71
2-fluorobiphenyl (Surrogate)	%	-	90	87	91	84
d14-p-terphenyl (Surrogate)	%	-	91	84	83	78

Speciated Phenols in Soil Method: AN420 Tested: 14/5/2020

Parameter	Units	LOR	SE206178.013	SE206178.014	SE206178.015	SE206178.016
Phenol	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5
2-methyl phenol (o-cresol)	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5
3/4-methyl phenol (m/p-cresol)	mg/kg	1	<1	<1	<1	<1
Total Cresol	mg/kg	1.5	<1.5	<1.5	<1.5	<1.5
2-chlorophenol	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5
2,4-dimethylphenol	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5
2,6-dichlorophenol	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5
2,4-dichlorophenol	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5
2,4,6-trichlorophenol	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5
2-nitrophenol	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5
4-nitrophenol	mg/kg	1	<1	<1	<1	<1
2,4,5-trichlorophenol	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5
2,3,4,6/2,3,5,6-tetrachlorophenol	mg/kg	1	<1	<1	<1	<1
Pentachlorophenol	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5
2,4-dinitrophenol	mg/kg	2	<2	<2	<2	<2
4-chloro-3-methylphenol	mg/kg	2	<2	<2	<2	<2

Parameter	Units	LOR	SE206178.013	SE206178.014	SE206178.015	SE206178.016
Sample Number			SE206178.013	SE206178.014	SE206178.015	SE206178.016
Sample Matrix			Soil	Soil	Soil	Soil
Sample Date			11 May 2020	11 May 2020	11 May 2020	11 May 2020
Sample Name			LC7 0.5-0.6	LC8 0.0-0.1	LC8 1.0-1.1	LC9 0.0-0.1

Speciated Phenols in Soil Method: AN420 Tested: 14/5/2020 (continued)

Surrogates

2,4,6-Tribromophenol (Surrogate)	%	-	99	93	104	84
d5-phenol (Surrogate)	%	-	75	85	76	76

OC Pesticides in Soil Method: AN420 Tested: 14/5/2020

Hexachlorobenzene (HCB)	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Alpha BHC	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Lindane	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Heptachlor	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Aldrin	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Beta BHC	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Delta BHC	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Heptachlor epoxide	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
o,p'-DDE	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Alpha Endosulfan	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2
Gamma Chlordane	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Alpha Chlordane	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
trans-Nonachlor	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
p,p'-DDE	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Dieldrin	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2
Endrin	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2
o,p'-DDD	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
o,p'-DDT	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Beta Endosulfan	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2
p,p'-DDD	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
p,p'-DDT	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Endosulfan sulphate	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Endrin Aldehyde	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Methoxychlor	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Endrin Ketone	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Isodrin	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Mirex	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Total CLP OC Pesticides	mg/kg	1	<1	<1	<1	<1

Surrogates

Tetrachloro-m-xylene (TCMX) (Surrogate)	%	-	97	99	95	99
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OP Pesticides in Soil Method: AN420 Tested: 14/5/2020

Dichlorvos	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5
Dimethoate	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5
Diazinon (Dimpylate)	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5
Fenitrothion	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2
Malathion	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2
Chlorpyrifos (Chlorpyrifos Ethyl)	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2
Parathion-ethyl (Parathion)	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2
Bromophos Ethyl	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2
Methidathion	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5
Ethion	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2
Azinphos-methyl (Guthion)	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2
Total OP Pesticides*	mg/kg	1.7	<1.7	<1.7	<1.7	<1.7

Surrogates

2-fluorobiphenyl (Surrogate)	%	-	90	87	91	84
d14-p-terphenyl (Surrogate)	%	-	91	84	83	78

Parameter	Units	LOR	SE206178.013 Soil 11 May 2020 LC7 0.5-0.6	SE206178.014 Soil 11 May 2020 LC8 0.0-0.1	SE206178.015 Soil 11 May 2020 LC8 1.0-1.1	SE206178.016 Soil 11 May 2020 LC9 0.0-0.1
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PCBs in Soil Method: AN420 Tested: 14/5/2020

Arochlor 1016	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2
Arochlor 1221	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2
Arochlor 1232	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2
Arochlor 1242	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2
Arochlor 1248	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2
Arochlor 1254	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2
Arochlor 1260	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2
Arochlor 1262	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2
Arochlor 1268	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2
Total PCBs (Arochlors)	mg/kg	1	<1	<1	<1	<1

Surrogates

Tetrachloro-m-xylene (TCMX) (Surrogate)	%	-	97	99	95	99
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pH in soil (1:5) Method: AN101 Tested: 19/5/2020

pH	pH Units	0.1	-	-	-	-
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Exchangeable Cations and Cation Exchange Capacity (CEC/ESP/SAR) Method: AN122 Tested: 20/5/2020

Exchangeable Sodium, Na	mg/kg	2	-	-	-	-
Exchangeable Sodium, Na	meq/100g	0.01	-	-	-	-
Exchangeable Sodium Percentage*	%	0.1	-	-	-	-
Exchangeable Potassium, K	mg/kg	2	-	-	-	-
Exchangeable Potassium, K	meq/100g	0.01	-	-	-	-
Exchangeable Potassium Percentage*	%	0.1	-	-	-	-
Exchangeable Calcium, Ca	mg/kg	2	-	-	-	-
Exchangeable Calcium, Ca	meq/100g	0.01	-	-	-	-
Exchangeable Calcium Percentage*	%	0.1	-	-	-	-
Exchangeable Magnesium, Mg	mg/kg	2	-	-	-	-
Exchangeable Magnesium, Mg	meq/100g	0.02	-	-	-	-
Exchangeable Magnesium Percentage*	%	0.1	-	-	-	-
Cation Exchange Capacity	meq/100g	0.02	-	-	-	-

Total Recoverable Elements in Soil/Waste Solids/Materials by ICPOES Method: AN040/AN320 Tested: 14/5/2020

Arsenic, As	mg/kg	1	1	1	1	2
Cadmium, Cd	mg/kg	0.3	<0.3	<0.3	<0.3	<0.3
Chromium, Cr	mg/kg	0.5	19	24	16	27
Copper, Cu	mg/kg	0.5	5.2	4.3	5.2	5.4
Nickel, Ni	mg/kg	0.5	3.0	4.0	3.8	3.4
Lead, Pb	mg/kg	1	8	12	13	14
Zinc, Zn	mg/kg	2	9.5	9.4	12	16

Mercury in Soil Method: AN312 Tested: 14/5/2020

Mercury	mg/kg	0.05	<0.05	<0.05	<0.05	<0.05
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Parameter	Units	LOR	SE206178.013	SE206178.014	SE206178.015	SE206178.016
Sample Number			SE206178.013	SE206178.014	SE206178.015	SE206178.016
Sample Matrix			Soil	Soil	Soil	Soil
Sample Date			11 May 2020	11 May 2020	11 May 2020	11 May 2020
Sample Name			LC7 0.5-0.6	LC8 0.0-0.1	LC8 1.0-1.1	LC9 0.0-0.1

Moisture Content Method: AN002 Tested: 14/5/2020

Parameter	Units	LOR	SE206178.013	SE206178.014	SE206178.015	SE206178.016
% Moisture	%w/w	1	15.6	13.0	15.8	17.1

Fibre Identification in soil Method: AN602 Tested: 19/5/2020

FibreID

Parameter	Units	LOR	SE206178.013	SE206178.014	SE206178.015	SE206178.016
Asbestos Detected	No unit	-	No	No	No	No

SemiQuant

Parameter	Units	LOR	SE206178.013	SE206178.014	SE206178.015	SE206178.016
Estimated Fibres*	%w/w	0.01	<0.01	<0.01	<0.01	<0.01

Gravimetric Determination of Asbestos in Soil Method: AN605 Tested: 20/5/2020

Parameter	Units	LOR	SE206178.013	SE206178.014	SE206178.015	SE206178.016
Total Sample Weight*	g	1	-	-	-	-
Bonded ACM in >7mm Sample*	g	0.001	-	-	-	-
AF/FA in >2mm to <7mm Sample*	g	0.00001	-	-	-	-
AF/FA in <2mm Sample*	g	0.00001	-	-	-	-
Asbestos in soil (>7mm ACM)*	%w/w	0.01	-	-	-	-
Asbestos in soil (>2mm to <7mm AF/FA)*	%w/w	0.001	-	-	-	-
Asbestos in soil (<2mm AF/FA)*	%w/w	0.001	-	-	-	-
Asbestos in soil (<7mm AF/FA)*	%w/w	0.001	-	-	-	-
Fibre Type*	No unit	-	-	-	-	-

Particle sizing of soils by sieving Method: AN005 Tested: 20/5/2020

Parameter	Units	LOR	SE206178.013	SE206178.014	SE206178.015	SE206178.016
Passing 75µm*	%w/w	1	-	-	-	-
Retained 75µm*	%w/w	1	-	-	-	-

Particle sizing of soils <75µm by hydrometer Method: AN005 Tested: 20/5/2020

Parameter	Units	LOR	SE206178.013	SE206178.014	SE206178.015	SE206178.016
Clay (<0.002mm)*	%w/w	0.1	-	-	-	-

Parameter	Units	LOR	SE206178.017	SE206178.018	SE206178.019	SE206178.020
Sample Number			SE206178.017	SE206178.018	SE206178.019	SE206178.020
Sample Matrix			Soil	Soil	Soil	Soil
Sample Date			11 May 2020	11 May 2020	11 May 2020	11 May 2020
Sample Name			LC9 1.0-1.1	LC10 0.0-0.1	LC10 0.5-0.6	LC11 0.0-0.1

VOC's in Soil Method: AN433 Tested: 14/5/2020

Monocyclic Aromatic Hydrocarbons

Parameter	Units	LOR	SE206178.017	SE206178.018	SE206178.019	SE206178.020
Benzene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Toluene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Ethylbenzene	mg/kg	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
o-xylene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1

Polycyclic VOCs

Parameter	Units	LOR	SE206178.017	SE206178.018	SE206178.019	SE206178.020
Naphthalene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1

Surrogates

Parameter	Units	LOR	SE206178.017	SE206178.018	SE206178.019	SE206178.020
d4-1,2-dichloroethane (Surrogate)	%	-	112	111	110	111
d8-toluene (Surrogate)	%	-	114	111	112	113
Bromofluorobenzene (Surrogate)	%	-	95	92	93	92

Totals

Parameter	Units	LOR	SE206178.017	SE206178.018	SE206178.019	SE206178.020
Total Xylenes	mg/kg	0.3	<0.3	<0.3	<0.3	<0.3
Total BTEX	mg/kg	0.6	<0.6	<0.6	<0.6	<0.6

Volatile Petroleum Hydrocarbons in Soil Method: AN433 Tested: 14/5/2020

Parameter	Units	LOR	SE206178.017	SE206178.018	SE206178.019	SE206178.020
TRH C6-C10	mg/kg	25	<25	<25	<25	<25
TRH C6-C9	mg/kg	20	<20	<20	<20	<20

Surrogates

Parameter	Units	LOR	SE206178.017	SE206178.018	SE206178.019	SE206178.020
d4-1,2-dichloroethane (Surrogate)	%	-	112	111	110	111
d8-toluene (Surrogate)	%	-	114	111	112	113
Bromofluorobenzene (Surrogate)	%	-	95	92	93	92

VPH F Bands

Parameter	Units	LOR	SE206178.017	SE206178.018	SE206178.019	SE206178.020
Benzene (F0)	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
TRH C6-C10 minus BTEX (F1)	mg/kg	25	<25	<25	<25	<25

Parameter	Units	LOR	SE206178.017	SE206178.018	SE206178.019	SE206178.020
Sample Number			SE206178.017	SE206178.018	SE206178.019	SE206178.020
Sample Matrix			Soil	Soil	Soil	Soil
Sample Date			11 May 2020	11 May 2020	11 May 2020	11 May 2020
Sample Name			LC9 1.0-1.1	LC10 0.0-0.1	LC10 0.5-0.6	LC11 0.0-0.1

TRH (Total Recoverable Hydrocarbons) in Soil Method: AN403 Tested: 14/5/2020

Parameter	Units	LOR	SE206178.017	SE206178.018	SE206178.019	SE206178.020
TRH C10-C14	mg/kg	20	<20	<20	<20	<20
TRH C15-C28	mg/kg	45	<45	<45	<45	<45
TRH C29-C36	mg/kg	45	<45	<45	<45	<45
TRH C37-C40	mg/kg	100	<100	<100	<100	<100
TRH C10-C36 Total	mg/kg	110	<110	<110	<110	<110
TRH >C10-C40 Total (F bands)	mg/kg	210	<210	<210	<210	<210

TRH F Bands

Parameter	Units	LOR	SE206178.017	SE206178.018	SE206178.019	SE206178.020
TRH >C10-C16	mg/kg	25	<25	<25	<25	<25
TRH >C10-C16 - Naphthalene (F2)	mg/kg	25	<25	<25	<25	<25
TRH >C16-C34 (F3)	mg/kg	90	<90	<90	<90	<90
TRH >C34-C40 (F4)	mg/kg	120	<120	<120	<120	<120

PAH (Polynuclear Aromatic Hydrocarbons) in Soil Method: AN420 Tested: 14/5/2020

Parameter	Units	LOR	SE206178.017	SE206178.018	SE206178.019	SE206178.020
Naphthalene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
2-methylnaphthalene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
1-methylnaphthalene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Acenaphthylene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Acenaphthene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Fluorene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Phenanthrene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Anthracene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Fluoranthene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Pyrene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Benzo(a)anthracene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Chrysene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Benzo(b&j)fluoranthene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Benzo(k)fluoranthene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Benzo(a)pyrene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Indeno(1,2,3-cd)pyrene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Dibenzo(ah)anthracene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Benzo(ghi)perylene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Carcinogenic PAHs, BaP TEQ <LOR=0	TEQ (mg/kg)	0.2	<0.2	<0.2	<0.2	<0.2
Carcinogenic PAHs, BaP TEQ <LOR=LOR	TEQ (mg/kg)	0.3	<0.3	<0.3	<0.3	<0.3
Carcinogenic PAHs, BaP TEQ <LOR=LOR/2	TEQ (mg/kg)	0.2	<0.2	<0.2	<0.2	<0.2
Total PAH (18)	mg/kg	0.8	<0.8	<0.8	<0.8	<0.8
Total PAH (NEPM/WHO 16)	mg/kg	0.8	<0.8	<0.8	<0.8	<0.8

Surrogates

Parameter	Units	LOR	SE206178.017	SE206178.018	SE206178.019	SE206178.020
d5-nitrobenzene (Surrogate)	%	-	71	71	73	77
2-fluorobiphenyl (Surrogate)	%	-	93	91	88	95
d14-p-terphenyl (Surrogate)	%	-	85	92	80	90

Speciated Phenols in Soil Method: AN420 Tested: 14/5/2020

Parameter	Units	LOR	SE206178.017	SE206178.018	SE206178.019	SE206178.020
Phenol	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5
2-methyl phenol (o-cresol)	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5
3/4-methyl phenol (m/p-cresol)	mg/kg	1	<1	<1	<1	<1
Total Cresol	mg/kg	1.5	<1.5	<1.5	<1.5	<1.5
2-chlorophenol	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5
2,4-dimethylphenol	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5
2,6-dichlorophenol	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5
2,4-dichlorophenol	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5
2,4,6-trichlorophenol	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5
2-nitrophenol	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5
4-nitrophenol	mg/kg	1	<1	<1	<1	<1
2,4,5-trichlorophenol	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5
2,3,4,6/2,3,5,6-tetrachlorophenol	mg/kg	1	<1	<1	<1	<1
Pentachlorophenol	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5
2,4-dinitrophenol	mg/kg	2	<2	<2	<2	<2
4-chloro-3-methylphenol	mg/kg	2	<2	<2	<2	<2

Parameter	Units	LOR	SE206178.017	SE206178.018	SE206178.019	SE206178.020
Sample Number			SE206178.017	SE206178.018	SE206178.019	SE206178.020
Sample Matrix			Soil	Soil	Soil	Soil
Sample Date			11 May 2020	11 May 2020	11 May 2020	11 May 2020
Sample Name			LC9 1.0-1.1	LC10 0.0-0.1	LC10 0.5-0.6	LC11 0.0-0.1

Speciated Phenols in Soil Method: AN420 Tested: 14/5/2020 (continued)

Surrogates

2,4,6-Tribromophenol (Surrogate)	%	-	95	105	89	108
d5-phenol (Surrogate)	%	-	78	72	83	80

OC Pesticides in Soil Method: AN420 Tested: 14/5/2020

Hexachlorobenzene (HCB)	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Alpha BHC	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Lindane	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Heptachlor	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Aldrin	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Beta BHC	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Delta BHC	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Heptachlor epoxide	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
o,p'-DDE	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Alpha Endosulfan	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2
Gamma Chlordane	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Alpha Chlordane	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
trans-Nonachlor	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
p,p'-DDE	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Dieldrin	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2
Endrin	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2
o,p'-DDD	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
o,p'-DDT	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Beta Endosulfan	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2
p,p'-DDD	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
p,p'-DDT	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Endosulfan sulphate	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Endrin Aldehyde	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Methoxychlor	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Endrin Ketone	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Isodrin	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Mirex	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Total CLP OC Pesticides	mg/kg	1	<1	<1	<1	<1

Surrogates

Tetrachloro-m-xylene (TCMX) (Surrogate)	%	-	99	93	99	97
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OP Pesticides in Soil Method: AN420 Tested: 14/5/2020

Dichlorvos	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5
Dimethoate	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5
Diazinon (Dimpylate)	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5
Fenitrothion	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2
Malathion	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2
Chlorpyrifos (Chlorpyrifos Ethyl)	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2
Parathion-ethyl (Parathion)	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2
Bromophos Ethyl	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2
Methidathion	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5
Ethion	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2
Azinphos-methyl (Guthion)	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2
Total OP Pesticides*	mg/kg	1.7	<1.7	<1.7	<1.7	<1.7

Surrogates

2-fluorobiphenyl (Surrogate)	%	-	93	91	88	95
d14-p-terphenyl (Surrogate)	%	-	85	92	80	90

Parameter	Units	LOR	SE206178.017 Soil 11 May 2020 LC9 1.0-1.1	SE206178.018 Soil 11 May 2020 LC10 0.0-0.1	SE206178.019 Soil 11 May 2020 LC10 0.5-0.6	SE206178.020 Soil 11 May 2020 LC11 0.0-0.1
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PCBs in Soil Method: AN420 Tested: 14/5/2020

Arochlor 1016	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2
Arochlor 1221	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2
Arochlor 1232	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2
Arochlor 1242	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2
Arochlor 1248	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2
Arochlor 1254	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2
Arochlor 1260	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2
Arochlor 1262	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2
Arochlor 1268	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2
Total PCBs (Arochlors)	mg/kg	1	<1	<1	<1	<1

Surrogates

Tetrachloro-m-xylene (TCMX) (Surrogate)	%	-	99	93	99	97
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pH in soil (1:5) Method: AN101 Tested: 19/5/2020

pH	pH Units	0.1	7.3	-	-	-
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Exchangeable Cations and Cation Exchange Capacity (CEC/ESP/SAR) Method: AN122 Tested: 15/5/2020

Exchangeable Sodium, Na	mg/kg	2	380	-	-	-
Exchangeable Sodium, Na	meq/100g	0.01	1.7	-	-	-
Exchangeable Sodium Percentage*	%	0.1	14.7	-	-	-
Exchangeable Potassium, K	mg/kg	2	150	-	-	-
Exchangeable Potassium, K	meq/100g	0.01	0.40	-	-	-
Exchangeable Potassium Percentage*	%	0.1	3.5	-	-	-
Exchangeable Calcium, Ca	mg/kg	2	940	-	-	-
Exchangeable Calcium, Ca	meq/100g	0.01	4.7	-	-	-
Exchangeable Calcium Percentage*	%	0.1	41.4	-	-	-
Exchangeable Magnesium, Mg	mg/kg	2	560	-	-	-
Exchangeable Magnesium, Mg	meq/100g	0.02	4.6	-	-	-
Exchangeable Magnesium Percentage*	%	0.1	40.5	-	-	-
Cation Exchange Capacity	meq/100g	0.02	11	-	-	-

Total Recoverable Elements in Soil/Waste Solids/Materials by ICPOES Method: AN040/AN320 Tested: 14/5/2020

Arsenic, As	mg/kg	1	4	2	4	2
Cadmium, Cd	mg/kg	0.3	<0.3	<0.3	<0.3	<0.3
Chromium, Cr	mg/kg	0.5	32	19	20	11
Copper, Cu	mg/kg	0.5	11	5.1	8.5	3.6
Nickel, Ni	mg/kg	0.5	10	3.5	4.6	3.6
Lead, Pb	mg/kg	1	23	11	23	19
Zinc, Zn	mg/kg	2	14	13	8.0	20

Mercury in Soil Method: AN312 Tested: 14/5/2020

Mercury	mg/kg	0.05	0.06	<0.05	<0.05	<0.05
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Parameter	Units	LOR	SE206178.017	SE206178.018	SE206178.019	SE206178.020
Sample Number			SE206178.017	SE206178.018	SE206178.019	SE206178.020
Sample Matrix			Soil	Soil	Soil	Soil
Sample Date			11 May 2020	11 May 2020	11 May 2020	11 May 2020
Sample Name			LC9 1.0-1.1	LC10 0.0-0.1	LC10 0.5-0.6	LC11 0.0-0.1

Moisture Content Method: AN002 Tested: 14/5/2020

Parameter	Units	LOR	SE206178.017	SE206178.018	SE206178.019	SE206178.020
% Moisture	%w/w	1	16.0	14.7	15.0	11.4

Fibre Identification in soil Method: AN602 Tested: 19/5/2020

FibreID

Parameter	Units	LOR	SE206178.017	SE206178.018	SE206178.019	SE206178.020
Asbestos Detected	No unit	-	No	No	No	No

SemiQuant

Parameter	Units	LOR	SE206178.017	SE206178.018	SE206178.019	SE206178.020
Estimated Fibres*	%w/w	0.01	<0.01	<0.01	<0.01	<0.01

Gravimetric Determination of Asbestos in Soil Method: AN605 Tested: 20/5/2020

Parameter	Units	LOR	SE206178.017	SE206178.018	SE206178.019	SE206178.020
Total Sample Weight*	g	1	-	-	-	-
Bonded ACM in >7mm Sample*	g	0.001	-	-	-	-
AF/FA in >2mm to <7mm Sample*	g	0.00001	-	-	-	-
AF/FA in <2mm Sample*	g	0.00001	-	-	-	-
Asbestos in soil (>7mm ACM)*	%w/w	0.01	-	-	-	-
Asbestos in soil (>2mm to <7mm AF/FA)*	%w/w	0.001	-	-	-	-
Asbestos in soil (<2mm AF/FA)*	%w/w	0.001	-	-	-	-
Asbestos in soil (<7mm AF/FA)*	%w/w	0.001	-	-	-	-
Fibre Type*	No unit	-	-	-	-	-

Particle sizing of soils by sieving Method: AN005 Tested: 20/5/2020

Parameter	Units	LOR	SE206178.017	SE206178.018	SE206178.019	SE206178.020
Passing 75µm*	%w/w	1	76	-	-	-
Retained 75µm*	%w/w	1	25	-	-	-

Particle sizing of soils <75µm by hydrometer Method: AN005 Tested: 20/5/2020

Parameter	Units	LOR	SE206178.017	SE206178.018	SE206178.019	SE206178.020
Clay (<0.002mm)*	%w/w	0.1	32	-	-	-

Parameter	Units	LOR	SE206178.021	SE206178.022	SE206178.023	SE206178.024
Sample Number			SE206178.021	SE206178.022	SE206178.023	SE206178.024
Sample Matrix			Soil	Soil	Soil	Soil
Sample Date			11 May 2020	11 May 2020	11 May 2020	11 May 2020
Sample Name			LC12 0.0-0.1	LC13 0.0-0.1	LC14 0.5-0.6	LC15 0.0-0.1

VOC's in Soil Method: AN433 Tested: 14/5/2020

Monocyclic Aromatic Hydrocarbons

Parameter	Units	LOR	SE206178.021	SE206178.022	SE206178.023	SE206178.024
Benzene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Toluene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Ethylbenzene	mg/kg	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
o-xylene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1

Polycyclic VOCs

Parameter	Units	LOR	SE206178.021	SE206178.022	SE206178.023	SE206178.024
Naphthalene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1

Surrogates

Parameter	Units	LOR	SE206178.021	SE206178.022	SE206178.023	SE206178.024
d4-1,2-dichloroethane (Surrogate)	%	-	110	107	111	110
d8-toluene (Surrogate)	%	-	174	171	166	179
Bromofluorobenzene (Surrogate)	%	-	83	81	83	82

Totals

Parameter	Units	LOR	SE206178.021	SE206178.022	SE206178.023	SE206178.024
Total Xylenes	mg/kg	0.3	<0.3	<0.3	<0.3	<0.3
Total BTEX	mg/kg	0.6	<0.6	<0.6	<0.6	<0.6

Volatile Petroleum Hydrocarbons in Soil Method: AN433 Tested: 14/5/2020

Parameter	Units	LOR	SE206178.021	SE206178.022	SE206178.023	SE206178.024
TRH C6-C10	mg/kg	25	<25	<25	<25	<25
TRH C6-C9	mg/kg	20	<20	<20	<20	<20

Surrogates

Parameter	Units	LOR	SE206178.021	SE206178.022	SE206178.023	SE206178.024
d4-1,2-dichloroethane (Surrogate)	%	-	110	107	111	110
d8-toluene (Surrogate)	%	-	174	171	166	179
Bromofluorobenzene (Surrogate)	%	-	83	81	83	82

VPH F Bands

Parameter	Units	LOR	SE206178.021	SE206178.022	SE206178.023	SE206178.024
Benzene (F0)	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
TRH C6-C10 minus BTEX (F1)	mg/kg	25	<25	<25	<25	<25

Parameter	Units	LOR	Sample Number	SE206178.021	SE206178.022	SE206178.023	SE206178.024
			Sample Matrix	Soil	Soil	Soil	Soil
			Sample Date	11 May 2020	11 May 2020	11 May 2020	11 May 2020
			Sample Name	LC12 0.0-0.1	LC13 0.0-0.1	LC14 0.5-0.6	LC15 0.0-0.1

TRH (Total Recoverable Hydrocarbons) in Soil Method: AN403 Tested: 14/5/2020

Parameter	Units	LOR	SE206178.021	SE206178.022	SE206178.023	SE206178.024
TRH C10-C14	mg/kg	20	<20	<20	<20	<20
TRH C15-C28	mg/kg	45	<45	<45	<45	<45
TRH C29-C36	mg/kg	45	<45	<45	<45	<45
TRH C37-C40	mg/kg	100	<100	<100	<100	<100
TRH C10-C36 Total	mg/kg	110	<110	<110	<110	<110
TRH >C10-C40 Total (F bands)	mg/kg	210	<210	<210	<210	<210

TRH F Bands

Parameter	Units	LOR	SE206178.021	SE206178.022	SE206178.023	SE206178.024
TRH >C10-C16	mg/kg	25	<25	<25	<25	<25
TRH >C10-C16 - Naphthalene (F2)	mg/kg	25	<25	<25	<25	<25
TRH >C16-C34 (F3)	mg/kg	90	<90	<90	<90	<90
TRH >C34-C40 (F4)	mg/kg	120	<120	<120	<120	<120

PAH (Polynuclear Aromatic Hydrocarbons) in Soil Method: AN420 Tested: 14/5/2020

Parameter	Units	LOR	SE206178.021	SE206178.022	SE206178.023	SE206178.024
Naphthalene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
2-methylnaphthalene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
1-methylnaphthalene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Acenaphthylene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Acenaphthene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Fluorene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Phenanthrene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Anthracene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Fluoranthene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Pyrene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Benzo(a)anthracene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Chrysene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Benzo(b&j)fluoranthene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Benzo(k)fluoranthene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Benzo(a)pyrene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Indeno(1,2,3-cd)pyrene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Dibenzo(ah)anthracene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Benzo(ghi)perylene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Carcinogenic PAHs, BaP TEQ <LOR=0	TEQ (mg/kg)	0.2	<0.2	<0.2	<0.2	<0.2
Carcinogenic PAHs, BaP TEQ <LOR=LOR	TEQ (mg/kg)	0.3	<0.3	<0.3	<0.3	<0.3
Carcinogenic PAHs, BaP TEQ <LOR=LOR/2	TEQ (mg/kg)	0.2	<0.2	<0.2	<0.2	<0.2
Total PAH (18)	mg/kg	0.8	<0.8	<0.8	<0.8	<0.8
Total PAH (NEPM/WHO 16)	mg/kg	0.8	<0.8	<0.8	<0.8	<0.8

Surrogates

Parameter	Units	LOR	SE206178.021	SE206178.022	SE206178.023	SE206178.024
d5-nitrobenzene (Surrogate)	%	-	76	76	80	74
2-fluorobiphenyl (Surrogate)	%	-	76	76	80	74
d14-p-terphenyl (Surrogate)	%	-	82	80	72	74

Speciated Phenols in Soil Method: AN420 Tested: 14/5/2020

Parameter	Units	LOR	SE206178.021	SE206178.022	SE206178.023	SE206178.024
Phenol	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5
2-methyl phenol (o-cresol)	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5
3/4-methyl phenol (m/p-cresol)	mg/kg	1	<1	<1	<1	<1
Total Cresol	mg/kg	1.5	<1.5	<1.5	<1.5	<1.5
2-chlorophenol	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5
2,4-dimethylphenol	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5
2,6-dichlorophenol	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5
2,4-dichlorophenol	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5
2,4,6-trichlorophenol	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5
2-nitrophenol	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5
4-nitrophenol	mg/kg	1	<1	<1	<1	<1
2,4,5-trichlorophenol	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5
2,3,4,6/2,3,5,6-tetrachlorophenol	mg/kg	1	<1	<1	<1	<1
Pentachlorophenol	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5
2,4-dinitrophenol	mg/kg	2	<2	<2	<2	<2
4-chloro-3-methylphenol	mg/kg	2	<2	<2	<2	<2

Parameter	Units	LOR	SE206178.021	SE206178.022	SE206178.023	SE206178.024
Sample Number			SE206178.021	SE206178.022	SE206178.023	SE206178.024
Sample Matrix			Soil	Soil	Soil	Soil
Sample Date			11 May 2020	11 May 2020	11 May 2020	11 May 2020
Sample Name			LC12 0.0-0.1	LC13 0.0-0.1	LC14 0.5-0.6	LC15 0.0-0.1

Speciated Phenols in Soil Method: AN420 Tested: 14/5/2020 (continued)

Surrogates

2,4,6-Tribromophenol (Surrogate)	%	-	101	112	103	104
d5-phenol (Surrogate)	%	-	81	82	85	77

OC Pesticides in Soil Method: AN420 Tested: 14/5/2020

Hexachlorobenzene (HCB)	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Alpha BHC	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Lindane	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Heptachlor	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Aldrin	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Beta BHC	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Delta BHC	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Heptachlor epoxide	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
o,p'-DDE	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Alpha Endosulfan	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2
Gamma Chlordane	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Alpha Chlordane	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
trans-Nonachlor	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
p,p'-DDE	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Dieldrin	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2
Endrin	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2
o,p'-DDD	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
o,p'-DDT	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Beta Endosulfan	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2
p,p'-DDD	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
p,p'-DDT	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Endosulfan sulphate	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Endrin Aldehyde	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Methoxychlor	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Endrin Ketone	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Isodrin	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Mirex	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Total CLP OC Pesticides	mg/kg	1	<1	<1	<1	<1

Surrogates

Tetrachloro-m-xylene (TCMX) (Surrogate)	%	-	102	100	100	105
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OP Pesticides in Soil Method: AN420 Tested: 14/5/2020

Dichlorvos	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5
Dimethoate	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5
Diazinon (Dimpylate)	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5
Fenitrothion	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2
Malathion	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2
Chlorpyrifos (Chlorpyrifos Ethyl)	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2
Parathion-ethyl (Parathion)	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2
Bromophos Ethyl	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2
Methidathion	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5
Ethion	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2
Azinphos-methyl (Guthion)	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2
Total OP Pesticides*	mg/kg	1.7	<1.7	<1.7	<1.7	<1.7

Surrogates

2-fluorobiphenyl (Surrogate)	%	-	76	76	80	74
d14-p-terphenyl (Surrogate)	%	-	82	80	72	74

Parameter	Units	LOR	SE206178.021	SE206178.022	SE206178.023	SE206178.024
Sample Number			SE206178.021	SE206178.022	SE206178.023	SE206178.024
Sample Matrix			Soil	Soil	Soil	Soil
Sample Date			11 May 2020	11 May 2020	11 May 2020	11 May 2020
Sample Name			LC12 0.0-0.1	LC13 0.0-0.1	LC14 0.5-0.6	LC15 0.0-0.1

PCBs in Soil Method: AN420 Tested: 14/5/2020

Parameter	Units	LOR	SE206178.021	SE206178.022	SE206178.023	SE206178.024
Arochlor 1016	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2
Arochlor 1221	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2
Arochlor 1232	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2
Arochlor 1242	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2
Arochlor 1248	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2
Arochlor 1254	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2
Arochlor 1260	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2
Arochlor 1262	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2
Arochlor 1268	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2
Total PCBs (Arochlors)	mg/kg	1	<1	<1	<1	<1

Surrogates

Tetrachloro-m-xylene (TCMX) (Surrogate)	%	-	102	100	100	105
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pH in soil (1:5) Method: AN101 Tested: 19/5/2020

pH	pH Units	0.1	-	-	-	-
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Exchangeable Cations and Cation Exchange Capacity (CEC/ESP/SAR) Method: AN122 Tested: 20/5/2020

Exchangeable Sodium, Na	mg/kg	2	-	-	-	-
Exchangeable Sodium, Na	meq/100g	0.01	-	-	-	-
Exchangeable Sodium Percentage*	%	0.1	-	-	-	-
Exchangeable Potassium, K	mg/kg	2	-	-	-	-
Exchangeable Potassium, K	meq/100g	0.01	-	-	-	-
Exchangeable Potassium Percentage*	%	0.1	-	-	-	-
Exchangeable Calcium, Ca	mg/kg	2	-	-	-	-
Exchangeable Calcium, Ca	meq/100g	0.01	-	-	-	-
Exchangeable Calcium Percentage*	%	0.1	-	-	-	-
Exchangeable Magnesium, Mg	mg/kg	2	-	-	-	-
Exchangeable Magnesium, Mg	meq/100g	0.02	-	-	-	-
Exchangeable Magnesium Percentage*	%	0.1	-	-	-	-
Cation Exchange Capacity	meq/100g	0.02	-	-	-	-

Total Recoverable Elements in Soil/Waste Solids/Materials by ICPOES Method: AN040/AN320 Tested: 14/5/2020

Arsenic, As	mg/kg	1	1	2	2	1
Cadmium, Cd	mg/kg	0.3	<0.3	<0.3	<0.3	<0.3
Chromium, Cr	mg/kg	0.5	14	12	11	12
Copper, Cu	mg/kg	0.5	4.9	3.4	5.2	5.6
Nickel, Ni	mg/kg	0.5	3.5	4.1	8.1	3.4
Lead, Pb	mg/kg	1	14	12	14	13
Zinc, Zn	mg/kg	2	17	21	31	16

Mercury in Soil Method: AN312 Tested: 14/5/2020

Mercury	mg/kg	0.05	<0.05	<0.05	<0.05	<0.05
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Parameter	Units	LOR	SE206178.021	SE206178.022	SE206178.023	SE206178.024
Sample Number			SE206178.021	SE206178.022	SE206178.023	SE206178.024
Sample Matrix			Soil	Soil	Soil	Soil
Sample Date			11 May 2020	11 May 2020	11 May 2020	11 May 2020
Sample Name			LC12 0.0-0.1	LC13 0.0-0.1	LC14 0.5-0.6	LC15 0.0-0.1

Moisture Content Method: AN002 Tested: 14/5/2020

Parameter	Units	LOR	SE206178.021	SE206178.022	SE206178.023	SE206178.024
% Moisture	%w/w	1	12.4	10.6	10.8	10.7

Fibre Identification in soil Method: AN602 Tested: 19/5/2020

FibreID

Parameter	Units	LOR	SE206178.021	SE206178.022	SE206178.023	SE206178.024
Asbestos Detected	No unit	-	No	No	No	No

SemiQuant

Parameter	Units	LOR	SE206178.021	SE206178.022	SE206178.023	SE206178.024
Estimated Fibres*	%w/w	0.01	<0.01	<0.01	<0.01	<0.01

Gravimetric Determination of Asbestos in Soil Method: AN605 Tested: 20/5/2020

Parameter	Units	LOR	SE206178.021	SE206178.022	SE206178.023	SE206178.024
Total Sample Weight*	g	1	-	-	-	-
Bonded ACM in >7mm Sample*	g	0.001	-	-	-	-
AF/FA in >2mm to <7mm Sample*	g	0.00001	-	-	-	-
AF/FA in <2mm Sample*	g	0.00001	-	-	-	-
Asbestos in soil (>7mm ACM)*	%w/w	0.01	-	-	-	-
Asbestos in soil (>2mm to <7mm AF/FA)*	%w/w	0.001	-	-	-	-
Asbestos in soil (<2mm AF/FA)*	%w/w	0.001	-	-	-	-
Asbestos in soil (<7mm AF/FA)*	%w/w	0.001	-	-	-	-
Fibre Type*	No unit	-	-	-	-	-

Particle sizing of soils by sieving Method: AN005 Tested: 20/5/2020

Parameter	Units	LOR	SE206178.021	SE206178.022	SE206178.023	SE206178.024
Passing 75µm*	%w/w	1	-	-	-	-
Retained 75µm*	%w/w	1	-	-	-	-

Particle sizing of soils <75µm by hydrometer Method: AN005 Tested: 20/5/2020

Parameter	Units	LOR	SE206178.021	SE206178.022	SE206178.023	SE206178.024
Clay (<0.002mm)*	%w/w	0.1	-	-	-	-

Parameter	Units	LOR	SE206178.025	SE206178.026	SE206178.027	SE206178.028
Sample Number			SE206178.025	SE206178.026	SE206178.027	SE206178.028
Sample Matrix			Soil	Soil	Soil	Soil
Sample Date			11 May 2020	11 May 2020	11 May 2020	11 May 2020
Sample Name			QC1	QC3	QC4	SP1-1

VOC's in Soil Method: AN433 Tested: 14/5/2020

Monocyclic Aromatic Hydrocarbons

Parameter	Units	LOR	SE206178.025	SE206178.026	SE206178.027	SE206178.028
Benzene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Toluene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Ethylbenzene	mg/kg	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
o-xylene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1

Polycyclic VOCs

Naphthalene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
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Surrogates

d4-1,2-dichloroethane (Surrogate)	%	-	105	99	107	119
d8-toluene (Surrogate)	%	-	158	158	171	180
Bromofluorobenzene (Surrogate)	%	-	77	78	79	87

Totals

Total Xylenes	mg/kg	0.3	<0.3	<0.3	<0.3	<0.3
Total BTEX	mg/kg	0.6	<0.6	<0.6	<0.6	<0.6

Volatile Petroleum Hydrocarbons in Soil Method: AN433 Tested: 14/5/2020

TRH C6-C10	mg/kg	25	<25	<25	<25	<25
TRH C6-C9	mg/kg	20	<20	<20	<20	<20

Surrogates

d4-1,2-dichloroethane (Surrogate)	%	-	105	99	107	119
d8-toluene (Surrogate)	%	-	158	158	171	180
Bromofluorobenzene (Surrogate)	%	-	77	78	79	87

VPH F Bands

Benzene (F0)	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
TRH C6-C10 minus BTEX (F1)	mg/kg	25	<25	<25	<25	<25

Parameter	Units	LOR	SE206178.025	SE206178.026	SE206178.027	SE206178.028
Sample Number			SE206178.025	SE206178.026	SE206178.027	SE206178.028
Sample Matrix			Soil	Soil	Soil	Soil
Sample Date			11 May 2020	11 May 2020	11 May 2020	11 May 2020
Sample Name			QC1	QC3	QC4	SP1-1

TRH (Total Recoverable Hydrocarbons) in Soil Method: AN403 Tested: 14/5/2020

Parameter	Units	LOR	SE206178.025	SE206178.026	SE206178.027	SE206178.028
TRH C10-C14	mg/kg	20	<20	<20	<20	<20
TRH C15-C28	mg/kg	45	<45	<45	<45	<45
TRH C29-C36	mg/kg	45	<45	<45	<45	<45
TRH C37-C40	mg/kg	100	<100	<100	<100	<100
TRH C10-C36 Total	mg/kg	110	<110	<110	<110	<110
TRH >C10-C40 Total (F bands)	mg/kg	210	<210	<210	<210	<210

TRH F Bands

Parameter	Units	LOR	SE206178.025	SE206178.026	SE206178.027	SE206178.028
TRH >C10-C16	mg/kg	25	<25	<25	<25	<25
TRH >C10-C16 - Naphthalene (F2)	mg/kg	25	<25	<25	<25	<25
TRH >C16-C34 (F3)	mg/kg	90	<90	<90	<90	<90
TRH >C34-C40 (F4)	mg/kg	120	<120	<120	<120	<120

PAH (Polynuclear Aromatic Hydrocarbons) in Soil Method: AN420 Tested: 14/5/2020

Parameter	Units	LOR	SE206178.025	SE206178.026	SE206178.027	SE206178.028
Naphthalene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
2-methylnaphthalene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
1-methylnaphthalene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Acenaphthylene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Acenaphthene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Fluorene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Phenanthrene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Anthracene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Fluoranthene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Pyrene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Benzo(a)anthracene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Chrysene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Benzo(b&j)fluoranthene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Benzo(k)fluoranthene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Benzo(a)pyrene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Indeno(1,2,3-cd)pyrene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Dibenzo(ah)anthracene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Benzo(ghi)perylene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Carcinogenic PAHs, BaP TEQ <LOR=0	TEQ (mg/kg)	0.2	<0.2	<0.2	<0.2	<0.2
Carcinogenic PAHs, BaP TEQ <LOR=LOR	TEQ (mg/kg)	0.3	<0.3	<0.3	<0.3	<0.3
Carcinogenic PAHs, BaP TEQ <LOR=LOR/2	TEQ (mg/kg)	0.2	<0.2	<0.2	<0.2	<0.2
Total PAH (18)	mg/kg	0.8	<0.8	<0.8	<0.8	<0.8
Total PAH (NEPM/WHO 16)	mg/kg	0.8	<0.8	<0.8	<0.8	<0.8

Surrogates

Parameter	Units	LOR	SE206178.025	SE206178.026	SE206178.027	SE206178.028
d5-nitrobenzene (Surrogate)	%	-	76	74	74	74
2-fluorobiphenyl (Surrogate)	%	-	74	72	74	74
d14-p-terphenyl (Surrogate)	%	-	74	72	72	72

Speciated Phenols in Soil Method: AN420 Tested: 14/5/2020

Parameter	Units	LOR	SE206178.025	SE206178.026	SE206178.027	SE206178.028
Phenol	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5
2-methyl phenol (o-cresol)	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5
3/4-methyl phenol (m/p-cresol)	mg/kg	1	<1	<1	<1	<1
Total Cresol	mg/kg	1.5	<1.5	<1.5	<1.5	<1.5
2-chlorophenol	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5
2,4-dimethylphenol	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5
2,6-dichlorophenol	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5
2,4-dichlorophenol	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5
2,4,6-trichlorophenol	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5
2-nitrophenol	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5
4-nitrophenol	mg/kg	1	<1	<1	<1	<1
2,4,5-trichlorophenol	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5
2,3,4,6/2,3,5,6-tetrachlorophenol	mg/kg	1	<1	<1	<1	<1
Pentachlorophenol	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5
2,4-dinitrophenol	mg/kg	2	<2	<2	<2	<2
4-chloro-3-methylphenol	mg/kg	2	<2	<2	<2	<2

Parameter	Units	LOR	SE206178.025	SE206178.026	SE206178.027	SE206178.028
Sample Number			SE206178.025	SE206178.026	SE206178.027	SE206178.028
Sample Matrix			Soil	Soil	Soil	Soil
Sample Date			11 May 2020	11 May 2020	11 May 2020	11 May 2020
Sample Name			QC1	QC3	QC4	SP1-1

Speciated Phenols in Soil Method: AN420 Tested: 14/5/2020 (continued)

Surrogates

2,4,6-Tribromophenol (Surrogate)	%	-	96	95	79	84
d5-phenol (Surrogate)	%	-	72	73	78	72

OC Pesticides in Soil Method: AN420 Tested: 14/5/2020

Hexachlorobenzene (HCB)	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Alpha BHC	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Lindane	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Heptachlor	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Aldrin	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Beta BHC	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Delta BHC	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Heptachlor epoxide	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
o,p'-DDE	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Alpha Endosulfan	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2
Gamma Chlordane	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Alpha Chlordane	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
trans-Nonachlor	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
p,p'-DDE	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Dieldrin	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2
Endrin	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2
o,p'-DDD	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
o,p'-DDT	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Beta Endosulfan	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2
p,p'-DDD	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
p,p'-DDT	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Endosulfan sulphate	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Endrin Aldehyde	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Methoxychlor	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Endrin Ketone	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Isodrin	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Mirex	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Total CLP OC Pesticides	mg/kg	1	<1	<1	<1	<1

Surrogates

Tetrachloro-m-xylene (TCMX) (Surrogate)	%	-	99	97	95	98
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OP Pesticides in Soil Method: AN420 Tested: 14/5/2020

Dichlorvos	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5
Dimethoate	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5
Diazinon (Dimpylate)	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5
Fenitrothion	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2
Malathion	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2
Chlorpyrifos (Chlorpyrifos Ethyl)	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2
Parathion-ethyl (Parathion)	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2
Bromophos Ethyl	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2
Methidathion	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5
Ethion	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2
Azinphos-methyl (Guthion)	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2
Total OP Pesticides*	mg/kg	1.7	<1.7	<1.7	<1.7	<1.7

Surrogates

2-fluorobiphenyl (Surrogate)	%	-	74	72	74	74
d14-p-terphenyl (Surrogate)	%	-	74	72	72	72

Parameter	Units	LOR	SE206178.025 Soil 11 May 2020 QC1	SE206178.026 Soil 11 May 2020 QC3	SE206178.027 Soil 11 May 2020 QC4	SE206178.028 Soil 11 May 2020 SP1-1
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PCBs in Soil Method: AN420 Tested: 14/5/2020

Arochlor 1016	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2
Arochlor 1221	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2
Arochlor 1232	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2
Arochlor 1242	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2
Arochlor 1248	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2
Arochlor 1254	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2
Arochlor 1260	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2
Arochlor 1262	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2
Arochlor 1268	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2
Total PCBs (Arochlors)	mg/kg	1	<1	<1	<1	<1

Surrogates

Tetrachloro-m-xylene (TCMX) (Surrogate)	%	-	99	97	95	98
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pH in soil (1:5) Method: AN101 Tested: 19/5/2020

pH	pH Units	0.1	-	-	-	-
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Exchangeable Cations and Cation Exchange Capacity (CEC/ESP/SAR) Method: AN122 Tested: 20/5/2020

Exchangeable Sodium, Na	mg/kg	2	-	-	-	-
Exchangeable Sodium, Na	meq/100g	0.01	-	-	-	-
Exchangeable Sodium Percentage*	%	0.1	-	-	-	-
Exchangeable Potassium, K	mg/kg	2	-	-	-	-
Exchangeable Potassium, K	meq/100g	0.01	-	-	-	-
Exchangeable Potassium Percentage*	%	0.1	-	-	-	-
Exchangeable Calcium, Ca	mg/kg	2	-	-	-	-
Exchangeable Calcium, Ca	meq/100g	0.01	-	-	-	-
Exchangeable Calcium Percentage*	%	0.1	-	-	-	-
Exchangeable Magnesium, Mg	mg/kg	2	-	-	-	-
Exchangeable Magnesium, Mg	meq/100g	0.02	-	-	-	-
Exchangeable Magnesium Percentage*	%	0.1	-	-	-	-
Cation Exchange Capacity	meq/100g	0.02	-	-	-	-

Total Recoverable Elements in Soil/Waste Solids/Materials by ICPOES Method: AN040/AN320 Tested: 14/5/2020

Arsenic, As	mg/kg	1	3	4	1	2
Cadmium, Cd	mg/kg	0.3	<0.3	<0.3	<0.3	<0.3
Chromium, Cr	mg/kg	0.5	26	25	13	17
Copper, Cu	mg/kg	0.5	9.4	10	3.4	4.0
Nickel, Ni	mg/kg	0.5	5.5	10	2.8	3.4
Lead, Pb	mg/kg	1	21	26	13	20
Zinc, Zn	mg/kg	2	11	12	19	22

Mercury in Soil Method: AN312 Tested: 14/5/2020

Mercury	mg/kg	0.05	<0.05	0.07	<0.05	<0.05
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Parameter	Units	LOR	SE206178.025	SE206178.026	SE206178.027	SE206178.028
Sample Number			SE206178.025	SE206178.026	SE206178.027	SE206178.028
Sample Matrix			Soil	Soil	Soil	Soil
Sample Date			11 May 2020	11 May 2020	11 May 2020	11 May 2020
Sample Name			QC1	QC3	QC4	SP1-1

Moisture Content Method: AN002 Tested: 14/5/2020

% Moisture	%w/w	1	15.0	17.7	6.9	6.3

Fibre Identification in soil Method: AN602 Tested: 20/5/2020

FibreID

Asbestos Detected	No unit	-	-	-	-	No

SemiQuant

Estimated Fibres*	%w/w	0.01	-	-	-	<0.01

Gravimetric Determination of Asbestos in Soil Method: AN605 Tested: 20/5/2020

Parameter	Units	LOR	SE206178.025	SE206178.026	SE206178.027	SE206178.028
Total Sample Weight*	g	1	-	-	-	-
Bonded ACM in >7mm Sample*	g	0.001	-	-	-	-
AF/FA in >2mm to <7mm Sample*	g	0.00001	-	-	-	-
AF/FA in <2mm Sample*	g	0.00001	-	-	-	-
Asbestos in soil (>7mm ACM)*	%w/w	0.01	-	-	-	-
Asbestos in soil (>2mm to <7mm AF/FA)*	%w/w	0.001	-	-	-	-
Asbestos in soil (<2mm AF/FA)*	%w/w	0.001	-	-	-	-
Asbestos in soil (<7mm AF/FA)*	%w/w	0.001	-	-	-	-
Fibre Type*	No unit	-	-	-	-	-

Particle sizing of soils by sieving Method: AN005 Tested: 20/5/2020

Parameter	%w/w	LOR	SE206178.025	SE206178.026	SE206178.027	SE206178.028
Passing 75µm*	%w/w	1	-	-	-	-
Retained 75µm*	%w/w	1	-	-	-	-

Particle sizing of soils <75µm by hydrometer Method: AN005 Tested: 20/5/2020

Parameter	%w/w	LOR	SE206178.025	SE206178.026	SE206178.027	SE206178.028
Clay (<0.002mm)*	%w/w	0.1	-	-	-	-

Parameter	Units	LOR	SE206178.029	SE206178.030	SE206178.031	SE206178.032
Sample Number			SE206178.029	SE206178.030	SE206178.031	SE206178.032
Sample Matrix			Soil	Soil	Soil	Soil
Sample Date			11 May 2020	11 May 2020	11 May 2020	11 May 2020
Sample Name			SP1-2	SP1-3	SP1-4	SP1-5

VOC's in Soil Method: AN433 Tested: 14/5/2020

Monocyclic Aromatic Hydrocarbons

Parameter	Units	LOR	SE206178.029	SE206178.030	SE206178.031	SE206178.032
Benzene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Toluene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Ethylbenzene	mg/kg	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
o-xylene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1

Polycyclic VOCs

Parameter	Units	LOR	SE206178.029	SE206178.030	SE206178.031	SE206178.032
Naphthalene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1

Surrogates

Parameter	Units	LOR	SE206178.029	SE206178.030	SE206178.031	SE206178.032
d4-1,2-dichloroethane (Surrogate)	%	-	115	106	106	110
d8-toluene (Surrogate)	%	-	181	171	165	175
Bromofluorobenzene (Surrogate)	%	-	85	79	78	83

Totals

Parameter	Units	LOR	SE206178.029	SE206178.030	SE206178.031	SE206178.032
Total Xylenes	mg/kg	0.3	<0.3	<0.3	<0.3	<0.3
Total BTEX	mg/kg	0.6	<0.6	<0.6	<0.6	<0.6

Volatile Petroleum Hydrocarbons in Soil Method: AN433 Tested: 14/5/2020

Parameter	Units	LOR	SE206178.029	SE206178.030	SE206178.031	SE206178.032
TRH C6-C10	mg/kg	25	<25	<25	<25	<25
TRH C6-C9	mg/kg	20	<20	<20	<20	<20

Surrogates

Parameter	Units	LOR	SE206178.029	SE206178.030	SE206178.031	SE206178.032
d4-1,2-dichloroethane (Surrogate)	%	-	115	106	106	110
d8-toluene (Surrogate)	%	-	181	171	165	175
Bromofluorobenzene (Surrogate)	%	-	85	79	78	83

VPH F Bands

Parameter	Units	LOR	SE206178.029	SE206178.030	SE206178.031	SE206178.032
Benzene (F0)	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
TRH C6-C10 minus BTEX (F1)	mg/kg	25	<25	<25	<25	<25

Parameter	Units	LOR	SE206178.029	SE206178.030	SE206178.031	SE206178.032
Sample Number			SE206178.029	SE206178.030	SE206178.031	SE206178.032
Sample Matrix			Soil	Soil	Soil	Soil
Sample Date			11 May 2020	11 May 2020	11 May 2020	11 May 2020
Sample Name			SP1-2	SP1-3	SP1-4	SP1-5

TRH (Total Recoverable Hydrocarbons) in Soil Method: AN403 Tested: 14/5/2020

Parameter	Units	LOR	SE206178.029	SE206178.030	SE206178.031	SE206178.032
TRH C10-C14	mg/kg	20	<20	<20	<20	<20
TRH C15-C28	mg/kg	45	<45	<45	<45	<45
TRH C29-C36	mg/kg	45	<45	<45	<45	<45
TRH C37-C40	mg/kg	100	<100	<100	<100	<100
TRH C10-C36 Total	mg/kg	110	<110	<110	<110	<110
TRH >C10-C40 Total (F bands)	mg/kg	210	<210	<210	<210	<210

TRH F Bands

Parameter	Units	LOR	SE206178.029	SE206178.030	SE206178.031	SE206178.032
TRH >C10-C16	mg/kg	25	<25	<25	<25	<25
TRH >C10-C16 - Naphthalene (F2)	mg/kg	25	<25	<25	<25	<25
TRH >C16-C34 (F3)	mg/kg	90	<90	<90	<90	<90
TRH >C34-C40 (F4)	mg/kg	120	<120	<120	<120	<120

PAH (Polynuclear Aromatic Hydrocarbons) in Soil Method: AN420 Tested: 14/5/2020

Parameter	Units	LOR	SE206178.029	SE206178.030	SE206178.031	SE206178.032
Naphthalene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
2-methylnaphthalene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
1-methylnaphthalene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Acenaphthylene	mg/kg	0.1	<0.1	<0.1	<0.1	0.1
Acenaphthene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Fluorene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Phenanthrene	mg/kg	0.1	<0.1	<0.1	<0.1	0.2
Anthracene	mg/kg	0.1	<0.1	<0.1	<0.1	0.1
Fluoranthene	mg/kg	0.1	<0.1	<0.1	<0.1	0.1
Pyrene	mg/kg	0.1	<0.1	<0.1	<0.1	0.3
Benzo(a)anthracene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Chrysene	mg/kg	0.1	<0.1	<0.1	<0.1	0.1
Benzo(b&j)fluoranthene	mg/kg	0.1	<0.1	<0.1	<0.1	0.1
Benzo(k)fluoranthene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Benzo(a)pyrene	mg/kg	0.1	<0.1	<0.1	<0.1	0.1
Indeno(1,2,3-cd)pyrene	mg/kg	0.1	<0.1	<0.1	<0.1	0.1
Dibenzo(ah)anthracene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Benzo(ghi)perylene	mg/kg	0.1	<0.1	<0.1	<0.1	0.2
Carcinogenic PAHs, BaP TEQ <LOR=0	TEQ (mg/kg)	0.2	<0.2	<0.2	<0.2	<0.2
Carcinogenic PAHs, BaP TEQ <LOR=LOR	TEQ (mg/kg)	0.3	<0.3	<0.3	<0.3	<0.3
Carcinogenic PAHs, BaP TEQ <LOR=LOR/2	TEQ (mg/kg)	0.2	<0.2	<0.2	<0.2	0.2
Total PAH (18)	mg/kg	0.8	<0.8	<0.8	<0.8	1.3
Total PAH (NEPM/WHO 16)	mg/kg	0.8	<0.8	<0.8	<0.8	1.3

Surrogates

Parameter	Units	LOR	SE206178.029	SE206178.030	SE206178.031	SE206178.032
d5-nitrobenzene (Surrogate)	%	-	74	74	74	74
2-fluorobiphenyl (Surrogate)	%	-	72	74	74	76
d14-p-terphenyl (Surrogate)	%	-	72	74	76	76

Speciated Phenols in Soil Method: AN420 Tested: 14/5/2020

Parameter	Units	LOR	SE206178.029	SE206178.030	SE206178.031	SE206178.032
Phenol	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5
2-methyl phenol (o-cresol)	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5
3/4-methyl phenol (m/p-cresol)	mg/kg	1	<1	<1	<1	<1
Total Cresol	mg/kg	1.5	<1.5	<1.5	<1.5	<1.5
2-chlorophenol	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5
2,4-dimethylphenol	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5
2,6-dichlorophenol	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5
2,4-dichlorophenol	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5
2,4,6-trichlorophenol	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5
2-nitrophenol	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5
4-nitrophenol	mg/kg	1	<1	<1	<1	<1
2,4,5-trichlorophenol	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5
2,3,4,6/2,3,5,6-tetrachlorophenol	mg/kg	1	<1	<1	<1	<1
Pentachlorophenol	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5
2,4-dinitrophenol	mg/kg	2	<2	<2	<2	<2
4-chloro-3-methylphenol	mg/kg	2	<2	<2	<2	<2

Parameter	Units	LOR	SE206178.029 Sample Number Sample Matrix Sample Date Sample Name	SE206178.030 Soil 11 May 2020 SP1-2	SE206178.031 Soil 11 May 2020 SP1-3	SE206178.032 Soil 11 May 2020 SP1-4	SE206178.032 Soil 11 May 2020 SP1-5
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Speciated Phenols in Soil Method: AN420 Tested: 14/5/2020 (continued)

Surrogates

2,4,6-Tribromophenol (Surrogate)	%	-	101	77	102	86
d5-phenol (Surrogate)	%	-	81	73	82	72

OC Pesticides in Soil Method: AN420 Tested: 14/5/2020

Hexachlorobenzene (HCB)	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Alpha BHC	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Lindane	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Heptachlor	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Aldrin	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Beta BHC	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Delta BHC	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Heptachlor epoxide	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
o,p'-DDE	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Alpha Endosulfan	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2
Gamma Chlordane	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Alpha Chlordane	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
trans-Nonachlor	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
p,p'-DDE	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Dieldrin	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2
Endrin	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2
o,p'-DDD	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
o,p'-DDT	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Beta Endosulfan	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2
p,p'-DDD	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
p,p'-DDT	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Endosulfan sulphate	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Endrin Aldehyde	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Methoxychlor	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Endrin Ketone	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Isodrin	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Mirex	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Total CLP OC Pesticides	mg/kg	1	<1	<1	<1	<1

Surrogates

Tetrachloro-m-xylene (TCMX) (Surrogate)	%	-	101	103	102	105
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OP Pesticides in Soil Method: AN420 Tested: 14/5/2020

Dichlorvos	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5
Dimethoate	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5
Diazinon (Dimpylate)	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5
Fenitrothion	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2
Malathion	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2
Chlorpyrifos (Chlorpyrifos Ethyl)	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2
Parathion-ethyl (Parathion)	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2
Bromophos Ethyl	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2
Methidathion	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5
Ethion	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2
Azinphos-methyl (Guthion)	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2
Total OP Pesticides*	mg/kg	1.7	<1.7	<1.7	<1.7	<1.7

Surrogates

2-fluorobiphenyl (Surrogate)	%	-	72	74	74	76
d14-p-terphenyl (Surrogate)	%	-	72	74	76	76

Parameter	Units	LOR	SE206178.029 Soil 11 May 2020 SP1-2	SE206178.030 Soil 11 May 2020 SP1-3	SE206178.031 Soil 11 May 2020 SP1-4	SE206178.032 Soil 11 May 2020 SP1-5
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PCBs in Soil Method: AN420 Tested: 14/5/2020

Arochlor 1016	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2
Arochlor 1221	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2
Arochlor 1232	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2
Arochlor 1242	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2
Arochlor 1248	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2
Arochlor 1254	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2
Arochlor 1260	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2
Arochlor 1262	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2
Arochlor 1268	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2
Total PCBs (Arochlors)	mg/kg	1	<1	<1	<1	<1

Surrogates

Tetrachloro-m-xylene (TCMX) (Surrogate)	%	-	101	103	102	105
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pH in soil (1:5) Method: AN101 Tested: 19/5/2020

pH	pH Units	0.1	-	-	-	-
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Exchangeable Cations and Cation Exchange Capacity (CEC/ESP/SAR) Method: AN122 Tested: 20/5/2020

Exchangeable Sodium, Na	mg/kg	2	-	-	-	-
Exchangeable Sodium, Na	meq/100g	0.01	-	-	-	-
Exchangeable Sodium Percentage*	%	0.1	-	-	-	-
Exchangeable Potassium, K	mg/kg	2	-	-	-	-
Exchangeable Potassium, K	meq/100g	0.01	-	-	-	-
Exchangeable Potassium Percentage*	%	0.1	-	-	-	-
Exchangeable Calcium, Ca	mg/kg	2	-	-	-	-
Exchangeable Calcium, Ca	meq/100g	0.01	-	-	-	-
Exchangeable Calcium Percentage*	%	0.1	-	-	-	-
Exchangeable Magnesium, Mg	mg/kg	2	-	-	-	-
Exchangeable Magnesium, Mg	meq/100g	0.02	-	-	-	-
Exchangeable Magnesium Percentage*	%	0.1	-	-	-	-
Cation Exchange Capacity	meq/100g	0.02	-	-	-	-

Total Recoverable Elements in Soil/Waste Solids/Materials by ICPOES Method: AN040/AN320 Tested: 14/5/2020

Arsenic, As	mg/kg	1	2	2	2	2
Cadmium, Cd	mg/kg	0.3	<0.3	<0.3	<0.3	<0.3
Chromium, Cr	mg/kg	0.5	24	21	10	14
Copper, Cu	mg/kg	0.5	4.7	5.3	5.0	6.0
Nickel, Ni	mg/kg	0.5	4.3	4.1	4.1	5.6
Lead, Pb	mg/kg	1	13	22	43	44
Zinc, Zn	mg/kg	2	14	26	37	43

Mercury in Soil Method: AN312 Tested: 14/5/2020

Mercury	mg/kg	0.05	<0.05	<0.05	<0.05	<0.05
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Parameter	Units	LOR	SE206178.029	SE206178.030	SE206178.031	SE206178.032
Sample Number			SE206178.029	SE206178.030	SE206178.031	SE206178.032
Sample Matrix			Soil	Soil	Soil	Soil
Sample Date			11 May 2020	11 May 2020	11 May 2020	11 May 2020
Sample Name			SP1-2	SP1-3	SP1-4	SP1-5

Moisture Content Method: AN002 Tested: 14/5/2020

Parameter	Units	LOR	SE206178.029	SE206178.030	SE206178.031	SE206178.032
% Moisture	%w/w	1	10.2	11.7	8.2	8.0

Fibre Identification in soil Method: AN602 Tested: 19/5/2020

FibreID

Parameter	Units	LOR	SE206178.029	SE206178.030	SE206178.031	SE206178.032
Asbestos Detected	No unit	-	No	No	No	No

SemiQuant

Parameter	Units	LOR	SE206178.029	SE206178.030	SE206178.031	SE206178.032
Estimated Fibres*	%w/w	0.01	<0.01	<0.01	<0.01	<0.01

Gravimetric Determination of Asbestos in Soil Method: AN605 Tested: 20/5/2020

Parameter	Units	LOR	SE206178.029	SE206178.030	SE206178.031	SE206178.032
Total Sample Weight*	g	1	-	-	-	553
Bonded ACM in >7mm Sample*	g	0.001	-	-	-	<0.001
AF/FA in >2mm to <7mm Sample*	g	0.00001	-	-	-	<0.00001
AF/FA in <2mm Sample*	g	0.00001	-	-	-	<0.00001
Asbestos in soil (>7mm ACM)*	%w/w	0.01	-	-	-	<0.01
Asbestos in soil (>2mm to <7mm AF/FA)*	%w/w	0.001	-	-	-	<0.001
Asbestos in soil (<2mm AF/FA)*	%w/w	0.001	-	-	-	<0.001
Asbestos in soil (<7mm AF/FA)*	%w/w	0.001	-	-	-	<0.001
Fibre Type*	No unit	-	-	-	-	-

Particle sizing of soils by sieving Method: AN005 Tested: 20/5/2020

Parameter	Units	LOR	SE206178.029	SE206178.030	SE206178.031	SE206178.032
Passing 75µm*	%w/w	1	-	-	-	-
Retained 75µm*	%w/w	1	-	-	-	-

Particle sizing of soils <75µm by hydrometer Method: AN005 Tested: 20/5/2020

Parameter	Units	LOR	SE206178.029	SE206178.030	SE206178.031	SE206178.032
Clay (<0.002mm)*	%w/w	0.1	-	-	-	-

Parameter	Units	LOR	SE206178.033	SE206178.034	SE206178.035	SE206178.036
Sample Number			SE206178.033	SE206178.034	SE206178.035	SE206178.036
Sample Matrix			Soil	Soil	Soil	Soil
Sample Date			11 May 2020	11 May 2020	11 May 2020	11 May 2020
Sample Name			SP2-1	SP2-2	SP2-3	SP2-4

VOC's in Soil Method: AN433 Tested: 14/5/2020

Monocyclic Aromatic Hydrocarbons

Parameter	Units	LOR	SE206178.033	SE206178.034	SE206178.035	SE206178.036
Benzene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Toluene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Ethylbenzene	mg/kg	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
o-xylene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1

Polycyclic VOCs

Naphthalene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
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Surrogates

d4-1,2-dichloroethane (Surrogate)	%	-	103	100	100	105
d8-toluene (Surrogate)	%	-	173	154	159	163
Bromofluorobenzene (Surrogate)	%	-	79	77	77	78

Totals

Total Xylenes	mg/kg	0.3	<0.3	<0.3	<0.3	<0.3
Total BTEX	mg/kg	0.6	<0.6	<0.6	<0.6	<0.6

Volatile Petroleum Hydrocarbons in Soil Method: AN433 Tested: 14/5/2020

TRH C6-C10	mg/kg	25	<25	<25	<25	<25
TRH C6-C9	mg/kg	20	<20	<20	<20	<20

Surrogates

d4-1,2-dichloroethane (Surrogate)	%	-	103	100	100	105
d8-toluene (Surrogate)	%	-	173	154	159	163
Bromofluorobenzene (Surrogate)	%	-	79	77	77	78

VPH F Bands

Benzene (F0)	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
TRH C6-C10 minus BTEX (F1)	mg/kg	25	<25	<25	<25	<25

Parameter	Units	LOR	SE206178.033	SE206178.034	SE206178.035	SE206178.036
Sample Number			SE206178.033	SE206178.034	SE206178.035	SE206178.036
Sample Matrix			Soil	Soil	Soil	Soil
Sample Date			11 May 2020	11 May 2020	11 May 2020	11 May 2020
Sample Name			SP2-1	SP2-2	SP2-3	SP2-4

TRH (Total Recoverable Hydrocarbons) in Soil Method: AN403 Tested: 14/5/2020

Parameter	Units	LOR	SE206178.033	SE206178.034	SE206178.035	SE206178.036
TRH C10-C14	mg/kg	20	<20	<20	<20	<20
TRH C15-C28	mg/kg	45	<45	<45	<45	<45
TRH C29-C36	mg/kg	45	<45	<45	<45	<45
TRH C37-C40	mg/kg	100	<100	<100	<100	<100
TRH C10-C36 Total	mg/kg	110	<110	<110	<110	<110
TRH >C10-C40 Total (F bands)	mg/kg	210	<210	<210	<210	<210

TRH F Bands

Parameter	Units	LOR	SE206178.033	SE206178.034	SE206178.035	SE206178.036
TRH >C10-C16	mg/kg	25	<25	<25	<25	<25
TRH >C10-C16 - Naphthalene (F2)	mg/kg	25	<25	<25	<25	<25
TRH >C16-C34 (F3)	mg/kg	90	<90	<90	<90	<90
TRH >C34-C40 (F4)	mg/kg	120	<120	<120	<120	<120

PAH (Polynuclear Aromatic Hydrocarbons) in Soil Method: AN420 Tested: 14/5/2020

Parameter	Units	LOR	SE206178.033	SE206178.034	SE206178.035	SE206178.036
Naphthalene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
2-methylnaphthalene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
1-methylnaphthalene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Acenaphthylene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Acenaphthene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Fluorene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Phenanthrene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Anthracene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Fluoranthene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Pyrene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Benzo(a)anthracene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Chrysene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Benzo(b&j)fluoranthene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Benzo(k)fluoranthene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Benzo(a)pyrene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Indeno(1,2,3-cd)pyrene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Dibenzo(ah)anthracene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Benzo(ghi)perylene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Carcinogenic PAHs, BaP TEQ <LOR=0	TEQ (mg/kg)	0.2	<0.2	<0.2	<0.2	<0.2
Carcinogenic PAHs, BaP TEQ <LOR=LOR	TEQ (mg/kg)	0.3	<0.3	<0.3	<0.3	<0.3
Carcinogenic PAHs, BaP TEQ <LOR=LOR/2	TEQ (mg/kg)	0.2	<0.2	<0.2	<0.2	<0.2
Total PAH (18)	mg/kg	0.8	<0.8	<0.8	<0.8	<0.8
Total PAH (NEPM/WHO 16)	mg/kg	0.8	<0.8	<0.8	<0.8	<0.8

Surrogates

Parameter	Units	LOR	SE206178.033	SE206178.034	SE206178.035	SE206178.036
d5-nitrobenzene (Surrogate)	%	-	72	74	76	76
2-fluorobiphenyl (Surrogate)	%	-	72	72	76	72
d14-p-terphenyl (Surrogate)	%	-	74	74	72	74

Speciated Phenols in Soil Method: AN420 Tested: 14/5/2020

Parameter	Units	LOR	SE206178.033	SE206178.034	SE206178.035	SE206178.036
Phenol	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5
2-methyl phenol (o-cresol)	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5
3/4-methyl phenol (m/p-cresol)	mg/kg	1	<1	<1	<1	<1
Total Cresol	mg/kg	1.5	<1.5	<1.5	<1.5	<1.5
2-chlorophenol	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5
2,4-dimethylphenol	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5
2,6-dichlorophenol	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5
2,4-dichlorophenol	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5
2,4,6-trichlorophenol	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5
2-nitrophenol	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5
4-nitrophenol	mg/kg	1	<1	<1	<1	<1
2,4,5-trichlorophenol	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5
2,3,4,6/2,3,5,6-tetrachlorophenol	mg/kg	1	<1	<1	<1	<1
Pentachlorophenol	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5
2,4-dinitrophenol	mg/kg	2	<2	<2	<2	<2
4-chloro-3-methylphenol	mg/kg	2	<2	<2	<2	<2

Parameter	Units	LOR	SE206178.033	SE206178.034	SE206178.035	SE206178.036
Sample Number			SE206178.033	SE206178.034	SE206178.035	SE206178.036
Sample Matrix			Soil	Soil	Soil	Soil
Sample Date			11 May 2020	11 May 2020	11 May 2020	11 May 2020
Sample Name			SP2-1	SP2-2	SP2-3	SP2-4

Speciated Phenols in Soil Method: AN420 Tested: 14/5/2020 (continued)

Surrogates

2,4,6-Tribromophenol (Surrogate)	%	-	95	95	93	95
d5-phenol (Surrogate)	%	-	81	81	77	79

OC Pesticides in Soil Method: AN420 Tested: 14/5/2020

Hexachlorobenzene (HCB)	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Alpha BHC	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Lindane	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Heptachlor	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Aldrin	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Beta BHC	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Delta BHC	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Heptachlor epoxide	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
o,p'-DDE	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Alpha Endosulfan	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2
Gamma Chlordane	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Alpha Chlordane	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
trans-Nonachlor	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
p,p'-DDE	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Dieldrin	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2
Endrin	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2
o,p'-DDD	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
o,p'-DDT	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Beta Endosulfan	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2
p,p'-DDD	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
p,p'-DDT	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Endosulfan sulphate	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Endrin Aldehyde	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Methoxychlor	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Endrin Ketone	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Isodrin	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Mirex	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Total CLP OC Pesticides	mg/kg	1	<1	<1	<1	<1

Surrogates

Tetrachloro-m-xylene (TCMX) (Surrogate)	%	-	105	105	101	102
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OP Pesticides in Soil Method: AN420 Tested: 14/5/2020

Dichlorvos	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5
Dimethoate	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5
Diazinon (Dimpylate)	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5
Fenitrothion	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2
Malathion	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2
Chlorpyrifos (Chlorpyrifos Ethyl)	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2
Parathion-ethyl (Parathion)	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2
Bromophos Ethyl	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2
Methidathion	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5
Ethion	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2
Azinphos-methyl (Guthion)	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2
Total OP Pesticides*	mg/kg	1.7	<1.7	<1.7	<1.7	<1.7

Surrogates

2-fluorobiphenyl (Surrogate)	%	-	72	72	76	72
d14-p-terphenyl (Surrogate)	%	-	74	74	72	74

Parameter	Units	LOR	SE206178.033	SE206178.034	SE206178.035	SE206178.036
Sample Number			SE206178.033	SE206178.034	SE206178.035	SE206178.036
Sample Matrix			Soil	Soil	Soil	Soil
Sample Date			11 May 2020	11 May 2020	11 May 2020	11 May 2020
Sample Name			SP2-1	SP2-2	SP2-3	SP2-4

PCBs in Soil Method: AN420 Tested: 14/5/2020

Parameter	Units	LOR	SE206178.033	SE206178.034	SE206178.035	SE206178.036
Arochlor 1016	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2
Arochlor 1221	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2
Arochlor 1232	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2
Arochlor 1242	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2
Arochlor 1248	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2
Arochlor 1254	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2
Arochlor 1260	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2
Arochlor 1262	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2
Arochlor 1268	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2
Total PCBs (Arochlors)	mg/kg	1	<1	<1	<1	<1

Surrogates

Tetrachloro-m-xylene (TCMX) (Surrogate)	%	-	105	105	101	102
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pH in soil (1:5) Method: AN101 Tested: 19/5/2020

pH	pH Units	0.1	-	-	-	-
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Exchangeable Cations and Cation Exchange Capacity (CEC/ESP/SAR) Method: AN122 Tested: 20/5/2020

Exchangeable Sodium, Na	mg/kg	2	-	-	-	-
Exchangeable Sodium, Na	meq/100g	0.01	-	-	-	-
Exchangeable Sodium Percentage*	%	0.1	-	-	-	-
Exchangeable Potassium, K	mg/kg	2	-	-	-	-
Exchangeable Potassium, K	meq/100g	0.01	-	-	-	-
Exchangeable Potassium Percentage*	%	0.1	-	-	-	-
Exchangeable Calcium, Ca	mg/kg	2	-	-	-	-
Exchangeable Calcium, Ca	meq/100g	0.01	-	-	-	-
Exchangeable Calcium Percentage*	%	0.1	-	-	-	-
Exchangeable Magnesium, Mg	mg/kg	2	-	-	-	-
Exchangeable Magnesium, Mg	meq/100g	0.02	-	-	-	-
Exchangeable Magnesium Percentage*	%	0.1	-	-	-	-
Cation Exchange Capacity	meq/100g	0.02	-	-	-	-

Total Recoverable Elements in Soil/Waste Solids/Materials by ICPOES Method: AN040/AN320 Tested: 14/5/2020

Arsenic, As	mg/kg	1	2	2	2	1
Cadmium, Cd	mg/kg	0.3	<0.3	<0.3	<0.3	<0.3
Chromium, Cr	mg/kg	0.5	24	21	18	11
Copper, Cu	mg/kg	0.5	6.4	6.2	5.3	4.0
Nickel, Ni	mg/kg	0.5	4.9	4.6	4.7	3.5
Lead, Pb	mg/kg	1	16	16	15	16
Zinc, Zn	mg/kg	2	14	16	16	25

Mercury in Soil Method: AN312 Tested: 14/5/2020

Mercury	mg/kg	0.05	<0.05	<0.05	<0.05	<0.05
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Parameter	Units	LOR	SE206178.033	SE206178.034	SE206178.035	SE206178.036
Sample Number			SE206178.033	SE206178.034	SE206178.035	SE206178.036
Sample Matrix			Soil	Soil	Soil	Soil
Sample Date			11 May 2020	11 May 2020	11 May 2020	11 May 2020
Sample Name			SP2-1	SP2-2	SP2-3	SP2-4

Moisture Content Method: AN002 Tested: 14/5/2020

Parameter	Units	LOR	SE206178.033	SE206178.034	SE206178.035	SE206178.036
% Moisture	%w/w	1	12.7	11.2	8.4	14.8

Fibre Identification in soil Method: AN602 Tested: 19/5/2020

FibreID

Parameter	Units	LOR	SE206178.033	SE206178.034	SE206178.035	SE206178.036
Asbestos Detected	No unit	-	No	No	No	No

SemiQuant

Parameter	Units	LOR	SE206178.033	SE206178.034	SE206178.035	SE206178.036
Estimated Fibres*	%w/w	0.01	<0.01	<0.01	<0.01	<0.01

Gravimetric Determination of Asbestos in Soil Method: AN605 Tested: 19/5/2020

Parameter	Units	LOR	SE206178.033	SE206178.034	SE206178.035	SE206178.036
Total Sample Weight*	g	1	505	469	504	416
Bonded ACM in >7mm Sample*	g	0.001	<0.001	<0.001	<0.001	<0.001
AF/FA in >2mm to <7mm Sample*	g	0.00001	<0.00001	<0.00001	<0.00001	<0.00001
AF/FA in <2mm Sample*	g	0.00001	<0.00001	<0.00001	<0.00001	<0.00001
Asbestos in soil (>7mm ACM)*	%w/w	0.01	<0.01	<0.01	<0.01	<0.01
Asbestos in soil (>2mm to <7mm AF/FA)*	%w/w	0.001	<0.001	<0.001	<0.001	<0.001
Asbestos in soil (<2mm AF/FA)*	%w/w	0.001	<0.001	<0.001	<0.001	<0.001
Asbestos in soil (<7mm AF/FA)*	%w/w	0.001	<0.001	<0.001	<0.001	<0.001
Fibre Type*	No unit	-	-	-	-	-

Particle sizing of soils by sieving Method: AN005 Tested: 20/5/2020

Parameter	Units	LOR	SE206178.033	SE206178.034	SE206178.035	SE206178.036
Passing 75µm*	%w/w	1	-	-	-	-
Retained 75µm*	%w/w	1	-	-	-	-

Particle sizing of soils <75µm by hydrometer Method: AN005 Tested: 20/5/2020

Parameter	Units	LOR	SE206178.033	SE206178.034	SE206178.035	SE206178.036
Clay (<0.002mm)*	%w/w	0.1	-	-	-	-

	Sample Number	SE206178.037	SE206178.038
	Sample Matrix	Soil	Soil
	Sample Date	11 May 2020	11 May 2020
	Sample Name	SP2-5	SP3-1
Parameter	Units	LOR	

VOC's in Soil Method: AN433 Tested: 14/5/2020

Monocyclic Aromatic Hydrocarbons

Benzene	mg/kg	0.1	<0.1	<0.1
Toluene	mg/kg	0.1	<0.1	<0.1
Ethylbenzene	mg/kg	0.1	<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

Polycyclic VOCs

Naphthalene	mg/kg	0.1	<0.1	<0.1
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Surrogates

d4-1,2-dichloroethane (Surrogate)	%	-	107	108
d8-toluene (Surrogate)	%	-	166	171
Bromofluorobenzene (Surrogate)	%	-	79	80

Totals

Total Xylenes	mg/kg	0.3	<0.3	<0.3
Total BTEX	mg/kg	0.6	<0.6	<0.6

Volatile Petroleum Hydrocarbons in Soil Method: AN433 Tested: 14/5/2020

TRH C6-C10	mg/kg	25	<25	<25
TRH C6-C9	mg/kg	20	<20	<20

Surrogates

d4-1,2-dichloroethane (Surrogate)	%	-	107	108
d8-toluene (Surrogate)	%	-	166	171
Bromofluorobenzene (Surrogate)	%	-	79	80

VPH F Bands

Benzene (F0)	mg/kg	0.1	<0.1	<0.1
TRH C6-C10 minus BTEX (F1)	mg/kg	25	<25	<25

Sample Number	SE206178.037	SE206178.038
Sample Matrix	Soil	Soil
Sample Date	11 May 2020	11 May 2020
Sample Name	SP2-5	SP3-1
Parameter	Units	LOR

TRH (Total Recoverable Hydrocarbons) in Soil Method: AN403 Tested: 14/5/2020

TRH C10-C14	mg/kg	20	<20	<20
TRH C15-C28	mg/kg	45	<45	<45
TRH C29-C36	mg/kg	45	<45	<45
TRH C37-C40	mg/kg	100	<100	<100
TRH C10-C36 Total	mg/kg	110	<110	<110
TRH >C10-C40 Total (F bands)	mg/kg	210	<210	<210

TRH F Bands

TRH >C10-C16	mg/kg	25	<25	<25
TRH >C10-C16 - Naphthalene (F2)	mg/kg	25	<25	<25
TRH >C16-C34 (F3)	mg/kg	90	<90	<90
TRH >C34-C40 (F4)	mg/kg	120	<120	<120

PAH (Polynuclear Aromatic Hydrocarbons) in Soil Method: AN420 Tested: 14/5/2020

Naphthalene	mg/kg	0.1	<0.1	<0.1
2-methylnaphthalene	mg/kg	0.1	<0.1	<0.1
1-methylnaphthalene	mg/kg	0.1	<0.1	<0.1
Acenaphthylene	mg/kg	0.1	<0.1	<0.1
Acenaphthene	mg/kg	0.1	<0.1	<0.1
Fluorene	mg/kg	0.1	<0.1	<0.1
Phenanthrene	mg/kg	0.1	<0.1	<0.1
Anthracene	mg/kg	0.1	<0.1	<0.1
Fluoranthene	mg/kg	0.1	<0.1	<0.1
Pyrene	mg/kg	0.1	<0.1	0.1
Benzo(a)anthracene	mg/kg	0.1	<0.1	<0.1
Chrysene	mg/kg	0.1	<0.1	<0.1
Benzo(b&i)fluoranthene	mg/kg	0.1	<0.1	<0.1
Benzo(k)fluoranthene	mg/kg	0.1	<0.1	<0.1
Benzo(a)pyrene	mg/kg	0.1	<0.1	<0.1
Indeno(1,2,3-cd)pyrene	mg/kg	0.1	<0.1	<0.1
Dibenzo(ah)anthracene	mg/kg	0.1	<0.1	<0.1
Benzo(ghi)perylene	mg/kg	0.1	<0.1	<0.1
Carcinogenic PAHs, BaP TEQ <LOR=0	TEQ (mg/kg)	0.2	<0.2	<0.2
Carcinogenic PAHs, BaP TEQ <LOR=LOR	TEQ (mg/kg)	0.3	<0.3	<0.3
Carcinogenic PAHs, BaP TEQ <LOR=LOR/2	TEQ (mg/kg)	0.2	<0.2	<0.2
Total PAH (18)	mg/kg	0.8	<0.8	<0.8
Total PAH (NEPM/WHO 16)	mg/kg	0.8	<0.8	<0.8

Surrogates

d5-nitrobenzene (Surrogate)	%	-	76	74
2-fluorobiphenyl (Surrogate)	%	-	74	76
d14-p-terphenyl (Surrogate)	%	-	76	76

Speciated Phenols in Soil Method: AN420 Tested: 14/5/2020

Phenol	mg/kg	0.5	<0.5	<0.5
2-methyl phenol (o-cresol)	mg/kg	0.5	<0.5	<0.5
3/4-methyl phenol (m/p-cresol)	mg/kg	1	<1	<1
Total Cresol	mg/kg	1.5	<1.5	<1.5
2-chlorophenol	mg/kg	0.5	<0.5	<0.5
2,4-dimethylphenol	mg/kg	0.5	<0.5	<0.5
2,6-dichlorophenol	mg/kg	0.5	<0.5	<0.5
2,4-dichlorophenol	mg/kg	0.5	<0.5	<0.5
2,4,6-trichlorophenol	mg/kg	0.5	<0.5	<0.5
2-nitrophenol	mg/kg	0.5	<0.5	<0.5
4-nitrophenol	mg/kg	1	<1	<1
2,4,5-trichlorophenol	mg/kg	0.5	<0.5	<0.5
2,3,4,6/2,3,5,6-tetrachlorophenol	mg/kg	1	<1	<1
Pentachlorophenol	mg/kg	0.5	<0.5	<0.5

	Sample Number	SE206178.037	SE206178.038
	Sample Matrix	Soil	Soil
	Sample Date	11 May 2020	11 May 2020
	Sample Name	SP2-5	SP3-1
Parameter	Units	LOR	

Speciated Phenols in Soil Method: AN420 Tested: 14/5/2020 (continued)

2,4-dinitrophenol	mg/kg	2	<2	<2
4-chloro-3-methylphenol	mg/kg	2	<2	<2

Surrogates

2,4,6-Tribromophenol (Surrogate)	%	-	96	88
d5-phenol (Surrogate)	%	-	79	75

OC Pesticides in Soil Method: AN420 Tested: 14/5/2020

Hexachlorobenzene (HCB)	mg/kg	0.1	<0.1	<0.1
Alpha BHC	mg/kg	0.1	<0.1	<0.1
Lindane	mg/kg	0.1	<0.1	<0.1
Heptachlor	mg/kg	0.1	<0.1	<0.1
Aldrin	mg/kg	0.1	<0.1	<0.1
Beta BHC	mg/kg	0.1	<0.1	<0.1
Delta BHC	mg/kg	0.1	<0.1	<0.1
Heptachlor epoxide	mg/kg	0.1	<0.1	<0.1
o,p'-DDE	mg/kg	0.1	<0.1	<0.1
Alpha Endosulfan	mg/kg	0.2	<0.2	<0.2
Gamma Chlordane	mg/kg	0.1	<0.1	<0.1
Alpha Chlordane	mg/kg	0.1	<0.1	<0.1
trans-Nonachlor	mg/kg	0.1	<0.1	<0.1
p,p'-DDE	mg/kg	0.1	<0.1	<0.1
Dieldrin	mg/kg	0.2	<0.2	<0.2
Endrin	mg/kg	0.2	<0.2	<0.2
o,p'-DDD	mg/kg	0.1	<0.1	<0.1
o,p'-DDT	mg/kg	0.1	<0.1	<0.1
Beta Endosulfan	mg/kg	0.2	<0.2	<0.2
p,p'-DDD	mg/kg	0.1	<0.1	<0.1
p,p'-DDT	mg/kg	0.1	<0.1	<0.1
Endosulfan sulphate	mg/kg	0.1	<0.1	<0.1
Endrin Aldehyde	mg/kg	0.1	<0.1	<0.1
Methoxychlor	mg/kg	0.1	<0.1	<0.1
Endrin Ketone	mg/kg	0.1	<0.1	<0.1
Isodrin	mg/kg	0.1	<0.1	<0.1
Mirex	mg/kg	0.1	<0.1	<0.1
Total CLP OC Pesticides	mg/kg	1	<1	<1

Surrogates

Tetrachloro-m-xylene (TCMX) (Surrogate)	%	-	101	111
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	Sample Number	SE206178.037	SE206178.038
	Sample Matrix	Soil	Soil
	Sample Date	11 May 2020	11 May 2020
	Sample Name	SP2-5	SP3-1
Parameter	Units	LOR	

OP Pesticides in Soil Method: AN420 Tested: 14/5/2020

Dichlorvos	mg/kg	0.5	<0.5	<0.5
Dimethoate	mg/kg	0.5	<0.5	<0.5
Diazinon (Dimpylate)	mg/kg	0.5	<0.5	<0.5
Fenitrothion	mg/kg	0.2	<0.2	<0.2
Malathion	mg/kg	0.2	<0.2	<0.2
Chlorpyrifos (Chlorpyrifos Ethyl)	mg/kg	0.2	<0.2	<0.2
Parathion-ethyl (Parathion)	mg/kg	0.2	<0.2	<0.2
Bromophos Ethyl	mg/kg	0.2	<0.2	<0.2
Methidathion	mg/kg	0.5	<0.5	<0.5
Ethion	mg/kg	0.2	<0.2	<0.2
Azinphos-methyl (Guthion)	mg/kg	0.2	<0.2	<0.2
Total OP Pesticides*	mg/kg	1.7	<1.7	<1.7

Surrogates

2-fluorobiphenyl (Surrogate)	%	-	74	76
d14-p-terphenyl (Surrogate)	%	-	76	76

PCBs in Soil Method: AN420 Tested: 14/5/2020

Arochlor 1016	mg/kg	0.2	<0.2	<0.2
Arochlor 1221	mg/kg	0.2	<0.2	<0.2
Arochlor 1232	mg/kg	0.2	<0.2	<0.2
Arochlor 1242	mg/kg	0.2	<0.2	<0.2
Arochlor 1248	mg/kg	0.2	<0.2	<0.2
Arochlor 1254	mg/kg	0.2	<0.2	<0.2
Arochlor 1260	mg/kg	0.2	<0.2	<0.2
Arochlor 1262	mg/kg	0.2	<0.2	<0.2
Arochlor 1268	mg/kg	0.2	<0.2	<0.2
Total PCBs (Arochlors)	mg/kg	1	<1	<1

Surrogates

Tetrachloro-m-xylene (TCMX) (Surrogate)	%	-	101	111
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pH in soil (1:5) Method: AN101 Tested: 19/5/2020

pH	pH Units	0.1	-	-
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	Sample Number	SE206178.037	SE206178.038
	Sample Matrix	Soil	Soil
	Sample Date	11 May 2020	11 May 2020
	Sample Name	SP2-5	SP3-1
Parameter	Units	LOR	

Exchangeable Cations and Cation Exchange Capacity (CEC/ESP/SAR) Method: AN122 Tested: 20/5/2020

Exchangeable Sodium, Na	mg/kg	2	-	-
Exchangeable Sodium, Na	meq/100g	0.01	-	-
Exchangeable Sodium Percentage*	%	0.1	-	-
Exchangeable Potassium, K	mg/kg	2	-	-
Exchangeable Potassium, K	meq/100g	0.01	-	-
Exchangeable Potassium Percentage*	%	0.1	-	-
Exchangeable Calcium, Ca	mg/kg	2	-	-
Exchangeable Calcium, Ca	meq/100g	0.01	-	-
Exchangeable Calcium Percentage*	%	0.1	-	-
Exchangeable Magnesium, Mg	mg/kg	2	-	-
Exchangeable Magnesium, Mg	meq/100g	0.02	-	-
Exchangeable Magnesium Percentage*	%	0.1	-	-
Cation Exchange Capacity	meq/100g	0.02	-	-

Total Recoverable Elements in Soil/Waste Solids/Materials by ICPOES Method: AN040/AN320 Tested: 14/5/2020

Arsenic, As	mg/kg	1	1	2
Cadmium, Cd	mg/kg	0.3	<0.3	<0.3
Chromium, Cr	mg/kg	0.5	12	23
Copper, Cu	mg/kg	0.5	3.3	4.8
Nickel, Ni	mg/kg	0.5	3.8	4.1
Lead, Pb	mg/kg	1	14	25
Zinc, Zn	mg/kg	2	24	37

Mercury in Soil Method: AN312 Tested: 14/5/2020

Mercury	mg/kg	0.05	<0.05	<0.05
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Moisture Content Method: AN002 Tested: 14/5/2020

% Moisture	%w/w	1	10.8	14.0
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Fibre Identification in soil Method: AN602 Tested: 19/5/2020

FibreID

Asbestos Detected	No unit	-	No	No
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SemiQuant

Estimated Fibres*	%w/w	0.01	<0.01	<0.01
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	Sample Number	SE206178.037	SE206178.038
	Sample Matrix	Soil	Soil
	Sample Date	11 May 2020	11 May 2020
	Sample Name	SP2-5	SP3-1
Parameter	Units	LOR	

Gravimetric Determination of Asbestos in Soil Method: AN605 Tested: 19/5/2020

Total Sample Weight*	g	1	566	464
Bonded ACM in >7mm Sample*	g	0.001	<0.001	<0.001
AF/FA in >2mm to <7mm Sample*	g	0.00001	<0.00001	<0.00001
AF/FA in <2mm Sample*	g	0.00001	<0.00001	<0.00001
Asbestos in soil (>7mm ACM)*	%w/w	0.01	<0.01	<0.01
Asbestos in soil (>2mm to <7mm AF/FA)*	%w/w	0.001	<0.001	<0.001
Asbestos in soil (<2mm AF/FA)*	%w/w	0.001	<0.001	<0.001
Asbestos in soil (<7mm AF/FA)*	%w/w	0.001	<0.001	<0.001
Fibre Type*	No unit	-	-	-

Particle sizing of soils by sieving Method: AN005 Tested: 20/5/2020

Passing 75µm*	%w/w	1	-	-
Retained 75µm*	%w/w	1	-	-

Particle sizing of soils <75µm by hydrometer Method: AN005 Tested: 20/5/2020

Clay (<0.002mm)*	%w/w	0.1	-	-
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MB blank results are compared to the Limit of Reporting

LCS and MS spike recoveries are measured as the percentage of analyte recovered from the sample compared to the amount of analyte spiked into the sample.

DUP and MSD relative percent differences are measured against their original counterpart samples according to the formula : *the absolute difference of the two results divided by the average of the two results as a percentage*. Where the DUP RPD is 'NA', the results are less than the LOR and thus the RPD is not applicable.

Exchangeable Cations and Cation Exchange Capacity (CEC/ESP/SAR) Method: ME-(AU)-[ENV]AN122

Parameter	QC Reference	Units	LOR	MB	LCS %Recovery
Exchangeable Sodium, Na	LB199593	mg/kg	2		NA
Exchangeable Sodium, Na	LB199593	meq/100g	0.01	<0.01	NA
Exchangeable Sodium Percentage*	LB199593	%	0.1		NA
Exchangeable Potassium, K	LB199593	mg/kg	2		NA
Exchangeable Potassium, K	LB199593	meq/100g	0.01	<0.01	NA
Exchangeable Potassium Percentage*	LB199593	%	0.1		NA
Exchangeable Calcium, Ca	LB199593	mg/kg	2		NA
Exchangeable Calcium, Ca	LB199593	meq/100g	0.01	<0.01	NA
Exchangeable Calcium Percentage*	LB199593	%	0.1		NA
Exchangeable Magnesium, Mg	LB199593	mg/kg	2		NA
Exchangeable Magnesium, Mg	LB199593	meq/100g	0.02	<0.02	NA
Exchangeable Magnesium Percentage*	LB199593	%	0.1		NA
Cation Exchange Capacity	LB199593	meq/100g	0.02	<0.02	NA

Mercury in Soil Method: ME-(AU)-[ENV]AN312

Parameter	QC Reference	Units	LOR	MB	DUP %RPD	LCS %Recovery	MS %Recovery
Mercury	LB199539	mg/kg	0.05	<0.05	0%	106%	98%
	LB199540	mg/kg	0.05	<0.05	0%	97%	92%

Moisture Content Method: ME-(AU)-[ENV]AN002

Parameter	QC Reference	Units	LOR	DUP %RPD
% Moisture	LB199513	%w/w	1	6%
	LB199514	%w/w	1	8 - 11%

OC Pesticides in Soil Method: ME-(AU)-[ENV]AN420

Parameter	QC Reference	Units	LOR	MB	DUP %RPD	LCS %Recovery	MS %Recovery
Hexachlorobenzene (HCB)	LB199507	mg/kg	0.1	<0.1	0%	NA	NA
	LB199508	mg/kg	0.1	<0.1	0%	NA	NA
Alpha BHC	LB199507	mg/kg	0.1	<0.1	0%	NA	NA
	LB199508	mg/kg	0.1	<0.1	0%	NA	NA
Lindane	LB199507	mg/kg	0.1	<0.1	0%	NA	NA
	LB199508	mg/kg	0.1	<0.1	0%	NA	NA
Heptachlor	LB199507	mg/kg	0.1	<0.1	0%	116%	117%
	LB199508	mg/kg	0.1	<0.1	0%	125%	128%
Aldrin	LB199507	mg/kg	0.1	<0.1	0%	117%	117%
	LB199508	mg/kg	0.1	<0.1	0%	121%	124%
Beta BHC	LB199507	mg/kg	0.1	<0.1	0%	NA	NA
	LB199508	mg/kg	0.1	<0.1	0%	NA	NA
Delta BHC	LB199507	mg/kg	0.1	<0.1	0%	114%	114%
	LB199508	mg/kg	0.1	<0.1	0%	117%	120%
Heptachlor epoxide	LB199507	mg/kg	0.1	<0.1	0%	NA	NA
	LB199508	mg/kg	0.1	<0.1	0%	NA	NA
o,p'-DDE	LB199507	mg/kg	0.1	<0.1	0%	NA	NA
	LB199508	mg/kg	0.1	<0.1	0%	NA	NA
Alpha Endosulfan	LB199507	mg/kg	0.2	<0.2	0%	NA	NA
	LB199508	mg/kg	0.2	<0.2	0%	NA	NA
Gamma Chlordane	LB199507	mg/kg	0.1	<0.1	0%	NA	NA
	LB199508	mg/kg	0.1	<0.1	0%	NA	NA
Alpha Chlordane	LB199507	mg/kg	0.1	<0.1	0%	NA	NA
	LB199508	mg/kg	0.1	<0.1	0%	NA	NA
trans-Nonachlor	LB199507	mg/kg	0.1	<0.1	0%	NA	NA
	LB199508	mg/kg	0.1	<0.1	0%	NA	NA
p,p'-DDE	LB199507	mg/kg	0.1	<0.1	0%	NA	NA
	LB199508	mg/kg	0.1	<0.1	0%	NA	NA
Dieldrin	LB199507	mg/kg	0.2	<0.2	0%	117%	116%

MB blank results are compared to the Limit of Reporting

LCS and MS spike recoveries are measured as the percentage of analyte recovered from the sample compared to the amount of analyte spiked into the sample.

DUP and MSD relative percent differences are measured against their original counterpart samples according to the formula : *the absolute difference of the two results divided by the average of the two results as a percentage*. Where the DUP RPD is 'NA', the results are less than the LOR and thus the RPD is not applicable.

OC Pesticides in Soil Method: ME-(AU)-[ENV]AN420 (continued)

				MB	DUP %RPD	LCS %Recovery	MS %Recovery
Dieldrin	LB199508	mg/kg	0.2	<0.2	0%	125%	129%
Endrin	LB199507	mg/kg	0.2	<0.2	0%	130%	130%
	LB199508	mg/kg	0.2	<0.2	0%	128%	130%
o,p'-DDD	LB199507	mg/kg	0.1	<0.1	0%	NA	NA
	LB199508	mg/kg	0.1	<0.1	0%	NA	NA
o,p'-DDT	LB199507	mg/kg	0.1	<0.1	0%	NA	NA
	LB199508	mg/kg	0.1	<0.1	0%	NA	NA
Beta Endosulfan	LB199507	mg/kg	0.2	<0.2	0%	NA	NA
	LB199508	mg/kg	0.2	<0.2	0%	NA	NA
p,p'-DDD	LB199507	mg/kg	0.1	<0.1	0%	NA	NA
	LB199508	mg/kg	0.1	<0.1	0%	NA	NA
p,p'-DDT	LB199507	mg/kg	0.1	<0.1	0%	84%	90%
	LB199508	mg/kg	0.1	<0.1	0%	115%	120%
Endosulfan sulphate	LB199507	mg/kg	0.1	<0.1	0%	NA	NA
	LB199508	mg/kg	0.1	<0.1	0%	NA	NA
Endrin Aldehyde	LB199507	mg/kg	0.1	<0.1	0%	NA	NA
	LB199508	mg/kg	0.1	<0.1	0%	NA	NA
Methoxychlor	LB199507	mg/kg	0.1	<0.1	0%	NA	NA
	LB199508	mg/kg	0.1	<0.1	0%	NA	NA
Endrin Ketone	LB199507	mg/kg	0.1	<0.1	0%	NA	NA
	LB199508	mg/kg	0.1	<0.1	0%	NA	NA
Isodrin	LB199507	mg/kg	0.1	<0.1	0%	NA	NA
	LB199508	mg/kg	0.1	<0.1	0%	NA	NA
Mirex	LB199507	mg/kg	0.1	<0.1	0%	NA	NA
	LB199508	mg/kg	0.1	<0.1	0%	NA	NA
Total CLP OC Pesticides	LB199507	mg/kg	1	<1	0%	NA	NA
	LB199508	mg/kg	1	<1	0%	NA	NA

Surrogates

Parameter	QC Reference	Units	LOR	MB	DUP %RPD	LCS %Recovery	MS %Recovery
Tetrachloro-m-xylene (TCMX) (Surrogate)	LB199507	%	-	94%	1 - 3%	97%	97%
	LB199508	%	-	95%	4 - 6%	99%	99%

MB blank results are compared to the Limit of Reporting

LCS and MS spike recoveries are measured as the percentage of analyte recovered from the sample compared the the amount of analyte spiked into the sample.

DUP and MSD relative percent differences are measured against their original counterpart samples according to the formula : *the absolute difference of the two results divided by the average of the two results as a percentage*. Where the DUP RPD is 'NA', the results are less than the LOR and thus the RPD is not applicable.

OP Pesticides in Soil Method: ME-(AU)-[ENV]AN420

Parameter	QC	Units	LOR	MB	DUP %RPD	LCS	MS
	Reference					%Recovery	%Recovery
Dichlorvos	LB199507	mg/kg	0.5	<0.5	0%	100%	83%
	LB199508	mg/kg	0.5	<0.5	0%	91%	60%
Dimethoate	LB199507	mg/kg	0.5	<0.5	0%	NA	NA
	LB199508	mg/kg	0.5	<0.5	0%	NA	NA
Diazinon (Dimpylate)	LB199507	mg/kg	0.5	<0.5	0%	107%	103%
	LB199508	mg/kg	0.5	<0.5	0%	94%	88%
Fenitrothion	LB199507	mg/kg	0.2	<0.2	0%	NA	NA
	LB199508	mg/kg	0.2	<0.2	0%	NA	NA
Malathion	LB199507	mg/kg	0.2	<0.2	0%	NA	NA
	LB199508	mg/kg	0.2	<0.2	0%	NA	NA
Chlorpyrifos (Chlorpyrifos Ethyl)	LB199507	mg/kg	0.2	<0.2	0%	106%	106%
	LB199508	mg/kg	0.2	<0.2	0%	89%	84%
Parathion-ethyl (Parathion)	LB199507	mg/kg	0.2	<0.2	0%	NA	NA
	LB199508	mg/kg	0.2	<0.2	0%	NA	NA
Bromophos Ethyl	LB199507	mg/kg	0.2	<0.2	0%	NA	NA
	LB199508	mg/kg	0.2	<0.2	0%	NA	NA
Methidathion	LB199507	mg/kg	0.5	<0.5	0%	NA	NA
	LB199508	mg/kg	0.5	<0.5	0%	NA	NA
Ethion	LB199507	mg/kg	0.2	<0.2	0%	96%	113%
	LB199508	mg/kg	0.2	<0.2	0%	86%	83%
Azinphos-methyl (Guthion)	LB199507	mg/kg	0.2	<0.2	0%	NA	NA
	LB199508	mg/kg	0.2	<0.2	0%	NA	NA
Total OP Pesticides*	LB199507	mg/kg	1.7	<1.7	0%	NA	NA
	LB199508	mg/kg	1.7	<1.7	0%	NA	NA

Surrogates

Parameter	QC	Units	LOR	MB	DUP %RPD	LCS	MS
	Reference					%Recovery	%Recovery
2-fluorobiphenyl (Surrogate)	LB199507	%	-	81%	8 - 14%	81%	78%
	LB199508	%	-	86%	0%	82%	78%
d14-p-terphenyl (Surrogate)	LB199507	%	-	77%	0 - 16%	67%	83%
	LB199508	%	-	90%	0%	74%	72%

MB blank results are compared to the Limit of Reporting

LCS and MS spike recoveries are measured as the percentage of analyte recovered from the sample compared to the amount of analyte spiked into the sample.

DUP and MSD relative percent differences are measured against their original counterpart samples according to the formula : *the absolute difference of the two results divided by the average of the two results as a percentage*. Where the DUP RPD is 'NA', the results are less than the LOR and thus the RPD is not applicable.

PAH (Polynuclear Aromatic Hydrocarbons) in Soil Method: ME-(AU)-[ENV]AN420

Parameter	QC	Units	LOR	MB	DUP %RPD	LCS	MS
	Reference					%Recovery	%Recovery
Naphthalene	LB199507	mg/kg	0.1	<0.1	0%	101%	96%
	LB199508	mg/kg	0.1	<0.1	0%	98%	98%
2-methylnaphthalene	LB199507	mg/kg	0.1	<0.1	0%	NA	NA
	LB199508	mg/kg	0.1	<0.1	0%	NA	NA
1-methylnaphthalene	LB199507	mg/kg	0.1	<0.1	0%	NA	NA
	LB199508	mg/kg	0.1	<0.1	0%	NA	NA
Acenaphthylene	LB199507	mg/kg	0.1	<0.1	0%	102%	94%
	LB199508	mg/kg	0.1	<0.1	0%	98%	95%
Acenaphthene	LB199507	mg/kg	0.1	<0.1	0%	107%	105%
	LB199508	mg/kg	0.1	<0.1	0%	100%	96%
Fluorene	LB199507	mg/kg	0.1	<0.1	0%	NA	NA
	LB199508	mg/kg	0.1	<0.1	0%	NA	NA
Phenanthrene	LB199507	mg/kg	0.1	<0.1	0%	103%	98%
	LB199508	mg/kg	0.1	<0.1	0%	96%	89%
Anthracene	LB199507	mg/kg	0.1	<0.1	0%	100%	96%
	LB199508	mg/kg	0.1	<0.1	0%	94%	93%
Fluoranthene	LB199507	mg/kg	0.1	<0.1	0%	99%	113%
	LB199508	mg/kg	0.1	<0.1	0%	83%	82%
Pyrene	LB199507	mg/kg	0.1	<0.1	0%	107%	125%
	LB199508	mg/kg	0.1	<0.1	0 - 17%	94%	91%
Benzo(a)anthracene	LB199507	mg/kg	0.1	<0.1	0%	NA	NA
	LB199508	mg/kg	0.1	<0.1	0%	NA	NA
Chrysene	LB199507	mg/kg	0.1	<0.1	0%	NA	NA
	LB199508	mg/kg	0.1	<0.1	0%	NA	NA
Benzo(b&j)fluoranthene	LB199507	mg/kg	0.1	<0.1	0%	NA	NA
	LB199508	mg/kg	0.1	<0.1	0%	NA	NA
Benzo(k)fluoranthene	LB199507	mg/kg	0.1	<0.1	0%	NA	NA
	LB199508	mg/kg	0.1	<0.1	0%	NA	NA
Benzo(a)pyrene	LB199507	mg/kg	0.1	<0.1	0%	114%	96%
	LB199508	mg/kg	0.1	<0.1	0%	104%	109%
Indeno(1,2,3-cd)pyrene	LB199507	mg/kg	0.1	<0.1	0%	NA	NA
	LB199508	mg/kg	0.1	<0.1	0%	NA	NA
Dibenzo(ah)anthracene	LB199507	mg/kg	0.1	<0.1	0%	NA	NA
	LB199508	mg/kg	0.1	<0.1	0%	NA	NA
Benzo(ghi)perylene	LB199507	mg/kg	0.1	<0.1	0%	NA	NA
	LB199508	mg/kg	0.1	<0.1	0%	NA	NA
Carcinogenic PAHs, BaP TEQ <LOR=0	LB199507	TEQ (mg/kg)	0.2	<0.2	0%	NA	NA
	LB199508	TEQ (mg/kg)	0.2	<0.2	0%	NA	NA
Carcinogenic PAHs, BaP TEQ <LOR=LOR	LB199507	TEQ (mg/kg)	0.3	<0.3	0%	NA	NA
	LB199508	TEQ (mg/kg)	0.3	<0.3	0%	NA	NA
Carcinogenic PAHs, BaP TEQ <LOR=LOR/2	LB199507	TEQ (mg/kg)	0.2	<0.2	0%	NA	NA
	LB199508	TEQ (mg/kg)	0.2	<0.2	0%	NA	NA
Total PAH (18)	LB199507	mg/kg	0.8	<0.8	0%	NA	NA
	LB199508	mg/kg	0.8	<0.8	0%	NA	NA
Total PAH (NEPM/WHO 16)	LB199507	mg/kg	0.8	<0.8			
	LB199508	mg/kg	0.8	<0.8			

Surrogates

Parameter	QC	Units	LOR	MB	DUP %RPD	LCS	MS
	Reference					%Recovery	%Recovery
d5-nitrobenzene (Surrogate)	LB199507	%	-	94%	1 - 3%	87%	92%
	LB199508	%	-	84%	3%	78%	76%
2-fluorobiphenyl (Surrogate)	LB199507	%	-	81%	8 - 14%	81%	78%
	LB199508	%	-	86%	0%	82%	78%
d14-p-terphenyl (Surrogate)	LB199507	%	-	77%	0 - 16%	67%	83%
	LB199508	%	-	90%	0%	74%	72%

MB blank results are compared to the Limit of Reporting

LCS and MS spike recoveries are measured as the percentage of analyte recovered from the sample compared to the amount of analyte spiked into the sample.

DUP and MSD relative percent differences are measured against their original counterpart samples according to the formula : *the absolute difference of the two results divided by the average of the two results as a percentage*. Where the DUP RPD is 'NA', the results are less than the LOR and thus the RPD is not applicable.

PCBs in Soil Method: ME-(AU)-[ENV]AN420

Parameter	QC	Units	LOR	MB	DUP %RPD	LCS	MS
	Reference					%Recovery	%Recovery
Arochlor 1016	LB199507	mg/kg	0.2	<0.2	0%	NA	NA
	LB199508	mg/kg	0.2	<0.2	0%	NA	NA
Arochlor 1221	LB199507	mg/kg	0.2	<0.2	0%	NA	NA
	LB199508	mg/kg	0.2	<0.2	0%	NA	NA
Arochlor 1232	LB199507	mg/kg	0.2	<0.2	0%	NA	NA
	LB199508	mg/kg	0.2	<0.2	0%	NA	NA
Arochlor 1242	LB199507	mg/kg	0.2	<0.2	0%	NA	NA
	LB199508	mg/kg	0.2	<0.2	0%	NA	NA
Arochlor 1248	LB199507	mg/kg	0.2	<0.2	0%	NA	NA
	LB199508	mg/kg	0.2	<0.2	0%	NA	NA
Arochlor 1254	LB199507	mg/kg	0.2	<0.2	0%	NA	NA
	LB199508	mg/kg	0.2	<0.2	0%	NA	NA
Arochlor 1260	LB199507	mg/kg	0.2	<0.2	0%	73%	76%
	LB199508	mg/kg	0.2	<0.2	0%	81%	84%
Arochlor 1262	LB199507	mg/kg	0.2	<0.2	0%	NA	NA
	LB199508	mg/kg	0.2	<0.2	0%	NA	NA
Arochlor 1268	LB199507	mg/kg	0.2	<0.2	0%	NA	NA
	LB199508	mg/kg	0.2	<0.2	0%	NA	NA
Total PCBs (Arochlors)	LB199507	mg/kg	1	<1	0%	NA	NA
	LB199508	mg/kg	1	<1	0%	NA	NA

Surrogates

Parameter	QC	Units	LOR	MB	DUP %RPD	LCS	MS
	Reference					%Recovery	%Recovery
Tetrachloro-m-xylene (TCMX) (Surrogate)	LB199507	%	-	94%	1 - 3%	97%	104%
	LB199508	%	-	95%	4 - 6%	96%	97%

pH in soil (1:5) Method: ME-(AU)-[ENV]AN101

Parameter	QC	Units	LOR	DUP %RPD	LCS
	Reference				%Recovery
pH	LB199801	pH Units	0.1	0%	100%

MB blank results are compared to the Limit of Reporting

LCS and MS spike recoveries are measured as the percentage of analyte recovered from the sample compared the the amount of analyte spiked into the sample.

DUP and MSD relative percent differences are measured against their original counterpart samples according to the formula : *the absolute difference of the two results divided by the average of the two results as a percentage*. Where the DUP RPD is 'NA', the results are less than the LOR and thus the RPD is not applicable.

Speciated Phenols in Soil Method: ME-(AU)-[ENV]AN420

Parameter	QC	Units	LOR	MB	DUP %RPD	LCS	MS
	Reference					%Recovery	%Recovery
Phenol	LB199507	mg/kg	0.5	<0.5	0%	92%	85%
	LB199508	mg/kg	0.5	<0.5	0%	95%	84%
2-methyl phenol (o-cresol)	LB199507	mg/kg	0.5	<0.5	0%	NA	NA
	LB199508	mg/kg	0.5	<0.5	0%	NA	NA
3/4-methyl phenol (m/p-cresol)	LB199507	mg/kg	1	<1	0%	NA	NA
	LB199508	mg/kg	1	<1	0%	NA	NA
Total Cresol	LB199507	mg/kg	1.5	<1.5	0%	NA	NA
	LB199508	mg/kg	1.5	<1.5	0%	NA	NA
2-chlorophenol	LB199507	mg/kg	0.5	<0.5	0%	NA	NA
	LB199508	mg/kg	0.5	<0.5	0%	NA	NA
2,4-dimethylphenol	LB199507	mg/kg	0.5	<0.5	0%	NA	NA
	LB199508	mg/kg	0.5	<0.5	0%	NA	NA
2,6-dichlorophenol	LB199507	mg/kg	0.5	<0.5	0%	NA	NA
	LB199508	mg/kg	0.5	<0.5	0%	NA	NA
2,4-dichlorophenol	LB199507	mg/kg	0.5	<0.5	0%	90%	84%
	LB199508	mg/kg	0.5	<0.5	0%	84%	83%
2,4,6-trichlorophenol	LB199507	mg/kg	0.5	<0.5	0%	73%	74%
	LB199508	mg/kg	0.5	<0.5	0%	93%	106%
2-nitrophenol	LB199507	mg/kg	0.5	<0.5	0%	NA	NA
	LB199508	mg/kg	0.5	<0.5	0%	NA	NA
4-nitrophenol	LB199507	mg/kg	1	<1	0%	NA	NA
	LB199508	mg/kg	1	<1	0%	NA	NA
2,4,5-trichlorophenol	LB199507	mg/kg	0.5	<0.5	0%	NA	NA
	LB199508	mg/kg	0.5	<0.5	0%	NA	NA
2,3,4,6/2,3,5,6-tetrachlorophenol	LB199507	mg/kg	1	<1	0%	NA	NA
	LB199508	mg/kg	1	<1	0%	NA	NA
Pentachlorophenol	LB199507	mg/kg	0.5	<0.5	0%	79%	103%
	LB199508	mg/kg	0.5	<0.5	0%	108%	109%
2,4-dinitrophenol	LB199507	mg/kg	2	<2	0%	NA	NA
	LB199508	mg/kg	2	<2	0%	NA	NA
4-chloro-3-methylphenol	LB199507	mg/kg	2	<2	0%	NA	NA
	LB199508	mg/kg	2	<2	0%	NA	NA

Surrogates

Parameter	QC	Units	LOR	MB	DUP %RPD	LCS	MS
	Reference					%Recovery	%Recovery
2,4,6-Tribromophenol (Surrogate)	LB199507	%	-	84%	6 - 8%	81%	84%
	LB199508	%	-	112%	3 - 4%	106%	103%
d5-phenol (Surrogate)	LB199507	%	-	92%	1 - 6%	91%	85%
	LB199508	%	-	93%	2 - 6%	89%	80%

MB blank results are compared to the Limit of Reporting

LCS and MS spike recoveries are measured as the percentage of analyte recovered from the sample compared the the amount of analyte spiked into the sample.

DUP and MSD relative percent differences are measured against their original counterpart samples according to the formula : *the absolute difference of the two results divided by the average of the two results as a percentage*. Where the DUP RPD is 'NA', the results are less than the LOR and thus the RPD is not applicable.

Total Recoverable Elements in Soil/Waste Solids/Materials by ICPOES Method: ME-(AU)-[ENV]AN040/AN320

Parameter	QC	Units	LOR	MB	DUP %RPD	LCS	MS
	Reference					%Recovery	%Recovery
Arsenic, As	LB199533	mg/kg	1	<1	12 - 22%	104%	86%
	LB199534	mg/kg	1	<1	11 - 20%	105%	95%
Cadmium, Cd	LB199533	mg/kg	0.3	<0.3	0%	107%	79%
	LB199534	mg/kg	0.3	<0.3	0%	108%	87%
Chromium, Cr	LB199533	mg/kg	0.5	<0.5	11 - 28%	101%	88%
	LB199534	mg/kg	0.5	<0.5	0 - 52%	104%	98%
Copper, Cu	LB199533	mg/kg	0.5	<0.5	1 - 16%	103%	89%
	LB199534	mg/kg	0.5	<0.5	8 - 22%	103%	99%
Nickel, Ni	LB199533	mg/kg	0.5	<0.5	21 - 51%	103%	89%
	LB199534	mg/kg	0.5	<0.5	2 - 15%	102%	100%
Lead, Pb	LB199533	mg/kg	1	<1	13 - 19%	104%	53%
	LB199534	mg/kg	1	<1	10 - 14%	104%	97%
Zinc, Zn	LB199533	mg/kg	2	<2.0	7 - 31%	101%	80%
	LB199534	mg/kg	2	<2.0	0 - 27%	101%	100%

TRH (Total Recoverable Hydrocarbons) in Soil Method: ME-(AU)-[ENV]AN403

Parameter	QC	Units	LOR	MB	DUP %RPD	LCS	MS
	Reference					%Recovery	%Recovery
TRH C10-C14	LB199507	mg/kg	20	<20	0%	113%	98%
	LB199508	mg/kg	20	<20	0%	105%	125%
TRH C15-C28	LB199507	mg/kg	45	<45	0%	103%	95%
	LB199508	mg/kg	45	<45	0%	108%	118%
TRH C29-C36	LB199507	mg/kg	45	<45	0%	75%	88%
	LB199508	mg/kg	45	<45	0%	78%	93%
TRH C37-C40	LB199507	mg/kg	100	<100	0%	NA	NA
	LB199508	mg/kg	100	<100	0%	NA	NA
TRH C10-C36 Total	LB199507	mg/kg	110	<110	0%	NA	NA
	LB199508	mg/kg	110	<110	0%	NA	NA
TRH >C10-C40 Total (F bands)	LB199507	mg/kg	210	<210	0%	NA	NA
	LB199508	mg/kg	210	<210	0%	NA	NA

TRH F Bands

Parameter	QC	Units	LOR	MB	DUP %RPD	LCS	MS
	Reference					%Recovery	%Recovery
TRH >C10-C16	LB199507	mg/kg	25	<25	0%	113%	98%
	LB199508	mg/kg	25	<25	0%	108%	125%
TRH >C10-C16 - Naphthalene (F2)	LB199507	mg/kg	25	<25	0%	NA	NA
	LB199508	mg/kg	25	<25	0%	NA	NA
TRH >C16-C34 (F3)	LB199507	mg/kg	90	<90	0%	68%	75%
	LB199508	mg/kg	90	<90	0%	100%	115%
TRH >C34-C40 (F4)	LB199507	mg/kg	120	<120	0%	90%	NA
	LB199508	mg/kg	120	<120	0%	70%	NA

MB blank results are compared to the Limit of Reporting

LCS and MS spike recoveries are measured as the percentage of analyte recovered from the sample compared to the amount of analyte spiked into the sample.

DUP and MSD relative percent differences are measured against their original counterpart samples according to the formula : *the absolute difference of the two results divided by the average of the two results as a percentage*. Where the DUP RPD is 'NA', the results are less than the LOR and thus the RPD is not applicable.

VOC's in Soil Method: ME-(AU)-[ENV]AN433

Monocyclic Aromatic Hydrocarbons

Parameter	QC Reference	Units	LOR	MB	DUP %RPD	LCS %Recovery	MS %Recovery
Benzene	LB199496	mg/kg	0.1	<0.1	0%	84%	75%
	LB199497	mg/kg	0.1	<0.1	0%	77%	70%
Toluene	LB199496	mg/kg	0.1	<0.1	0%	83%	74%
	LB199497	mg/kg	0.1	<0.1	0%	80%	80%
Ethylbenzene	LB199496	mg/kg	0.1	<0.1	0%	85%	79%
	LB199497	mg/kg	0.1	<0.1	0%	83%	78%
m/p-xylene	LB199496	mg/kg	0.2	<0.2	0%	86%	79%
	LB199497	mg/kg	0.2	<0.2	0%	97%	90%
o-xylene	LB199496	mg/kg	0.1	<0.1	0%	85%	79%
	LB199497	mg/kg	0.1	<0.1	0%	96%	89%

Polycyclic VOCs

Parameter	QC Reference	Units	LOR	MB	DUP %RPD	LCS %Recovery	MS %Recovery
Naphthalene	LB199496	mg/kg	0.1	<0.1	0%	NA	NA
	LB199497	mg/kg	0.1	<0.1	0%	NA	NA

Surrogates

Parameter	QC Reference	Units	LOR	MB	DUP %RPD	LCS %Recovery	MS %Recovery
d4-1,2-dichloroethane (Surrogate)	LB199496	%	-	122%	1 - 6%	119%	111%
	LB199497	%	-	118%	2 - 6%	110%	104%
d8-toluene (Surrogate)	LB199496	%	-	121%	0 - 6%	121%	113%
	LB199497	%	-	111%	2%	95%	96%
Bromofluorobenzene (Surrogate)	LB199496	%	-	109%	0 - 9%	110%	100%
	LB199497	%	-	126%	0 - 7%	123%	109%

Totals

Parameter	QC Reference	Units	LOR	MB	DUP %RPD	LCS %Recovery	MS %Recovery
Total Xylenes	LB199496	mg/kg	0.3	<0.3	0%	NA	NA
	LB199497	mg/kg	0.3	<0.3	0%	NA	NA
Total BTEX	LB199496	mg/kg	0.6	<0.6	0%	NA	NA
	LB199497	mg/kg	0.6	<0.6	0%	NA	NA

MB blank results are compared to the Limit of Reporting

LCS and MS spike recoveries are measured as the percentage of analyte recovered from the sample compared to the amount of analyte spiked into the sample.

DUP and MSD relative percent differences are measured against their original counterpart samples according to the formula : *the absolute difference of the two results divided by the average of the two results as a percentage*. Where the DUP RPD is 'NA', the results are less than the LOR and thus the RPD is not applicable.

Volatile Petroleum Hydrocarbons in Soil Method: ME-(AU)-[ENV]AN433

Parameter	QC Reference	Units	LOR	MB	DUP %RPD	LCS %Recovery	MS %Recovery
TRH C6-C10	LB199496	mg/kg	25	<25	0%	91%	86%
	LB199497	mg/kg	25	<25	0%	83%	72%
TRH C6-C9	LB199496	mg/kg	20	<20	0%	92%	89%
	LB199497	mg/kg	20	<20	0%	79%	71%

Surrogates

Parameter	QC Reference	Units	LOR	MB	DUP %RPD	LCS %Recovery	MS %Recovery
d4-1,2-dichloroethane (Surrogate)	LB199496	%	-	122%	1 - 6%	119%	111%
	LB199497	%	-	118%	2 - 6%	110%	104%
d8-toluene (Surrogate)	LB199496	%	-	121%	0 - 6%	121%	113%
	LB199497	%	-	111%	2%	95%	96%
Bromofluorobenzene (Surrogate)	LB199496	%	-	109%	0 - 9%	110%	100%
	LB199497	%	-	126%	0 - 7%	123%	109%

VPH F Bands

Parameter	QC Reference	Units	LOR	MB	DUP %RPD	LCS %Recovery	MS %Recovery
Benzene (F0)	LB199496	mg/kg	0.1	<0.1	0%	NA	NA
	LB199497	mg/kg	0.1	<0.1	0%	NA	NA
TRH C6-C10 minus BTEX (F1)	LB199496	mg/kg	25	<25	0%	94%	89%
	LB199497	mg/kg	25	<25	0%	80%	67%

METHOD

METHODOLOGY SUMMARY

- AN002 The test is carried out by drying (at either 40°C or 105°C) a known mass of sample in a weighed evaporating basin. After fully dry the sample is re-weighed. Samples such as sludge and sediment having high percentages of moisture will take some time in a drying oven for complete removal of water.
- AN005 The particle size distribution of a soil is determined by wet sieving, using a maximum of 900 mL of deionised water to sieve all fractions down to 75 µm. Referenced to AS1289.3.6.1 and AS1141.11.
- AN005 Following wet sieving of the sample,(particles smaller than 75 µm) a dispersing solution is added and a hydrometer is used to measure sedimentation. Soil density is determined and the percentage of each size fraction calculated. Referenced to AS1289.3.6.3.
- AN040 A portion of sample is digested with Nitric acid to decompose organic matter and Hydrochloric acid to complete the digestion of metals and then filtered for analysis by ASS or ICP as per USEPA Method 200.8.
- AN040/AN320 A portion of sample is digested with nitric acid to decompose organic matter and hydrochloric acid to complete the digestion of metals. The digest is then analysed by ICP OES with metals results reported on the dried sample basis. Based on USEPA method 200.8 and 6010C.
- AN101 pH in Soil Sludge Sediment and Water: pH is measured electrometrically using a combination electrode and is calibrated against 3 buffers purchased commercially. For soils, sediments and sludges, an extract with water (or 0.01M CaCl₂) is made at a ratio of 1:5 and the pH determined and reported on the extract. Reference APHA 4500-H+.
- AN122 Exchangeable Cations, CEC and ESP: Soil sample is extracted in 1M Ammonium Acetate at pH=7 (or 1M Ammonium Chloride at pH=7) with cations (Na, K, Ca & Mg) then determined by ICP OES/ICP MS and reported as Exchangeable Cations. For saline soils, these results can be corrected for water soluble cations and reported as Exchangeable cations in meq/100g or soil can be pre-treated (aqueous ethanol/aqueous glycerol) prior to extraction. Cation Exchange Capacity (CEC) is the sum of the exchangeable cations in meq/100g.
- AN122 The Exchangeable Sodium Percentage (ESP) is calculated as the exchangeable sodium divided by the CEC (all in meq/100g) times 100.
ESP can be used to categorise the sodicity of the soil as below :
- | | |
|-----------|----------------|
| ESP < 6% | non-sodic |
| ESP 6-15% | sodic |
| ESP >15% | strongly sodic |
- Method is referenced to Rayment and Lyons, 2011, sections 15D3 and 15N1.-
- AN312 Mercury by Cold Vapour AAS in Soils: After digestion with nitric acid, hydrogen peroxide and hydrochloric acid, mercury ions are reduced by stannous chloride reagent in acidic solution to elemental mercury. This mercury vapour is purged by nitrogen into a cold cell in an atomic absorption spectrometer or mercury analyser. Quantification is made by comparing absorbances to those of the calibration standards. Reference APHA 3112/3500
- AN403 Total Recoverable Hydrocarbons: Determination of Hydrocarbons by gas chromatography after a solvent extraction. Detection is by flame ionisation detector (FID) that produces an electronic signal in proportion to the combustible matter passing through it. Total Recoverable Hydrocarbons (TRH) are routinely reported as four alkane groupings based on the carbon chain length of the compounds: C6-C9, C10-C14, C15-C28 and C29-C36 and in recognition of the NEPM 1999 (2013), >C10-C16 (F2), >C16-C34 (F3) and >C34-C40 (F4). F2 is reported directly and also corrected by subtracting Naphthalene (from VOC method AN433) where available.
- AN403 Additionally, the volatile C6-C9 fraction may be determined by a purge and trap technique and GC/MS because of the potential for volatiles loss. Total Recoverable Hydrocarbons - Silica (TRH-Si) follows the same method of analysis after silica gel cleanup of the solvent extract. Aliphatic/Aromatic Speciation follows the same method of analysis after fractionation of the solvent extract over silica with differential polarity of the eluent solvents .

METHOD

METHODOLOGY SUMMARY

AN403	The GC/FID method is not well suited to the analysis of refined high boiling point materials (ie lubricating oils or greases) but is particularly suited for measuring diesel, kerosene and petrol if care to control volatility is taken. This method will detect naturally occurring hydrocarbons, lipids, animal fats, phenols and PAHs if they are present at sufficient levels, dependent on the use of specific cleanup/fractionation techniques. Reference USEPA 3510B, 8015B.
AN420	(SVOCs) including OC, OP, PCB, Herbicides, PAH, Phthalates and Speciated Phenols (etc) in soils, sediments and waters are determined by GCMS/ECD technique following appropriate solvent extraction process (Based on USEPA 3500C and 8270D).
AN420	SVOC Compounds: Semi-Volatile Organic Compounds (SVOCs) including OC, OP, PCB, Herbicides, PAH, Phthalates and Speciated Phenols in soils, sediments and waters are determined by GCMS/ECD technique following appropriate solvent extraction process (Based on USEPA 3500C and 8270D).
AN433	VOCs and C6-C9 Hydrocarbons by GC-MS P&T: VOC's are volatile organic compounds. The sample is presented to a gas chromatograph via a purge and trap (P&T) concentrator and autosampler and is detected with a Mass Spectrometer (MSD). Solid samples are initially extracted with methanol whilst liquid samples are processed directly. References: USEPA 5030B, 8020A, 8260.
AN602	Qualitative identification of chrysotile, amosite and crocidolite in bulk samples by polarised light microscopy (PLM) in conjunction with dispersion staining (DS). AS4964 provides the basis for this document. Unequivocal identification of the asbestos minerals present is made by obtaining sufficient diagnostic 'clues', which provide a reasonable degree of certainty, dispersion staining is a mandatory 'clue' for positive identification. If sufficient 'clues' are absent, then positive identification of asbestos is not possible. This procedure requires removal of suspect fibres/bundles from the sample which cannot be returned.
AN602	Fibres/material that cannot be unequivocally identified as one of the three asbestos forms, will be reported as unknown mineral fibres (umf) The fibres detected may or may not be asbestos fibres.
AN602	AS4964.2004 Method for the Qualitative Identification of Asbestos in Bulk Samples, Section 8.4, Trace Analysis Criteria, Note 4 states: "Depending upon sample condition and fibre type, the detection limit of this technique has been found to lie generally in the range of 1 in 1,000 to 1 in 10,000 parts by weight, equivalent to 1 to 0.1 g/kg."
AN602	The sample can be reported "no asbestos found at the reporting limit of 0.1 g/kg" (<0.01%w/w) where AN602 section 4.5 of this method has been followed, and if- <ul style="list-style-type: none"> (a) no trace asbestos fibres have been detected (i.e. no 'respirable' fibres); (b) the estimated weight of non-respirable asbestos fibre bundles and/or the estimated weight of asbestos in asbestos-containing materials are found to be less than 0.1g/kg; and (c) these non-respirable asbestos fibre bundles and/or the asbestos containing materials are only visible under stereo-microscope viewing conditions.
AN605	This technique gravimetrically determines the mass of Bonded Asbestos Containing Material retained on a 7mm Sieve and assumes that 15% of this ACM is asbestos. This calculated asbestos weight is then calculated as a percentage of the total sample weight. Any fibrous asbestos (FA) found in this fraction will be added to the 2-7mm fraction and its mass recorded there.
AN605	This technique also gravimetrically determines the mass of Fibrous Asbestos (FA) and Asbestos Fines (AF) Containing Material retained on and passing a 2mm sieve post 7mm sieving. Assumes that FA and AF are 100% asbestos containing. This calculated asbestos weight is then calculated as a percentage of the total sample weight. This does not include free/respirable fibres which are only observed by standard trace analysis as per AN602.
AN605	Bonded asbestos containing material (Bonded ACM) comprises asbestos-containing-material which is sound in condition. Fibrous asbestos (FA) comprises friable asbestos material and includes severely weathered cement sheet, insulation products and woven asbestos material. Asbestos fines (AF) includes free fibres, small fibre bundles and also small fragments of bonded ACM that passes through a 7mm sieve - which implies that the bonded ACM fragments have a substantial degree of damage which increases the potential for fibre release.
AN-605	Insofar as is technically feasible, this report is consistent with the analytical reporting recommendations in the Western Australian Department of Health Guidelines for the Assessment Remediation and Management of Asbestos - Contaminated Sites in Western Australia - May 2009 and NEPM 1999 (2013) schedule B1 section 4..

METHOD ————— METHODOLOGY SUMMARY

FOOTNOTES

IS	Insufficient sample for analysis.	LOR	Limit of Reporting
LNR	Sample listed, but not received.	↑↓	Raised or Lowered Limit of Reporting
*	NATA accreditation does not cover the performance of this service.	QFH	QC result is above the upper tolerance
**	Indicative data, theoretical holding time exceeded.	QFL	QC result is below the lower tolerance
		-	The sample was not analysed for this analyte
		NVL	Not Validated

Unless it is reported that sampling has been performed by SGS, the samples have been analysed as received.
Solid samples expressed on a dry weight basis.

Where "Total" analyte groups are reported (for example, Total PAHs, Total OC Pesticides) the total will be calculated as the sum of the individual analytes, with those analytes that are reported as <LOR being assumed to be zero. The summed (Total) limit of reporting is calculated by summing the individual analyte LORs and dividing by two. For example, where 16 individual analytes are being summed and each has an LOR of 0.1 mg/kg, the "Totals" LOR will be 1.6 / 2 (0.8 mg/kg). Where only 2 analytes are being summed, the "Total" LOR will be the sum of those two LORs.

Some totals may not appear to add up because the total is rounded after adding up the raw values.

If reported, measurement uncertainty follow the ± sign after the analytical result and is expressed as the expanded uncertainty calculated using a coverage factor of 2, providing a level of confidence of approximately 95%, unless stated otherwise in the comments section of this report.

Results reported for samples tested under test methods with codes starting with ARS-SOP, radionuclide or gross radioactivity concentrations are expressed in becquerel (Bq) per unit of mass or volume or per wipe as stated on the report. Becquerel is the SI unit for activity and equals one nuclear transformation per second.

Note that in terms of units of radioactivity:

- a. 1 Bq is equivalent to 27 pCi
- b. 37 MBq is equivalent to 1 mCi

For results reported for samples tested under test methods with codes starting with ARS-SOP, less than (<) values indicate the detection limit for each radionuclide or parameter for the measurement system used. The respective detection limits have been calculated in accordance with ISO 11929.

The QC and MU criteria are subject to internal review according to the SGS QAQC plan and may be provided on request or alternatively can be found here: www.sgs.com.au/en-gb/environment-health-and-safety.

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STATEMENT OF QA/QC PERFORMANCE

SE206178 R0

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Order Number **P20023**
Samples 38

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SGS Reference **SE206178 R0**
Date Received 13 May 2020
Date Reported 20 May 2020

COMMENTS

All the laboratory data for each environmental matrix was compared to SGS' stated Data Quality Objectives (DQO). Comments arising from the comparison were made and are reported below.

The data relating to sampling was taken from the Chain of Custody document.
This QA/QC Statement must be read in conjunction with the referenced Analytical Report.
The Statement and the Analytical Report must not be reproduced except in full.

All Data Quality Objectives were met with the exception of the following:

Extraction Date	pH in soil (1:5)	2 items
Surrogate	PAH (Polynuclear Aromatic Hydrocarbons) in Soil	4 items
	VOC's in Soil	18 items
	Volatile Petroleum Hydrocarbons in Soil	18 items
Duplicate	Total Recoverable Elements in Soil/Waste Solids/Materials by ICPOES	1 item
	Total Recoverable Elements in Soil/Waste Solids/Materials by ICPOES	1 item
Matrix Spike	Total Recoverable Elements in Soil/Waste Solids/Materials by ICPOES	1 item

SAMPLE SUMMARY

SGS holding time criteria are drawn from current regulations and are highly dependent on sample container preservation as specified in the SGS "Field Sampling Guide for Containers and Holding Time" (ref: GU-(AU)-ENV.001). Soil samples guidelines are derived from NEPM "Schedule B(3) Guideline on Laboratory Analysis of Potentially Contaminated Soils". Water sample guidelines are derived from "AS/NZS 5667.1 : 1998 Water Quality - sampling part 1" and APHA "Standard Methods for the Examination of Water and Wastewater" 21st edition 2005.

Extraction and analysis holding time due dates listed are calculated from the date sampled, although holding times may be extended after laboratory extraction for some analytes. The due dates are the suggested dates that samples may be held before extraction or analysis and still be considered valid.

Extraction and analysis dates are shown in **Green** when within suggested criteria or **Red** with an appended dagger symbol (†) when outside suggested criteria. If the sampled date is not supplied then compliance with criteria cannot be determined. If the received date is after one or both due dates then holding time will fail by default.

Exchangeable Cations and Cation Exchange Capacity (CEC/ESP/SAR)

Method: ME-(AU)-ENVJAN122

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
LC1 0.5-0.6	SE206178.002	LB199593	11 May 2020	13 May 2020	08 Jun 2020	15 May 2020	08 Jun 2020	20 May 2020
LC9 1.0-1.1	SE206178.017	LB199593	11 May 2020	13 May 2020	08 Jun 2020	15 May 2020	08 Jun 2020	20 May 2020

Fibre Identification in soil

Method: ME-(AU)-ENVJAN602

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
LC1 0.0-0.1	SE206178.001	LB199787	11 May 2020	13 May 2020	11 May 2021	19 May 2020	11 May 2021	20 May 2020
LC1 0.5-0.6	SE206178.002	LB199787	11 May 2020	13 May 2020	11 May 2021	19 May 2020	11 May 2021	20 May 2020
LC2 0.0-0.1	SE206178.003	LB199787	11 May 2020	13 May 2020	11 May 2021	19 May 2020	11 May 2021	20 May 2020
LC2 0.5-0.6	SE206178.004	LB199787	11 May 2020	13 May 2020	11 May 2021	19 May 2020	11 May 2021	20 May 2020
LC3 0.0-0.1	SE206178.005	LB199787	11 May 2020	13 May 2020	11 May 2021	19 May 2020	11 May 2021	20 May 2020
LC3 0.5-0.6	SE206178.006	LB199787	11 May 2020	13 May 2020	11 May 2021	19 May 2020	11 May 2021	20 May 2020
LC4 0.0-0.1	SE206178.007	LB199787	11 May 2020	13 May 2020	11 May 2021	19 May 2020	11 May 2021	20 May 2020
LC5 0.0-0.1	SE206178.008	LB199787	11 May 2020	13 May 2020	11 May 2021	19 May 2020	11 May 2021	20 May 2020
LC5 0.5-0.6	SE206178.009	LB199787	11 May 2020	13 May 2020	11 May 2021	19 May 2020	11 May 2021	20 May 2020
LC6 0.0-0.1	SE206178.010	LB199787	11 May 2020	13 May 2020	11 May 2021	19 May 2020	11 May 2021	20 May 2020
LC6 1.0-1.1	SE206178.011	LB199787	11 May 2020	13 May 2020	11 May 2021	19 May 2020	11 May 2021	20 May 2020
LC7 0.0-0.1	SE206178.012	LB199787	11 May 2020	13 May 2020	11 May 2021	19 May 2020	11 May 2021	20 May 2020
LC7 0.5-0.6	SE206178.013	LB199787	11 May 2020	13 May 2020	11 May 2021	19 May 2020	11 May 2021	20 May 2020
LC8 0.0-0.1	SE206178.014	LB199787	11 May 2020	13 May 2020	11 May 2021	19 May 2020	11 May 2021	20 May 2020
LC8 1.0-1.1	SE206178.015	LB199787	11 May 2020	13 May 2020	11 May 2021	19 May 2020	11 May 2021	20 May 2020
LC9 0.0-0.1	SE206178.016	LB199787	11 May 2020	13 May 2020	11 May 2021	19 May 2020	11 May 2021	20 May 2020
LC9 1.0-1.1	SE206178.017	LB199787	11 May 2020	13 May 2020	11 May 2021	19 May 2020	11 May 2021	20 May 2020
LC10 0.0-0.1	SE206178.018	LB199787	11 May 2020	13 May 2020	11 May 2021	19 May 2020	11 May 2021	20 May 2020
LC10 0.5-0.6	SE206178.019	LB199787	11 May 2020	13 May 2020	11 May 2021	19 May 2020	11 May 2021	20 May 2020
LC11 0.0-0.1	SE206178.020	LB199787	11 May 2020	13 May 2020	11 May 2021	19 May 2020	11 May 2021	20 May 2020
LC12 0.0-0.1	SE206178.021	LB199787	11 May 2020	13 May 2020	11 May 2021	19 May 2020	11 May 2021	20 May 2020
LC13 0.0-0.1	SE206178.022	LB199787	11 May 2020	13 May 2020	11 May 2021	19 May 2020	11 May 2021	20 May 2020
LC14 0.5-0.6	SE206178.023	LB199787	11 May 2020	13 May 2020	11 May 2021	19 May 2020	11 May 2021	20 May 2020
LC15 0.0-0.1	SE206178.024	LB199787	11 May 2020	13 May 2020	11 May 2021	19 May 2020	11 May 2021	20 May 2020
SP1-1	SE206178.028	LB199787	11 May 2020	13 May 2020	11 May 2021	19 May 2020	11 May 2021	20 May 2020
SP1-2	SE206178.029	LB199787	11 May 2020	13 May 2020	11 May 2021	19 May 2020	11 May 2021	20 May 2020
SP1-3	SE206178.030	LB199787	11 May 2020	13 May 2020	11 May 2021	19 May 2020	11 May 2021	20 May 2020
SP1-4	SE206178.031	LB199787	11 May 2020	13 May 2020	11 May 2021	19 May 2020	11 May 2021	20 May 2020
SP1-5	SE206178.032	LB199871	11 May 2020	13 May 2020	11 May 2021	19 May 2020	11 May 2021	20 May 2020
SP2-1	SE206178.033	LB199871	11 May 2020	13 May 2020	11 May 2021	19 May 2020	11 May 2021	20 May 2020
SP2-2	SE206178.034	LB199871	11 May 2020	13 May 2020	11 May 2021	19 May 2020	11 May 2021	20 May 2020
SP2-3	SE206178.035	LB199871	11 May 2020	13 May 2020	11 May 2021	19 May 2020	11 May 2021	20 May 2020
SP2-4	SE206178.036	LB199871	11 May 2020	13 May 2020	11 May 2021	19 May 2020	11 May 2021	20 May 2020
SP2-5	SE206178.037	LB199871	11 May 2020	13 May 2020	11 May 2021	19 May 2020	11 May 2021	20 May 2020
SP3-1	SE206178.038	LB199871	11 May 2020	13 May 2020	11 May 2021	19 May 2020	11 May 2021	20 May 2020

Gravimetric Determination of Asbestos in Soil

Method: ME-(AU)-ENVJAN605

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
SP1-5	SE206178.032	LB199871	11 May 2020	13 May 2020	07 Nov 2020	19 May 2020	07 Nov 2020	20 May 2020
SP2-1	SE206178.033	LB199871	11 May 2020	13 May 2020	07 Nov 2020	19 May 2020	07 Nov 2020	20 May 2020
SP2-2	SE206178.034	LB199871	11 May 2020	13 May 2020	07 Nov 2020	19 May 2020	07 Nov 2020	20 May 2020
SP2-3	SE206178.035	LB199871	11 May 2020	13 May 2020	07 Nov 2020	19 May 2020	07 Nov 2020	20 May 2020
SP2-4	SE206178.036	LB199871	11 May 2020	13 May 2020	07 Nov 2020	19 May 2020	07 Nov 2020	20 May 2020
SP2-5	SE206178.037	LB199871	11 May 2020	13 May 2020	07 Nov 2020	19 May 2020	07 Nov 2020	20 May 2020
SP3-1	SE206178.038	LB199871	11 May 2020	13 May 2020	07 Nov 2020	19 May 2020	07 Nov 2020	20 May 2020

Mercury in Soil

Method: ME-(AU)-ENVJAN312

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
LC1 0.0-0.1	SE206178.001	LB199539	11 May 2020	13 May 2020	08 Jun 2020	14 May 2020	08 Jun 2020	18 May 2020
LC1 0.5-0.6	SE206178.002	LB199539	11 May 2020	13 May 2020	08 Jun 2020	14 May 2020	08 Jun 2020	18 May 2020
LC2 0.0-0.1	SE206178.003	LB199539	11 May 2020	13 May 2020	08 Jun 2020	14 May 2020	08 Jun 2020	18 May 2020
LC2 0.5-0.6	SE206178.004	LB199539	11 May 2020	13 May 2020	08 Jun 2020	14 May 2020	08 Jun 2020	18 May 2020
LC3 0.0-0.1	SE206178.005	LB199539	11 May 2020	13 May 2020	08 Jun 2020	14 May 2020	08 Jun 2020	18 May 2020
LC3 0.5-0.6	SE206178.006	LB199539	11 May 2020	13 May 2020	08 Jun 2020	14 May 2020	08 Jun 2020	18 May 2020
LC4 0.0-0.1	SE206178.007	LB199539	11 May 2020	13 May 2020	08 Jun 2020	14 May 2020	08 Jun 2020	18 May 2020
LC5 0.0-0.1	SE206178.008	LB199539	11 May 2020	13 May 2020	08 Jun 2020	14 May 2020	08 Jun 2020	18 May 2020

SGS holding time criteria are drawn from current regulations and are highly dependent on sample container preservation as specified in the SGS "Field Sampling Guide for Containers and Holding Time" (ref: GU-(AU)-ENV.001). Soil samples guidelines are derived from NEPM "Schedule B(3) Guideline on Laboratory Analysis of Potentially Contaminated Soils". Water sample guidelines are derived from "AS/NZS 5667.1 : 1998 Water Quality - sampling part 1" and APHA "Standard Methods for the Examination of Water and Wastewater" 21st edition 2005.

Extraction and analysis holding time due dates listed are calculated from the date sampled, although holding times may be extended after laboratory extraction for some analytes. The due dates are the suggested dates that samples may be held before extraction or analysis and still be considered valid.

Extraction and analysis dates are shown in **Green** when within suggested criteria or **Red** with an appended dagger symbol (†) when outside suggested criteria. If the sampled date is not supplied then compliance with criteria cannot be determined. If the received date is after one or both due dates then holding time will fail by default.

Mercury in Soil (continued)

Method: ME-(AU)-ENVJAN312

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
LC5 0.5-0.6	SE206178.009	LB199539	11 May 2020	13 May 2020	08 Jun 2020	14 May 2020	08 Jun 2020	18 May 2020
LC6 0.0-0.1	SE206178.010	LB199539	11 May 2020	13 May 2020	08 Jun 2020	14 May 2020	08 Jun 2020	18 May 2020
LC6 1.0-1.1	SE206178.011	LB199539	11 May 2020	13 May 2020	08 Jun 2020	14 May 2020	08 Jun 2020	18 May 2020
LC7 0.0-0.1	SE206178.012	LB199539	11 May 2020	13 May 2020	08 Jun 2020	14 May 2020	08 Jun 2020	18 May 2020
LC7 0.5-0.6	SE206178.013	LB199539	11 May 2020	13 May 2020	08 Jun 2020	14 May 2020	08 Jun 2020	18 May 2020
LC8 0.0-0.1	SE206178.014	LB199539	11 May 2020	13 May 2020	08 Jun 2020	14 May 2020	08 Jun 2020	18 May 2020
LC8 1.0-1.1	SE206178.015	LB199539	11 May 2020	13 May 2020	08 Jun 2020	14 May 2020	08 Jun 2020	18 May 2020
LC9 0.0-0.1	SE206178.016	LB199539	11 May 2020	13 May 2020	08 Jun 2020	14 May 2020	08 Jun 2020	18 May 2020
LC9 1.0-1.1	SE206178.017	LB199539	11 May 2020	13 May 2020	08 Jun 2020	14 May 2020	08 Jun 2020	18 May 2020
LC10 0.0-0.1	SE206178.018	LB199539	11 May 2020	13 May 2020	08 Jun 2020	14 May 2020	08 Jun 2020	18 May 2020
LC10 0.5-0.6	SE206178.019	LB199539	11 May 2020	13 May 2020	08 Jun 2020	14 May 2020	08 Jun 2020	18 May 2020
LC11 0.0-0.1	SE206178.020	LB199540	11 May 2020	13 May 2020	08 Jun 2020	14 May 2020	08 Jun 2020	19 May 2020
LC12 0.0-0.1	SE206178.021	LB199540	11 May 2020	13 May 2020	08 Jun 2020	14 May 2020	08 Jun 2020	19 May 2020
LC13 0.0-0.1	SE206178.022	LB199540	11 May 2020	13 May 2020	08 Jun 2020	14 May 2020	08 Jun 2020	19 May 2020
LC14 0.5-0.6	SE206178.023	LB199540	11 May 2020	13 May 2020	08 Jun 2020	14 May 2020	08 Jun 2020	19 May 2020
LC15 0.0-0.1	SE206178.024	LB199540	11 May 2020	13 May 2020	08 Jun 2020	14 May 2020	08 Jun 2020	19 May 2020
QC1	SE206178.025	LB199540	11 May 2020	13 May 2020	08 Jun 2020	14 May 2020	08 Jun 2020	19 May 2020
QC3	SE206178.026	LB199540	11 May 2020	13 May 2020	08 Jun 2020	14 May 2020	08 Jun 2020	19 May 2020
QC4	SE206178.027	LB199540	11 May 2020	13 May 2020	08 Jun 2020	14 May 2020	08 Jun 2020	19 May 2020
SP1-1	SE206178.028	LB199540	11 May 2020	13 May 2020	08 Jun 2020	14 May 2020	08 Jun 2020	19 May 2020
SP1-2	SE206178.029	LB199540	11 May 2020	13 May 2020	08 Jun 2020	14 May 2020	08 Jun 2020	19 May 2020
SP1-3	SE206178.030	LB199540	11 May 2020	13 May 2020	08 Jun 2020	14 May 2020	08 Jun 2020	19 May 2020
SP1-4	SE206178.031	LB199540	11 May 2020	13 May 2020	08 Jun 2020	14 May 2020	08 Jun 2020	19 May 2020
SP1-5	SE206178.032	LB199540	11 May 2020	13 May 2020	08 Jun 2020	14 May 2020	08 Jun 2020	19 May 2020
SP2-1	SE206178.033	LB199540	11 May 2020	13 May 2020	08 Jun 2020	14 May 2020	08 Jun 2020	19 May 2020
SP2-2	SE206178.034	LB199540	11 May 2020	13 May 2020	08 Jun 2020	14 May 2020	08 Jun 2020	19 May 2020
SP2-3	SE206178.035	LB199540	11 May 2020	13 May 2020	08 Jun 2020	14 May 2020	08 Jun 2020	19 May 2020
SP2-4	SE206178.036	LB199540	11 May 2020	13 May 2020	08 Jun 2020	14 May 2020	08 Jun 2020	19 May 2020
SP2-5	SE206178.037	LB199540	11 May 2020	13 May 2020	08 Jun 2020	14 May 2020	08 Jun 2020	19 May 2020
SP3-1	SE206178.038	LB199540	11 May 2020	13 May 2020	08 Jun 2020	14 May 2020	08 Jun 2020	19 May 2020

Moisture Content

Method: ME-(AU)-ENVJAN002

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
LC1 0.0-0.1	SE206178.001	LB199513	11 May 2020	13 May 2020	25 May 2020	14 May 2020	19 May 2020	18 May 2020
LC1 0.5-0.6	SE206178.002	LB199513	11 May 2020	13 May 2020	25 May 2020	14 May 2020	19 May 2020	18 May 2020
LC2 0.0-0.1	SE206178.003	LB199513	11 May 2020	13 May 2020	25 May 2020	14 May 2020	19 May 2020	18 May 2020
LC2 0.5-0.6	SE206178.004	LB199513	11 May 2020	13 May 2020	25 May 2020	14 May 2020	19 May 2020	18 May 2020
LC3 0.0-0.1	SE206178.005	LB199513	11 May 2020	13 May 2020	25 May 2020	14 May 2020	19 May 2020	18 May 2020
LC3 0.5-0.6	SE206178.006	LB199513	11 May 2020	13 May 2020	25 May 2020	14 May 2020	19 May 2020	18 May 2020
LC4 0.0-0.1	SE206178.007	LB199513	11 May 2020	13 May 2020	25 May 2020	14 May 2020	19 May 2020	18 May 2020
LC5 0.0-0.1	SE206178.008	LB199513	11 May 2020	13 May 2020	25 May 2020	14 May 2020	19 May 2020	18 May 2020
LC5 0.5-0.6	SE206178.009	LB199513	11 May 2020	13 May 2020	25 May 2020	14 May 2020	19 May 2020	18 May 2020
LC6 0.0-0.1	SE206178.010	LB199513	11 May 2020	13 May 2020	25 May 2020	14 May 2020	19 May 2020	18 May 2020
LC6 1.0-1.1	SE206178.011	LB199513	11 May 2020	13 May 2020	25 May 2020	14 May 2020	19 May 2020	18 May 2020
LC7 0.0-0.1	SE206178.012	LB199513	11 May 2020	13 May 2020	25 May 2020	14 May 2020	19 May 2020	18 May 2020
LC7 0.5-0.6	SE206178.013	LB199513	11 May 2020	13 May 2020	25 May 2020	14 May 2020	19 May 2020	18 May 2020
LC8 0.0-0.1	SE206178.014	LB199513	11 May 2020	13 May 2020	25 May 2020	14 May 2020	19 May 2020	18 May 2020
LC8 1.0-1.1	SE206178.015	LB199513	11 May 2020	13 May 2020	25 May 2020	14 May 2020	19 May 2020	18 May 2020
LC9 0.0-0.1	SE206178.016	LB199513	11 May 2020	13 May 2020	25 May 2020	14 May 2020	19 May 2020	18 May 2020
LC9 1.0-1.1	SE206178.017	LB199513	11 May 2020	13 May 2020	25 May 2020	14 May 2020	19 May 2020	18 May 2020
LC10 0.0-0.1	SE206178.018	LB199513	11 May 2020	13 May 2020	25 May 2020	14 May 2020	19 May 2020	18 May 2020
LC10 0.5-0.6	SE206178.019	LB199513	11 May 2020	13 May 2020	25 May 2020	14 May 2020	19 May 2020	18 May 2020
LC11 0.0-0.1	SE206178.020	LB199513	11 May 2020	13 May 2020	25 May 2020	14 May 2020	19 May 2020	18 May 2020
LC12 0.0-0.1	SE206178.021	LB199514	11 May 2020	13 May 2020	25 May 2020	14 May 2020	19 May 2020	18 May 2020
LC13 0.0-0.1	SE206178.022	LB199514	11 May 2020	13 May 2020	25 May 2020	14 May 2020	19 May 2020	18 May 2020
LC14 0.5-0.6	SE206178.023	LB199514	11 May 2020	13 May 2020	25 May 2020	14 May 2020	19 May 2020	18 May 2020
LC15 0.0-0.1	SE206178.024	LB199514	11 May 2020	13 May 2020	25 May 2020	14 May 2020	19 May 2020	18 May 2020
QC1	SE206178.025	LB199514	11 May 2020	13 May 2020	25 May 2020	14 May 2020	19 May 2020	18 May 2020
QC3	SE206178.026	LB199514	11 May 2020	13 May 2020	25 May 2020	14 May 2020	19 May 2020	18 May 2020
QC4	SE206178.027	LB199514	11 May 2020	13 May 2020	25 May 2020	14 May 2020	19 May 2020	18 May 2020

SGS holding time criteria are drawn from current regulations and are highly dependent on sample container preservation as specified in the SGS "Field Sampling Guide for Containers and Holding Time" (ref: GU-(AU)-ENV.001). Soil samples guidelines are derived from NEPM "Schedule B(3) Guideline on Laboratory Analysis of Potentially Contaminated Soils". Water sample guidelines are derived from "AS/NZS 5667.1 : 1998 Water Quality - sampling part 1" and APHA "Standard Methods for the Examination of Water and Wastewater" 21st edition 2005.

Extraction and analysis holding time due dates listed are calculated from the date sampled, although holding times may be extended after laboratory extraction for some analytes. The due dates are the suggested dates that samples may be held before extraction or analysis and still be considered valid.

Extraction and analysis dates are shown in **Green** when within suggested criteria or **Red** with an appended dagger symbol (†) when outside suggested criteria. If the sampled date is not supplied then compliance with criteria cannot be determined. If the received date is after one or both due dates then holding time will fail by default.

Moisture Content (continued)

Method: ME-(AU)-ENVJAN002

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
SP1-1	SE206178.028	LB199514	11 May 2020	13 May 2020	25 May 2020	14 May 2020	19 May 2020	18 May 2020
SP1-2	SE206178.029	LB199514	11 May 2020	13 May 2020	25 May 2020	14 May 2020	19 May 2020	18 May 2020
SP1-3	SE206178.030	LB199514	11 May 2020	13 May 2020	25 May 2020	14 May 2020	19 May 2020	18 May 2020
SP1-4	SE206178.031	LB199514	11 May 2020	13 May 2020	25 May 2020	14 May 2020	19 May 2020	18 May 2020
SP1-5	SE206178.032	LB199514	11 May 2020	13 May 2020	25 May 2020	14 May 2020	19 May 2020	18 May 2020
SP2-1	SE206178.033	LB199514	11 May 2020	13 May 2020	25 May 2020	14 May 2020	19 May 2020	18 May 2020
SP2-2	SE206178.034	LB199514	11 May 2020	13 May 2020	25 May 2020	14 May 2020	19 May 2020	18 May 2020
SP2-3	SE206178.035	LB199514	11 May 2020	13 May 2020	25 May 2020	14 May 2020	19 May 2020	18 May 2020
SP2-4	SE206178.036	LB199514	11 May 2020	13 May 2020	25 May 2020	14 May 2020	19 May 2020	18 May 2020
SP2-5	SE206178.037	LB199514	11 May 2020	13 May 2020	25 May 2020	14 May 2020	19 May 2020	18 May 2020
SP3-1	SE206178.038	LB199514	11 May 2020	13 May 2020	25 May 2020	14 May 2020	19 May 2020	18 May 2020

OC Pesticides in Soil

Method: ME-(AU)-ENVJAN002

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
LC1 0.0-0.1	SE206178.001	LB199507	11 May 2020	13 May 2020	25 May 2020	14 May 2020	23 Jun 2020	19 May 2020
LC1 0.5-0.6	SE206178.002	LB199507	11 May 2020	13 May 2020	25 May 2020	14 May 2020	23 Jun 2020	19 May 2020
LC2 0.0-0.1	SE206178.003	LB199507	11 May 2020	13 May 2020	25 May 2020	14 May 2020	23 Jun 2020	19 May 2020
LC2 0.5-0.6	SE206178.004	LB199507	11 May 2020	13 May 2020	25 May 2020	14 May 2020	23 Jun 2020	19 May 2020
LC3 0.0-0.1	SE206178.005	LB199507	11 May 2020	13 May 2020	25 May 2020	14 May 2020	23 Jun 2020	19 May 2020
LC3 0.5-0.6	SE206178.006	LB199507	11 May 2020	13 May 2020	25 May 2020	14 May 2020	23 Jun 2020	19 May 2020
LC4 0.0-0.1	SE206178.007	LB199507	11 May 2020	13 May 2020	25 May 2020	14 May 2020	23 Jun 2020	19 May 2020
LC5 0.0-0.1	SE206178.008	LB199507	11 May 2020	13 May 2020	25 May 2020	14 May 2020	23 Jun 2020	19 May 2020
LC5 0.5-0.6	SE206178.009	LB199507	11 May 2020	13 May 2020	25 May 2020	14 May 2020	23 Jun 2020	19 May 2020
LC6 0.0-0.1	SE206178.010	LB199507	11 May 2020	13 May 2020	25 May 2020	14 May 2020	23 Jun 2020	19 May 2020
LC6 1.0-1.1	SE206178.011	LB199507	11 May 2020	13 May 2020	25 May 2020	14 May 2020	23 Jun 2020	19 May 2020
LC7 0.0-0.1	SE206178.012	LB199507	11 May 2020	13 May 2020	25 May 2020	14 May 2020	23 Jun 2020	19 May 2020
LC7 0.5-0.6	SE206178.013	LB199507	11 May 2020	13 May 2020	25 May 2020	14 May 2020	23 Jun 2020	19 May 2020
LC8 0.0-0.1	SE206178.014	LB199507	11 May 2020	13 May 2020	25 May 2020	14 May 2020	23 Jun 2020	19 May 2020
LC8 1.0-1.1	SE206178.015	LB199507	11 May 2020	13 May 2020	25 May 2020	14 May 2020	23 Jun 2020	19 May 2020
LC9 0.0-0.1	SE206178.016	LB199507	11 May 2020	13 May 2020	25 May 2020	14 May 2020	23 Jun 2020	19 May 2020
LC9 1.0-1.1	SE206178.017	LB199507	11 May 2020	13 May 2020	25 May 2020	14 May 2020	23 Jun 2020	19 May 2020
LC10 0.0-0.1	SE206178.018	LB199507	11 May 2020	13 May 2020	25 May 2020	14 May 2020	23 Jun 2020	19 May 2020
LC10 0.5-0.6	SE206178.019	LB199507	11 May 2020	13 May 2020	25 May 2020	14 May 2020	23 Jun 2020	19 May 2020
LC11 0.0-0.1	SE206178.020	LB199507	11 May 2020	13 May 2020	25 May 2020	14 May 2020	23 Jun 2020	19 May 2020
LC12 0.0-0.1	SE206178.021	LB199508	11 May 2020	13 May 2020	25 May 2020	14 May 2020	23 Jun 2020	18 May 2020
LC13 0.0-0.1	SE206178.022	LB199508	11 May 2020	13 May 2020	25 May 2020	14 May 2020	23 Jun 2020	18 May 2020
LC14 0.5-0.6	SE206178.023	LB199508	11 May 2020	13 May 2020	25 May 2020	14 May 2020	23 Jun 2020	18 May 2020
LC15 0.0-0.1	SE206178.024	LB199508	11 May 2020	13 May 2020	25 May 2020	14 May 2020	23 Jun 2020	18 May 2020
QC1	SE206178.025	LB199508	11 May 2020	13 May 2020	25 May 2020	14 May 2020	23 Jun 2020	18 May 2020
QC3	SE206178.026	LB199508	11 May 2020	13 May 2020	25 May 2020	14 May 2020	23 Jun 2020	18 May 2020
QC4	SE206178.027	LB199508	11 May 2020	13 May 2020	25 May 2020	14 May 2020	23 Jun 2020	18 May 2020
SP1-1	SE206178.028	LB199508	11 May 2020	13 May 2020	25 May 2020	14 May 2020	23 Jun 2020	18 May 2020
SP1-2	SE206178.029	LB199508	11 May 2020	13 May 2020	25 May 2020	14 May 2020	23 Jun 2020	18 May 2020
SP1-3	SE206178.030	LB199508	11 May 2020	13 May 2020	25 May 2020	14 May 2020	23 Jun 2020	18 May 2020
SP1-4	SE206178.031	LB199508	11 May 2020	13 May 2020	25 May 2020	14 May 2020	23 Jun 2020	18 May 2020
SP1-5	SE206178.032	LB199508	11 May 2020	13 May 2020	25 May 2020	14 May 2020	23 Jun 2020	18 May 2020
SP2-1	SE206178.033	LB199508	11 May 2020	13 May 2020	25 May 2020	14 May 2020	23 Jun 2020	18 May 2020
SP2-2	SE206178.034	LB199508	11 May 2020	13 May 2020	25 May 2020	14 May 2020	23 Jun 2020	18 May 2020
SP2-3	SE206178.035	LB199508	11 May 2020	13 May 2020	25 May 2020	14 May 2020	23 Jun 2020	18 May 2020
SP2-4	SE206178.036	LB199508	11 May 2020	13 May 2020	25 May 2020	14 May 2020	23 Jun 2020	18 May 2020
SP2-5	SE206178.037	LB199508	11 May 2020	13 May 2020	25 May 2020	14 May 2020	23 Jun 2020	18 May 2020
SP3-1	SE206178.038	LB199508	11 May 2020	13 May 2020	25 May 2020	14 May 2020	23 Jun 2020	18 May 2020

OP Pesticides in Soil

Method: ME-(AU)-ENVJAN002

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
LC1 0.0-0.1	SE206178.001	LB199507	11 May 2020	13 May 2020	25 May 2020	14 May 2020	23 Jun 2020	19 May 2020
LC1 0.5-0.6	SE206178.002	LB199507	11 May 2020	13 May 2020	25 May 2020	14 May 2020	23 Jun 2020	19 May 2020
LC2 0.0-0.1	SE206178.003	LB199507	11 May 2020	13 May 2020	25 May 2020	14 May 2020	23 Jun 2020	19 May 2020
LC2 0.5-0.6	SE206178.004	LB199507	11 May 2020	13 May 2020	25 May 2020	14 May 2020	23 Jun 2020	19 May 2020
LC3 0.0-0.1	SE206178.005	LB199507	11 May 2020	13 May 2020	25 May 2020	14 May 2020	23 Jun 2020	19 May 2020
LC3 0.5-0.6	SE206178.006	LB199507	11 May 2020	13 May 2020	25 May 2020	14 May 2020	23 Jun 2020	19 May 2020

SGS holding time criteria are drawn from current regulations and are highly dependent on sample container preservation as specified in the SGS "Field Sampling Guide for Containers and Holding Time" (ref: GU-(AU)-ENV.001). Soil samples guidelines are derived from NEPM "Schedule B(3) Guideline on Laboratory Analysis of Potentially Contaminated Soils". Water sample guidelines are derived from "AS/NZS 5667.1 : 1998 Water Quality - sampling part 1" and APHA "Standard Methods for the Examination of Water and Wastewater" 21st edition 2005.

Extraction and analysis holding time due dates listed are calculated from the date sampled, although holding times may be extended after laboratory extraction for some analytes. The due dates are the suggested dates that samples may be held before extraction or analysis and still be considered valid.

Extraction and analysis dates are shown in **Green** when within suggested criteria or **Red** with an appended dagger symbol (†) when outside suggested criteria. If the sampled date is not supplied then compliance with criteria cannot be determined. If the received date is after one or both due dates then holding time will fail by default.

OP Pesticides in Soil (continued)

Method: ME-(AU)-ENVJAN420

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
LC4 0.0-0.1	SE206178.007	LB199507	11 May 2020	13 May 2020	25 May 2020	14 May 2020	23 Jun 2020	19 May 2020
LC5 0.0-0.1	SE206178.008	LB199507	11 May 2020	13 May 2020	25 May 2020	14 May 2020	23 Jun 2020	19 May 2020
LC5 0.5-0.6	SE206178.009	LB199507	11 May 2020	13 May 2020	25 May 2020	14 May 2020	23 Jun 2020	19 May 2020
LC6 0.0-0.1	SE206178.010	LB199507	11 May 2020	13 May 2020	25 May 2020	14 May 2020	23 Jun 2020	19 May 2020
LC6 1.0-1.1	SE206178.011	LB199507	11 May 2020	13 May 2020	25 May 2020	14 May 2020	23 Jun 2020	19 May 2020
LC7 0.0-0.1	SE206178.012	LB199507	11 May 2020	13 May 2020	25 May 2020	14 May 2020	23 Jun 2020	19 May 2020
LC7 0.5-0.6	SE206178.013	LB199507	11 May 2020	13 May 2020	25 May 2020	14 May 2020	23 Jun 2020	19 May 2020
LC8 0.0-0.1	SE206178.014	LB199507	11 May 2020	13 May 2020	25 May 2020	14 May 2020	23 Jun 2020	19 May 2020
LC8 1.0-1.1	SE206178.015	LB199507	11 May 2020	13 May 2020	25 May 2020	14 May 2020	23 Jun 2020	19 May 2020
LC9 0.0-0.1	SE206178.016	LB199507	11 May 2020	13 May 2020	25 May 2020	14 May 2020	23 Jun 2020	19 May 2020
LC9 1.0-1.1	SE206178.017	LB199507	11 May 2020	13 May 2020	25 May 2020	14 May 2020	23 Jun 2020	19 May 2020
LC10 0.0-0.1	SE206178.018	LB199507	11 May 2020	13 May 2020	25 May 2020	14 May 2020	23 Jun 2020	19 May 2020
LC10 0.5-0.6	SE206178.019	LB199507	11 May 2020	13 May 2020	25 May 2020	14 May 2020	23 Jun 2020	19 May 2020
LC11 0.0-0.1	SE206178.020	LB199507	11 May 2020	13 May 2020	25 May 2020	14 May 2020	23 Jun 2020	19 May 2020
LC12 0.0-0.1	SE206178.021	LB199508	11 May 2020	13 May 2020	25 May 2020	14 May 2020	23 Jun 2020	18 May 2020
LC13 0.0-0.1	SE206178.022	LB199508	11 May 2020	13 May 2020	25 May 2020	14 May 2020	23 Jun 2020	18 May 2020
LC14 0.5-0.6	SE206178.023	LB199508	11 May 2020	13 May 2020	25 May 2020	14 May 2020	23 Jun 2020	18 May 2020
LC15 0.0-0.1	SE206178.024	LB199508	11 May 2020	13 May 2020	25 May 2020	14 May 2020	23 Jun 2020	18 May 2020
QC1	SE206178.025	LB199508	11 May 2020	13 May 2020	25 May 2020	14 May 2020	23 Jun 2020	18 May 2020
QC3	SE206178.026	LB199508	11 May 2020	13 May 2020	25 May 2020	14 May 2020	23 Jun 2020	18 May 2020
QC4	SE206178.027	LB199508	11 May 2020	13 May 2020	25 May 2020	14 May 2020	23 Jun 2020	18 May 2020
SP1-1	SE206178.028	LB199508	11 May 2020	13 May 2020	25 May 2020	14 May 2020	23 Jun 2020	18 May 2020
SP1-2	SE206178.029	LB199508	11 May 2020	13 May 2020	25 May 2020	14 May 2020	23 Jun 2020	18 May 2020
SP1-3	SE206178.030	LB199508	11 May 2020	13 May 2020	25 May 2020	14 May 2020	23 Jun 2020	18 May 2020
SP1-4	SE206178.031	LB199508	11 May 2020	13 May 2020	25 May 2020	14 May 2020	23 Jun 2020	18 May 2020
SP1-5	SE206178.032	LB199508	11 May 2020	13 May 2020	25 May 2020	14 May 2020	23 Jun 2020	18 May 2020
SP2-1	SE206178.033	LB199508	11 May 2020	13 May 2020	25 May 2020	14 May 2020	23 Jun 2020	18 May 2020
SP2-2	SE206178.034	LB199508	11 May 2020	13 May 2020	25 May 2020	14 May 2020	23 Jun 2020	18 May 2020
SP2-3	SE206178.035	LB199508	11 May 2020	13 May 2020	25 May 2020	14 May 2020	23 Jun 2020	18 May 2020
SP2-4	SE206178.036	LB199508	11 May 2020	13 May 2020	25 May 2020	14 May 2020	23 Jun 2020	18 May 2020
SP2-5	SE206178.037	LB199508	11 May 2020	13 May 2020	25 May 2020	14 May 2020	23 Jun 2020	18 May 2020
SP3-1	SE206178.038	LB199508	11 May 2020	13 May 2020	25 May 2020	14 May 2020	23 Jun 2020	18 May 2020

PAH (Polynuclear Aromatic Hydrocarbons) in Soil

Method: ME-(AU)-ENVJAN420

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
LC1 0.0-0.1	SE206178.001	LB199507	11 May 2020	13 May 2020	25 May 2020	14 May 2020	23 Jun 2020	19 May 2020
LC1 0.5-0.6	SE206178.002	LB199507	11 May 2020	13 May 2020	25 May 2020	14 May 2020	23 Jun 2020	19 May 2020
LC2 0.0-0.1	SE206178.003	LB199507	11 May 2020	13 May 2020	25 May 2020	14 May 2020	23 Jun 2020	19 May 2020
LC2 0.5-0.6	SE206178.004	LB199507	11 May 2020	13 May 2020	25 May 2020	14 May 2020	23 Jun 2020	19 May 2020
LC3 0.0-0.1	SE206178.005	LB199507	11 May 2020	13 May 2020	25 May 2020	14 May 2020	23 Jun 2020	19 May 2020
LC3 0.5-0.6	SE206178.006	LB199507	11 May 2020	13 May 2020	25 May 2020	14 May 2020	23 Jun 2020	19 May 2020
LC4 0.0-0.1	SE206178.007	LB199507	11 May 2020	13 May 2020	25 May 2020	14 May 2020	23 Jun 2020	19 May 2020
LC5 0.0-0.1	SE206178.008	LB199507	11 May 2020	13 May 2020	25 May 2020	14 May 2020	23 Jun 2020	19 May 2020
LC5 0.5-0.6	SE206178.009	LB199507	11 May 2020	13 May 2020	25 May 2020	14 May 2020	23 Jun 2020	19 May 2020
LC6 0.0-0.1	SE206178.010	LB199507	11 May 2020	13 May 2020	25 May 2020	14 May 2020	23 Jun 2020	19 May 2020
LC6 1.0-1.1	SE206178.011	LB199507	11 May 2020	13 May 2020	25 May 2020	14 May 2020	23 Jun 2020	19 May 2020
LC7 0.0-0.1	SE206178.012	LB199507	11 May 2020	13 May 2020	25 May 2020	14 May 2020	23 Jun 2020	19 May 2020
LC7 0.5-0.6	SE206178.013	LB199507	11 May 2020	13 May 2020	25 May 2020	14 May 2020	23 Jun 2020	19 May 2020
LC8 0.0-0.1	SE206178.014	LB199507	11 May 2020	13 May 2020	25 May 2020	14 May 2020	23 Jun 2020	19 May 2020
LC8 1.0-1.1	SE206178.015	LB199507	11 May 2020	13 May 2020	25 May 2020	14 May 2020	23 Jun 2020	19 May 2020
LC9 0.0-0.1	SE206178.016	LB199507	11 May 2020	13 May 2020	25 May 2020	14 May 2020	23 Jun 2020	19 May 2020
LC9 1.0-1.1	SE206178.017	LB199507	11 May 2020	13 May 2020	25 May 2020	14 May 2020	23 Jun 2020	19 May 2020
LC10 0.0-0.1	SE206178.018	LB199507	11 May 2020	13 May 2020	25 May 2020	14 May 2020	23 Jun 2020	19 May 2020
LC10 0.5-0.6	SE206178.019	LB199507	11 May 2020	13 May 2020	25 May 2020	14 May 2020	23 Jun 2020	19 May 2020
LC11 0.0-0.1	SE206178.020	LB199507	11 May 2020	13 May 2020	25 May 2020	14 May 2020	23 Jun 2020	19 May 2020
LC12 0.0-0.1	SE206178.021	LB199508	11 May 2020	13 May 2020	25 May 2020	14 May 2020	23 Jun 2020	18 May 2020
LC13 0.0-0.1	SE206178.022	LB199508	11 May 2020	13 May 2020	25 May 2020	14 May 2020	23 Jun 2020	18 May 2020
LC14 0.5-0.6	SE206178.023	LB199508	11 May 2020	13 May 2020	25 May 2020	14 May 2020	23 Jun 2020	18 May 2020
LC15 0.0-0.1	SE206178.024	LB199508	11 May 2020	13 May 2020	25 May 2020	14 May 2020	23 Jun 2020	18 May 2020
QC1	SE206178.025	LB199508	11 May 2020	13 May 2020	25 May 2020	14 May 2020	23 Jun 2020	18 May 2020

SGS holding time criteria are drawn from current regulations and are highly dependent on sample container preservation as specified in the SGS "Field Sampling Guide for Containers and Holding Time" (ref: GU-(AU)-ENV.001). Soil samples guidelines are derived from NEPM "Schedule B(3) Guideline on Laboratory Analysis of Potentially Contaminated Soils". Water sample guidelines are derived from "AS/NZS 5667.1 : 1998 Water Quality - sampling part 1" and APHA "Standard Methods for the Examination of Water and Wastewater" 21st edition 2005.

Extraction and analysis holding time due dates listed are calculated from the date sampled, although holding times may be extended after laboratory extraction for some analytes. The due dates are the suggested dates that samples may be held before extraction or analysis and still be considered valid.

Extraction and analysis dates are shown in **Green** when within suggested criteria or **Red** with an appended dagger symbol (†) when outside suggested criteria. If the sampled date is not supplied then compliance with criteria cannot be determined. If the received date is after one or both due dates then holding time will fail by default.

PAH (Polynuclear Aromatic Hydrocarbons) in Soil (continued)

Method: ME-(AU)-ENVJAN420

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
QC3	SE206178.026	LB199508	11 May 2020	13 May 2020	25 May 2020	14 May 2020	23 Jun 2020	18 May 2020
QC4	SE206178.027	LB199508	11 May 2020	13 May 2020	25 May 2020	14 May 2020	23 Jun 2020	18 May 2020
SP1-1	SE206178.028	LB199508	11 May 2020	13 May 2020	25 May 2020	14 May 2020	23 Jun 2020	18 May 2020
SP1-2	SE206178.029	LB199508	11 May 2020	13 May 2020	25 May 2020	14 May 2020	23 Jun 2020	18 May 2020
SP1-3	SE206178.030	LB199508	11 May 2020	13 May 2020	25 May 2020	14 May 2020	23 Jun 2020	18 May 2020
SP1-4	SE206178.031	LB199508	11 May 2020	13 May 2020	25 May 2020	14 May 2020	23 Jun 2020	18 May 2020
SP1-5	SE206178.032	LB199508	11 May 2020	13 May 2020	25 May 2020	14 May 2020	23 Jun 2020	18 May 2020
SP2-1	SE206178.033	LB199508	11 May 2020	13 May 2020	25 May 2020	14 May 2020	23 Jun 2020	18 May 2020
SP2-2	SE206178.034	LB199508	11 May 2020	13 May 2020	25 May 2020	14 May 2020	23 Jun 2020	18 May 2020
SP2-3	SE206178.035	LB199508	11 May 2020	13 May 2020	25 May 2020	14 May 2020	23 Jun 2020	18 May 2020
SP2-4	SE206178.036	LB199508	11 May 2020	13 May 2020	25 May 2020	14 May 2020	23 Jun 2020	18 May 2020
SP2-5	SE206178.037	LB199508	11 May 2020	13 May 2020	25 May 2020	14 May 2020	23 Jun 2020	18 May 2020
SP3-1	SE206178.038	LB199508	11 May 2020	13 May 2020	25 May 2020	14 May 2020	23 Jun 2020	18 May 2020

PCBs in Soil

Method: ME-(AU)-ENVJAN420

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
LC1 0.0-0.1	SE206178.001	LB199507	11 May 2020	13 May 2020	25 May 2020	14 May 2020	23 Jun 2020	19 May 2020
LC1 0.5-0.6	SE206178.002	LB199507	11 May 2020	13 May 2020	25 May 2020	14 May 2020	23 Jun 2020	19 May 2020
LC2 0.0-0.1	SE206178.003	LB199507	11 May 2020	13 May 2020	25 May 2020	14 May 2020	23 Jun 2020	19 May 2020
LC2 0.5-0.6	SE206178.004	LB199507	11 May 2020	13 May 2020	25 May 2020	14 May 2020	23 Jun 2020	19 May 2020
LC3 0.0-0.1	SE206178.005	LB199507	11 May 2020	13 May 2020	25 May 2020	14 May 2020	23 Jun 2020	19 May 2020
LC3 0.5-0.6	SE206178.006	LB199507	11 May 2020	13 May 2020	25 May 2020	14 May 2020	23 Jun 2020	19 May 2020
LC4 0.0-0.1	SE206178.007	LB199507	11 May 2020	13 May 2020	25 May 2020	14 May 2020	23 Jun 2020	19 May 2020
LC5 0.0-0.1	SE206178.008	LB199507	11 May 2020	13 May 2020	25 May 2020	14 May 2020	23 Jun 2020	19 May 2020
LC5 0.5-0.6	SE206178.009	LB199507	11 May 2020	13 May 2020	25 May 2020	14 May 2020	23 Jun 2020	19 May 2020
LC6 0.0-0.1	SE206178.010	LB199507	11 May 2020	13 May 2020	25 May 2020	14 May 2020	23 Jun 2020	19 May 2020
LC6 1.0-1.1	SE206178.011	LB199507	11 May 2020	13 May 2020	25 May 2020	14 May 2020	23 Jun 2020	19 May 2020
LC7 0.0-0.1	SE206178.012	LB199507	11 May 2020	13 May 2020	25 May 2020	14 May 2020	23 Jun 2020	19 May 2020
LC7 0.5-0.6	SE206178.013	LB199507	11 May 2020	13 May 2020	25 May 2020	14 May 2020	23 Jun 2020	19 May 2020
LC8 0.0-0.1	SE206178.014	LB199507	11 May 2020	13 May 2020	25 May 2020	14 May 2020	23 Jun 2020	19 May 2020
LC8 1.0-1.1	SE206178.015	LB199507	11 May 2020	13 May 2020	25 May 2020	14 May 2020	23 Jun 2020	19 May 2020
LC9 0.0-0.1	SE206178.016	LB199507	11 May 2020	13 May 2020	25 May 2020	14 May 2020	23 Jun 2020	19 May 2020
LC9 1.0-1.1	SE206178.017	LB199507	11 May 2020	13 May 2020	25 May 2020	14 May 2020	23 Jun 2020	19 May 2020
LC10 0.0-0.1	SE206178.018	LB199507	11 May 2020	13 May 2020	25 May 2020	14 May 2020	23 Jun 2020	19 May 2020
LC10 0.5-0.6	SE206178.019	LB199507	11 May 2020	13 May 2020	25 May 2020	14 May 2020	23 Jun 2020	19 May 2020
LC11 0.0-0.1	SE206178.020	LB199507	11 May 2020	13 May 2020	25 May 2020	14 May 2020	23 Jun 2020	19 May 2020
LC12 0.0-0.1	SE206178.021	LB199508	11 May 2020	13 May 2020	25 May 2020	14 May 2020	23 Jun 2020	18 May 2020
LC13 0.0-0.1	SE206178.022	LB199508	11 May 2020	13 May 2020	25 May 2020	14 May 2020	23 Jun 2020	18 May 2020
LC14 0.5-0.6	SE206178.023	LB199508	11 May 2020	13 May 2020	25 May 2020	14 May 2020	23 Jun 2020	18 May 2020
LC15 0.0-0.1	SE206178.024	LB199508	11 May 2020	13 May 2020	25 May 2020	14 May 2020	23 Jun 2020	18 May 2020
QC1	SE206178.025	LB199508	11 May 2020	13 May 2020	25 May 2020	14 May 2020	23 Jun 2020	18 May 2020
QC3	SE206178.026	LB199508	11 May 2020	13 May 2020	25 May 2020	14 May 2020	23 Jun 2020	18 May 2020
QC4	SE206178.027	LB199508	11 May 2020	13 May 2020	25 May 2020	14 May 2020	23 Jun 2020	18 May 2020
SP1-1	SE206178.028	LB199508	11 May 2020	13 May 2020	25 May 2020	14 May 2020	23 Jun 2020	18 May 2020
SP1-2	SE206178.029	LB199508	11 May 2020	13 May 2020	25 May 2020	14 May 2020	23 Jun 2020	18 May 2020
SP1-3	SE206178.030	LB199508	11 May 2020	13 May 2020	25 May 2020	14 May 2020	23 Jun 2020	18 May 2020
SP1-4	SE206178.031	LB199508	11 May 2020	13 May 2020	25 May 2020	14 May 2020	23 Jun 2020	18 May 2020
SP1-5	SE206178.032	LB199508	11 May 2020	13 May 2020	25 May 2020	14 May 2020	23 Jun 2020	18 May 2020
SP2-1	SE206178.033	LB199508	11 May 2020	13 May 2020	25 May 2020	14 May 2020	23 Jun 2020	18 May 2020
SP2-2	SE206178.034	LB199508	11 May 2020	13 May 2020	25 May 2020	14 May 2020	23 Jun 2020	18 May 2020
SP2-3	SE206178.035	LB199508	11 May 2020	13 May 2020	25 May 2020	14 May 2020	23 Jun 2020	18 May 2020
SP2-4	SE206178.036	LB199508	11 May 2020	13 May 2020	25 May 2020	14 May 2020	23 Jun 2020	18 May 2020
SP2-5	SE206178.037	LB199508	11 May 2020	13 May 2020	25 May 2020	14 May 2020	23 Jun 2020	18 May 2020
SP3-1	SE206178.038	LB199508	11 May 2020	13 May 2020	25 May 2020	14 May 2020	23 Jun 2020	18 May 2020

pH in soil (1:5)

Method: ME-(AU)-ENVJAN101

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
LC1 0.5-0.6	SE206178.002	LB199801	11 May 2020	13 May 2020	18 May 2020	19 May 2020†	20 May 2020	19 May 2020
LC9 1.0-1.1	SE206178.017	LB199801	11 May 2020	13 May 2020	18 May 2020	19 May 2020†	20 May 2020	19 May 2020

SGS holding time criteria are drawn from current regulations and are highly dependent on sample container preservation as specified in the SGS "Field Sampling Guide for Containers and Holding Time" (ref: GU-(AU)-ENV.001). Soil samples guidelines are derived from NEPM "Schedule B(3) Guideline on Laboratory Analysis of Potentially Contaminated Soils". Water sample guidelines are derived from "AS/NZS 5667.1 : 1998 Water Quality - sampling part 1" and APHA "Standard Methods for the Examination of Water and Wastewater" 21st edition 2005.

Extraction and analysis holding time due dates listed are calculated from the date sampled, although holding times may be extended after laboratory extraction for some analytes. The due dates are the suggested dates that samples may be held before extraction or analysis and still be considered valid.

Extraction and analysis dates are shown in **Green** when within suggested criteria or **Red** with an appended dagger symbol (†) when outside suggested criteria. If the sampled date is not supplied then compliance with criteria cannot be determined. If the received date is after one or both due dates then holding time will fail by default.

Speciated Phenols in Soil

Method: ME-(AU)-[ENV]AN420

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
LC1 0.0-0.1	SE206178.001	LB199507	11 May 2020	13 May 2020	25 May 2020	14 May 2020	23 Jun 2020	19 May 2020
LC1 0.5-0.6	SE206178.002	LB199507	11 May 2020	13 May 2020	25 May 2020	14 May 2020	23 Jun 2020	19 May 2020
LC2 0.0-0.1	SE206178.003	LB199507	11 May 2020	13 May 2020	25 May 2020	14 May 2020	23 Jun 2020	19 May 2020
LC2 0.5-0.6	SE206178.004	LB199507	11 May 2020	13 May 2020	25 May 2020	14 May 2020	23 Jun 2020	19 May 2020
LC3 0.0-0.1	SE206178.005	LB199507	11 May 2020	13 May 2020	25 May 2020	14 May 2020	23 Jun 2020	19 May 2020
LC3 0.5-0.6	SE206178.006	LB199507	11 May 2020	13 May 2020	25 May 2020	14 May 2020	23 Jun 2020	19 May 2020
LC4 0.0-0.1	SE206178.007	LB199507	11 May 2020	13 May 2020	25 May 2020	14 May 2020	23 Jun 2020	19 May 2020
LC5 0.0-0.1	SE206178.008	LB199507	11 May 2020	13 May 2020	25 May 2020	14 May 2020	23 Jun 2020	19 May 2020
LC5 0.5-0.6	SE206178.009	LB199507	11 May 2020	13 May 2020	25 May 2020	14 May 2020	23 Jun 2020	19 May 2020
LC6 0.0-0.1	SE206178.010	LB199507	11 May 2020	13 May 2020	25 May 2020	14 May 2020	23 Jun 2020	19 May 2020
LC6 1.0-1.1	SE206178.011	LB199507	11 May 2020	13 May 2020	25 May 2020	14 May 2020	23 Jun 2020	19 May 2020
LC7 0.0-0.1	SE206178.012	LB199507	11 May 2020	13 May 2020	25 May 2020	14 May 2020	23 Jun 2020	19 May 2020
LC7 0.5-0.6	SE206178.013	LB199507	11 May 2020	13 May 2020	25 May 2020	14 May 2020	23 Jun 2020	19 May 2020
LC8 0.0-0.1	SE206178.014	LB199507	11 May 2020	13 May 2020	25 May 2020	14 May 2020	23 Jun 2020	19 May 2020
LC8 1.0-1.1	SE206178.015	LB199507	11 May 2020	13 May 2020	25 May 2020	14 May 2020	23 Jun 2020	19 May 2020
LC9 0.0-0.1	SE206178.016	LB199507	11 May 2020	13 May 2020	25 May 2020	14 May 2020	23 Jun 2020	19 May 2020
LC9 1.0-1.1	SE206178.017	LB199507	11 May 2020	13 May 2020	25 May 2020	14 May 2020	23 Jun 2020	19 May 2020
LC10 0.0-0.1	SE206178.018	LB199507	11 May 2020	13 May 2020	25 May 2020	14 May 2020	23 Jun 2020	19 May 2020
LC10 0.5-0.6	SE206178.019	LB199507	11 May 2020	13 May 2020	25 May 2020	14 May 2020	23 Jun 2020	19 May 2020
LC11 0.0-0.1	SE206178.020	LB199507	11 May 2020	13 May 2020	25 May 2020	14 May 2020	23 Jun 2020	19 May 2020
LC12 0.0-0.1	SE206178.021	LB199508	11 May 2020	13 May 2020	25 May 2020	14 May 2020	23 Jun 2020	19 May 2020
LC13 0.0-0.1	SE206178.022	LB199508	11 May 2020	13 May 2020	25 May 2020	14 May 2020	23 Jun 2020	19 May 2020
LC14 0.5-0.6	SE206178.023	LB199508	11 May 2020	13 May 2020	25 May 2020	14 May 2020	23 Jun 2020	19 May 2020
LC15 0.0-0.1	SE206178.024	LB199508	11 May 2020	13 May 2020	25 May 2020	14 May 2020	23 Jun 2020	19 May 2020
QC1	SE206178.025	LB199508	11 May 2020	13 May 2020	25 May 2020	14 May 2020	23 Jun 2020	19 May 2020
QC3	SE206178.026	LB199508	11 May 2020	13 May 2020	25 May 2020	14 May 2020	23 Jun 2020	19 May 2020
QC4	SE206178.027	LB199508	11 May 2020	13 May 2020	25 May 2020	14 May 2020	23 Jun 2020	19 May 2020
SP1-1	SE206178.028	LB199508	11 May 2020	13 May 2020	25 May 2020	14 May 2020	23 Jun 2020	19 May 2020
SP1-2	SE206178.029	LB199508	11 May 2020	13 May 2020	25 May 2020	14 May 2020	23 Jun 2020	19 May 2020
SP1-3	SE206178.030	LB199508	11 May 2020	13 May 2020	25 May 2020	14 May 2020	23 Jun 2020	19 May 2020
SP1-4	SE206178.031	LB199508	11 May 2020	13 May 2020	25 May 2020	14 May 2020	23 Jun 2020	19 May 2020
SP1-5	SE206178.032	LB199508	11 May 2020	13 May 2020	25 May 2020	14 May 2020	23 Jun 2020	19 May 2020
SP2-1	SE206178.033	LB199508	11 May 2020	13 May 2020	25 May 2020	14 May 2020	23 Jun 2020	19 May 2020
SP2-2	SE206178.034	LB199508	11 May 2020	13 May 2020	25 May 2020	14 May 2020	23 Jun 2020	19 May 2020
SP2-3	SE206178.035	LB199508	11 May 2020	13 May 2020	25 May 2020	14 May 2020	23 Jun 2020	19 May 2020
SP2-4	SE206178.036	LB199508	11 May 2020	13 May 2020	25 May 2020	14 May 2020	23 Jun 2020	19 May 2020
SP2-5	SE206178.037	LB199508	11 May 2020	13 May 2020	25 May 2020	14 May 2020	23 Jun 2020	19 May 2020
SP3-1	SE206178.038	LB199508	11 May 2020	13 May 2020	25 May 2020	14 May 2020	23 Jun 2020	19 May 2020

Total Recoverable Elements in Soil/Waste Solids/Materials by ICPOES

Method: ME-(AU)-[ENV]AN040/AN320

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
LC1 0.0-0.1	SE206178.001	LB199533	11 May 2020	13 May 2020	07 Nov 2020	14 May 2020	07 Nov 2020	18 May 2020
LC1 0.5-0.6	SE206178.002	LB199533	11 May 2020	13 May 2020	07 Nov 2020	14 May 2020	07 Nov 2020	18 May 2020
LC2 0.0-0.1	SE206178.003	LB199533	11 May 2020	13 May 2020	07 Nov 2020	14 May 2020	07 Nov 2020	18 May 2020
LC2 0.5-0.6	SE206178.004	LB199533	11 May 2020	13 May 2020	07 Nov 2020	14 May 2020	07 Nov 2020	18 May 2020
LC3 0.0-0.1	SE206178.005	LB199533	11 May 2020	13 May 2020	07 Nov 2020	14 May 2020	07 Nov 2020	18 May 2020
LC3 0.5-0.6	SE206178.006	LB199533	11 May 2020	13 May 2020	07 Nov 2020	14 May 2020	07 Nov 2020	18 May 2020
LC4 0.0-0.1	SE206178.007	LB199533	11 May 2020	13 May 2020	07 Nov 2020	14 May 2020	07 Nov 2020	18 May 2020
LC5 0.0-0.1	SE206178.008	LB199533	11 May 2020	13 May 2020	07 Nov 2020	14 May 2020	07 Nov 2020	18 May 2020
LC5 0.5-0.6	SE206178.009	LB199533	11 May 2020	13 May 2020	07 Nov 2020	14 May 2020	07 Nov 2020	18 May 2020
LC6 0.0-0.1	SE206178.010	LB199533	11 May 2020	13 May 2020	07 Nov 2020	14 May 2020	07 Nov 2020	18 May 2020
LC6 1.0-1.1	SE206178.011	LB199533	11 May 2020	13 May 2020	07 Nov 2020	14 May 2020	07 Nov 2020	18 May 2020
LC7 0.0-0.1	SE206178.012	LB199533	11 May 2020	13 May 2020	07 Nov 2020	14 May 2020	07 Nov 2020	18 May 2020
LC7 0.5-0.6	SE206178.013	LB199533	11 May 2020	13 May 2020	07 Nov 2020	14 May 2020	07 Nov 2020	18 May 2020
LC8 0.0-0.1	SE206178.014	LB199533	11 May 2020	13 May 2020	07 Nov 2020	14 May 2020	07 Nov 2020	18 May 2020
LC8 1.0-1.1	SE206178.015	LB199533	11 May 2020	13 May 2020	07 Nov 2020	14 May 2020	07 Nov 2020	18 May 2020
LC9 0.0-0.1	SE206178.016	LB199533	11 May 2020	13 May 2020	07 Nov 2020	14 May 2020	07 Nov 2020	18 May 2020
LC9 1.0-1.1	SE206178.017	LB199533	11 May 2020	13 May 2020	07 Nov 2020	14 May 2020	07 Nov 2020	18 May 2020
LC10 0.0-0.1	SE206178.018	LB199533	11 May 2020	13 May 2020	07 Nov 2020	14 May 2020	07 Nov 2020	18 May 2020
LC10 0.5-0.6	SE206178.019	LB199533	11 May 2020	13 May 2020	07 Nov 2020	14 May 2020	07 Nov 2020	18 May 2020

SGS holding time criteria are drawn from current regulations and are highly dependent on sample container preservation as specified in the SGS "Field Sampling Guide for Containers and Holding Time" (ref: GU-(AU)-ENV.001). Soil samples guidelines are derived from NEPM "Schedule B(3) Guideline on Laboratory Analysis of Potentially Contaminated Soils". Water sample guidelines are derived from "AS/NZS 5667.1 : 1998 Water Quality - sampling part 1" and APHA "Standard Methods for the Examination of Water and Wastewater" 21st edition 2005.

Extraction and analysis holding time due dates listed are calculated from the date sampled, although holding times may be extended after laboratory extraction for some analytes. The due dates are the suggested dates that samples may be held before extraction or analysis and still be considered valid.

Extraction and analysis dates are shown in **Green** when within suggested criteria or **Red** with an appended dagger symbol (†) when outside suggested criteria. If the sampled date is not supplied then compliance with criteria cannot be determined. If the received date is after one or both due dates then holding time will fail by default.

Total Recoverable Elements in Soil/Waste Solids/Materials by ICPOES (continued)

Method: ME-(AU)-[ENV]AN040/AN320

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
LC11 0.0-0.1	SE206178.020	LB199534	11 May 2020	13 May 2020	07 Nov 2020	14 May 2020	07 Nov 2020	18 May 2020
LC12 0.0-0.1	SE206178.021	LB199534	11 May 2020	13 May 2020	07 Nov 2020	14 May 2020	07 Nov 2020	18 May 2020
LC13 0.0-0.1	SE206178.022	LB199534	11 May 2020	13 May 2020	07 Nov 2020	14 May 2020	07 Nov 2020	18 May 2020
LC14 0.5-0.6	SE206178.023	LB199534	11 May 2020	13 May 2020	07 Nov 2020	14 May 2020	07 Nov 2020	18 May 2020
LC15 0.0-0.1	SE206178.024	LB199534	11 May 2020	13 May 2020	07 Nov 2020	14 May 2020	07 Nov 2020	18 May 2020
QC1	SE206178.025	LB199534	11 May 2020	13 May 2020	07 Nov 2020	14 May 2020	07 Nov 2020	18 May 2020
QC3	SE206178.026	LB199534	11 May 2020	13 May 2020	07 Nov 2020	14 May 2020	07 Nov 2020	18 May 2020
QC4	SE206178.027	LB199534	11 May 2020	13 May 2020	07 Nov 2020	14 May 2020	07 Nov 2020	18 May 2020
SP1-1	SE206178.028	LB199534	11 May 2020	13 May 2020	07 Nov 2020	14 May 2020	07 Nov 2020	18 May 2020
SP1-2	SE206178.029	LB199534	11 May 2020	13 May 2020	07 Nov 2020	14 May 2020	07 Nov 2020	18 May 2020
SP1-3	SE206178.030	LB199534	11 May 2020	13 May 2020	07 Nov 2020	14 May 2020	07 Nov 2020	18 May 2020
SP1-4	SE206178.031	LB199534	11 May 2020	13 May 2020	07 Nov 2020	14 May 2020	07 Nov 2020	18 May 2020
SP1-5	SE206178.032	LB199534	11 May 2020	13 May 2020	07 Nov 2020	14 May 2020	07 Nov 2020	18 May 2020
SP2-1	SE206178.033	LB199534	11 May 2020	13 May 2020	07 Nov 2020	14 May 2020	07 Nov 2020	18 May 2020
SP2-2	SE206178.034	LB199534	11 May 2020	13 May 2020	07 Nov 2020	14 May 2020	07 Nov 2020	18 May 2020
SP2-3	SE206178.035	LB199534	11 May 2020	13 May 2020	07 Nov 2020	14 May 2020	07 Nov 2020	18 May 2020
SP2-4	SE206178.036	LB199534	11 May 2020	13 May 2020	07 Nov 2020	14 May 2020	07 Nov 2020	18 May 2020
SP2-5	SE206178.037	LB199534	11 May 2020	13 May 2020	07 Nov 2020	14 May 2020	07 Nov 2020	18 May 2020
SP3-1	SE206178.038	LB199534	11 May 2020	13 May 2020	07 Nov 2020	14 May 2020	07 Nov 2020	18 May 2020

TRH (Total Recoverable Hydrocarbons) in Soil

Method: ME-(AU)-[ENV]AN040

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
LC1 0.0-0.1	SE206178.001	LB199507	11 May 2020	13 May 2020	25 May 2020	14 May 2020	23 Jun 2020	18 May 2020
LC1 0.5-0.6	SE206178.002	LB199507	11 May 2020	13 May 2020	25 May 2020	14 May 2020	23 Jun 2020	18 May 2020
LC2 0.0-0.1	SE206178.003	LB199507	11 May 2020	13 May 2020	25 May 2020	14 May 2020	23 Jun 2020	18 May 2020
LC2 0.5-0.6	SE206178.004	LB199507	11 May 2020	13 May 2020	25 May 2020	14 May 2020	23 Jun 2020	18 May 2020
LC3 0.0-0.1	SE206178.005	LB199507	11 May 2020	13 May 2020	25 May 2020	14 May 2020	23 Jun 2020	18 May 2020
LC3 0.5-0.6	SE206178.006	LB199507	11 May 2020	13 May 2020	25 May 2020	14 May 2020	23 Jun 2020	18 May 2020
LC4 0.0-0.1	SE206178.007	LB199507	11 May 2020	13 May 2020	25 May 2020	14 May 2020	23 Jun 2020	18 May 2020
LC5 0.0-0.1	SE206178.008	LB199507	11 May 2020	13 May 2020	25 May 2020	14 May 2020	23 Jun 2020	18 May 2020
LC5 0.5-0.6	SE206178.009	LB199507	11 May 2020	13 May 2020	25 May 2020	14 May 2020	23 Jun 2020	18 May 2020
LC6 0.0-0.1	SE206178.010	LB199507	11 May 2020	13 May 2020	25 May 2020	14 May 2020	23 Jun 2020	18 May 2020
LC6 1.0-1.1	SE206178.011	LB199507	11 May 2020	13 May 2020	25 May 2020	14 May 2020	23 Jun 2020	18 May 2020
LC7 0.0-0.1	SE206178.012	LB199507	11 May 2020	13 May 2020	25 May 2020	14 May 2020	23 Jun 2020	18 May 2020
LC7 0.5-0.6	SE206178.013	LB199507	11 May 2020	13 May 2020	25 May 2020	14 May 2020	23 Jun 2020	18 May 2020
LC8 0.0-0.1	SE206178.014	LB199507	11 May 2020	13 May 2020	25 May 2020	14 May 2020	23 Jun 2020	18 May 2020
LC8 1.0-1.1	SE206178.015	LB199507	11 May 2020	13 May 2020	25 May 2020	14 May 2020	23 Jun 2020	18 May 2020
LC9 0.0-0.1	SE206178.016	LB199507	11 May 2020	13 May 2020	25 May 2020	14 May 2020	23 Jun 2020	18 May 2020
LC9 1.0-1.1	SE206178.017	LB199507	11 May 2020	13 May 2020	25 May 2020	14 May 2020	23 Jun 2020	18 May 2020
LC10 0.0-0.1	SE206178.018	LB199507	11 May 2020	13 May 2020	25 May 2020	14 May 2020	23 Jun 2020	18 May 2020
LC10 0.5-0.6	SE206178.019	LB199507	11 May 2020	13 May 2020	25 May 2020	14 May 2020	23 Jun 2020	18 May 2020
LC11 0.0-0.1	SE206178.020	LB199507	11 May 2020	13 May 2020	25 May 2020	14 May 2020	23 Jun 2020	18 May 2020
LC12 0.0-0.1	SE206178.021	LB199508	11 May 2020	13 May 2020	25 May 2020	14 May 2020	23 Jun 2020	18 May 2020
LC13 0.0-0.1	SE206178.022	LB199508	11 May 2020	13 May 2020	25 May 2020	14 May 2020	23 Jun 2020	18 May 2020
LC14 0.5-0.6	SE206178.023	LB199508	11 May 2020	13 May 2020	25 May 2020	14 May 2020	23 Jun 2020	18 May 2020
LC15 0.0-0.1	SE206178.024	LB199508	11 May 2020	13 May 2020	25 May 2020	14 May 2020	23 Jun 2020	18 May 2020
QC1	SE206178.025	LB199508	11 May 2020	13 May 2020	25 May 2020	14 May 2020	23 Jun 2020	18 May 2020
QC3	SE206178.026	LB199508	11 May 2020	13 May 2020	25 May 2020	14 May 2020	23 Jun 2020	18 May 2020
QC4	SE206178.027	LB199508	11 May 2020	13 May 2020	25 May 2020	14 May 2020	23 Jun 2020	18 May 2020
SP1-1	SE206178.028	LB199508	11 May 2020	13 May 2020	25 May 2020	14 May 2020	23 Jun 2020	18 May 2020
SP1-2	SE206178.029	LB199508	11 May 2020	13 May 2020	25 May 2020	14 May 2020	23 Jun 2020	18 May 2020
SP1-3	SE206178.030	LB199508	11 May 2020	13 May 2020	25 May 2020	14 May 2020	23 Jun 2020	18 May 2020
SP1-4	SE206178.031	LB199508	11 May 2020	13 May 2020	25 May 2020	14 May 2020	23 Jun 2020	18 May 2020
SP1-5	SE206178.032	LB199508	11 May 2020	13 May 2020	25 May 2020	14 May 2020	23 Jun 2020	18 May 2020
SP2-1	SE206178.033	LB199508	11 May 2020	13 May 2020	25 May 2020	14 May 2020	23 Jun 2020	18 May 2020
SP2-2	SE206178.034	LB199508	11 May 2020	13 May 2020	25 May 2020	14 May 2020	23 Jun 2020	18 May 2020
SP2-3	SE206178.035	LB199508	11 May 2020	13 May 2020	25 May 2020	14 May 2020	23 Jun 2020	18 May 2020
SP2-4	SE206178.036	LB199508	11 May 2020	13 May 2020	25 May 2020	14 May 2020	23 Jun 2020	18 May 2020
SP2-5	SE206178.037	LB199508	11 May 2020	13 May 2020	25 May 2020	14 May 2020	23 Jun 2020	18 May 2020
SP3-1	SE206178.038	LB199508	11 May 2020	13 May 2020	25 May 2020	14 May 2020	23 Jun 2020	18 May 2020

SGS holding time criteria are drawn from current regulations and are highly dependent on sample container preservation as specified in the SGS "Field Sampling Guide for Containers and Holding Time" (ref: GU-(AU)-ENV.001). Soil samples guidelines are derived from NEPM "Schedule B(3) Guideline on Laboratory Analysis of Potentially Contaminated Soils". Water sample guidelines are derived from "AS/NZS 5667.1 : 1998 Water Quality - sampling part 1" and APHA "Standard Methods for the Examination of Water and Wastewater" 21st edition 2005.

Extraction and analysis holding time due dates listed are calculated from the date sampled, although holding times may be extended after laboratory extraction for some analytes. The due dates are the suggested dates that samples may be held before extraction or analysis and still be considered valid.

Extraction and analysis dates are shown in **Green** when within suggested criteria or **Red** with an appended dagger symbol (†) when outside suggested criteria. If the sampled date is not supplied then compliance with criteria cannot be determined. If the received date is after one or both due dates then holding time will fail by default.

VOC's in Soil

Method: ME-(AU)-ENVJAN433

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
LC1 0.0-0.1	SE206178.001	LB199496	11 May 2020	13 May 2020	25 May 2020	14 May 2020	23 Jun 2020	18 May 2020
LC1 0.5-0.6	SE206178.002	LB199496	11 May 2020	13 May 2020	25 May 2020	14 May 2020	23 Jun 2020	18 May 2020
LC2 0.0-0.1	SE206178.003	LB199496	11 May 2020	13 May 2020	25 May 2020	14 May 2020	23 Jun 2020	18 May 2020
LC2 0.5-0.6	SE206178.004	LB199496	11 May 2020	13 May 2020	25 May 2020	14 May 2020	23 Jun 2020	18 May 2020
LC3 0.0-0.1	SE206178.005	LB199496	11 May 2020	13 May 2020	25 May 2020	14 May 2020	23 Jun 2020	18 May 2020
LC3 0.5-0.6	SE206178.006	LB199496	11 May 2020	13 May 2020	25 May 2020	14 May 2020	23 Jun 2020	18 May 2020
LC4 0.0-0.1	SE206178.007	LB199496	11 May 2020	13 May 2020	25 May 2020	14 May 2020	23 Jun 2020	18 May 2020
LC5 0.0-0.1	SE206178.008	LB199496	11 May 2020	13 May 2020	25 May 2020	14 May 2020	23 Jun 2020	18 May 2020
LC5 0.5-0.6	SE206178.009	LB199496	11 May 2020	13 May 2020	25 May 2020	14 May 2020	23 Jun 2020	18 May 2020
LC6 0.0-0.1	SE206178.010	LB199496	11 May 2020	13 May 2020	25 May 2020	14 May 2020	23 Jun 2020	18 May 2020
LC6 1.0-1.1	SE206178.011	LB199496	11 May 2020	13 May 2020	25 May 2020	14 May 2020	23 Jun 2020	18 May 2020
LC7 0.0-0.1	SE206178.012	LB199496	11 May 2020	13 May 2020	25 May 2020	14 May 2020	23 Jun 2020	18 May 2020
LC7 0.5-0.6	SE206178.013	LB199496	11 May 2020	13 May 2020	25 May 2020	14 May 2020	23 Jun 2020	18 May 2020
LC8 0.0-0.1	SE206178.014	LB199496	11 May 2020	13 May 2020	25 May 2020	14 May 2020	23 Jun 2020	18 May 2020
LC8 1.0-1.1	SE206178.015	LB199496	11 May 2020	13 May 2020	25 May 2020	14 May 2020	23 Jun 2020	18 May 2020
LC9 0.0-0.1	SE206178.016	LB199496	11 May 2020	13 May 2020	25 May 2020	14 May 2020	23 Jun 2020	18 May 2020
LC9 1.0-1.1	SE206178.017	LB199496	11 May 2020	13 May 2020	25 May 2020	14 May 2020	23 Jun 2020	18 May 2020
LC10 0.0-0.1	SE206178.018	LB199496	11 May 2020	13 May 2020	25 May 2020	14 May 2020	23 Jun 2020	18 May 2020
LC10 0.5-0.6	SE206178.019	LB199496	11 May 2020	13 May 2020	25 May 2020	14 May 2020	23 Jun 2020	18 May 2020
LC11 0.0-0.1	SE206178.020	LB199496	11 May 2020	13 May 2020	25 May 2020	14 May 2020	23 Jun 2020	18 May 2020
LC12 0.0-0.1	SE206178.021	LB199497	11 May 2020	13 May 2020	25 May 2020	14 May 2020	23 Jun 2020	18 May 2020
LC13 0.0-0.1	SE206178.022	LB199497	11 May 2020	13 May 2020	25 May 2020	14 May 2020	23 Jun 2020	18 May 2020
LC14 0.5-0.6	SE206178.023	LB199497	11 May 2020	13 May 2020	25 May 2020	14 May 2020	23 Jun 2020	18 May 2020
LC15 0.0-0.1	SE206178.024	LB199497	11 May 2020	13 May 2020	25 May 2020	14 May 2020	23 Jun 2020	18 May 2020
QC1	SE206178.025	LB199497	11 May 2020	13 May 2020	25 May 2020	14 May 2020	23 Jun 2020	18 May 2020
QC3	SE206178.026	LB199497	11 May 2020	13 May 2020	25 May 2020	14 May 2020	23 Jun 2020	18 May 2020
QC4	SE206178.027	LB199497	11 May 2020	13 May 2020	25 May 2020	14 May 2020	23 Jun 2020	18 May 2020
SP1-1	SE206178.028	LB199497	11 May 2020	13 May 2020	25 May 2020	14 May 2020	23 Jun 2020	18 May 2020
SP1-2	SE206178.029	LB199497	11 May 2020	13 May 2020	25 May 2020	14 May 2020	23 Jun 2020	18 May 2020
SP1-3	SE206178.030	LB199497	11 May 2020	13 May 2020	25 May 2020	14 May 2020	23 Jun 2020	18 May 2020
SP1-4	SE206178.031	LB199497	11 May 2020	13 May 2020	25 May 2020	14 May 2020	23 Jun 2020	18 May 2020
SP1-5	SE206178.032	LB199497	11 May 2020	13 May 2020	25 May 2020	14 May 2020	23 Jun 2020	18 May 2020
SP2-1	SE206178.033	LB199497	11 May 2020	13 May 2020	25 May 2020	14 May 2020	23 Jun 2020	18 May 2020
SP2-2	SE206178.034	LB199497	11 May 2020	13 May 2020	25 May 2020	14 May 2020	23 Jun 2020	18 May 2020
SP2-3	SE206178.035	LB199497	11 May 2020	13 May 2020	25 May 2020	14 May 2020	23 Jun 2020	18 May 2020
SP2-4	SE206178.036	LB199497	11 May 2020	13 May 2020	25 May 2020	14 May 2020	23 Jun 2020	18 May 2020
SP2-5	SE206178.037	LB199497	11 May 2020	13 May 2020	25 May 2020	14 May 2020	23 Jun 2020	18 May 2020
SP3-1	SE206178.038	LB199497	11 May 2020	13 May 2020	25 May 2020	14 May 2020	23 Jun 2020	18 May 2020

Volatile Petroleum Hydrocarbons in Soil

Method: ME-(AU)-ENVJAN433

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
LC1 0.0-0.1	SE206178.001	LB199496	11 May 2020	13 May 2020	25 May 2020	14 May 2020	23 Jun 2020	18 May 2020
LC1 0.5-0.6	SE206178.002	LB199496	11 May 2020	13 May 2020	25 May 2020	14 May 2020	23 Jun 2020	18 May 2020
LC2 0.0-0.1	SE206178.003	LB199496	11 May 2020	13 May 2020	25 May 2020	14 May 2020	23 Jun 2020	18 May 2020
LC2 0.5-0.6	SE206178.004	LB199496	11 May 2020	13 May 2020	25 May 2020	14 May 2020	23 Jun 2020	18 May 2020
LC3 0.0-0.1	SE206178.005	LB199496	11 May 2020	13 May 2020	25 May 2020	14 May 2020	23 Jun 2020	18 May 2020
LC3 0.5-0.6	SE206178.006	LB199496	11 May 2020	13 May 2020	25 May 2020	14 May 2020	23 Jun 2020	18 May 2020
LC4 0.0-0.1	SE206178.007	LB199496	11 May 2020	13 May 2020	25 May 2020	14 May 2020	23 Jun 2020	18 May 2020
LC5 0.0-0.1	SE206178.008	LB199496	11 May 2020	13 May 2020	25 May 2020	14 May 2020	23 Jun 2020	18 May 2020
LC5 0.5-0.6	SE206178.009	LB199496	11 May 2020	13 May 2020	25 May 2020	14 May 2020	23 Jun 2020	18 May 2020
LC6 0.0-0.1	SE206178.010	LB199496	11 May 2020	13 May 2020	25 May 2020	14 May 2020	23 Jun 2020	18 May 2020
LC6 1.0-1.1	SE206178.011	LB199496	11 May 2020	13 May 2020	25 May 2020	14 May 2020	23 Jun 2020	18 May 2020
LC7 0.0-0.1	SE206178.012	LB199496	11 May 2020	13 May 2020	25 May 2020	14 May 2020	23 Jun 2020	18 May 2020
LC7 0.5-0.6	SE206178.013	LB199496	11 May 2020	13 May 2020	25 May 2020	14 May 2020	23 Jun 2020	18 May 2020
LC8 0.0-0.1	SE206178.014	LB199496	11 May 2020	13 May 2020	25 May 2020	14 May 2020	23 Jun 2020	18 May 2020
LC8 1.0-1.1	SE206178.015	LB199496	11 May 2020	13 May 2020	25 May 2020	14 May 2020	23 Jun 2020	18 May 2020
LC9 0.0-0.1	SE206178.016	LB199496	11 May 2020	13 May 2020	25 May 2020	14 May 2020	23 Jun 2020	18 May 2020
LC9 1.0-1.1	SE206178.017	LB199496	11 May 2020	13 May 2020	25 May 2020	14 May 2020	23 Jun 2020	18 May 2020
LC10 0.0-0.1	SE206178.018	LB199496	11 May 2020	13 May 2020	25 May 2020	14 May 2020	23 Jun 2020	18 May 2020
LC10 0.5-0.6	SE206178.019	LB199496	11 May 2020	13 May 2020	25 May 2020	14 May 2020	23 Jun 2020	18 May 2020

SGS holding time criteria are drawn from current regulations and are highly dependent on sample container preservation as specified in the SGS "Field Sampling Guide for Containers and Holding Time" (ref: GU-(AU)-ENV.001). Soil samples guidelines are derived from NEPM "Schedule B(3) Guideline on Laboratory Analysis of Potentially Contaminated Soils". Water sample guidelines are derived from "AS/NZS 5667.1 : 1998 Water Quality - sampling part 1" and APHA "Standard Methods for the Examination of Water and Wastewater" 21st edition 2005.

Extraction and analysis holding time due dates listed are calculated from the date sampled, although holding times may be extended after laboratory extraction for some analytes. The due dates are the suggested dates that samples may be held before extraction or analysis and still be considered valid.

Extraction and analysis dates are shown in **Green** when within suggested criteria or **Red** with an appended dagger symbol (†) when outside suggested criteria. If the sampled date is not supplied then compliance with criteria cannot be determined. If the received date is after one or both due dates then holding time will fail by default.

Volatle Petroleum Hydrocarbons in Soil (continued)

Method: ME-(AU)-ENVJAN433

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
LC11 0.0-0.1	SE206178.020	LB199496	11 May 2020	13 May 2020	25 May 2020	14 May 2020	23 Jun 2020	18 May 2020
LC12 0.0-0.1	SE206178.021	LB199497	11 May 2020	13 May 2020	25 May 2020	14 May 2020	23 Jun 2020	18 May 2020
LC13 0.0-0.1	SE206178.022	LB199497	11 May 2020	13 May 2020	25 May 2020	14 May 2020	23 Jun 2020	18 May 2020
LC14 0.5-0.6	SE206178.023	LB199497	11 May 2020	13 May 2020	25 May 2020	14 May 2020	23 Jun 2020	18 May 2020
LC15 0.0-0.1	SE206178.024	LB199497	11 May 2020	13 May 2020	25 May 2020	14 May 2020	23 Jun 2020	18 May 2020
QC1	SE206178.025	LB199497	11 May 2020	13 May 2020	25 May 2020	14 May 2020	23 Jun 2020	18 May 2020
QC3	SE206178.026	LB199497	11 May 2020	13 May 2020	25 May 2020	14 May 2020	23 Jun 2020	18 May 2020
QC4	SE206178.027	LB199497	11 May 2020	13 May 2020	25 May 2020	14 May 2020	23 Jun 2020	18 May 2020
SP1-1	SE206178.028	LB199497	11 May 2020	13 May 2020	25 May 2020	14 May 2020	23 Jun 2020	18 May 2020
SP1-2	SE206178.029	LB199497	11 May 2020	13 May 2020	25 May 2020	14 May 2020	23 Jun 2020	18 May 2020
SP1-3	SE206178.030	LB199497	11 May 2020	13 May 2020	25 May 2020	14 May 2020	23 Jun 2020	18 May 2020
SP1-4	SE206178.031	LB199497	11 May 2020	13 May 2020	25 May 2020	14 May 2020	23 Jun 2020	18 May 2020
SP1-5	SE206178.032	LB199497	11 May 2020	13 May 2020	25 May 2020	14 May 2020	23 Jun 2020	18 May 2020
SP2-1	SE206178.033	LB199497	11 May 2020	13 May 2020	25 May 2020	14 May 2020	23 Jun 2020	18 May 2020
SP2-2	SE206178.034	LB199497	11 May 2020	13 May 2020	25 May 2020	14 May 2020	23 Jun 2020	18 May 2020
SP2-3	SE206178.035	LB199497	11 May 2020	13 May 2020	25 May 2020	14 May 2020	23 Jun 2020	18 May 2020
SP2-4	SE206178.036	LB199497	11 May 2020	13 May 2020	25 May 2020	14 May 2020	23 Jun 2020	18 May 2020
SP2-5	SE206178.037	LB199497	11 May 2020	13 May 2020	25 May 2020	14 May 2020	23 Jun 2020	18 May 2020
SP3-1	SE206178.038	LB199497	11 May 2020	13 May 2020	25 May 2020	14 May 2020	23 Jun 2020	18 May 2020

Surrogate results are evaluated against upper and lower limit criteria established in the SGS QA/QC plan (Ref: MP-(AU)-[ENV]QU-022). At least two of three routine level soil sample surrogate spike recoveries for BTEX/VOC are to be within 70-130% where control charts have not been developed and within the established control limits for charted surrogates. Matrix effects may void this as an acceptance criterion. Water sample surrogate spike recoveries are to be within 40-130%. The presence of emulsions, surfactants and particulates may void this as an acceptance criterion.

Result is shown in **Green** when within suggested criteria or **Red** with an appended reason identifier when outside suggested criteria. Refer to the footnotes section at the end of this report for failure reasons.

OC Pesticides in Soil

Method: ME-(AU)-[ENV]AN420

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
Tetrachloro-m-xylene (TCMX) (Surrogate)	LC1 0.0-0.1	SE206178.001	%	60 - 130%	99
	LC1 0.5-0.6	SE206178.002	%	60 - 130%	99
	LC2 0.0-0.1	SE206178.003	%	60 - 130%	98
	LC2 0.5-0.6	SE206178.004	%	60 - 130%	93
	LC3 0.0-0.1	SE206178.005	%	60 - 130%	97
	LC3 0.5-0.6	SE206178.006	%	60 - 130%	95
	LC4 0.0-0.1	SE206178.007	%	60 - 130%	97
	LC5 0.0-0.1	SE206178.008	%	60 - 130%	99
	LC5 0.5-0.6	SE206178.009	%	60 - 130%	97
	LC6 0.0-0.1	SE206178.010	%	60 - 130%	97
	LC6 1.0-1.1	SE206178.011	%	60 - 130%	97
	LC7 0.0-0.1	SE206178.012	%	60 - 130%	98
	LC7 0.5-0.6	SE206178.013	%	60 - 130%	97
	LC8 0.0-0.1	SE206178.014	%	60 - 130%	99
	LC8 1.0-1.1	SE206178.015	%	60 - 130%	95
	LC9 0.0-0.1	SE206178.016	%	60 - 130%	99
	LC9 1.0-1.1	SE206178.017	%	60 - 130%	99
	LC10 0.0-0.1	SE206178.018	%	60 - 130%	93
	LC10 0.5-0.6	SE206178.019	%	60 - 130%	99
	LC11 0.0-0.1	SE206178.020	%	60 - 130%	97
	LC12 0.0-0.1	SE206178.021	%	60 - 130%	102
	LC13 0.0-0.1	SE206178.022	%	60 - 130%	100
	LC14 0.5-0.6	SE206178.023	%	60 - 130%	100
	LC15 0.0-0.1	SE206178.024	%	60 - 130%	105
	QC1	SE206178.025	%	60 - 130%	99
	QC3	SE206178.026	%	60 - 130%	97
	QC4	SE206178.027	%	60 - 130%	95
	SP1-1	SE206178.028	%	60 - 130%	98
	SP1-2	SE206178.029	%	60 - 130%	101
	SP1-3	SE206178.030	%	60 - 130%	103
	SP1-4	SE206178.031	%	60 - 130%	102
	SP1-5	SE206178.032	%	60 - 130%	105
	SP2-1	SE206178.033	%	60 - 130%	105
	SP2-2	SE206178.034	%	60 - 130%	105
	SP2-3	SE206178.035	%	60 - 130%	101
	SP2-4	SE206178.036	%	60 - 130%	102
	SP2-5	SE206178.037	%	60 - 130%	101
	SP3-1	SE206178.038	%	60 - 130%	111

OP Pesticides in Soil

Method: ME-(AU)-[ENV]AN420

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
2-fluorobiphenyl (Surrogate)	LC1 0.0-0.1	SE206178.001	%	60 - 130%	74
	LC1 0.5-0.6	SE206178.002	%	60 - 130%	73
	LC2 0.0-0.1	SE206178.003	%	60 - 130%	74
	LC2 0.5-0.6	SE206178.004	%	60 - 130%	74
	LC3 0.0-0.1	SE206178.005	%	60 - 130%	75
	LC3 0.5-0.6	SE206178.006	%	60 - 130%	73
	LC4 0.0-0.1	SE206178.007	%	60 - 130%	77
	LC5 0.0-0.1	SE206178.008	%	60 - 130%	83
	LC5 0.5-0.6	SE206178.009	%	60 - 130%	78
	LC6 0.0-0.1	SE206178.010	%	60 - 130%	90
	LC6 1.0-1.1	SE206178.011	%	60 - 130%	98
	LC7 0.0-0.1	SE206178.012	%	60 - 130%	87
	LC7 0.5-0.6	SE206178.013	%	60 - 130%	90
	LC8 0.0-0.1	SE206178.014	%	60 - 130%	87
	LC8 1.0-1.1	SE206178.015	%	60 - 130%	91
	LC9 0.0-0.1	SE206178.016	%	60 - 130%	84
	LC9 1.0-1.1	SE206178.017	%	60 - 130%	93
	LC10 0.0-0.1	SE206178.018	%	60 - 130%	91
	LC10 0.5-0.6	SE206178.019	%	60 - 130%	88
	LC11 0.0-0.1	SE206178.020	%	60 - 130%	95

Surrogate results are evaluated against upper and lower limit criteria established in the SGS QA/QC plan (Ref: MP-(AU)-[ENV]QU-022). At least two of three routine level soil sample surrogate spike recoveries for BTEX/VOC are to be within 70-130% where control charts have not been developed and within the established control limits for charted surrogates. Matrix effects may void this as an acceptance criterion. Water sample surrogate spike recoveries are to be within 40-130%. The presence of emulsions, surfactants and particulates may void this as an acceptance criterion.

Result is shown in **Green** when within suggested criteria or **Red** with an appended reason identifier when outside suggested criteria. Refer to the footnotes section at the end of this report for failure reasons.

OP Pesticides in Soil (continued)

Method: ME-(AU)-[ENV]AN420

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %	
2-fluorobiphenyl (Surrogate)	LC12 0.0-0.1	SE206178.021	%	60 - 130%	76	
	LC13 0.0-0.1	SE206178.022	%	60 - 130%	76	
	LC14 0.5-0.6	SE206178.023	%	60 - 130%	80	
	LC15 0.0-0.1	SE206178.024	%	60 - 130%	74	
	QC1	SE206178.025	%	60 - 130%	74	
	QC3	SE206178.026	%	60 - 130%	72	
	QC4	SE206178.027	%	60 - 130%	74	
	SP1-1	SE206178.028	%	60 - 130%	74	
	SP1-2	SE206178.029	%	60 - 130%	72	
	SP1-3	SE206178.030	%	60 - 130%	74	
	SP1-4	SE206178.031	%	60 - 130%	74	
	SP1-5	SE206178.032	%	60 - 130%	76	
	SP2-1	SE206178.033	%	60 - 130%	72	
	SP2-2	SE206178.034	%	60 - 130%	72	
	SP2-3	SE206178.035	%	60 - 130%	76	
	SP2-4	SE206178.036	%	60 - 130%	72	
	SP2-5	SE206178.037	%	60 - 130%	74	
	SP3-1	SE206178.038	%	60 - 130%	76	
	d14-p-terphenyl (Surrogate)	LC1 0.0-0.1	SE206178.001	%	60 - 130%	90
		LC1 0.5-0.6	SE206178.002	%	60 - 130%	89
LC2 0.0-0.1		SE206178.003	%	60 - 130%	88	
LC2 0.5-0.6		SE206178.004	%	60 - 130%	87	
LC3 0.0-0.1		SE206178.005	%	60 - 130%	71	
LC3 0.5-0.6		SE206178.006	%	60 - 130%	74	
LC4 0.0-0.1		SE206178.007	%	60 - 130%	73	
LC5 0.0-0.1		SE206178.008	%	60 - 130%	82	
LC5 0.5-0.6		SE206178.009	%	60 - 130%	72	
LC6 0.0-0.1		SE206178.010	%	60 - 130%	87	
LC6 1.0-1.1		SE206178.011	%	60 - 130%	83	
LC7 0.0-0.1		SE206178.012	%	60 - 130%	83	
LC7 0.5-0.6		SE206178.013	%	60 - 130%	91	
LC8 0.0-0.1		SE206178.014	%	60 - 130%	84	
LC8 1.0-1.1		SE206178.015	%	60 - 130%	83	
LC9 0.0-0.1		SE206178.016	%	60 - 130%	78	
LC9 1.0-1.1		SE206178.017	%	60 - 130%	85	
LC10 0.0-0.1		SE206178.018	%	60 - 130%	92	
LC10 0.5-0.6		SE206178.019	%	60 - 130%	80	
LC11 0.0-0.1		SE206178.020	%	60 - 130%	90	
LC12 0.0-0.1		SE206178.021	%	60 - 130%	82	
LC13 0.0-0.1		SE206178.022	%	60 - 130%	80	
LC14 0.5-0.6		SE206178.023	%	60 - 130%	72	
LC15 0.0-0.1		SE206178.024	%	60 - 130%	74	
QC1		SE206178.025	%	60 - 130%	74	
QC3		SE206178.026	%	60 - 130%	72	
QC4		SE206178.027	%	60 - 130%	72	
SP1-1		SE206178.028	%	60 - 130%	72	
SP1-2		SE206178.029	%	60 - 130%	72	
SP1-3		SE206178.030	%	60 - 130%	74	
SP1-4	SE206178.031	%	60 - 130%	76		
SP1-5	SE206178.032	%	60 - 130%	76		
SP2-1	SE206178.033	%	60 - 130%	74		
SP2-2	SE206178.034	%	60 - 130%	74		
SP2-3	SE206178.035	%	60 - 130%	72		
SP2-4	SE206178.036	%	60 - 130%	74		
SP2-5	SE206178.037	%	60 - 130%	76		
SP3-1	SE206178.038	%	60 - 130%	76		

PAH (Polynuclear Aromatic Hydrocarbons) in Soil

Method: ME-(AU)-[ENV]AN420

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
2-fluorobiphenyl (Surrogate)	LC1 0.0-0.1	SE206178.001	%	70 - 130%	74
	LC1 0.5-0.6	SE206178.002	%	70 - 130%	73

Surrogate results are evaluated against upper and lower limit criteria established in the SGS QA/QC plan (Ref: MP-(AU)-[ENV]QU-022). At least two of three routine level soil sample surrogate spike recoveries for BTEX/VOC are to be within 70-130% where control charts have not been developed and within the established control limits for charted surrogates. Matrix effects may void this as an acceptance criterion. Water sample surrogate spike recoveries are to be within 40-130%. The presence of emulsions, surfactants and particulates may void this as an acceptance criterion.

Result is shown in **Green** when within suggested criteria or **Red** with an appended reason identifier when outside suggested criteria. Refer to the footnotes section at the end of this report for failure reasons.

PAH (Polynuclear Aromatic Hydrocarbons) in Soil (continued)

Method: ME-(AU)-[ENV]AN420

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
2-fluorobiphenyl (Surrogate)	LC2 0.0-0.1	SE206178.003	%	70 - 130%	74
	LC2 0.5-0.6	SE206178.004	%	70 - 130%	74
	LC3 0.0-0.1	SE206178.005	%	70 - 130%	75
	LC3 0.5-0.6	SE206178.006	%	70 - 130%	73
	LC4 0.0-0.1	SE206178.007	%	70 - 130%	77
	LC5 0.0-0.1	SE206178.008	%	70 - 130%	83
	LC5 0.5-0.6	SE206178.009	%	70 - 130%	78
	LC6 0.0-0.1	SE206178.010	%	70 - 130%	90
	LC6 1.0-1.1	SE206178.011	%	70 - 130%	98
	LC7 0.0-0.1	SE206178.012	%	70 - 130%	87
	LC7 0.5-0.6	SE206178.013	%	70 - 130%	90
	LC8 0.0-0.1	SE206178.014	%	70 - 130%	87
	LC8 1.0-1.1	SE206178.015	%	70 - 130%	91
	LC9 0.0-0.1	SE206178.016	%	70 - 130%	84
	LC9 1.0-1.1	SE206178.017	%	70 - 130%	93
	LC10 0.0-0.1	SE206178.018	%	70 - 130%	91
	LC10 0.5-0.6	SE206178.019	%	70 - 130%	88
	LC11 0.0-0.1	SE206178.020	%	70 - 130%	95
	LC12 0.0-0.1	SE206178.021	%	70 - 130%	76
	LC13 0.0-0.1	SE206178.022	%	70 - 130%	76
	LC14 0.5-0.6	SE206178.023	%	70 - 130%	80
	LC15 0.0-0.1	SE206178.024	%	70 - 130%	74
	QC1	SE206178.025	%	70 - 130%	74
	QC3	SE206178.026	%	70 - 130%	72
	QC4	SE206178.027	%	70 - 130%	74
	SP1-1	SE206178.028	%	70 - 130%	74
	SP1-2	SE206178.029	%	70 - 130%	72
	SP1-3	SE206178.030	%	70 - 130%	74
	SP1-4	SE206178.031	%	70 - 130%	74
	SP1-5	SE206178.032	%	70 - 130%	76
	SP2-1	SE206178.033	%	70 - 130%	72
	SP2-2	SE206178.034	%	70 - 130%	72
	SP2-3	SE206178.035	%	70 - 130%	76
SP2-4	SE206178.036	%	70 - 130%	72	
SP2-5	SE206178.037	%	70 - 130%	74	
SP3-1	SE206178.038	%	70 - 130%	76	
d14-p-terphenyl (Surrogate)	LC1 0.0-0.1	SE206178.001	%	70 - 130%	90
	LC1 0.5-0.6	SE206178.002	%	70 - 130%	89
	LC2 0.0-0.1	SE206178.003	%	70 - 130%	88
	LC2 0.5-0.6	SE206178.004	%	70 - 130%	87
	LC3 0.0-0.1	SE206178.005	%	70 - 130%	71
	LC3 0.5-0.6	SE206178.006	%	70 - 130%	74
	LC4 0.0-0.1	SE206178.007	%	70 - 130%	73
	LC5 0.0-0.1	SE206178.008	%	70 - 130%	82
	LC5 0.5-0.6	SE206178.009	%	70 - 130%	72
	LC6 0.0-0.1	SE206178.010	%	70 - 130%	87
	LC6 1.0-1.1	SE206178.011	%	70 - 130%	83
	LC7 0.0-0.1	SE206178.012	%	70 - 130%	83
	LC7 0.5-0.6	SE206178.013	%	70 - 130%	91
	LC8 0.0-0.1	SE206178.014	%	70 - 130%	84
	LC8 1.0-1.1	SE206178.015	%	70 - 130%	83
	LC9 0.0-0.1	SE206178.016	%	70 - 130%	78
	LC9 1.0-1.1	SE206178.017	%	70 - 130%	85
LC10 0.0-0.1	SE206178.018	%	70 - 130%	92	
LC10 0.5-0.6	SE206178.019	%	70 - 130%	80	
LC11 0.0-0.1	SE206178.020	%	70 - 130%	90	
LC12 0.0-0.1	SE206178.021	%	70 - 130%	82	
LC13 0.0-0.1	SE206178.022	%	70 - 130%	80	
LC14 0.5-0.6	SE206178.023	%	70 - 130%	72	
LC15 0.0-0.1	SE206178.024	%	70 - 130%	74	
QC1	SE206178.025	%	70 - 130%	74	

Surrogate results are evaluated against upper and lower limit criteria established in the SGS QA/QC plan (Ref: MP-(AU)-[ENV]QU-022). At least two of three routine level soil sample surrogate spike recoveries for BTEX/VOC are to be within 70-130% where control charts have not been developed and within the established control limits for charted surrogates. Matrix effects may void this as an acceptance criterion. Water sample surrogate spike recoveries are to be within 40-130%. The presence of emulsions, surfactants and particulates may void this as an acceptance criterion.

Result is shown in **Green** when within suggested criteria or **Red** with an appended reason identifier when outside suggested criteria. Refer to the footnotes section at the end of this report for failure reasons.

PAH (Polynuclear Aromatic Hydrocarbons) in Soil (continued)

Method: ME-(AU)-[ENV]AN420

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %	
d14-p-terphenyl (Surrogate)	QC3	SE206178.026	%	70 - 130%	72	
	QC4	SE206178.027	%	70 - 130%	72	
	SP1-1	SE206178.028	%	70 - 130%	72	
	SP1-2	SE206178.029	%	70 - 130%	72	
	SP1-3	SE206178.030	%	70 - 130%	74	
	SP1-4	SE206178.031	%	70 - 130%	76	
	SP1-5	SE206178.032	%	70 - 130%	76	
	SP2-1	SE206178.033	%	70 - 130%	74	
	SP2-2	SE206178.034	%	70 - 130%	74	
	SP2-3	SE206178.035	%	70 - 130%	72	
	SP2-4	SE206178.036	%	70 - 130%	74	
	SP2-5	SE206178.037	%	70 - 130%	76	
	SP3-1	SE206178.038	%	70 - 130%	76	
	d5-nitrobenzene (Surrogate)	LC1 0.0-0.1	SE206178.001	%	70 - 130%	84
		LC1 0.5-0.6	SE206178.002	%	70 - 130%	85
LC2 0.0-0.1		SE206178.003	%	70 - 130%	88	
LC2 0.5-0.6		SE206178.004	%	70 - 130%	86	
LC3 0.0-0.1		SE206178.005	%	70 - 130%	88	
LC3 0.5-0.6		SE206178.006	%	70 - 130%	85	
LC4 0.0-0.1		SE206178.007	%	70 - 130%	84	
LC5 0.0-0.1		SE206178.008	%	70 - 130%	83	
LC5 0.5-0.6		SE206178.009	%	70 - 130%	80	
LC6 0.0-0.1		SE206178.010	%	70 - 130%	70	
LC6 1.0-1.1		SE206178.011	%	70 - 130%	69 Ⓢ	
LC7 0.0-0.1		SE206178.012	%	70 - 130%	69 Ⓢ	
LC7 0.5-0.6		SE206178.013	%	70 - 130%	69 Ⓢ	
LC8 0.0-0.1		SE206178.014	%	70 - 130%	70 Ⓢ	
LC8 1.0-1.1		SE206178.015	%	70 - 130%	72	
LC9 0.0-0.1		SE206178.016	%	70 - 130%	71	
LC9 1.0-1.1		SE206178.017	%	70 - 130%	71	
LC10 0.0-0.1		SE206178.018	%	70 - 130%	71	
LC10 0.5-0.6		SE206178.019	%	70 - 130%	73	
LC11 0.0-0.1		SE206178.020	%	70 - 130%	77	
LC12 0.0-0.1		SE206178.021	%	70 - 130%	76	
LC13 0.0-0.1		SE206178.022	%	70 - 130%	76	
LC14 0.5-0.6		SE206178.023	%	70 - 130%	80	
LC15 0.0-0.1		SE206178.024	%	70 - 130%	74	
QC1		SE206178.025	%	70 - 130%	76	
QC3		SE206178.026	%	70 - 130%	74	
QC4		SE206178.027	%	70 - 130%	74	
SP1-1		SE206178.028	%	70 - 130%	74	
SP1-2		SE206178.029	%	70 - 130%	74	
SP1-3		SE206178.030	%	70 - 130%	74	
SP1-4		SE206178.031	%	70 - 130%	74	
SP1-5		SE206178.032	%	70 - 130%	74	
SP2-1		SE206178.033	%	70 - 130%	72	
SP2-2		SE206178.034	%	70 - 130%	74	
SP2-3		SE206178.035	%	70 - 130%	76	
SP2-4	SE206178.036	%	70 - 130%	76		
SP2-5	SE206178.037	%	70 - 130%	76		
SP3-1	SE206178.038	%	70 - 130%	74		

PCBs in Soil

Method: ME-(AU)-[ENV]AN420

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
Tetrachloro-m-xylene (TCMX) (Surrogate)	LC1 0.0-0.1	SE206178.001	%	60 - 130%	99
	LC1 0.5-0.6	SE206178.002	%	60 - 130%	99
	LC2 0.0-0.1	SE206178.003	%	60 - 130%	98
	LC2 0.5-0.6	SE206178.004	%	60 - 130%	93
	LC3 0.0-0.1	SE206178.005	%	60 - 130%	97
	LC3 0.5-0.6	SE206178.006	%	60 - 130%	95
LC4 0.0-0.1	SE206178.007	%	60 - 130%	97	

Surrogate results are evaluated against upper and lower limit criteria established in the SGS QA/QC plan (Ref: MP-(AU)-[ENV]QU-022). At least two of three routine level soil sample surrogate spike recoveries for BTEX/VOC are to be within 70-130% where control charts have not been developed and within the established control limits for charted surrogates. Matrix effects may void this as an acceptance criterion. Water sample surrogate spike recoveries are to be within 40-130%. The presence of emulsions, surfactants and particulates may void this as an acceptance criterion.

Result is shown in **Green** when within suggested criteria or **Red** with an appended reason identifier when outside suggested criteria. Refer to the footnotes section at the end of this report for failure reasons.

PCBs in Soil (continued)

Method: ME-(AU)-[ENV]AN420

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
Tetrachloro-m-xylene (TCMX) (Surrogate)	LC5 0.0-0.1	SE206178.008	%	60 - 130%	99
	LC5 0.5-0.6	SE206178.009	%	60 - 130%	97
	LC6 0.0-0.1	SE206178.010	%	60 - 130%	97
	LC6 1.0-1.1	SE206178.011	%	60 - 130%	97
	LC7 0.0-0.1	SE206178.012	%	60 - 130%	98
	LC7 0.5-0.6	SE206178.013	%	60 - 130%	97
	LC8 0.0-0.1	SE206178.014	%	60 - 130%	99
	LC8 1.0-1.1	SE206178.015	%	60 - 130%	95
	LC9 0.0-0.1	SE206178.016	%	60 - 130%	99
	LC9 1.0-1.1	SE206178.017	%	60 - 130%	99
	LC10 0.0-0.1	SE206178.018	%	60 - 130%	93
	LC10 0.5-0.6	SE206178.019	%	60 - 130%	99
	LC11 0.0-0.1	SE206178.020	%	60 - 130%	97
	LC12 0.0-0.1	SE206178.021	%	60 - 130%	102
	LC13 0.0-0.1	SE206178.022	%	60 - 130%	100
	LC14 0.5-0.6	SE206178.023	%	60 - 130%	100
	LC15 0.0-0.1	SE206178.024	%	60 - 130%	105
	QC1	SE206178.025	%	60 - 130%	99
	QC3	SE206178.026	%	60 - 130%	97
	QC4	SE206178.027	%	60 - 130%	95
	SP1-1	SE206178.028	%	60 - 130%	98
	SP1-2	SE206178.029	%	60 - 130%	101
	SP1-3	SE206178.030	%	60 - 130%	103
	SP1-4	SE206178.031	%	60 - 130%	102
	SP1-5	SE206178.032	%	60 - 130%	105
	SP2-1	SE206178.033	%	60 - 130%	105
	SP2-2	SE206178.034	%	60 - 130%	105
	SP2-3	SE206178.035	%	60 - 130%	101
	SP2-4	SE206178.036	%	60 - 130%	102
	SP2-5	SE206178.037	%	60 - 130%	101
	SP3-1	SE206178.038	%	60 - 130%	111

Speciated Phenols in Soil

Method: ME-(AU)-[ENV]AN420

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
2,4,6-Tribromophenol (Surrogate)	LC1 0.0-0.1	SE206178.001	%	70 - 130%	100
	LC1 0.5-0.6	SE206178.002	%	70 - 130%	92
	LC2 0.0-0.1	SE206178.003	%	70 - 130%	78
	LC2 0.5-0.6	SE206178.004	%	70 - 130%	99
	LC3 0.0-0.1	SE206178.005	%	70 - 130%	73
	LC3 0.5-0.6	SE206178.006	%	70 - 130%	103
	LC4 0.0-0.1	SE206178.007	%	70 - 130%	103
	LC5 0.0-0.1	SE206178.008	%	70 - 130%	102
	LC5 0.5-0.6	SE206178.009	%	70 - 130%	105
	LC6 0.0-0.1	SE206178.010	%	70 - 130%	94
	LC6 1.0-1.1	SE206178.011	%	70 - 130%	87
	LC7 0.0-0.1	SE206178.012	%	70 - 130%	87
	LC7 0.5-0.6	SE206178.013	%	70 - 130%	99
	LC8 0.0-0.1	SE206178.014	%	70 - 130%	93
	LC8 1.0-1.1	SE206178.015	%	70 - 130%	104
	LC9 0.0-0.1	SE206178.016	%	70 - 130%	84
	LC9 1.0-1.1	SE206178.017	%	70 - 130%	95
	LC10 0.0-0.1	SE206178.018	%	70 - 130%	105
	LC10 0.5-0.6	SE206178.019	%	70 - 130%	89
	LC11 0.0-0.1	SE206178.020	%	70 - 130%	108
	LC12 0.0-0.1	SE206178.021	%	70 - 130%	101
	LC13 0.0-0.1	SE206178.022	%	70 - 130%	112
	LC14 0.5-0.6	SE206178.023	%	70 - 130%	103
	LC15 0.0-0.1	SE206178.024	%	70 - 130%	104
	QC1	SE206178.025	%	70 - 130%	96
	QC3	SE206178.026	%	70 - 130%	95
	QC4	SE206178.027	%	70 - 130%	79

Surrogate results are evaluated against upper and lower limit criteria established in the SGS QA/QC plan (Ref: MP-(AU)-[ENV]QU-022). At least two of three routine level soil sample surrogate spike recoveries for BTEX/VOC are to be within 70-130% where control charts have not been developed and within the established control limits for charted surrogates. Matrix effects may void this as an acceptance criterion. Water sample surrogate spike recoveries are to be within 40-130%. The presence of emulsions, surfactants and particulates may void this as an acceptance criterion.

Result is shown in **Green** when within suggested criteria or **Red** with an appended reason identifier when outside suggested criteria. Refer to the footnotes section at the end of this report for failure reasons.

Speciated Phenols in Soil (continued)

Method: ME-(AU)-[ENV]AN420

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %	
2,4,6-Tribromophenol (Surrogate)	SP1-1	SE206178.028	%	70 - 130%	84	
	SP1-2	SE206178.029	%	70 - 130%	101	
	SP1-3	SE206178.030	%	70 - 130%	77	
	SP1-4	SE206178.031	%	70 - 130%	102	
	SP1-5	SE206178.032	%	70 - 130%	86	
	SP2-1	SE206178.033	%	70 - 130%	95	
	SP2-2	SE206178.034	%	70 - 130%	95	
	SP2-3	SE206178.035	%	70 - 130%	93	
	SP2-4	SE206178.036	%	70 - 130%	95	
	SP2-5	SE206178.037	%	70 - 130%	96	
	SP3-1	SE206178.038	%	70 - 130%	88	
	d5-phenol (Surrogate)	LC1 0.0-0.1	SE206178.001	%	50 - 130%	82
		LC1 0.5-0.6	SE206178.002	%	50 - 130%	74
LC2 0.0-0.1		SE206178.003	%	50 - 130%	73	
LC2 0.5-0.6		SE206178.004	%	50 - 130%	83	
LC3 0.0-0.1		SE206178.005	%	50 - 130%	71	
LC3 0.5-0.6		SE206178.006	%	50 - 130%	70	
LC4 0.0-0.1		SE206178.007	%	50 - 130%	71	
LC5 0.0-0.1		SE206178.008	%	50 - 130%	71	
LC5 0.5-0.6		SE206178.009	%	50 - 130%	72	
LC6 0.0-0.1		SE206178.010	%	50 - 130%	73	
LC6 1.0-1.1		SE206178.011	%	50 - 130%	77	
LC7 0.0-0.1		SE206178.012	%	50 - 130%	71	
LC7 0.5-0.6		SE206178.013	%	50 - 130%	75	
LC8 0.0-0.1		SE206178.014	%	50 - 130%	85	
LC8 1.0-1.1		SE206178.015	%	50 - 130%	76	
LC9 0.0-0.1		SE206178.016	%	50 - 130%	76	
LC9 1.0-1.1		SE206178.017	%	50 - 130%	78	
LC10 0.0-0.1		SE206178.018	%	50 - 130%	72	
LC10 0.5-0.6		SE206178.019	%	50 - 130%	83	
LC11 0.0-0.1		SE206178.020	%	50 - 130%	80	
LC12 0.0-0.1		SE206178.021	%	50 - 130%	81	
LC13 0.0-0.1		SE206178.022	%	50 - 130%	82	
LC14 0.5-0.6		SE206178.023	%	50 - 130%	85	
LC15 0.0-0.1		SE206178.024	%	50 - 130%	77	
QC1		SE206178.025	%	50 - 130%	72	
QC3		SE206178.026	%	50 - 130%	73	
QC4		SE206178.027	%	50 - 130%	78	
SP1-1		SE206178.028	%	50 - 130%	72	
SP1-2		SE206178.029	%	50 - 130%	81	
SP1-3		SE206178.030	%	50 - 130%	73	
SP1-4		SE206178.031	%	50 - 130%	82	
SP1-5	SE206178.032	%	50 - 130%	72		
SP2-1	SE206178.033	%	50 - 130%	81		
SP2-2	SE206178.034	%	50 - 130%	81		
SP2-3	SE206178.035	%	50 - 130%	77		
SP2-4	SE206178.036	%	50 - 130%	79		
SP2-5	SE206178.037	%	50 - 130%	79		
SP3-1	SE206178.038	%	50 - 130%	75		

VOC's in Soil

Method: ME-(AU)-[ENV]AN433

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
Bromofluorobenzene (Surrogate)	LC1 0.0-0.1	SE206178.001	%	60 - 130%	99
	LC1 0.5-0.6	SE206178.002	%	60 - 130%	97
	LC2 0.0-0.1	SE206178.003	%	60 - 130%	98
	LC2 0.5-0.6	SE206178.004	%	60 - 130%	95
	LC3 0.0-0.1	SE206178.005	%	60 - 130%	90
	LC3 0.5-0.6	SE206178.006	%	60 - 130%	98
	LC4 0.0-0.1	SE206178.007	%	60 - 130%	92
	LC5 0.0-0.1	SE206178.008	%	60 - 130%	92
LC5 0.5-0.6	SE206178.009	%	60 - 130%	94	

Surrogate results are evaluated against upper and lower limit criteria established in the SGS QA/QC plan (Ref: MP-(AU)-[ENV]QU-022). At least two of three routine level soil sample surrogate spike recoveries for BTEX/VOC are to be within 70-130% where control charts have not been developed and within the established control limits for charted surrogates. Matrix effects may void this as an acceptance criterion. Water sample surrogate spike recoveries are to be within 40-130%. The presence of emulsions, surfactants and particulates may void this as an acceptance criterion.

Result is shown in **Green** when within suggested criteria or **Red** with an appended reason identifier when outside suggested criteria. Refer to the footnotes section at the end of this report for failure reasons.

VOC's in Soil (continued)

Method: ME-(AU)-[ENV]AN433

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %	
Bromofluorobenzene (Surrogate)	LC6 0.0-0.1	SE206178.010	%	60 - 130%	89	
	LC6 1.0-1.1	SE206178.011	%	60 - 130%	88	
	LC7 0.0-0.1	SE206178.012	%	60 - 130%	93	
	LC7 0.5-0.6	SE206178.013	%	60 - 130%	100	
	LC8 0.0-0.1	SE206178.014	%	60 - 130%	95	
	LC8 1.0-1.1	SE206178.015	%	60 - 130%	95	
	LC9 0.0-0.1	SE206178.016	%	60 - 130%	97	
	LC9 1.0-1.1	SE206178.017	%	60 - 130%	95	
	LC10 0.0-0.1	SE206178.018	%	60 - 130%	92	
	LC10 0.5-0.6	SE206178.019	%	60 - 130%	93	
	LC11 0.0-0.1	SE206178.020	%	60 - 130%	92	
	LC12 0.0-0.1	SE206178.021	%	60 - 130%	83	
	LC13 0.0-0.1	SE206178.022	%	60 - 130%	81	
	LC14 0.5-0.6	SE206178.023	%	60 - 130%	83	
	LC15 0.0-0.1	SE206178.024	%	60 - 130%	82	
	QC1	SE206178.025	%	60 - 130%	77	
	QC3	SE206178.026	%	60 - 130%	78	
	QC4	SE206178.027	%	60 - 130%	79	
	SP1-1	SE206178.028	%	60 - 130%	87	
	SP1-2	SE206178.029	%	60 - 130%	85	
	SP1-3	SE206178.030	%	60 - 130%	79	
	SP1-4	SE206178.031	%	60 - 130%	78	
	SP1-5	SE206178.032	%	60 - 130%	83	
	SP2-1	SE206178.033	%	60 - 130%	79	
	SP2-2	SE206178.034	%	60 - 130%	77	
	SP2-3	SE206178.035	%	60 - 130%	77	
	SP2-4	SE206178.036	%	60 - 130%	78	
	SP2-5	SE206178.037	%	60 - 130%	79	
	SP3-1	SE206178.038	%	60 - 130%	80	
	d4-1,2-dichloroethane (Surrogate)	LC1 0.0-0.1	SE206178.001	%	60 - 130%	111
		LC1 0.5-0.6	SE206178.002	%	60 - 130%	112
		LC2 0.0-0.1	SE206178.003	%	60 - 130%	115
		LC2 0.5-0.6	SE206178.004	%	60 - 130%	113
		LC3 0.0-0.1	SE206178.005	%	60 - 130%	107
		LC3 0.5-0.6	SE206178.006	%	60 - 130%	113
		LC4 0.0-0.1	SE206178.007	%	60 - 130%	111
		LC5 0.0-0.1	SE206178.008	%	60 - 130%	110
		LC5 0.5-0.6	SE206178.009	%	60 - 130%	111
LC6 0.0-0.1		SE206178.010	%	60 - 130%	108	
LC6 1.0-1.1		SE206178.011	%	60 - 130%	102	
LC7 0.0-0.1		SE206178.012	%	60 - 130%	109	
LC7 0.5-0.6		SE206178.013	%	60 - 130%	116	
LC8 0.0-0.1		SE206178.014	%	60 - 130%	112	
LC8 1.0-1.1		SE206178.015	%	60 - 130%	111	
LC9 0.0-0.1		SE206178.016	%	60 - 130%	116	
LC9 1.0-1.1		SE206178.017	%	60 - 130%	112	
LC10 0.0-0.1		SE206178.018	%	60 - 130%	111	
LC10 0.5-0.6		SE206178.019	%	60 - 130%	110	
LC11 0.0-0.1		SE206178.020	%	60 - 130%	111	
LC12 0.0-0.1		SE206178.021	%	60 - 130%	110	
LC13 0.0-0.1		SE206178.022	%	60 - 130%	107	
LC14 0.5-0.6		SE206178.023	%	60 - 130%	111	
LC15 0.0-0.1		SE206178.024	%	60 - 130%	110	
QC1		SE206178.025	%	60 - 130%	105	
QC3		SE206178.026	%	60 - 130%	99	
QC4		SE206178.027	%	60 - 130%	107	
SP1-1		SE206178.028	%	60 - 130%	119	
SP1-2		SE206178.029	%	60 - 130%	115	
SP1-3		SE206178.030	%	60 - 130%	106	
SP1-4		SE206178.031	%	60 - 130%	106	
SP1-5	SE206178.032	%	60 - 130%	110		

Surrogate results are evaluated against upper and lower limit criteria established in the SGS QA/QC plan (Ref: MP-(AU)-[ENV]QU-022). At least two of three routine level soil sample surrogate spike recoveries for BTEX/VOC are to be within 70-130% where control charts have not been developed and within the established control limits for charted surrogates. Matrix effects may void this as an acceptance criterion. Water sample surrogate spike recoveries are to be within 40-130%. The presence of emulsions, surfactants and particulates may void this as an acceptance criterion.

Result is shown in **Green** when within suggested criteria or **Red** with an appended reason identifier when outside suggested criteria. Refer to the footnotes section at the end of this report for failure reasons.

VOC's in Soil (continued)

Method: ME-(AU)-[ENV]AN433

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
d4-1,2-dichloroethane (Surrogate)	SP2-1	SE206178.033	%	60 - 130%	103
	SP2-2	SE206178.034	%	60 - 130%	100
	SP2-3	SE206178.035	%	60 - 130%	100
	SP2-4	SE206178.036	%	60 - 130%	105
	SP2-5	SE206178.037	%	60 - 130%	107
	SP3-1	SE206178.038	%	60 - 130%	108
d8-toluene (Surrogate)	LC1 0.0-0.1	SE206178.001	%	60 - 130%	112
	LC1 0.5-0.6	SE206178.002	%	60 - 130%	113
	LC2 0.0-0.1	SE206178.003	%	60 - 130%	115
	LC2 0.5-0.6	SE206178.004	%	60 - 130%	113
	LC3 0.0-0.1	SE206178.005	%	60 - 130%	107
	LC3 0.5-0.6	SE206178.006	%	60 - 130%	116
	LC4 0.0-0.1	SE206178.007	%	60 - 130%	111
	LC5 0.0-0.1	SE206178.008	%	60 - 130%	109
	LC5 0.5-0.6	SE206178.009	%	60 - 130%	112
	LC6 0.0-0.1	SE206178.010	%	60 - 130%	107
	LC6 1.0-1.1	SE206178.011	%	60 - 130%	89
	LC7 0.0-0.1	SE206178.012	%	60 - 130%	111
	LC7 0.5-0.6	SE206178.013	%	60 - 130%	118
	LC8 0.0-0.1	SE206178.014	%	60 - 130%	113
	LC8 1.0-1.1	SE206178.015	%	60 - 130%	113
	LC9 0.0-0.1	SE206178.016	%	60 - 130%	118
	LC9 1.0-1.1	SE206178.017	%	60 - 130%	114
	LC10 0.0-0.1	SE206178.018	%	60 - 130%	111
	LC10 0.5-0.6	SE206178.019	%	60 - 130%	112
	LC11 0.0-0.1	SE206178.020	%	60 - 130%	113
	LC12 0.0-0.1	SE206178.021	%	60 - 130%	174 Ⓞ
	LC13 0.0-0.1	SE206178.022	%	60 - 130%	171 Ⓞ
	LC14 0.5-0.6	SE206178.023	%	60 - 130%	166 Ⓞ
	LC15 0.0-0.1	SE206178.024	%	60 - 130%	179 Ⓞ
	QC1	SE206178.025	%	60 - 130%	158 Ⓞ
	QC3	SE206178.026	%	60 - 130%	158 Ⓞ
	QC4	SE206178.027	%	60 - 130%	171 Ⓞ
	SP1-1	SE206178.028	%	60 - 130%	180 Ⓞ
	SP1-2	SE206178.029	%	60 - 130%	181 Ⓞ
	SP1-3	SE206178.030	%	60 - 130%	171 Ⓞ
	SP1-4	SE206178.031	%	60 - 130%	165 Ⓞ
	SP1-5	SE206178.032	%	60 - 130%	175 Ⓞ
SP2-1	SE206178.033	%	60 - 130%	173 Ⓞ	
SP2-2	SE206178.034	%	60 - 130%	154 Ⓞ	
SP2-3	SE206178.035	%	60 - 130%	159 Ⓞ	
SP2-4	SE206178.036	%	60 - 130%	163 Ⓞ	
SP2-5	SE206178.037	%	60 - 130%	166 Ⓞ	
SP3-1	SE206178.038	%	60 - 130%	171 Ⓞ	

Volatile Petroleum Hydrocarbons in Soil

Method: ME-(AU)-[ENV]AN433

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
Bromofluorobenzene (Surrogate)	LC1 0.0-0.1	SE206178.001	%	60 - 130%	99
	LC1 0.5-0.6	SE206178.002	%	60 - 130%	97
	LC2 0.0-0.1	SE206178.003	%	60 - 130%	98
	LC2 0.5-0.6	SE206178.004	%	60 - 130%	95
	LC3 0.0-0.1	SE206178.005	%	60 - 130%	90
	LC3 0.5-0.6	SE206178.006	%	60 - 130%	98
	LC4 0.0-0.1	SE206178.007	%	60 - 130%	92
	LC5 0.0-0.1	SE206178.008	%	60 - 130%	92
	LC5 0.5-0.6	SE206178.009	%	60 - 130%	94
	LC6 0.0-0.1	SE206178.010	%	60 - 130%	89
	LC6 1.0-1.1	SE206178.011	%	60 - 130%	88
	LC7 0.0-0.1	SE206178.012	%	60 - 130%	93
	LC7 0.5-0.6	SE206178.013	%	60 - 130%	100
	LC8 0.0-0.1	SE206178.014	%	60 - 130%	95

Surrogate results are evaluated against upper and lower limit criteria established in the SGS QA/QC plan (Ref: MP-(AU)-[ENV]QU-022). At least two of three routine level soil sample surrogate spike recoveries for BTEX/VOC are to be within 70-130% where control charts have not been developed and within the established control limits for charted surrogates. Matrix effects may void this as an acceptance criterion. Water sample surrogate spike recoveries are to be within 40-130%. The presence of emulsions, surfactants and particulates may void this as an acceptance criterion.

Result is shown in **Green** when within suggested criteria or **Red** with an appended reason identifier when outside suggested criteria. Refer to the footnotes section at the end of this report for failure reasons.

Volatile Petroleum Hydrocarbons in Soil (continued)

Method: ME-(AU)-[ENV]AN433

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %	
Bromofluorobenzene (Surrogate)	LC8 1.0-1.1	SE206178.015	%	60 - 130%	95	
	LC9 0.0-0.1	SE206178.016	%	60 - 130%	97	
	LC9 1.0-1.1	SE206178.017	%	60 - 130%	95	
	LC10 0.0-0.1	SE206178.018	%	60 - 130%	92	
	LC10 0.5-0.6	SE206178.019	%	60 - 130%	93	
	LC11 0.0-0.1	SE206178.020	%	60 - 130%	92	
	LC12 0.0-0.1	SE206178.021	%	60 - 130%	83	
	LC13 0.0-0.1	SE206178.022	%	60 - 130%	81	
	LC14 0.5-0.6	SE206178.023	%	60 - 130%	83	
	LC15 0.0-0.1	SE206178.024	%	60 - 130%	82	
	QC1	SE206178.025	%	60 - 130%	77	
	QC3	SE206178.026	%	60 - 130%	78	
	QC4	SE206178.027	%	60 - 130%	79	
	SP1-1	SE206178.028	%	60 - 130%	87	
	SP1-2	SE206178.029	%	60 - 130%	85	
	SP1-3	SE206178.030	%	60 - 130%	79	
	SP1-4	SE206178.031	%	60 - 130%	78	
	SP1-5	SE206178.032	%	60 - 130%	83	
	SP2-1	SE206178.033	%	60 - 130%	79	
	SP2-2	SE206178.034	%	60 - 130%	77	
	SP2-3	SE206178.035	%	60 - 130%	77	
	SP2-4	SE206178.036	%	60 - 130%	78	
	SP2-5	SE206178.037	%	60 - 130%	79	
	SP3-1	SE206178.038	%	60 - 130%	80	
	d4-1,2-dichloroethane (Surrogate)	LC1 0.0-0.1	SE206178.001	%	60 - 130%	111
		LC1 0.5-0.6	SE206178.002	%	60 - 130%	112
		LC2 0.0-0.1	SE206178.003	%	60 - 130%	115
		LC2 0.5-0.6	SE206178.004	%	60 - 130%	113
		LC3 0.0-0.1	SE206178.005	%	60 - 130%	107
		LC3 0.5-0.6	SE206178.006	%	60 - 130%	113
		LC4 0.0-0.1	SE206178.007	%	60 - 130%	111
		LC5 0.0-0.1	SE206178.008	%	60 - 130%	110
		LC5 0.5-0.6	SE206178.009	%	60 - 130%	111
LC6 0.0-0.1		SE206178.010	%	60 - 130%	108	
LC6 1.0-1.1		SE206178.011	%	60 - 130%	102	
LC7 0.0-0.1		SE206178.012	%	60 - 130%	109	
LC7 0.5-0.6		SE206178.013	%	60 - 130%	116	
LC8 0.0-0.1		SE206178.014	%	60 - 130%	112	
LC8 1.0-1.1		SE206178.015	%	60 - 130%	111	
LC9 0.0-0.1		SE206178.016	%	60 - 130%	116	
LC9 1.0-1.1		SE206178.017	%	60 - 130%	112	
LC10 0.0-0.1		SE206178.018	%	60 - 130%	111	
LC10 0.5-0.6		SE206178.019	%	60 - 130%	110	
LC11 0.0-0.1		SE206178.020	%	60 - 130%	111	
LC12 0.0-0.1		SE206178.021	%	60 - 130%	110	
LC13 0.0-0.1		SE206178.022	%	60 - 130%	107	
LC14 0.5-0.6		SE206178.023	%	60 - 130%	111	
LC15 0.0-0.1		SE206178.024	%	60 - 130%	110	
QC1		SE206178.025	%	60 - 130%	105	
QC3		SE206178.026	%	60 - 130%	99	
QC4		SE206178.027	%	60 - 130%	107	
SP1-1		SE206178.028	%	60 - 130%	119	
SP1-2		SE206178.029	%	60 - 130%	115	
SP1-3		SE206178.030	%	60 - 130%	106	
SP1-4		SE206178.031	%	60 - 130%	106	
SP1-5		SE206178.032	%	60 - 130%	110	
SP2-1		SE206178.033	%	60 - 130%	103	
SP2-2	SE206178.034	%	60 - 130%	100		
SP2-3	SE206178.035	%	60 - 130%	100		
SP2-4	SE206178.036	%	60 - 130%	105		
SP2-5	SE206178.037	%	60 - 130%	107		

Surrogate results are evaluated against upper and lower limit criteria established in the SGS QA/QC plan (Ref: MP-(AU)-[ENV]QU-022). At least two of three routine level soil sample surrogate spike recoveries for BTEX/VOC are to be within 70-130% where control charts have not been developed and within the established control limits for charted surrogates. Matrix effects may void this as an acceptance criterion. Water sample surrogate spike recoveries are to be within 40-130%. The presence of emulsions, surfactants and particulates may void this as an acceptance criterion.

Result is shown in **Green** when within suggested criteria or **Red** with an appended reason identifier when outside suggested criteria. Refer to the footnotes section at the end of this report for failure reasons.

Volatile Petroleum Hydrocarbons in Soil (continued)

Method: ME-(AU)-[ENV]AN433

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
d4-1,2-dichloroethane (Surrogate)	SP3-1	SE206178.038	%	60 - 130%	108
d8-toluene (Surrogate)	LC1 0.0-0.1	SE206178.001	%	60 - 130%	112
	LC1 0.5-0.6	SE206178.002	%	60 - 130%	113
	LC2 0.0-0.1	SE206178.003	%	60 - 130%	115
	LC2 0.5-0.6	SE206178.004	%	60 - 130%	113
	LC3 0.0-0.1	SE206178.005	%	60 - 130%	107
	LC3 0.5-0.6	SE206178.006	%	60 - 130%	116
	LC4 0.0-0.1	SE206178.007	%	60 - 130%	111
	LC5 0.0-0.1	SE206178.008	%	60 - 130%	109
	LC5 0.5-0.6	SE206178.009	%	60 - 130%	112
	LC6 0.0-0.1	SE206178.010	%	60 - 130%	107
	LC6 1.0-1.1	SE206178.011	%	60 - 130%	89
	LC7 0.0-0.1	SE206178.012	%	60 - 130%	111
	LC7 0.5-0.6	SE206178.013	%	60 - 130%	118
	LC8 0.0-0.1	SE206178.014	%	60 - 130%	113
	LC8 1.0-1.1	SE206178.015	%	60 - 130%	113
	LC9 0.0-0.1	SE206178.016	%	60 - 130%	118
	LC9 1.0-1.1	SE206178.017	%	60 - 130%	114
	LC10 0.0-0.1	SE206178.018	%	60 - 130%	111
	LC10 0.5-0.6	SE206178.019	%	60 - 130%	112
	LC11 0.0-0.1	SE206178.020	%	60 - 130%	113
	LC12 0.0-0.1	SE206178.021	%	60 - 130%	174 ⊕
	LC13 0.0-0.1	SE206178.022	%	60 - 130%	171 ⊕
	LC14 0.5-0.6	SE206178.023	%	60 - 130%	166 ⊕
	LC15 0.0-0.1	SE206178.024	%	60 - 130%	179 ⊕
	QC1	SE206178.025	%	60 - 130%	158 ⊕
QC3	SE206178.026	%	60 - 130%	158 ⊕	
QC4	SE206178.027	%	60 - 130%	171 ⊕	
SP1-1	SE206178.028	%	60 - 130%	180 ⊕	
SP1-2	SE206178.029	%	60 - 130%	181 ⊕	
SP1-3	SE206178.030	%	60 - 130%	171 ⊕	
SP1-4	SE206178.031	%	60 - 130%	165 ⊕	
SP1-5	SE206178.032	%	60 - 130%	175 ⊕	
SP2-1	SE206178.033	%	60 - 130%	173 ⊕	
SP2-2	SE206178.034	%	60 - 130%	154 ⊕	
SP2-3	SE206178.035	%	60 - 130%	159 ⊕	
SP2-4	SE206178.036	%	60 - 130%	163 ⊕	
SP2-5	SE206178.037	%	60 - 130%	166 ⊕	
SP3-1	SE206178.038	%	60 - 130%	171 ⊕	

Blank results are evaluated against the limit of reporting (LOR), for the chosen method and its associated instrumentation, typically 2.5 times the statistically determined method detection limit (MDL).

Result is shown in **Green** when within suggested criteria or **Red** with an appended dagger symbol (†) when outside suggested criteria.

Exchangeable Cations and Cation Exchange Capacity (CEC/ESP/SAR)

Method: ME-(AU)-[ENV]AN122

Sample Number	Parameter	Units	LOR	Result
LB199593.001	Exchangeable Sodium, Na	mg/kg	2	0
	Exchangeable Potassium, K	mg/kg	2	0
	Exchangeable Calcium, Ca	mg/kg	2	0
	Exchangeable Magnesium, Mg	mg/kg	2	0

Mercury in Soil

Method: ME-(AU)-[ENV]AN312

Sample Number	Parameter	Units	LOR	Result
LB199539.001	Mercury	mg/kg	0.05	<0.05
LB199540.001	Mercury	mg/kg	0.05	<0.05

OC Pesticides in Soil

Method: ME-(AU)-[ENV]AN420

Sample Number	Parameter	Units	LOR	Result
LB199507.001	Hexachlorobenzene (HCB)	mg/kg	0.1	<0.1
	Alpha BHC	mg/kg	0.1	<0.1
	Lindane	mg/kg	0.1	<0.1
	Heptachlor	mg/kg	0.1	<0.1
	Aldrin	mg/kg	0.1	<0.1
	Beta BHC	mg/kg	0.1	<0.1
	Delta BHC	mg/kg	0.1	<0.1
	Heptachlor epoxide	mg/kg	0.1	<0.1
	Alpha Endosulfan	mg/kg	0.2	<0.2
	Gamma Chlordane	mg/kg	0.1	<0.1
	Alpha Chlordane	mg/kg	0.1	<0.1
	p,p'-DDE	mg/kg	0.1	<0.1
	Dieldrin	mg/kg	0.2	<0.2
	Endrin	mg/kg	0.2	<0.2
	Beta Endosulfan	mg/kg	0.2	<0.2
	p,p'-DDD	mg/kg	0.1	<0.1
	p,p'-DDT	mg/kg	0.1	<0.1
	Endosulfan sulphate	mg/kg	0.1	<0.1
	Endrin Aldehyde	mg/kg	0.1	<0.1
	Methoxychlor	mg/kg	0.1	<0.1
	Endrin Ketone	mg/kg	0.1	<0.1
	Isodrin	mg/kg	0.1	<0.1
	Mirex	mg/kg	0.1	<0.1
Surrogates	Tetrachloro-m-xylene (TCMX) (Surrogate)	%	-	94
LB199508.001	Hexachlorobenzene (HCB)	mg/kg	0.1	<0.1
	Alpha BHC	mg/kg	0.1	<0.1
	Lindane	mg/kg	0.1	<0.1
	Heptachlor	mg/kg	0.1	<0.1
	Aldrin	mg/kg	0.1	<0.1
	Beta BHC	mg/kg	0.1	<0.1
	Delta BHC	mg/kg	0.1	<0.1
	Heptachlor epoxide	mg/kg	0.1	<0.1
	Alpha Endosulfan	mg/kg	0.2	<0.2
	Gamma Chlordane	mg/kg	0.1	<0.1
	Alpha Chlordane	mg/kg	0.1	<0.1
	p,p'-DDE	mg/kg	0.1	<0.1
	Dieldrin	mg/kg	0.2	<0.2
	Endrin	mg/kg	0.2	<0.2
	Beta Endosulfan	mg/kg	0.2	<0.2
	p,p'-DDD	mg/kg	0.1	<0.1
	p,p'-DDT	mg/kg	0.1	<0.1
	Endosulfan sulphate	mg/kg	0.1	<0.1
	Endrin Aldehyde	mg/kg	0.1	<0.1
	Methoxychlor	mg/kg	0.1	<0.1
	Endrin Ketone	mg/kg	0.1	<0.1
	Isodrin	mg/kg	0.1	<0.1
	Mirex	mg/kg	0.1	<0.1
Surrogates	Tetrachloro-m-xylene (TCMX) (Surrogate)	%	-	95

Blank results are evaluated against the limit of reporting (LOR), for the chosen method and its associated instrumentation, typically 2.5 times the statistically determined method detection limit (MDL).

Result is shown in **Green** when within suggested criteria or **Red** with an appended dagger symbol (†) when outside suggested criteria.

OP Pesticides in Soil

Method: ME-(AU)-[ENV]AN420

Sample Number	Parameter	Units	LOR	Result	
LB199507.001	Dichlorvos	mg/kg	0.5	<0.5	
	Dimethoate	mg/kg	0.5	<0.5	
	Diazinon (Dimpylate)	mg/kg	0.5	<0.5	
	Fenitrothion	mg/kg	0.2	<0.2	
	Malathion	mg/kg	0.2	<0.2	
	Chlorpyrifos (Chlorpyrifos Ethyl)	mg/kg	0.2	<0.2	
	Parathion-ethyl (Parathion)	mg/kg	0.2	<0.2	
	Bromophos Ethyl	mg/kg	0.2	<0.2	
	Methidathion	mg/kg	0.5	<0.5	
	Ethion	mg/kg	0.2	<0.2	
	Azinphos-methyl (Guthion)	mg/kg	0.2	<0.2	
	Surrogates	2-fluorobiphenyl (Surrogate)	%	-	81
		d14-p-terphenyl (Surrogate)	%	-	77
	LB199508.001	Dichlorvos	mg/kg	0.5	<0.5
Dimethoate		mg/kg	0.5	<0.5	
Diazinon (Dimpylate)		mg/kg	0.5	<0.5	
Fenitrothion		mg/kg	0.2	<0.2	
Malathion		mg/kg	0.2	<0.2	
Chlorpyrifos (Chlorpyrifos Ethyl)		mg/kg	0.2	<0.2	
Parathion-ethyl (Parathion)		mg/kg	0.2	<0.2	
Bromophos Ethyl		mg/kg	0.2	<0.2	
Methidathion		mg/kg	0.5	<0.5	
Ethion		mg/kg	0.2	<0.2	
Azinphos-methyl (Guthion)		mg/kg	0.2	<0.2	
Surrogates		2-fluorobiphenyl (Surrogate)	%	-	86
		d14-p-terphenyl (Surrogate)	%	-	90

PAH (Polynuclear Aromatic Hydrocarbons) in Soil

Method: ME-(AU)-[ENV]AN420

Sample Number	Parameter	Units	LOR	Result	
LB199507.001	Naphthalene	mg/kg	0.1	<0.1	
	2-methylnaphthalene	mg/kg	0.1	<0.1	
	1-methylnaphthalene	mg/kg	0.1	<0.1	
	Acenaphthylene	mg/kg	0.1	<0.1	
	Acenaphthene	mg/kg	0.1	<0.1	
	Fluorene	mg/kg	0.1	<0.1	
	Phenanthrene	mg/kg	0.1	<0.1	
	Anthracene	mg/kg	0.1	<0.1	
	Fluoranthene	mg/kg	0.1	<0.1	
	Pyrene	mg/kg	0.1	<0.1	
	Benzo(a)anthracene	mg/kg	0.1	<0.1	
	Chrysene	mg/kg	0.1	<0.1	
	Benzo(a)pyrene	mg/kg	0.1	<0.1	
	Indeno(1,2,3-cd)pyrene	mg/kg	0.1	<0.1	
	Dibenzo(ah)anthracene	mg/kg	0.1	<0.1	
	Benzo(ghi)perylene	mg/kg	0.1	<0.1	
	Total PAH (18)	mg/kg	0.8	<0.8	
	Surrogates	d5-nitrobenzene (Surrogate)	%	-	94
		2-fluorobiphenyl (Surrogate)	%	-	81
	d14-p-terphenyl (Surrogate)	%	-	77	
LB199508.001	Naphthalene	mg/kg	0.1	<0.1	
	2-methylnaphthalene	mg/kg	0.1	<0.1	
	1-methylnaphthalene	mg/kg	0.1	<0.1	
	Acenaphthylene	mg/kg	0.1	<0.1	
	Acenaphthene	mg/kg	0.1	<0.1	
	Fluorene	mg/kg	0.1	<0.1	
	Phenanthrene	mg/kg	0.1	<0.1	
	Anthracene	mg/kg	0.1	<0.1	
	Fluoranthene	mg/kg	0.1	<0.1	
	Pyrene	mg/kg	0.1	<0.1	
	Benzo(a)anthracene	mg/kg	0.1	<0.1	
	Chrysene	mg/kg	0.1	<0.1	

Blank results are evaluated against the limit of reporting (LOR), for the chosen method and its associated instrumentation, typically 2.5 times the statistically determined method detection limit (MDL).

Result is shown in **Green** when within suggested criteria or **Red** with an appended dagger symbol (†) when outside suggested criteria.

PAH (Polynuclear Aromatic Hydrocarbons) in Soil (continued)

Method: ME-(AU)-[ENV]AN420

Sample Number	Parameter	Units	LOR	Result	
LB199508.001	Benzo(a)pyrene	mg/kg	0.1	<0.1	
	Indeno(1,2,3-cd)pyrene	mg/kg	0.1	<0.1	
	Dibenzo(ah)anthracene	mg/kg	0.1	<0.1	
	Benzo(ghi)perylene	mg/kg	0.1	<0.1	
	Total PAH (18)	mg/kg	0.8	<0.8	
	Surrogates	d5-nitrobenzene (Surrogate)	%	-	84
	2-fluorobiphenyl (Surrogate)	%	-	86	
	d14-p-terphenyl (Surrogate)	%	-	90	

PCBs in Soil

Method: ME-(AU)-[ENV]AN420

Sample Number	Parameter	Units	LOR	Result
LB199507.001	Arochlor 1016	mg/kg	0.2	<0.2
	Arochlor 1221	mg/kg	0.2	<0.2
	Arochlor 1232	mg/kg	0.2	<0.2
	Arochlor 1242	mg/kg	0.2	<0.2
	Arochlor 1248	mg/kg	0.2	<0.2
	Arochlor 1254	mg/kg	0.2	<0.2
	Arochlor 1260	mg/kg	0.2	<0.2
	Arochlor 1262	mg/kg	0.2	<0.2
	Arochlor 1268	mg/kg	0.2	<0.2
	Total PCBs (Arochlors)	mg/kg	1	<1
Surrogates	Tetrachloro-m-xylene (TCMX) (Surrogate)	%	-	94
LB199508.001	Arochlor 1016	mg/kg	0.2	<0.2
	Arochlor 1221	mg/kg	0.2	<0.2
	Arochlor 1232	mg/kg	0.2	<0.2
	Arochlor 1242	mg/kg	0.2	<0.2
	Arochlor 1248	mg/kg	0.2	<0.2
	Arochlor 1254	mg/kg	0.2	<0.2
	Arochlor 1260	mg/kg	0.2	<0.2
	Arochlor 1262	mg/kg	0.2	<0.2
	Arochlor 1268	mg/kg	0.2	<0.2
	Total PCBs (Arochlors)	mg/kg	1	<1
Surrogates	Tetrachloro-m-xylene (TCMX) (Surrogate)	%	-	95

Speciated Phenols in Soil

Method: ME-(AU)-[ENV]AN420

Sample Number	Parameter	Units	LOR	Result
LB199507.001	Phenol	mg/kg	0.5	<0.5
	2-methyl phenol (o-cresol)	mg/kg	0.5	<0.5
	3/4-methyl phenol (m/p-cresol)	mg/kg	1	<1
	2-chlorophenol	mg/kg	0.5	<0.5
	2,4-dimethylphenol	mg/kg	0.5	<0.5
	2,6-dichlorophenol	mg/kg	0.5	<0.5
	2,4-dichlorophenol	mg/kg	0.5	<0.5
	2,4,6-trichlorophenol	mg/kg	0.5	<0.5
	2-nitrophenol	mg/kg	0.5	<0.5
	4-nitrophenol	mg/kg	1	<1
	2,4,5-trichlorophenol	mg/kg	0.5	<0.5
	2,3,4,6/2,3,5,6-tetrachlorophenol	mg/kg	1	<1
	Pentachlorophenol	mg/kg	0.5	<0.5
	2,4-dinitrophenol	mg/kg	2	<2
	4-chloro-3-methylphenol	mg/kg	2	<2
	Surrogates	2,4,6-Tribromophenol (Surrogate)	%	-
	d5-phenol (Surrogate)	%	-	92
LB199508.001	Phenol	mg/kg	0.5	<0.5
	2-methyl phenol (o-cresol)	mg/kg	0.5	<0.5
	3/4-methyl phenol (m/p-cresol)	mg/kg	1	<1
	2-chlorophenol	mg/kg	0.5	<0.5
	2,4-dimethylphenol	mg/kg	0.5	<0.5
	2,6-dichlorophenol	mg/kg	0.5	<0.5
	2,4-dichlorophenol	mg/kg	0.5	<0.5
	2,4,6-trichlorophenol	mg/kg	0.5	<0.5
	2-nitrophenol	mg/kg	0.5	<0.5

Blank results are evaluated against the limit of reporting (LOR), for the chosen method and its associated instrumentation, typically 2.5 times the statistically determined method detection limit (MDL).

Result is shown in **Green** when within suggested criteria or **Red** with an appended dagger symbol (†) when outside suggested criteria.

Speciated Phenols in Soil (continued)

Method: ME-(AU)-[ENV]AN420

Sample Number	Parameter	Units	LOR	Result
LB199508.001	4-nitrophenol	mg/kg	1	<1
	2,4,5-trichlorophenol	mg/kg	0.5	<0.5
	2,3,4,6/2,3,5,6-tetrachlorophenol	mg/kg	1	<1
	Pentachlorophenol	mg/kg	0.5	<0.5
	2,4-dinitrophenol	mg/kg	2	<2
	4-chloro-3-methylphenol	mg/kg	2	<2
Surrogates	2,4,6-Tribromophenol (Surrogate)	%	-	112
	d5-phenol (Surrogate)	%	-	93

Total Recoverable Elements in Soil/Waste Solids/Materials by ICPOES

Method: ME-(AU)-[ENV]AN040/AN320

Sample Number	Parameter	Units	LOR	Result
LB199533.001	Arsenic, As	mg/kg	1	<1
	Cadmium, Cd	mg/kg	0.3	<0.3
	Chromium, Cr	mg/kg	0.5	<0.5
	Copper, Cu	mg/kg	0.5	<0.5
	Nickel, Ni	mg/kg	0.5	<0.5
	Lead, Pb	mg/kg	1	<1
	Zinc, Zn	mg/kg	2	<2.0
LB199534.001	Arsenic, As	mg/kg	1	<1
	Cadmium, Cd	mg/kg	0.3	<0.3
	Chromium, Cr	mg/kg	0.5	<0.5
	Copper, Cu	mg/kg	0.5	<0.5
	Nickel, Ni	mg/kg	0.5	<0.5
	Lead, Pb	mg/kg	1	<1
	Zinc, Zn	mg/kg	2	<2.0

TRH (Total Recoverable Hydrocarbons) in Soil

Method: ME-(AU)-[ENV]AN403

Sample Number	Parameter	Units	LOR	Result
LB199507.001	TRH C10-C14	mg/kg	20	<20
	TRH C15-C28	mg/kg	45	<45
	TRH C29-C36	mg/kg	45	<45
	TRH C37-C40	mg/kg	100	<100
	TRH C10-C36 Total	mg/kg	110	<110
	LB199508.001	TRH C10-C14	mg/kg	20
TRH C15-C28		mg/kg	45	<45
TRH C29-C36		mg/kg	45	<45
TRH C37-C40		mg/kg	100	<100
TRH C10-C36 Total		mg/kg	110	<110

VOC's in Soil

Method: ME-(AU)-[ENV]AN433

Sample Number	Parameter	Units	LOR	Result	
LB199496.001	Monocyclic Aromatic Hydrocarbons	Benzene	mg/kg	0.1	<0.1
		Toluene	mg/kg	0.1	<0.1
		Ethylbenzene	mg/kg	0.1	<0.1
		m/p-xylene	mg/kg	0.2	<0.2
		o-xylene	mg/kg	0.1	<0.1
	Polycyclic VOCs	Naphthalene	mg/kg	0.1	<0.1
		Surrogates	d4-1,2-dichloroethane (Surrogate)	%	-
	d8-toluene (Surrogate)		%	-	121
	Bromofluorobenzene (Surrogate)		%	-	109
	Totals	Total BTEX	mg/kg	0.6	<0.6
LB199497.001	Monocyclic Aromatic Hydrocarbons	Benzene	mg/kg	0.1	<0.1
		Toluene	mg/kg	0.1	<0.1
		Ethylbenzene	mg/kg	0.1	<0.1
		m/p-xylene	mg/kg	0.2	<0.2
		o-xylene	mg/kg	0.1	<0.1
	Polycyclic VOCs	Naphthalene	mg/kg	0.1	<0.1
		Surrogates	d4-1,2-dichloroethane (Surrogate)	%	-
	d8-toluene (Surrogate)		%	-	111
	Bromofluorobenzene (Surrogate)		%	-	126
	Totals	Total BTEX	mg/kg	0.6	<0.6

Blank results are evaluated against the limit of reporting (LOR), for the chosen method and its associated instrumentation, typically 2.5 times the statistically determined method detection limit (MDL).

Result is shown in **Green** when within suggested criteria or **Red** with an appended dagger symbol (†) when outside suggested criteria.

Volatile Petroleum Hydrocarbons in Soil

Method: ME-(AU)-ENVJAN433

Sample Number	Parameter	Units	LOR	Result
LB199496.001	TRH C6-C9	mg/kg	20	<20
	Surrogates	d4-1,2-dichloroethane (Surrogate)	%	122
LB199497.001	TRH C6-C9	mg/kg	20	<20
	Surrogates	d4-1,2-dichloroethane (Surrogate)	%	118

Duplicates are calculated as Relative Percentage Difference (RPD) using the formula: $RPD = |OriginalResult - ReplicateResult| \times 100 / Mean$

The RPD is evaluated against the Maximum Allowable Difference (MAD) criteria and can be graphically represented by a curve calculated from the Statistical Detection Limit (SDL) and Limiting Repeatability (LR) using the formula: $MAD = 100 \times SDL / Mean + LR$

Where the Maximum Allowable Difference evaluates to a number larger than 200 it is displayed as 200.

RPD is shown in **Green** when within suggested criteria or **Red** with an appended reason identifier when outside suggested criteria. Refer to the footnotes section at the end of this report for failure reasons.

Mercury in Soil

Method: ME-(AU)-[ENV]AN312

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE206178.010	LB199539.014	Mercury	mg/kg	0.05	<0.05	<0.05	200	0
SE206178.019	LB199539.024	Mercury	mg/kg	0.05	<0.05	<0.05	178	0
SE206178.029	LB199540.014	Mercury	mg/kg	0.05	<0.05	<0.05	200	0
SE206178.038	LB199540.024	Mercury	mg/kg	0.05	<0.05	<0.05	200	0

Moisture Content

Method: ME-(AU)-[ENV]AN002

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE206178.010	LB199513.011	% Moisture	%w/w	1	10.8	11.4	39	6
SE206178.020	LB199513.022	% Moisture	%w/w	1	11.4	12.0	39	6
SE206178.030	LB199514.011	% Moisture	%w/w	1	11.7	10.4	39	11
SE206178.038	LB199514.020	% Moisture	%w/w	1	14.0	12.9	37	8

OC Pesticides in Soil

Method: ME-(AU)-[ENV]AN420

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE206178.011	LB199507.031	Hexachlorobenzene (HCB)	mg/kg	0.1	<0.1	<0.1	200	0
		Alpha BHC	mg/kg	0.1	<0.1	<0.1	200	0
		Lindane	mg/kg	0.1	<0.1	<0.1	200	0
		Heptachlor	mg/kg	0.1	<0.1	<0.1	200	0
		Aldrin	mg/kg	0.1	<0.1	<0.1	200	0
		Beta BHC	mg/kg	0.1	<0.1	<0.1	200	0
		Delta BHC	mg/kg	0.1	<0.1	<0.1	200	0
		Heptachlor epoxide	mg/kg	0.1	<0.1	<0.1	200	0
		o,p'-DDE	mg/kg	0.1	<0.1	<0.1	200	0
		Alpha Endosulfan	mg/kg	0.2	<0.2	<0.2	200	0
		Gamma Chlordane	mg/kg	0.1	<0.1	<0.1	200	0
		Alpha Chlordane	mg/kg	0.1	<0.1	<0.1	200	0
		trans-Nonachlor	mg/kg	0.1	<0.1	<0.1	200	0
		p,p'-DDE	mg/kg	0.1	<0.1	<0.1	200	0
		Dieldrin	mg/kg	0.2	<0.2	<0.2	200	0
		Endrin	mg/kg	0.2	<0.2	<0.2	200	0
		o,p'-DDD	mg/kg	0.1	<0.1	<0.1	200	0
		o,p'-DDT	mg/kg	0.1	<0.1	<0.1	200	0
		Beta Endosulfan	mg/kg	0.2	<0.2	<0.2	200	0
		p,p'-DDD	mg/kg	0.1	<0.1	<0.1	200	0
		p,p'-DDT	mg/kg	0.1	<0.1	<0.1	200	0
		Endosulfan sulphate	mg/kg	0.1	<0.1	<0.1	200	0
		Endrin Aldehyde	mg/kg	0.1	<0.1	<0.1	200	0
Methoxychlor	mg/kg	0.1	<0.1	<0.1	200	0		
Endrin Ketone	mg/kg	0.1	<0.1	<0.1	200	0		
Isodrin	mg/kg	0.1	<0.1	<0.1	200	0		
Mirex	mg/kg	0.1	<0.1	<0.1	200	0		
Total CLP OC Pesticides	mg/kg	1	<1	<1	200	0		
	Surrogates	Tetrachloro-m-xylene (TCMX) (Surrogate)	mg/kg	-	0.15	0.15	30	1
SE206178.019	LB199507.029	Hexachlorobenzene (HCB)	mg/kg	0.1	<0.1	<0.1	200	0
		Alpha BHC	mg/kg	0.1	<0.1	<0.1	200	0
		Lindane	mg/kg	0.1	<0.1	<0.1	200	0
		Heptachlor	mg/kg	0.1	<0.1	<0.1	200	0
		Aldrin	mg/kg	0.1	<0.1	<0.1	200	0
		Beta BHC	mg/kg	0.1	<0.1	<0.1	200	0
		Delta BHC	mg/kg	0.1	<0.1	<0.1	200	0
		Heptachlor epoxide	mg/kg	0.1	<0.1	<0.1	200	0
		o,p'-DDE	mg/kg	0.1	<0.1	<0.1	200	0
		Alpha Endosulfan	mg/kg	0.2	<0.2	<0.2	200	0
		Gamma Chlordane	mg/kg	0.1	<0.1	<0.1	200	0
		Alpha Chlordane	mg/kg	0.1	<0.1	<0.1	200	0
		trans-Nonachlor	mg/kg	0.1	<0.1	<0.1	200	0
		p,p'-DDE	mg/kg	0.1	<0.1	<0.1	200	0
		Dieldrin	mg/kg	0.2	<0.2	<0.2	200	0
		Endrin	mg/kg	0.2	<0.2	<0.2	200	0
		o,p'-DDD	mg/kg	0.1	<0.1	<0.1	200	0
o,p'-DDT	mg/kg	0.1	<0.1	<0.1	200	0		
Beta Endosulfan	mg/kg	0.2	<0.2	<0.2	200	0		

Duplicates are calculated as Relative Percentage Difference (RPD) using the formula: $RPD = |OriginalResult - ReplicateResult| \times 100 / Mean$

The RPD is evaluated against the Maximum Allowable Difference (MAD) criteria and can be graphically represented by a curve calculated from the Statistical Detection Limit (SDL) and Limiting Repeatability (LR) using the formula: $MAD = 100 \times SDL / Mean + LR$

Where the Maximum Allowable Difference evaluates to a number larger than 200 it is displayed as 200.

RPD is shown in **Green** when within suggested criteria or **Red** with an appended reason identifier when outside suggested criteria. Refer to the footnotes section at the end of this report for failure reasons.

OC Pesticides in Soil (continued)

Method: ME-(AU)-ENVJAN420

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %	
SE206178.019	LB199507.029	p,p'-DDD	mg/kg	0.1	<0.1	<0.1	200	0	
		p,p'-DDT	mg/kg	0.1	<0.1	<0.1	200	0	
		Endosulfan sulphate	mg/kg	0.1	<0.1	<0.1	200	0	
		Endrin Aldehyde	mg/kg	0.1	<0.1	<0.1	200	0	
		Methoxychlor	mg/kg	0.1	<0.1	<0.1	200	0	
		Endrin Ketone	mg/kg	0.1	<0.1	<0.1	200	0	
		Isodrin	mg/kg	0.1	<0.1	<0.1	200	0	
		Mirex	mg/kg	0.1	<0.1	<0.1	200	0	
		Total CLP OC Pesticides	mg/kg	1	<1	<1	200	0	
		Surrogates	Tetrachloro-m-xylene (TCMX) (Surrogate)	mg/kg	-	0.15	0.14	30	3
SE206178.030	LB199508.014	Hexachlorobenzene (HCB)	mg/kg	0.1	<0.1	<0.1	200	0	
		Alpha BHC	mg/kg	0.1	<0.1	<0.1	200	0	
		Lindane	mg/kg	0.1	<0.1	<0.1	200	0	
		Heptachlor	mg/kg	0.1	<0.1	<0.1	200	0	
		Aldrin	mg/kg	0.1	<0.1	<0.1	200	0	
		Beta BHC	mg/kg	0.1	<0.1	<0.1	200	0	
		Delta BHC	mg/kg	0.1	<0.1	<0.1	200	0	
		Heptachlor epoxide	mg/kg	0.1	<0.1	<0.1	200	0	
		o,p'-DDE	mg/kg	0.1	<0.1	<0.1	200	0	
		Alpha Endosulfan	mg/kg	0.2	<0.2	<0.2	200	0	
		Gamma Chlordane	mg/kg	0.1	<0.1	<0.1	200	0	
		Alpha Chlordane	mg/kg	0.1	<0.1	<0.1	200	0	
		trans-Nonachlor	mg/kg	0.1	<0.1	<0.1	200	0	
		p,p'-DDE	mg/kg	0.1	<0.1	<0.1	200	0	
		Dieldrin	mg/kg	0.2	<0.2	<0.2	200	0	
		Endrin	mg/kg	0.2	<0.2	<0.2	200	0	
		o,p'-DDD	mg/kg	0.1	<0.1	<0.1	200	0	
		o,p'-DDT	mg/kg	0.1	<0.1	<0.1	200	0	
		Beta Endosulfan	mg/kg	0.2	<0.2	<0.2	200	0	
		p,p'-DDD	mg/kg	0.1	<0.1	<0.1	200	0	
		p,p'-DDT	mg/kg	0.1	<0.1	<0.1	200	0	
		Endosulfan sulphate	mg/kg	0.1	<0.1	<0.1	200	0	
		Endrin Aldehyde	mg/kg	0.1	<0.1	<0.1	200	0	
		Methoxychlor	mg/kg	0.1	<0.1	<0.1	200	0	
		Endrin Ketone	mg/kg	0.1	<0.1	<0.1	200	0	
		Isodrin	mg/kg	0.1	<0.1	<0.1	200	0	
		Mirex	mg/kg	0.1	<0.1	<0.1	200	0	
		Total CLP OC Pesticides	mg/kg	1	<1	<1	200	0	
		Surrogates	Tetrachloro-m-xylene (TCMX) (Surrogate)	mg/kg	-	0.16	0.15	30	6
		SE206178.038	LB199508.023	Hexachlorobenzene (HCB)	mg/kg	0.1	<0.1	<0.1	200
Alpha BHC	mg/kg			0.1	<0.1	<0.1	200	0	
Lindane	mg/kg			0.1	<0.1	<0.1	200	0	
Heptachlor	mg/kg			0.1	<0.1	<0.1	200	0	
Aldrin	mg/kg			0.1	<0.1	<0.1	200	0	
Beta BHC	mg/kg			0.1	<0.1	<0.1	200	0	
Delta BHC	mg/kg			0.1	<0.1	<0.1	200	0	
Heptachlor epoxide	mg/kg			0.1	<0.1	<0.1	200	0	
o,p'-DDE	mg/kg			0.1	<0.1	<0.1	200	0	
Alpha Endosulfan	mg/kg			0.2	<0.2	<0.2	200	0	
Gamma Chlordane	mg/kg			0.1	<0.1	<0.1	200	0	
Alpha Chlordane	mg/kg			0.1	<0.1	<0.1	200	0	
trans-Nonachlor	mg/kg			0.1	<0.1	<0.1	200	0	
p,p'-DDE	mg/kg			0.1	<0.1	<0.1	200	0	
Dieldrin	mg/kg			0.2	<0.2	<0.2	200	0	
Endrin	mg/kg			0.2	<0.2	<0.2	200	0	
o,p'-DDD	mg/kg			0.1	<0.1	<0.1	200	0	
o,p'-DDT	mg/kg			0.1	<0.1	<0.1	200	0	
Beta Endosulfan	mg/kg			0.2	<0.2	<0.2	200	0	
p,p'-DDD	mg/kg			0.1	<0.1	<0.1	200	0	
p,p'-DDT	mg/kg			0.1	<0.1	<0.1	200	0	
Endosulfan sulphate	mg/kg			0.1	<0.1	<0.1	200	0	

Duplicates are calculated as Relative Percentage Difference (RPD) using the formula: $RPD = |OriginalResult - ReplicateResult| \times 100 / Mean$

The RPD is evaluated against the Maximum Allowable Difference (MAD) criteria and can be graphically represented by a curve calculated from the Statistical Detection Limit (SDL) and Limiting Repeatability (LR) using the formula: $MAD = 100 \times SDL / Mean + LR$

Where the Maximum Allowable Difference evaluates to a number larger than 200 it is displayed as 200.

RPD is shown in **Green** when within suggested criteria or **Red** with an appended reason identifier when outside suggested criteria. Refer to the footnotes section at the end of this report for failure reasons.

OC Pesticides in Soil (continued)

Method: ME-(AU)-IENVJAN20

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE206178.038	LB199508.023	Endrin Aldehyde	mg/kg	0.1	<0.1	<0.1	200	0
		Methoxychlor	mg/kg	0.1	<0.1	<0.1	200	0
		Endrin Ketone	mg/kg	0.1	<0.1	<0.1	200	0
		Isodrin	mg/kg	0.1	<0.1	<0.1	200	0
		Mirex	mg/kg	0.1	<0.1	<0.1	200	0
		Total CLP OC Pesticides	mg/kg	1	<1	<1	200	0
	Surrogates	Tetrachloro-m-xylene (TCMX) (Surrogate)	mg/kg	-	0.17	0.16	30	4

OP Pesticides in Soil

Method: ME-(AU)-IENVJAN20

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %		
SE206178.010	LB199507.014	Dichlorvos	mg/kg	0.5	<0.5	<0.5	200	0		
		Dimethoate	mg/kg	0.5	<0.5	<0.5	200	0		
		Diazinon (Dimpylate)	mg/kg	0.5	<0.5	<0.5	200	0		
		Fenitrothion	mg/kg	0.2	<0.2	<0.2	200	0		
		Malathion	mg/kg	0.2	<0.2	<0.2	200	0		
		Chlorpyrifos (Chlorpyrifos Ethyl)	mg/kg	0.2	<0.2	<0.2	200	0		
		Parathion-ethyl (Parathion)	mg/kg	0.2	<0.2	<0.2	200	0		
		Bromophos Ethyl	mg/kg	0.2	<0.2	<0.2	200	0		
		Methodathion	mg/kg	0.5	<0.5	<0.5	200	0		
		Ethion	mg/kg	0.2	<0.2	<0.2	200	0		
		Azinphos-methyl (Guthion)	mg/kg	0.2	<0.2	<0.2	200	0		
		Total OP Pesticides*	mg/kg	1.7	<1.7	<1.7	200	0		
			Surrogates	2-fluorobiphenyl (Surrogate)	mg/kg	-	0.5	0.4	30	8
				d14-p-terphenyl (Surrogate)	mg/kg	-	0.4	0.4	30	0
SE206178.019	LB199507.029	Dichlorvos	mg/kg	0.5	<0.5	<0.5	200	0		
		Dimethoate	mg/kg	0.5	<0.5	<0.5	200	0		
		Diazinon (Dimpylate)	mg/kg	0.5	<0.5	<0.5	200	0		
		Fenitrothion	mg/kg	0.2	<0.2	<0.2	200	0		
		Malathion	mg/kg	0.2	<0.2	<0.2	200	0		
		Chlorpyrifos (Chlorpyrifos Ethyl)	mg/kg	0.2	<0.2	<0.2	200	0		
		Parathion-ethyl (Parathion)	mg/kg	0.2	<0.2	<0.2	200	0		
		Bromophos Ethyl	mg/kg	0.2	<0.2	<0.2	200	0		
		Methodathion	mg/kg	0.5	<0.5	<0.5	200	0		
		Ethion	mg/kg	0.2	<0.2	<0.2	200	0		
		Azinphos-methyl (Guthion)	mg/kg	0.2	<0.2	<0.2	200	0		
		Total OP Pesticides*	mg/kg	1.7	<1.7	<1.7	200	0		
			Surrogates	2-fluorobiphenyl (Surrogate)	mg/kg	-	0.4	0.5	30	14
				d14-p-terphenyl (Surrogate)	mg/kg	-	0.4	0.5	30	16
SE206178.030	LB199508.014	Dichlorvos	mg/kg	0.5	<0.5	<0.5	200	0		
		Dimethoate	mg/kg	0.5	<0.5	<0.5	200	0		
		Diazinon (Dimpylate)	mg/kg	0.5	<0.5	<0.5	200	0		
		Fenitrothion	mg/kg	0.2	<0.2	<0.2	200	0		
		Malathion	mg/kg	0.2	<0.2	<0.2	200	0		
		Chlorpyrifos (Chlorpyrifos Ethyl)	mg/kg	0.2	<0.2	<0.2	200	0		
		Parathion-ethyl (Parathion)	mg/kg	0.2	<0.2	<0.2	200	0		
		Bromophos Ethyl	mg/kg	0.2	<0.2	<0.2	200	0		
		Methodathion	mg/kg	0.5	<0.5	<0.5	200	0		
		Ethion	mg/kg	0.2	<0.2	<0.2	200	0		
		Azinphos-methyl (Guthion)	mg/kg	0.2	<0.2	<0.2	200	0		
		Total OP Pesticides*	mg/kg	1.7	<1.7	<1.7	200	0		
			Surrogates	2-fluorobiphenyl (Surrogate)	mg/kg	-	0.4	0.4	30	0
				d14-p-terphenyl (Surrogate)	mg/kg	-	0.4	0.4	30	0
SE206178.038	LB199508.023	Dichlorvos	mg/kg	0.5	<0.5	<0.5	200	0		
		Dimethoate	mg/kg	0.5	<0.5	<0.5	200	0		
		Diazinon (Dimpylate)	mg/kg	0.5	<0.5	<0.5	200	0		
		Fenitrothion	mg/kg	0.2	<0.2	<0.2	200	0		
		Malathion	mg/kg	0.2	<0.2	<0.2	200	0		
		Chlorpyrifos (Chlorpyrifos Ethyl)	mg/kg	0.2	<0.2	<0.2	200	0		
		Parathion-ethyl (Parathion)	mg/kg	0.2	<0.2	<0.2	200	0		
		Bromophos Ethyl	mg/kg	0.2	<0.2	<0.2	200	0		
		Methodathion	mg/kg	0.5	<0.5	<0.5	200	0		

Duplicates are calculated as Relative Percentage Difference (RPD) using the formula: $RPD = |OriginalResult - ReplicateResult| \times 100 / Mean$

The RPD is evaluated against the Maximum Allowable Difference (MAD) criteria and can be graphically represented by a curve calculated from the Statistical Detection Limit (SDL) and Limiting Repeatability (LR) using the formula: $MAD = 100 \times SDL / Mean + LR$

Where the Maximum Allowable Difference evaluates to a number larger than 200 it is displayed as 200.

RPD is shown in **Green** when within suggested criteria or **Red** with an appended reason identifier when outside suggested criteria. Refer to the footnotes section at the end of this report for failure reasons.

OP Pesticides in Soil (continued)

Method: ME-(AU)-IENVJAN420

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE206178.038	LB199508.023	Ethion	mg/kg	0.2	<0.2	<0.2	200	0
		Azinphos-methyl (Guthion)	mg/kg	0.2	<0.2	<0.2	200	0
		Total OP Pesticides*	mg/kg	1.7	<1.7	<1.7	200	0
		Surrogates						
		2-fluorobiphenyl (Surrogate)	mg/kg	-	0.4	0.4	30	0
		d14-p-terphenyl (Surrogate)	mg/kg	-	0.4	0.4	30	0

PAH (Polynuclear Aromatic Hydrocarbons) in Soil

Method: ME-(AU)-IENVJAN420

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE206178.010	LB199507.014	Naphthalene	mg/kg	0.1	<0.1	<0.1	200	0
		2-methylnaphthalene	mg/kg	0.1	<0.1	<0.1	200	0
		1-methylnaphthalene	mg/kg	0.1	<0.1	<0.1	200	0
		Acenaphthylene	mg/kg	0.1	<0.1	<0.1	200	0
		Acenaphthene	mg/kg	0.1	<0.1	<0.1	200	0
		Fluorene	mg/kg	0.1	<0.1	<0.1	200	0
		Phenanthrene	mg/kg	0.1	<0.1	<0.1	200	0
		Anthracene	mg/kg	0.1	<0.1	<0.1	200	0
		Fluoranthene	mg/kg	0.1	<0.1	<0.1	200	0
		Pyrene	mg/kg	0.1	<0.1	<0.1	200	0
		Benzo(a)anthracene	mg/kg	0.1	<0.1	<0.1	200	0
		Chrysene	mg/kg	0.1	<0.1	<0.1	200	0
		Benzo(b&j)fluoranthene	mg/kg	0.1	<0.1	<0.1	200	0
		Benzo(k)fluoranthene	mg/kg	0.1	<0.1	<0.1	200	0
		Benzo(a)pyrene	mg/kg	0.1	<0.1	<0.1	200	0
		Indeno(1,2,3-cd)pyrene	mg/kg	0.1	<0.1	<0.1	200	0
		Dibenzo(ah)anthracene	mg/kg	0.1	<0.1	<0.1	200	0
		Benzo(ghi)perylene	mg/kg	0.1	<0.1	<0.1	200	0
		Carcinogenic PAHs, BaP TEQ <LOR=0	mg/kg	0.2	<0.2	<0.2	200	0
		Carcinogenic PAHs, BaP TEQ <LOR=LOR	mg/kg	0.3	<0.3	<0.3	134	0
		Carcinogenic PAHs, BaP TEQ <LOR=LOR/2	mg/kg	0.2	<0.2	<0.2	175	0
		Total PAH (18)	mg/kg	0.8	<0.8	<0.8	200	0
		Surrogates						
		d5-nitrobenzene (Surrogate)	mg/kg	-	0.4	0.3	30	3
		2-fluorobiphenyl (Surrogate)	mg/kg	-	0.5	0.4	30	8
		d14-p-terphenyl (Surrogate)	mg/kg	-	0.4	0.4	30	0
SE206178.019	LB199507.029	Naphthalene	mg/kg	0.1	<0.1	<0.1	200	0
		2-methylnaphthalene	mg/kg	0.1	<0.1	<0.1	200	0
		1-methylnaphthalene	mg/kg	0.1	<0.1	<0.1	200	0
		Acenaphthylene	mg/kg	0.1	<0.1	<0.1	200	0
		Acenaphthene	mg/kg	0.1	<0.1	<0.1	200	0
		Fluorene	mg/kg	0.1	<0.1	<0.1	200	0
		Phenanthrene	mg/kg	0.1	<0.1	<0.1	200	0
		Anthracene	mg/kg	0.1	<0.1	<0.1	200	0
		Fluoranthene	mg/kg	0.1	<0.1	<0.1	200	0
		Pyrene	mg/kg	0.1	<0.1	<0.1	200	0
		Benzo(a)anthracene	mg/kg	0.1	<0.1	<0.1	200	0
		Chrysene	mg/kg	0.1	<0.1	<0.1	200	0
		Benzo(b&j)fluoranthene	mg/kg	0.1	<0.1	<0.1	200	0
		Benzo(k)fluoranthene	mg/kg	0.1	<0.1	<0.1	200	0
		Benzo(a)pyrene	mg/kg	0.1	<0.1	<0.1	200	0
		Indeno(1,2,3-cd)pyrene	mg/kg	0.1	<0.1	<0.1	200	0
		Dibenzo(ah)anthracene	mg/kg	0.1	<0.1	<0.1	200	0
		Benzo(ghi)perylene	mg/kg	0.1	<0.1	<0.1	200	0
		Carcinogenic PAHs, BaP TEQ <LOR=0	mg/kg	0.2	<0.2	<0.2	200	0
		Carcinogenic PAHs, BaP TEQ <LOR=LOR	mg/kg	0.3	<0.3	<0.3	134	0
		Carcinogenic PAHs, BaP TEQ <LOR=LOR/2	mg/kg	0.2	<0.2	<0.2	175	0
		Total PAH (18)	mg/kg	0.8	<0.8	<0.8	200	0
		Surrogates						
		d5-nitrobenzene (Surrogate)	mg/kg	-	0.4	0.4	30	1
		2-fluorobiphenyl (Surrogate)	mg/kg	-	0.4	0.5	30	14
		d14-p-terphenyl (Surrogate)	mg/kg	-	0.4	0.5	30	16
SE206178.030	LB199508.014	Naphthalene	mg/kg	0.1	<0.1	<0.1	200	0
		2-methylnaphthalene	mg/kg	0.1	<0.1	<0.1	200	0
		1-methylnaphthalene	mg/kg	0.1	<0.1	<0.1	200	0

Duplicates are calculated as Relative Percentage Difference (RPD) using the formula: $RPD = |OriginalResult - ReplicateResult| \times 100 / Mean$

The RPD is evaluated against the Maximum Allowable Difference (MAD) criteria and can be graphically represented by a curve calculated from the Statistical Detection Limit (SDL) and Limiting Repeatability (LR) using the formula: $MAD = 100 \times SDL / Mean + LR$

Where the Maximum Allowable Difference evaluates to a number larger than 200 it is displayed as 200.

RPD is shown in **Green** when within suggested criteria or **Red** with an appended reason identifier when outside suggested criteria. Refer to the footnotes section at the end of this report for failure reasons.

PAH (Polynuclear Aromatic Hydrocarbons) in Soil (continued)

Method: ME-(AU)-IENVJAN420

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE206178.030	LB199508.014	Acenaphthylene	mg/kg	0.1	<0.1	<0.1	200	0
		Acenaphthene	mg/kg	0.1	<0.1	<0.1	200	0
		Fluorene	mg/kg	0.1	<0.1	<0.1	200	0
		Phenanthrene	mg/kg	0.1	<0.1	<0.1	200	0
		Anthracene	mg/kg	0.1	<0.1	<0.1	200	0
		Fluoranthene	mg/kg	0.1	<0.1	<0.1	200	0
		Pyrene	mg/kg	0.1	<0.1	<0.1	200	0
		Benzo(a)anthracene	mg/kg	0.1	<0.1	<0.1	200	0
		Chrysene	mg/kg	0.1	<0.1	<0.1	200	0
		Benzo(b&j)fluoranthene	mg/kg	0.1	<0.1	<0.1	200	0
		Benzo(k)fluoranthene	mg/kg	0.1	<0.1	<0.1	200	0
		Benzo(a)pyrene	mg/kg	0.1	<0.1	<0.1	200	0
		Indeno(1,2,3-cd)pyrene	mg/kg	0.1	<0.1	<0.1	200	0
		Dibenzo(ah)anthracene	mg/kg	0.1	<0.1	<0.1	200	0
		Benzo(ghi)perylene	mg/kg	0.1	<0.1	<0.1	200	0
		Carcinogenic PAHs, BaP TEQ <LOR=0	mg/kg	0.2	<0.2	<0.2	200	0
		Carcinogenic PAHs, BaP TEQ <LOR=LOR	mg/kg	0.3	<0.3	<0.3	134	0
		Carcinogenic PAHs, BaP TEQ <LOR=LOR/2	mg/kg	0.2	<0.2	<0.2	175	0
		Total PAH (18)	mg/kg	0.8	<0.8	<0.8	200	0
		Surrogates		d5-nitrobenzene (Surrogate)	mg/kg	-	0.4	0.4
2-fluorobiphenyl (Surrogate)	mg/kg			-	0.4	0.4	30	0
d14-p-terphenyl (Surrogate)	mg/kg			-	0.4	0.4	30	0
SE206178.038	LB199508.023	Naphthalene	mg/kg	0.1	<0.1	<0.1	200	0
		2-methylnaphthalene	mg/kg	0.1	<0.1	<0.1	200	0
		1-methylnaphthalene	mg/kg	0.1	<0.1	<0.1	200	0
		Acenaphthylene	mg/kg	0.1	<0.1	<0.1	200	0
		Acenaphthene	mg/kg	0.1	<0.1	<0.1	200	0
		Fluorene	mg/kg	0.1	<0.1	<0.1	200	0
		Phenanthrene	mg/kg	0.1	<0.1	<0.1	150	0
		Anthracene	mg/kg	0.1	<0.1	<0.1	189	0
		Fluoranthene	mg/kg	0.1	<0.1	<0.1	200	0
		Pyrene	mg/kg	0.1	0.1	0.1	119	17
		Benzo(a)anthracene	mg/kg	0.1	<0.1	<0.1	200	0
		Chrysene	mg/kg	0.1	<0.1	<0.1	200	0
		Benzo(b&j)fluoranthene	mg/kg	0.1	<0.1	<0.1	158	0
		Benzo(k)fluoranthene	mg/kg	0.1	<0.1	<0.1	175	0
		Benzo(a)pyrene	mg/kg	0.1	<0.1	<0.1	200	0
		Indeno(1,2,3-cd)pyrene	mg/kg	0.1	<0.1	<0.1	200	0
		Dibenzo(ah)anthracene	mg/kg	0.1	<0.1	<0.1	200	0
		Benzo(ghi)perylene	mg/kg	0.1	<0.1	<0.1	184	0
		Carcinogenic PAHs, BaP TEQ <LOR=0	mg/kg	0.2	<0.2	<0.2	200	0
		Carcinogenic PAHs, BaP TEQ <LOR=LOR	mg/kg	0.3	<0.3	<0.3	134	0
Carcinogenic PAHs, BaP TEQ <LOR=LOR/2	mg/kg	0.2	<0.2	<0.2	175	0		
Total PAH (18)	mg/kg	0.8	<0.8	<0.8	200	0		
Surrogates		d5-nitrobenzene (Surrogate)	mg/kg	-	0.4	0.4	30	3
		2-fluorobiphenyl (Surrogate)	mg/kg	-	0.4	0.4	30	0
		d14-p-terphenyl (Surrogate)	mg/kg	-	0.4	0.4	30	0

PCBs in Soil

Method: ME-(AU)-IENVJAN420

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %		
SE206178.011	LB199507.030	Arochlor 1016	mg/kg	0.2	<0.2	<0.2	200	0		
		Arochlor 1221	mg/kg	0.2	<0.2	<0.2	200	0		
		Arochlor 1232	mg/kg	0.2	<0.2	<0.2	200	0		
		Arochlor 1242	mg/kg	0.2	<0.2	<0.2	200	0		
		Arochlor 1248	mg/kg	0.2	<0.2	<0.2	200	0		
		Arochlor 1254	mg/kg	0.2	<0.2	<0.2	200	0		
		Arochlor 1260	mg/kg	0.2	<0.2	<0.2	200	0		
		Arochlor 1262	mg/kg	0.2	<0.2	<0.2	200	0		
		Arochlor 1268	mg/kg	0.2	<0.2	<0.2	200	0		
		Total PCBs (Arochlors)	mg/kg	1	<1	<1	200	0		
		Surrogates		Tetrachloro-m-xylene (TCMX) (Surrogate)	mg/kg	-	0	0	30	1

Duplicates are calculated as Relative Percentage Difference (RPD) using the formula: $RPD = |OriginalResult - ReplicateResult| \times 100 / Mean$

The RPD is evaluated against the Maximum Allowable Difference (MAD) criteria and can be graphically represented by a curve calculated from the Statistical Detection Limit (SDL) and Limiting Repeatability (LR) using the formula: $MAD = 100 \times SDL / Mean + LR$

Where the Maximum Allowable Difference evaluates to a number larger than 200 it is displayed as 200.

RPD is shown in **Green** when within suggested criteria or **Red** with an appended reason identifier when outside suggested criteria. Refer to the footnotes section at the end of this report for failure reasons.

PCBs in Soil (continued)

Method: ME-(AU)-[ENV]AN420

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE206178.019	LB199507.031	Arochlor 1016	mg/kg	0.2	<0.2	<0.2	200	0
		Arochlor 1221	mg/kg	0.2	<0.2	<0.2	200	0
		Arochlor 1232	mg/kg	0.2	<0.2	<0.2	200	0
		Arochlor 1242	mg/kg	0.2	<0.2	<0.2	200	0
		Arochlor 1248	mg/kg	0.2	<0.2	<0.2	200	0
		Arochlor 1254	mg/kg	0.2	<0.2	<0.2	200	0
		Arochlor 1260	mg/kg	0.2	<0.2	<0.2	200	0
		Arochlor 1262	mg/kg	0.2	<0.2	<0.2	200	0
		Arochlor 1268	mg/kg	0.2	<0.2	<0.2	200	0
		Total PCBs (Arochlors)	mg/kg	1	<1	<1	200	0
	Surrogates	Tetrachloro-m-xylene (TCMX) (Surrogate)	mg/kg	-	0	0	30	3
SE206178.030	LB199508.014	Arochlor 1016	mg/kg	0.2	<0.2	<0.2	200	0
		Arochlor 1221	mg/kg	0.2	<0.2	<0.2	200	0
		Arochlor 1232	mg/kg	0.2	<0.2	<0.2	200	0
		Arochlor 1242	mg/kg	0.2	<0.2	<0.2	200	0
		Arochlor 1248	mg/kg	0.2	<0.2	<0.2	200	0
		Arochlor 1254	mg/kg	0.2	<0.2	<0.2	200	0
		Arochlor 1260	mg/kg	0.2	<0.2	<0.2	200	0
		Arochlor 1262	mg/kg	0.2	<0.2	<0.2	200	0
		Arochlor 1268	mg/kg	0.2	<0.2	<0.2	200	0
		Total PCBs (Arochlors)	mg/kg	1	<1	<1	200	0
	Surrogates	Tetrachloro-m-xylene (TCMX) (Surrogate)	mg/kg	-	0	0	30	6
SE206178.038	LB199508.023	Arochlor 1016	mg/kg	0.2	<0.2	<0.2	200	0
		Arochlor 1221	mg/kg	0.2	<0.2	<0.2	200	0
		Arochlor 1232	mg/kg	0.2	<0.2	<0.2	200	0
		Arochlor 1242	mg/kg	0.2	<0.2	<0.2	200	0
		Arochlor 1248	mg/kg	0.2	<0.2	<0.2	200	0
		Arochlor 1254	mg/kg	0.2	<0.2	<0.2	200	0
		Arochlor 1260	mg/kg	0.2	<0.2	<0.2	200	0
		Arochlor 1262	mg/kg	0.2	<0.2	<0.2	200	0
		Arochlor 1268	mg/kg	0.2	<0.2	<0.2	200	0
		Total PCBs (Arochlors)	mg/kg	1	<1	<1	200	0
	Surrogates	Tetrachloro-m-xylene (TCMX) (Surrogate)	mg/kg	-	0	0	30	4

pH in soil (1:5)

Method: ME-(AU)-[ENV]AN101

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE206218.006	LB199801.023	pH	pH Units	0.1	8.641	8.662	31	0
SE206326.005	LB199801.022	pH	pH Units	0.1	9.575	9.58	31	0

Speciated Phenols in Soil

Method: ME-(AU)-[ENV]AN420

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE206178.009	LB199507.030	Phenol	mg/kg	0.5	<0.5	<0.5	200	0
		2-methyl phenol (o-cresol)	mg/kg	0.5	<0.5	<0.5	200	0
		3/4-methyl phenol (m/p-cresol)	mg/kg	1	<1	<1	200	0
		Total Cresol	mg/kg	1.5	<1.5	<1.5	200	0
		2-chlorophenol	mg/kg	0.5	<0.5	<0.5	200	0
		2,4-dimethylphenol	mg/kg	0.5	<0.5	<0.5	200	0
		2,6-dichlorophenol	mg/kg	0.5	<0.5	<0.5	200	0
		2,4-dichlorophenol	mg/kg	0.5	<0.5	<0.5	200	0
		2,4,6-trichlorophenol	mg/kg	0.5	<0.5	<0.5	200	0
		2-nitrophenol	mg/kg	0.5	<0.5	<0.5	200	0
		4-nitrophenol	mg/kg	1	<1	<1	200	0
		2,4,5-trichlorophenol	mg/kg	0.5	<0.5	<0.5	200	0
		2,3,4,6/2,3,5,6-tetrachlorophenol	mg/kg	1	<1	<1	200	0
		Pentachlorophenol	mg/kg	0.5	<0.5	<0.5	200	0
		2,4-dinitrophenol	mg/kg	2	<2	<2	200	0
		4-chloro-3-methylphenol	mg/kg	2	<2	<2	200	0
			Surrogates	2,4,6-Tribromophenol (Surrogate)	mg/kg	-	5.2	4.8
		d5-phenol (Surrogate)	mg/kg	-	1.4	1.4	30	1
SE206178.020	LB199507.027	Phenol	mg/kg	0.5	<0.5	<0.5	200	0

Duplicates are calculated as Relative Percentage Difference (RPD) using the formula: $RPD = |OriginalResult - ReplicateResult| \times 100 / Mean$

The RPD is evaluated against the Maximum Allowable Difference (MAD) criteria and can be graphically represented by a curve calculated from the Statistical Detection Limit (SDL) and Limiting Repeatability (LR) using the formula: $MAD = 100 \times SDL / Mean + LR$

Where the Maximum Allowable Difference evaluates to a number larger than 200 it is displayed as 200.

RPD is shown in **Green** when within suggested criteria or **Red** with an appended reason identifier when outside suggested criteria. Refer to the footnotes section at the end of this report for failure reasons.

Speciated Phenols in Soil (continued)

Method: ME-(AU)-[ENV]AN420

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %	
SE206178.020	LB199507.027	2-methyl phenol (o-cresol)	mg/kg	0.5	<0.5	<0.5	200	0	
		3/4-methyl phenol (m/p-cresol)	mg/kg	1	<1	<1	200	0	
		Total Cresol	mg/kg	1.5	<1.5	<1.5	200	0	
		2-chlorophenol	mg/kg	0.5	<0.5	<0.5	200	0	
		2,4-dimethylphenol	mg/kg	0.5	<0.5	<0.5	200	0	
		2,6-dichlorophenol	mg/kg	0.5	<0.5	<0.5	200	0	
		2,4-dichlorophenol	mg/kg	0.5	<0.5	<0.5	200	0	
		2,4,6-trichlorophenol	mg/kg	0.5	<0.5	<0.5	200	0	
		2-nitrophenol	mg/kg	0.5	<0.5	<0.5	200	0	
		4-nitrophenol	mg/kg	1	<1	<1	200	0	
		2,4,5-trichlorophenol	mg/kg	0.5	<0.5	<0.5	200	0	
		2,3,4,6/2,3,5,6-tetrachlorophenol	mg/kg	1	<1	<1	200	0	
		Pentachlorophenol	mg/kg	0.5	<0.5	<0.5	200	0	
		2,4-dinitrophenol	mg/kg	2	<2	<2	200	0	
		4-chloro-3-methylphenol	mg/kg	2	<2	<2	200	0	
		Surrogates	2,4,6-Tribromophenol (Surrogate)	mg/kg	-	5.4	5.7	30	6
			d5-phenol (Surrogate)	mg/kg	-	1.6	1.7	30	6
		SE206178.029	LB199508.024	Phenol	mg/kg	0.5	<0.5	<0.5	200
2-methyl phenol (o-cresol)	mg/kg			0.5	<0.5	<0.5	200	0	
3/4-methyl phenol (m/p-cresol)	mg/kg			1	<1	<1	200	0	
Total Cresol	mg/kg			1.5	<1.5	<1.5	200	0	
2-chlorophenol	mg/kg			0.5	<0.5	<0.5	200	0	
2,4-dimethylphenol	mg/kg			0.5	<0.5	<0.5	200	0	
2,6-dichlorophenol	mg/kg			0.5	<0.5	<0.5	200	0	
2,4-dichlorophenol	mg/kg			0.5	<0.5	<0.5	200	0	
2,4,6-trichlorophenol	mg/kg			0.5	<0.5	<0.5	200	0	
2-nitrophenol	mg/kg			0.5	<0.5	<0.5	200	0	
4-nitrophenol	mg/kg			1	<1	<1	200	0	
2,4,5-trichlorophenol	mg/kg			0.5	<0.5	<0.5	200	0	
2,3,4,6/2,3,5,6-tetrachlorophenol	mg/kg			1	<1	<1	200	0	
Pentachlorophenol	mg/kg			0.5	<0.5	<0.5	200	0	
2,4-dinitrophenol	mg/kg			2	<2	<2	200	0	
4-chloro-3-methylphenol	mg/kg			2	<2	<2	200	0	
Surrogates	2,4,6-Tribromophenol (Surrogate)			mg/kg	-	5.0	4.8	30	4
	d5-phenol (Surrogate)			mg/kg	-	1.6	1.5	30	6
SE206178.038	LB199508.023	Phenol	mg/kg	0.5	<0.5	<0.5	200	0	
		2-methyl phenol (o-cresol)	mg/kg	0.5	<0.5	<0.5	200	0	
		3/4-methyl phenol (m/p-cresol)	mg/kg	1	<1	<1	200	0	
		Total Cresol	mg/kg	1.5	<1.5	<1.5	200	0	
		2-chlorophenol	mg/kg	0.5	<0.5	<0.5	200	0	
		2,4-dimethylphenol	mg/kg	0.5	<0.5	<0.5	200	0	
		2,6-dichlorophenol	mg/kg	0.5	<0.5	<0.5	200	0	
		2,4-dichlorophenol	mg/kg	0.5	<0.5	<0.5	200	0	
		2,4,6-trichlorophenol	mg/kg	0.5	<0.5	<0.5	200	0	
		2-nitrophenol	mg/kg	0.5	<0.5	<0.5	200	0	
		4-nitrophenol	mg/kg	1	<1	<1	200	0	
		2,4,5-trichlorophenol	mg/kg	0.5	<0.5	<0.5	200	0	
		2,3,4,6/2,3,5,6-tetrachlorophenol	mg/kg	1	<1	<1	200	0	
		Pentachlorophenol	mg/kg	0.5	<0.5	<0.5	200	0	
		2,4-dinitrophenol	mg/kg	2	<2	<2	200	0	
		4-chloro-3-methylphenol	mg/kg	2	<2	<2	200	0	
		Surrogates	2,4,6-Tribromophenol (Surrogate)	mg/kg	-	4.4	4.5	30	3
			d5-phenol (Surrogate)	mg/kg	-	1.5	1.5	30	2

Total Recoverable Elements in Soil/Waste Solids/Materials by ICPOES

Method: ME-(AU)-[ENV]AN040/AN320

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE206178.010	LB199533.014	Arsenic, As	mg/kg	1	1	1	103	12
		Cadmium, Cd	mg/kg	0.3	<0.3	<0.3	200	0
		Chromium, Cr	mg/kg	0.5	28	25	32	11
		Copper, Cu	mg/kg	0.5	3.5	3.5	44	1
		Nickel, Ni	mg/kg	0.5	4.1	5.1	41	21

Duplicates are calculated as Relative Percentage Difference (RPD) using the formula: $RPD = |OriginalResult - ReplicateResult| \times 100 / Mean$

The RPD is evaluated against the Maximum Allowable Difference (MAD) criteria and can be graphically represented by a curve calculated from the Statistical Detection Limit (SDL) and Limiting Repeatability (LR) using the formula: $MAD = 100 \times SDL / Mean + LR$

Where the Maximum Allowable Difference evaluates to a number larger than 200 it is displayed as 200.

RPD is shown in **Green** when within suggested criteria or **Red** with an appended reason identifier when outside suggested criteria. Refer to the footnotes section at the end of this report for failure reasons.

Total Recoverable Elements in Soil/Waste Solids/Materials by ICPOES (continued)

Method: ME-(AU)-[ENV]AN040/AN320

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE206178.010	LB199533.014	Lead, Pb	mg/kg	1	7	9	42	19
		Zinc, Zn	mg/kg	2	7.0	7.6	57	7
SE206178.019	LB199533.024	Arsenic, As	mg/kg	1	4	3	58	22
		Cadmium, Cd	mg/kg	0.3	<0.3	<0.3	200	0
		Chromium, Cr	mg/kg	0.5	20	26	32	28
		Copper, Cu	mg/kg	0.5	8.5	10	35	16
		Nickel, Ni	mg/kg	0.5	4.6	7.7	38	51 @
		Lead, Pb	mg/kg	1	23	27	34	13
		Zinc, Zn	mg/kg	2	8.0	11	51	31
SE206178.029	LB199534.014	Arsenic, As	mg/kg	1	2	2	87	11
		Cadmium, Cd	mg/kg	0.3	<0.3	<0.3	200	0
		Chromium, Cr	mg/kg	0.5	24	24	32	0
		Copper, Cu	mg/kg	0.5	4.7	5.1	40	8
		Nickel, Ni	mg/kg	0.5	4.3	4.4	42	2
		Lead, Pb	mg/kg	1	13	12	38	10
		Zinc, Zn	mg/kg	2	14	14	44	0
SE206178.038	LB199534.024	Arsenic, As	mg/kg	1	2	2	79	20
		Cadmium, Cd	mg/kg	0.3	<0.3	<0.3	200	0
		Chromium, Cr	mg/kg	0.5	23	14	33	52 @
		Copper, Cu	mg/kg	0.5	4.8	3.8	42	22
		Nickel, Ni	mg/kg	0.5	4.1	3.5	43	15
		Lead, Pb	mg/kg	1	25	22	34	14
		Zinc, Zn	mg/kg	2	37	48	35	27

TRH (Total Recoverable Hydrocarbons) in Soil

Method: ME-(AU)-[ENV]AN403

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %	
SE206178.010	LB199507.014	TRH C10-C14	mg/kg	20	<20	<20	200	0	
		TRH C15-C28	mg/kg	45	<45	<45	200	0	
		TRH C29-C36	mg/kg	45	<45	<45	200	0	
		TRH C37-C40	mg/kg	100	<100	<100	200	0	
		TRH C10-C36 Total	mg/kg	110	<110	<110	200	0	
		TRH >C10-C40 Total (F bands)	mg/kg	210	<210	<210	200	0	
		TRH F Bands	TRH >C10-C16	mg/kg	25	<25	<25	200	0
		TRH >C10-C16 - Naphthalene (F2)	mg/kg	25	<25	<25	200	0	
		TRH >C16-C34 (F3)	mg/kg	90	<90	<90	200	0	
		TRH >C34-C40 (F4)	mg/kg	120	<120	<120	200	0	
SE206178.019	LB199507.029	TRH C10-C14	mg/kg	20	<20	<20	200	0	
		TRH C15-C28	mg/kg	45	<45	<45	200	0	
		TRH C29-C36	mg/kg	45	<45	<45	200	0	
		TRH C37-C40	mg/kg	100	<100	<100	200	0	
		TRH C10-C36 Total	mg/kg	110	<110	<110	200	0	
		TRH >C10-C40 Total (F bands)	mg/kg	210	<210	<210	200	0	
		TRH F Bands	TRH >C10-C16	mg/kg	25	<25	<25	200	0
		TRH >C10-C16 - Naphthalene (F2)	mg/kg	25	<25	<25	200	0	
		TRH >C16-C34 (F3)	mg/kg	90	<90	<90	200	0	
		TRH >C34-C40 (F4)	mg/kg	120	<120	<120	200	0	
SE206178.030	LB199508.014	TRH C10-C14	mg/kg	20	<20	<20	200	0	
		TRH C15-C28	mg/kg	45	<45	<45	200	0	
		TRH C29-C36	mg/kg	45	<45	<45	200	0	
		TRH C37-C40	mg/kg	100	<100	<100	200	0	
		TRH C10-C36 Total	mg/kg	110	<110	<110	200	0	
		TRH >C10-C40 Total (F bands)	mg/kg	210	<210	<210	200	0	
		TRH F Bands	TRH >C10-C16	mg/kg	25	<25	<25	200	0
		TRH >C10-C16 - Naphthalene (F2)	mg/kg	25	<25	<25	200	0	
		TRH >C16-C34 (F3)	mg/kg	90	<90	<90	200	0	
		TRH >C34-C40 (F4)	mg/kg	120	<120	<120	200	0	
SE206178.038	LB199508.023	TRH C10-C14	mg/kg	20	<20	<20	200	0	
		TRH C15-C28	mg/kg	45	<45	<45	200	0	
		TRH C29-C36	mg/kg	45	<45	<45	200	0	
		TRH C37-C40	mg/kg	100	<100	<100	200	0	
		TRH C10-C36 Total	mg/kg	110	<110	<110	200	0	

Duplicates are calculated as Relative Percentage Difference (RPD) using the formula: $RPD = |OriginalResult - ReplicateResult| \times 100 / Mean$

The RPD is evaluated against the Maximum Allowable Difference (MAD) criteria and can be graphically represented by a curve calculated from the Statistical Detection Limit (SDL) and Limiting Repeatability (LR) using the formula: $MAD = 100 \times SDL / Mean + LR$

Where the Maximum Allowable Difference evaluates to a number larger than 200 it is displayed as 200.

RPD is shown in **Green** when within suggested criteria or **Red** with an appended reason identifier when outside suggested criteria. Refer to the footnotes section at the end of this report for failure reasons.

TRH (Total Recoverable Hydrocarbons) in Soil (continued)

Method: ME-(AU)-IENVJAN403

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE206178.038	LB199508.023	TRH >C10-C40 Total (F bands)	mg/kg	210	<210	<210	200	0
		TRH F Bands						
		TRH >C10-C16	mg/kg	25	<25	<25	200	0
		TRH >C10-C16 - Naphthalene (F2)	mg/kg	25	<25	<25	200	0
		TRH >C16-C34 (F3)	mg/kg	90	<90	<90	200	0
		TRH >C34-C40 (F4)	mg/kg	120	<120	<120	200	0

VOC's in Soil

Method: ME-(AU)-IENVJAN433

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %	
SE206178.010	LB199496.014	Monocyclic	Benzene	mg/kg	0.1	<0.1	<0.1	200	0
		Aromatic	Toluene	mg/kg	0.1	<0.1	<0.1	200	0
			Ethylbenzene	mg/kg	0.1	<0.1	<0.1	200	0
			m/p-xylene	mg/kg	0.2	<0.2	<0.2	200	0
			o-xylene	mg/kg	0.1	<0.1	<0.1	200	0
		Polycyclic	Naphthalene	mg/kg	0.1	<0.1	<0.1	200	0
		Surrogates	d4-1,2-dichloroethane (Surrogate)	mg/kg	-	10.8	11.4	50	6
			d8-toluene (Surrogate)	mg/kg	-	10.7	11.4	50	6
			Bromofluorobenzene (Surrogate)	mg/kg	-	8.9	9.8	50	9
		Totals	Total Xylenes	mg/kg	0.3	<0.3	<0.3	200	0
			Total BTEX	mg/kg	0.6	<0.6	<0.6	200	0
SE206178.020	LB199496.025	Monocyclic	Benzene	mg/kg	0.1	<0.1	<0.1	200	0
		Aromatic	Toluene	mg/kg	0.1	<0.1	<0.1	200	0
			Ethylbenzene	mg/kg	0.1	<0.1	<0.1	200	0
			m/p-xylene	mg/kg	0.2	<0.2	<0.2	200	0
			o-xylene	mg/kg	0.1	<0.1	<0.1	200	0
		Polycyclic	Naphthalene	mg/kg	0.1	<0.1	<0.1	200	0
		Surrogates	d4-1,2-dichloroethane (Surrogate)	mg/kg	-	11.1	11.0	50	1
			d8-toluene (Surrogate)	mg/kg	-	11.3	11.2	50	0
			Bromofluorobenzene (Surrogate)	mg/kg	-	9.2	9.2	50	0
		Totals	Total Xylenes	mg/kg	0.3	<0.3	<0.3	200	0
			Total BTEX	mg/kg	0.6	<0.6	<0.6	200	0
SE206178.030	LB199497.014	Monocyclic	Benzene	mg/kg	0.1	<0.1	<0.1	200	0
		Aromatic	Toluene	mg/kg	0.1	<0.1	<0.1	200	0
			Ethylbenzene	mg/kg	0.1	<0.1	<0.1	200	0
			m/p-xylene	mg/kg	0.2	<0.2	<0.2	200	0
			o-xylene	mg/kg	0.1	<0.1	<0.1	200	0
		Polycyclic	Naphthalene	mg/kg	0.1	<0.1	<0.1	200	0
		Surrogates	d4-1,2-dichloroethane (Surrogate)	mg/kg	-	10.6	10.9	50	2
			d8-toluene (Surrogate)	mg/kg	-	17.1	16.7	50	2
			Bromofluorobenzene (Surrogate)	mg/kg	-	7.9	7.9	50	0
		Totals	Total Xylenes	mg/kg	0.3	<0.3	<0.3	200	0
			Total BTEX	mg/kg	0.6	<0.6	<0.6	200	0
SE206178.038	LB199497.023	Monocyclic	Benzene	mg/kg	0.1	<0.1	<0.1	200	0
		Aromatic	Toluene	mg/kg	0.1	<0.1	<0.1	200	0
			Ethylbenzene	mg/kg	0.1	<0.1	<0.1	200	0
			m/p-xylene	mg/kg	0.2	<0.2	<0.2	200	0
			o-xylene	mg/kg	0.1	<0.1	<0.1	200	0
		Polycyclic	Naphthalene	mg/kg	0.1	<0.1	<0.1	200	0
		Surrogates	d4-1,2-dichloroethane (Surrogate)	mg/kg	-	10.8	10.2	50	6
			d8-toluene (Surrogate)	mg/kg	-	17.1	16.8	50	2
			Bromofluorobenzene (Surrogate)	mg/kg	-	8.0	7.5	50	7
		Totals	Total Xylenes	mg/kg	0.3	<0.3	<0.3	200	0
			Total BTEX	mg/kg	0.6	<0.6	<0.6	200	0

Volatile Petroleum Hydrocarbons in Soil

Method: ME-(AU)-IENVJAN433

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %	
SE206178.010	LB199496.014	TRH C6-C10	mg/kg	25	<25	<25	200	0	
		TRH C6-C9	mg/kg	20	<20	<20	200	0	
		Surrogates	d4-1,2-dichloroethane (Surrogate)	mg/kg	-	10.8	11.4	30	6
			d8-toluene (Surrogate)	mg/kg	-	10.7	11.4	30	6
			Bromofluorobenzene (Surrogate)	mg/kg	-	8.9	9.8	30	9
		VPH F Bands	Benzene (F0)	mg/kg	0.1	<0.1	<0.1	200	0
			TRH C6-C10 minus BTEX (F1)	mg/kg	25	<25	<25	200	0

Duplicates are calculated as Relative Percentage Difference (RPD) using the formula: $RPD = |OriginalResult - ReplicateResult| \times 100 / Mean$

The RPD is evaluated against the Maximum Allowable Difference (MAD) criteria and can be graphically represented by a curve calculated from the Statistical Detection Limit (SDL) and Limiting Repeatability (LR) using the formula: $MAD = 100 \times SDL / Mean + LR$

Where the Maximum Allowable Difference evaluates to a number larger than 200 it is displayed as 200.

RPD is shown in **Green** when within suggested criteria or **Red** with an appended reason identifier when outside suggested criteria. Refer to the footnotes section at the end of this report for failure reasons.

Volatile Petroleum Hydrocarbons in Soil (continued)

Method: ME-(AU)-ENVJAN433

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %	
SE206178.020	LB199496.025	TRH C6-C10	mg/kg	25	<25	<25	200	0	
		TRH C6-C9	mg/kg	20	<20	<20	200	0	
		Surrogates							
		d4-1,2-dichloroethane (Surrogate)	mg/kg	-	11.1	11.0	30	1	
		d8-toluene (Surrogate)	mg/kg	-	11.3	11.2	30	0	
		Bromofluorobenzene (Surrogate)	mg/kg	-	9.2	9.2	30	0	
		VPH F Bands							
		Benzene (F0)	mg/kg	0.1	<0.1	<0.1	200	0	
SE206178.030	LB199497.014	TRH C6-C10 minus BTEX (F1)	mg/kg	25	<25	<25	200	0	
		TRH C6-C10	mg/kg	25	<25	<25	200	0	
		TRH C6-C9	mg/kg	20	<20	<20	200	0	
		Surrogates							
		d4-1,2-dichloroethane (Surrogate)	mg/kg	-	10.6	10.9	30	2	
		d8-toluene (Surrogate)	mg/kg	-	17.1	16.7	30	2	
		Bromofluorobenzene (Surrogate)	mg/kg	-	7.9	7.9	30	0	
		VPH F Bands							
Benzene (F0)	mg/kg	0.1	<0.1	<0.1	200	0			
SE206178.038	LB199497.023	TRH C6-C10 minus BTEX (F1)	mg/kg	25	<25	<25	200	0	
		TRH C6-C10	mg/kg	25	<25	<25	200	0	
		TRH C6-C9	mg/kg	20	<20	<20	200	0	
		Surrogates							
		d4-1,2-dichloroethane (Surrogate)	mg/kg	-	10.8	10.2	30	6	
		d8-toluene (Surrogate)	mg/kg	-	17.1	16.8	30	2	
		Bromofluorobenzene (Surrogate)	mg/kg	-	8.0	7.5	30	7	
		VPH F Bands							
Benzene (F0)	mg/kg	0.1	<0.1	<0.1	200	0			
		TRH C6-C10 minus BTEX (F1)	mg/kg	25	<25	<25	200	0	

Laboratory Control Standard (LCS) results are evaluated against an expected result, typically the concentration of analyte spiked into the control during the sample preparation stage, producing a percentage recovery. The criteria applied to the percentage recovery is established in the SGS QA /QC plan (Ref: MP-(AU)-[ENV]QU-022). For more information refer to the footnotes in the concluding page of this report.

Recovery is shown in **Green** when within suggested criteria or **Red** with an appended dagger symbol (†) when outside suggested criteria.

Mercury in Soil

Method: ME-(AU)-[ENV]AN312

Sample Number	Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB199539.002	Mercury	mg/kg	0.05	0.21	0.2	70 - 130	106
LB199540.002	Mercury	mg/kg	0.05	0.19	0.2	70 - 130	97

OC Pesticides in Soil

Method: ME-(AU)-[ENV]AN420

Sample Number	Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB199507.002	Heptachlor	mg/kg	0.1	0.2	0.2	60 - 140	116
	Aldrin	mg/kg	0.1	0.2	0.2	60 - 140	117
	Delta BHC	mg/kg	0.1	0.2	0.2	60 - 140	114
	Dieldrin	mg/kg	0.2	0.2	0.2	60 - 140	117
	Endrin	mg/kg	0.2	0.3	0.2	60 - 140	130
	p,p'-DDT	mg/kg	0.1	0.2	0.2	60 - 140	84
Surrogates	Tetrachloro-m-xylene (TCMX) (Surrogate)	mg/kg	-	0.15	0.15	40 - 130	97
LB199508.002	Heptachlor	mg/kg	0.1	0.2	0.2	60 - 140	125
	Aldrin	mg/kg	0.1	0.2	0.2	60 - 140	121
	Delta BHC	mg/kg	0.1	0.2	0.2	60 - 140	117
	Dieldrin	mg/kg	0.2	0.2	0.2	60 - 140	125
	Endrin	mg/kg	0.2	0.3	0.2	60 - 140	128
	p,p'-DDT	mg/kg	0.1	0.2	0.2	60 - 140	115
Surrogates	Tetrachloro-m-xylene (TCMX) (Surrogate)	mg/kg	-	0.15	0.15	40 - 130	99

OP Pesticides in Soil

Method: ME-(AU)-[ENV]AN420

Sample Number	Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB199507.002	Dichlorvos	mg/kg	0.5	2.0	2	60 - 140	100
	Diazinon (Dimpylate)	mg/kg	0.5	2.1	2	60 - 140	107
	Chlorpyrifos (Chlorpyrifos Ethyl)	mg/kg	0.2	2.1	2	60 - 140	106
	Ethion	mg/kg	0.2	1.9	2	60 - 140	96
	Surrogates	2-fluorobiphenyl (Surrogate)	mg/kg	-	0.4	0.5	40 - 130
	d14-p-terphenyl (Surrogate)	mg/kg	-	0.3	0.5	40 - 130	67
LB199508.002	Dichlorvos	mg/kg	0.5	1.8	2	60 - 140	91
	Diazinon (Dimpylate)	mg/kg	0.5	1.9	2	60 - 140	94
	Chlorpyrifos (Chlorpyrifos Ethyl)	mg/kg	0.2	1.8	2	60 - 140	89
	Ethion	mg/kg	0.2	1.7	2	60 - 140	86
	Surrogates	2-fluorobiphenyl (Surrogate)	mg/kg	-	0.4	0.5	40 - 130
	d14-p-terphenyl (Surrogate)	mg/kg	-	0.4	0.5	40 - 130	74

PAH (Polynuclear Aromatic Hydrocarbons) in Soil

Method: ME-(AU)-[ENV]AN420

Sample Number	Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %	
LB199507.002	Naphthalene	mg/kg	0.1	4.0	4	60 - 140	101	
	Acenaphthylene	mg/kg	0.1	4.1	4	60 - 140	102	
	Acenaphthene	mg/kg	0.1	4.3	4	60 - 140	107	
	Phenanthrene	mg/kg	0.1	4.1	4	60 - 140	103	
	Anthracene	mg/kg	0.1	4.0	4	60 - 140	100	
	Fluoranthene	mg/kg	0.1	3.9	4	60 - 140	99	
	Pyrene	mg/kg	0.1	4.3	4	60 - 140	107	
	Benzo(a)pyrene	mg/kg	0.1	4.6	4	60 - 140	114	
	Surrogates	d5-nitrobenzene (Surrogate)	mg/kg	-	0.4	0.5	40 - 130	87
		2-fluorobiphenyl (Surrogate)	mg/kg	-	0.4	0.5	40 - 130	81
	d14-p-terphenyl (Surrogate)	mg/kg	-	0.3	0.5	40 - 130	67	
LB199508.002	Naphthalene	mg/kg	0.1	3.9	4	60 - 140	98	
	Acenaphthylene	mg/kg	0.1	3.9	4	60 - 140	98	
	Acenaphthene	mg/kg	0.1	4.0	4	60 - 140	100	
	Phenanthrene	mg/kg	0.1	3.8	4	60 - 140	96	
	Anthracene	mg/kg	0.1	3.8	4	60 - 140	94	
	Fluoranthene	mg/kg	0.1	3.3	4	60 - 140	83	
	Pyrene	mg/kg	0.1	3.7	4	60 - 140	94	
	Benzo(a)pyrene	mg/kg	0.1	4.2	4	60 - 140	104	
	Surrogates	d5-nitrobenzene (Surrogate)	mg/kg	-	0.4	0.5	40 - 130	78
		2-fluorobiphenyl (Surrogate)	mg/kg	-	0.4	0.5	40 - 130	82
	d14-p-terphenyl (Surrogate)	mg/kg	-	0.4	0.5	40 - 130	74	

PCBs in Soil

Method: ME-(AU)-[ENV]AN420

Sample Number	Parameter	Units	LOR
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Laboratory Control Standard (LCS) results are evaluated against an expected result, typically the concentration of analyte spiked into the control during the sample preparation stage, producing a percentage recovery. The criteria applied to the percentage recovery is established in the SGS QA /QC plan (Ref: MP-(AU)-[ENV]QU-022). For more information refer to the footnotes in the concluding page of this report.

Recovery is shown in **Green** when within suggested criteria or **Red** with an appended dagger symbol (†) when outside suggested criteria.

PCBs in Soil (continued)

Method: ME-(AU)-[ENV]AN420

Sample Number	Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB199507.002	Arochlor 1260	mg/kg	0.2	0.3	0.4	60 - 140	73
LB199508.002	Arochlor 1260	mg/kg	0.2	0.3	0.4	60 - 140	81

pH in soil (1:5)

Method: ME-(AU)-[ENV]AN101

Sample Number	Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB199801.003	pH	pH Units	0.1	7.4	7.415	98 - 102	100

Speciated Phenols in Soil

Method: ME-(AU)-[ENV]AN420

Sample Number	Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB199507.002	Phenol	mg/kg	0.5	0.9	1	70 - 130	92
	2,4-dichlorophenol	mg/kg	0.5	0.9	1	70 - 130	90
	2,4,6-trichlorophenol	mg/kg	0.5	0.7	1	70 - 130	73
	Pentachlorophenol	mg/kg	0.5	0.8	1	70 - 130	79
	Surrogates	2,4,6-Tribromophenol (Surrogate)	mg/kg	-	4.0	5	40 - 130
	d5-phenol (Surrogate)	mg/kg	-	1.8	2	40 - 130	91
LB199508.002	Phenol	mg/kg	0.5	1.0	1	70 - 130	95
	2,4-dichlorophenol	mg/kg	0.5	0.8	1	70 - 130	84
	2,4,6-trichlorophenol	mg/kg	0.5	0.9	1	70 - 130	93
	Pentachlorophenol	mg/kg	0.5	1.1	1	70 - 130	108
	Surrogates	2,4,6-Tribromophenol (Surrogate)	mg/kg	-	5.3	5	40 - 130
	d5-phenol (Surrogate)	mg/kg	-	1.8	2	40 - 130	89

Total Recoverable Elements in Soil/Waste Solids/Materials by ICPOES

Method: ME-(AU)-[ENV]AN040/AN320

Sample Number	Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB199533.002	Arsenic, As	mg/kg	1	330	318.22	80 - 120	104
	Cadmium, Cd	mg/kg	0.3	5.8	5.41	80 - 120	107
	Chromium, Cr	mg/kg	0.5	39	38.31	80 - 120	101
	Copper, Cu	mg/kg	0.5	300	290	80 - 120	103
	Nickel, Ni	mg/kg	0.5	190	187	80 - 120	103
	Lead, Pb	mg/kg	1	93	89.9	80 - 120	104
	Zinc, Zn	mg/kg	2	270	273	80 - 120	101
LB199534.002	Arsenic, As	mg/kg	1	330	318.22	80 - 120	105
	Cadmium, Cd	mg/kg	0.3	5.8	5.41	80 - 120	108
	Chromium, Cr	mg/kg	0.5	40	38.31	80 - 120	104
	Copper, Cu	mg/kg	0.5	300	290	80 - 120	103
	Nickel, Ni	mg/kg	0.5	190	187	80 - 120	102
	Lead, Pb	mg/kg	1	93	89.9	80 - 120	104
	Zinc, Zn	mg/kg	2	280	273	80 - 120	101

TRH (Total Recoverable Hydrocarbons) in Soil

Method: ME-(AU)-[ENV]AN403

Sample Number	Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %	
LB199507.002	TRH C10-C14	mg/kg	20	45	40	60 - 140	113	
	TRH C15-C28	mg/kg	45	<45	40	60 - 140	103	
	TRH C29-C36	mg/kg	45	<45	40	60 - 140	75	
	TRH F Bands	TRH >C10-C16	mg/kg	25	45	40	60 - 140	113
		TRH >C16-C34 (F3)	mg/kg	90	<90	40	60 - 140	68
		TRH >C34-C40 (F4)	mg/kg	120	<120	20	60 - 140	90
LB199508.002	TRH C10-C14	mg/kg	20	42	40	60 - 140	105	
	TRH C15-C28	mg/kg	45	<45	40	60 - 140	108	
	TRH C29-C36	mg/kg	45	<45	40	60 - 140	78	
	TRH F Bands	TRH >C10-C16	mg/kg	25	43	40	60 - 140	108
		TRH >C16-C34 (F3)	mg/kg	90	<90	40	60 - 140	100
		TRH >C34-C40 (F4)	mg/kg	120	<120	20	60 - 140	70

VOC's in Soil

Method: ME-(AU)-[ENV]AN433

Sample Number	Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %	
LB199496.002	Monocyclic	Benzene	mg/kg	0.1	4.2	5	60 - 140	84
	Aromatic	Toluene	mg/kg	0.1	4.1	5	60 - 140	83
		Ethylbenzene	mg/kg	0.1	4.3	5	60 - 140	85
		m/p-xylene	mg/kg	0.2	8.6	10	60 - 140	86

Laboratory Control Standard (LCS) results are evaluated against an expected result, typically the concentration of analyte spiked into the control during the sample preparation stage, producing a percentage recovery. The criteria applied to the percentage recovery is established in the SGS QA /QC plan (Ref: MP-(AU)-[ENV]QU-022). For more information refer to the footnotes in the concluding page of this report.

Recovery is shown in **Green** when within suggested criteria or **Red** with an appended dagger symbol (†) when outside suggested criteria.

VOC's in Soil (continued)

Method: ME-(AU)-[ENV]AN433

Sample Number	Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %	
LB199496.002	Monocyclic	o-xylene	mg/kg	0.1	4.2	5	60 - 140	85
	Surrogates	d4-1,2-dichloroethane (Surrogate)	mg/kg	-	11.9	10	70 - 130	119
		d8-toluene (Surrogate)	mg/kg	-	12.1	10	70 - 130	121
		Bromofluorobenzene (Surrogate)	mg/kg	-	11.0	10	70 - 130	110
LB199497.002	Monocyclic	Benzene	mg/kg	0.1	3.8	5	60 - 140	77
	Aromatic	Toluene	mg/kg	0.1	4.0	5	60 - 140	80
		Ethylbenzene	mg/kg	0.1	4.2	5	60 - 140	83
		m/p-xylene	mg/kg	0.2	9.7	10	60 - 140	97
		o-xylene	mg/kg	0.1	4.8	5	60 - 140	96
	Surrogates	d4-1,2-dichloroethane (Surrogate)	mg/kg	-	11.0	10	70 - 130	110
		d8-toluene (Surrogate)	mg/kg	-	9.5	10	70 - 130	95
		Bromofluorobenzene (Surrogate)	mg/kg	-	12.3	10	70 - 130	123

Volatile Petroleum Hydrocarbons in Soil

Method: ME-(AU)-[ENV]AN433

Sample Number	Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %	
LB199496.002		TRH C6-C10	mg/kg	25	84	92.5	60 - 140	91
		TRH C6-C9	mg/kg	20	74	80	60 - 140	92
	Surrogates	d4-1,2-dichloroethane (Surrogate)	mg/kg	-	11.9	10	70 - 130	119
		Bromofluorobenzene (Surrogate)	mg/kg	-	11.0	10	70 - 130	110
	VPH F Bands	TRH C6-C10 minus BTEX (F1)	mg/kg	25	59	62.5	60 - 140	94
LB199497.002		TRH C6-C10	mg/kg	25	77	92.5	60 - 140	83
		TRH C6-C9	mg/kg	20	63	80	60 - 140	79
	Surrogates	d4-1,2-dichloroethane (Surrogate)	mg/kg	-	11.0	10	70 - 130	110
		Bromofluorobenzene (Surrogate)	mg/kg	-	12.3	10	70 - 130	123
	VPH F Bands	TRH C6-C10 minus BTEX (F1)	mg/kg	25	50	62.5	60 - 140	80

Matrix Spike (MS) results are evaluated as the percentage recovery of an expected result, typically the concentration of analyte spiked into a field sub-sample during the sample preparation stage. The original sample's result is subtracted from the sub-sample result before determining the percentage recovery. The criteria applied to the percentage recovery is established in the SGS QA/QC plan (ref: MP-(AU)-(ENV)QU-022). For more information refer to the footnotes in the concluding page of this report.

Recovery is shown in **Green** when within suggested criteria or **Red** with an appended reason identifier when outside suggested criteria. Refer to the footnotes section at the end of this report for failure reasons.

Mercury in Soil

Method: ME-(AU)-(ENV)AN312

QC Sample	Sample Number	Parameter	Units	LOR	Result	Original	Spike	Recovery%
SE206178.001	LB199539.004	Mercury	mg/kg	0.05	0.22	<0.05	0.2	98
SE206178.020	LB199540.004	Mercury	mg/kg	0.05	0.20	<0.05	0.2	92

OC Pesticides in Soil

Method: ME-(AU)-(ENV)AN420

QC Sample	Sample Number	Parameter	Units	LOR	Result	Original	Spike	Recovery%
SE206178.003	LB199507.032	Hexachlorobenzene (HCB)	mg/kg	0.1	<0.1	<0.1	-	-
		Alpha BHC	mg/kg	0.1	<0.1	<0.1	-	-
		Lindane	mg/kg	0.1	<0.1	<0.1	-	-
		Heptachlor	mg/kg	0.1	0.2	<0.1	0.2	117
		Aldrin	mg/kg	0.1	0.2	<0.1	0.2	117
		Beta BHC	mg/kg	0.1	<0.1	<0.1	-	-
		Delta BHC	mg/kg	0.1	0.2	<0.1	0.2	114
		Heptachlor epoxide	mg/kg	0.1	<0.1	<0.1	-	-
		o,p'-DDE	mg/kg	0.1	<0.1	<0.1	-	-
		Alpha Endosulfan	mg/kg	0.2	<0.2	<0.2	-	-
		Gamma Chlordane	mg/kg	0.1	<0.1	<0.1	-	-
		Alpha Chlordane	mg/kg	0.1	<0.1	<0.1	-	-
		trans-Nonachlor	mg/kg	0.1	<0.1	<0.1	-	-
		p,p'-DDE	mg/kg	0.1	<0.1	<0.1	-	-
		Dieldrin	mg/kg	0.2	0.2	<0.2	0.2	116
		Endrin	mg/kg	0.2	0.3	<0.2	0.2	130
		o,p'-DDD	mg/kg	0.1	<0.1	<0.1	-	-
		o,p'-DDT	mg/kg	0.1	<0.1	<0.1	-	-
		Beta Endosulfan	mg/kg	0.2	<0.2	<0.2	-	-
		p,p'-DDD	mg/kg	0.1	<0.1	<0.1	-	-
		p,p'-DDT	mg/kg	0.1	0.2	<0.1	0.2	90
		Endosulfan sulphate	mg/kg	0.1	<0.1	<0.1	-	-
		Endrin Aldehyde	mg/kg	0.1	<0.1	<0.1	-	-
		Methoxychlor	mg/kg	0.1	<0.1	<0.1	-	-
		Endrin Ketone	mg/kg	0.1	<0.1	<0.1	-	-
		Isodrin	mg/kg	0.1	<0.1	<0.1	-	-
		Mirex	mg/kg	0.1	<0.1	<0.1	-	-
Total CLP OC Pesticides	mg/kg	1	1	<1	-	-		
Surrogates	Tetrachloro-m-xylene (TCMX) (Surrogate)	mg/kg	-	0.15	0.15	-	97	
SE206178.022	LB199508.024	Hexachlorobenzene (HCB)	mg/kg	0.1	<0.1	<0.1	-	-
		Alpha BHC	mg/kg	0.1	<0.1	<0.1	-	-
		Lindane	mg/kg	0.1	<0.1	<0.1	-	-
		Heptachlor	mg/kg	0.1	0.3	<0.1	0.2	128
		Aldrin	mg/kg	0.1	0.2	<0.1	0.2	124
		Beta BHC	mg/kg	0.1	<0.1	<0.1	-	-
		Delta BHC	mg/kg	0.1	0.2	<0.1	0.2	120
		Heptachlor epoxide	mg/kg	0.1	<0.1	<0.1	-	-
		o,p'-DDE	mg/kg	0.1	<0.1	<0.1	-	-
		Alpha Endosulfan	mg/kg	0.2	<0.2	<0.2	-	-
		Gamma Chlordane	mg/kg	0.1	<0.1	<0.1	-	-
		Alpha Chlordane	mg/kg	0.1	<0.1	<0.1	-	-
		trans-Nonachlor	mg/kg	0.1	<0.1	<0.1	-	-
		p,p'-DDE	mg/kg	0.1	<0.1	<0.1	-	-
		Dieldrin	mg/kg	0.2	0.3	<0.2	0.2	129
		Endrin	mg/kg	0.2	0.3	<0.2	0.2	130
		o,p'-DDD	mg/kg	0.1	<0.1	<0.1	-	-
		o,p'-DDT	mg/kg	0.1	<0.1	<0.1	-	-
		Beta Endosulfan	mg/kg	0.2	<0.2	<0.2	-	-
		p,p'-DDD	mg/kg	0.1	<0.1	<0.1	-	-
		p,p'-DDT	mg/kg	0.1	0.2	<0.1	0.2	120
		Endosulfan sulphate	mg/kg	0.1	<0.1	<0.1	-	-
		Endrin Aldehyde	mg/kg	0.1	<0.1	<0.1	-	-
		Methoxychlor	mg/kg	0.1	<0.1	<0.1	-	-
		Endrin Ketone	mg/kg	0.1	<0.1	<0.1	-	-
		Isodrin	mg/kg	0.1	<0.1	<0.1	-	-

Matrix Spike (MS) results are evaluated as the percentage recovery of an expected result, typically the concentration of analyte spiked into a field sub-sample during the sample preparation stage. The original sample's result is subtracted from the sub-sample result before determining the percentage recovery. The criteria applied to the percentage recovery is established in the SGS QA/QC plan (ref: MP-(AU)-(ENV)QU-022). For more information refer to the footnotes in the concluding page of this report.

Recovery is shown in **Green** when within suggested criteria or **Red** with an appended reason identifier when outside suggested criteria. Refer to the footnotes section at the end of this report for failure reasons.

OC Pesticides in Soil (continued)

Method: ME-(AU)-(ENV)AN420

QC Sample	Sample Number	Parameter	Units	LOR	Result	Original	Spike	Recovery%
SE206178.022	LB199508.024	Mirex	mg/kg	0.1	<0.1	<0.1	-	-
		Total CLP OC Pesticides	mg/kg	1	2	<1	-	-
		Surrogates Tetrachloro-m-xylene (TCMX) (Surrogate)	mg/kg	-	0.15	0.15	-	99

OP Pesticides in Soil

Method: ME-(AU)-(ENV)AN420

QC Sample	Sample Number	Parameter	Units	LOR	Result	Original	Spike	Recovery%
SE206178.002	LB199507.028	Dichlorvos	mg/kg	0.5	1.7	<0.5	2	83
		Dimethoate	mg/kg	0.5	<0.5	<0.5	-	-
		Diazinon (Dimpylate)	mg/kg	0.5	2.1	<0.5	2	103
		Fenitrothion	mg/kg	0.2	<0.2	<0.2	-	-
		Malathion	mg/kg	0.2	<0.2	<0.2	-	-
		Chlorpyrifos (Chlorpyrifos Ethyl)	mg/kg	0.2	2.1	<0.2	2	106
		Parathion-ethyl (Parathion)	mg/kg	0.2	<0.2	<0.2	-	-
		Bromophos Ethyl	mg/kg	0.2	<0.2	<0.2	-	-
		Methidathion	mg/kg	0.5	<0.5	<0.5	-	-
		Ethion	mg/kg	0.2	2.3	<0.2	2	113
		Azinphos-methyl (Guthion)	mg/kg	0.2	<0.2	<0.2	-	-
		Total OP Pesticides*	mg/kg	1.7	8.1	<1.7	-	-
		Surrogates 2-fluorobiphenyl (Surrogate)	mg/kg	-	0.4	0.4	-	78
		Surrogates d14-p-terphenyl (Surrogate)	mg/kg	-	0.4	0.4	-	83
SE206178.021	LB199508.004	Dichlorvos	mg/kg	0.5	1.2	<0.5	2	60
		Dimethoate	mg/kg	0.5	<0.5	<0.5	-	-
		Diazinon (Dimpylate)	mg/kg	0.5	1.8	<0.5	2	88
		Fenitrothion	mg/kg	0.2	<0.2	<0.2	-	-
		Malathion	mg/kg	0.2	<0.2	<0.2	-	-
		Chlorpyrifos (Chlorpyrifos Ethyl)	mg/kg	0.2	1.7	<0.2	2	84
		Parathion-ethyl (Parathion)	mg/kg	0.2	<0.2	<0.2	-	-
		Bromophos Ethyl	mg/kg	0.2	<0.2	<0.2	-	-
		Methidathion	mg/kg	0.5	<0.5	<0.5	-	-
		Ethion	mg/kg	0.2	1.7	<0.2	2	83
		Azinphos-methyl (Guthion)	mg/kg	0.2	<0.2	<0.2	-	-
		Total OP Pesticides*	mg/kg	1.7	6.3	<1.7	-	-
		Surrogates 2-fluorobiphenyl (Surrogate)	mg/kg	-	0.4	0.4	-	78
		Surrogates d14-p-terphenyl (Surrogate)	mg/kg	-	0.4	0.4	-	72

PAH (Polynuclear Aromatic Hydrocarbons) in Soil

Method: ME-(AU)-(ENV)AN420

QC Sample	Sample Number	Parameter	Units	LOR	Result	Original	Spike	Recovery%
SE206178.002	LB199507.028	Naphthalene	mg/kg	0.1	3.9	<0.1	4	96
		2-methylnaphthalene	mg/kg	0.1	<0.1	<0.1	-	-
		1-methylnaphthalene	mg/kg	0.1	<0.1	<0.1	-	-
		Acenaphthylene	mg/kg	0.1	3.8	<0.1	4	94
		Acenaphthene	mg/kg	0.1	4.2	<0.1	4	105
		Fluorene	mg/kg	0.1	<0.1	<0.1	-	-
		Phenanthrene	mg/kg	0.1	3.9	<0.1	4	98
		Anthracene	mg/kg	0.1	3.9	<0.1	4	96
		Fluoranthene	mg/kg	0.1	4.5	<0.1	4	113
		Pyrene	mg/kg	0.1	5.0	<0.1	4	125
		Benzo(a)anthracene	mg/kg	0.1	<0.1	<0.1	-	-
		Chrysene	mg/kg	0.1	<0.1	<0.1	-	-
		Benzo(b&j)fluoranthene	mg/kg	0.1	<0.1	<0.1	-	-
		Benzo(k)fluoranthene	mg/kg	0.1	<0.1	<0.1	-	-
		Benzo(a)pyrene	mg/kg	0.1	3.8	<0.1	4	96
		Indeno(1,2,3-cd)pyrene	mg/kg	0.1	<0.1	<0.1	-	-
		Dibenzo(ah)anthracene	mg/kg	0.1	<0.1	<0.1	-	-
		Benzo(ghi)perylene	mg/kg	0.1	<0.1	<0.1	-	-
		Carcinogenic PAHs, BaP TEQ <LOR=0	TEQ (mg/kg)	0.2	3.8	<0.2	-	-
		Carcinogenic PAHs, BaP TEQ <LOR=LOR	TEQ (mg/kg)	0.3	4.0	<0.3	-	-
		Carcinogenic PAHs, BaP TEQ <LOR=LOR/2	TEQ (mg/kg)	0.2	3.9	<0.2	-	-
		Total PAH (18)	mg/kg	0.8	33	<0.8	-	-
		Surrogates d5-nitrobenzene (Surrogate)	mg/kg	-	0.5	0.4	-	92
		Surrogates 2-fluorobiphenyl (Surrogate)	mg/kg	-	0.4	0.4	-	78
		Surrogates d14-p-terphenyl (Surrogate)	mg/kg	-	0.4	0.4	-	83

Matrix Spike (MS) results are evaluated as the percentage recovery of an expected result, typically the concentration of analyte spiked into a field sub-sample during the sample preparation stage. The original sample's result is subtracted from the sub-sample result before determining the percentage recovery. The criteria applied to the percentage recovery is established in the SGS QA/QC plan (ref: MP-(AU)-(ENV)QU-022). For more information refer to the footnotes in the concluding page of this report.

Recovery is shown in **Green** when within suggested criteria or **Red** with an appended reason identifier when outside suggested criteria. Refer to the footnotes section at the end of this report for failure reasons.

PAH (Polynuclear Aromatic Hydrocarbons) in Soil (continued)

Method: ME-(AU)-(ENV)AN420

QC Sample	Sample Number	Parameter	Units	LOR	Result	Original	Spike	Recovery%
SE206178.021	LB199508.004	Naphthalene	mg/kg	0.1	3.9	<0.1	4	98
		2-methylnaphthalene	mg/kg	0.1	<0.1	<0.1	-	-
		1-methylnaphthalene	mg/kg	0.1	<0.1	<0.1	-	-
		Acenaphthylene	mg/kg	0.1	3.8	<0.1	4	95
		Acenaphthene	mg/kg	0.1	3.8	<0.1	4	96
		Fluorene	mg/kg	0.1	<0.1	<0.1	-	-
		Phenanthrene	mg/kg	0.1	3.6	<0.1	4	89
		Anthracene	mg/kg	0.1	3.7	<0.1	4	93
		Fluoranthene	mg/kg	0.1	3.3	<0.1	4	82
		Pyrene	mg/kg	0.1	3.6	<0.1	4	91
		Benzo(a)anthracene	mg/kg	0.1	<0.1	<0.1	-	-
		Chrysene	mg/kg	0.1	<0.1	<0.1	-	-
		Benzo(b&j)fluoranthene	mg/kg	0.1	<0.1	<0.1	-	-
		Benzo(k)fluoranthene	mg/kg	0.1	<0.1	<0.1	-	-
		Benzo(a)pyrene	mg/kg	0.1	4.3	<0.1	4	109
		Indeno(1,2,3-cd)pyrene	mg/kg	0.1	<0.1	<0.1	-	-
		Dibenzo(ah)anthracene	mg/kg	0.1	<0.1	<0.1	-	-
		Benzo(ghi)perylene	mg/kg	0.1	<0.1	<0.1	-	-
		Carcinogenic PAHs, BaP TEQ <LOR=0	TEQ (mg/kg)	0.2	4.3	<0.2	-	-
		Carcinogenic PAHs, BaP TEQ <LOR=LOR	TEQ (mg/kg)	0.3	4.5	<0.3	-	-
		Carcinogenic PAHs, BaP TEQ <LOR=LOR/2	TEQ (mg/kg)	0.2	4.4	<0.2	-	-
		Total PAH (18)	mg/kg	0.8	30	<0.8	-	-
		Surrogates		d5-nitrobenzene (Surrogate)	mg/kg	-	0.4	0.4
2-fluorobiphenyl (Surrogate)	mg/kg			-	0.4	0.4	-	78
d14-p-terphenyl (Surrogate)	mg/kg			-	0.4	0.4	-	72

PCBs in Soil

Method: ME-(AU)-(ENV)AN420

QC Sample	Sample Number	Parameter	Units	LOR	Result	Original	Spike	Recovery%
SE206178.003	LB199507.032	Arochlor 1016	mg/kg	0.2	<0.2	<0.2	-	-
		Arochlor 1221	mg/kg	0.2	<0.2	<0.2	-	-
		Arochlor 1232	mg/kg	0.2	<0.2	<0.2	-	-
		Arochlor 1242	mg/kg	0.2	<0.2	<0.2	-	-
		Arochlor 1248	mg/kg	0.2	<0.2	<0.2	-	-
		Arochlor 1254	mg/kg	0.2	<0.2	<0.2	-	-
		Arochlor 1260	mg/kg	0.2	0.3	<0.2	0.4	76
		Arochlor 1262	mg/kg	0.2	<0.2	<0.2	-	-
		Arochlor 1268	mg/kg	0.2	<0.2	<0.2	-	-
		Total PCBs (Arochlors)	mg/kg	1	<1	<1	-	-
		Surrogates		Tetrachloro-m-xylene (TCMX) (Surrogate)	mg/kg	-	0	0
SE206178.022	LB199508.024	Arochlor 1016	mg/kg	0.2	<0.2	<0.2	-	-
		Arochlor 1221	mg/kg	0.2	<0.2	<0.2	-	-
		Arochlor 1232	mg/kg	0.2	<0.2	<0.2	-	-
		Arochlor 1242	mg/kg	0.2	<0.2	<0.2	-	-
		Arochlor 1248	mg/kg	0.2	<0.2	<0.2	-	-
		Arochlor 1254	mg/kg	0.2	<0.2	<0.2	-	-
		Arochlor 1260	mg/kg	0.2	0.3	<0.2	0.4	84
		Arochlor 1262	mg/kg	0.2	<0.2	<0.2	-	-
		Arochlor 1268	mg/kg	0.2	<0.2	<0.2	-	-
		Total PCBs (Arochlors)	mg/kg	1	<1	<1	-	-
		Surrogates		Tetrachloro-m-xylene (TCMX) (Surrogate)	mg/kg	-	0	0

Speciated Phenols in Soil

Method: ME-(AU)-(ENV)AN420

QC Sample	Sample Number	Parameter	Units	LOR	Result	Original	Spike	Recovery%
SE206178.001	LB199507.004	Phenol	mg/kg	0.5	0.9	<0.5	1	85
		2-methyl phenol (o-cresol)	mg/kg	0.5	<0.5	<0.5	-	-
		3/4-methyl phenol (m/p-cresol)	mg/kg	1	<1	<1	-	-
		Total Cresol	mg/kg	1.5	<1.5	<1.5	-	-
		2-chlorophenol	mg/kg	0.5	<0.5	<0.5	-	-
		2,4-dimethylphenol	mg/kg	0.5	<0.5	<0.5	-	-
		2,6-dichlorophenol	mg/kg	0.5	<0.5	<0.5	-	-
		2,4-dichlorophenol	mg/kg	0.5	0.8	<0.5	1	84
		2,4,6-trichlorophenol	mg/kg	0.5	0.7	<0.5	1	74

Matrix Spike (MS) results are evaluated as the percentage recovery of an expected result, typically the concentration of analyte spiked into a field sub-sample during the sample preparation stage. The original sample's result is subtracted from the sub-sample result before determining the percentage recovery. The criteria applied to the percentage recovery is established in the SGS QA/QC plan (ref: MP-(AU)-[ENV]QU-022). For more information refer to the footnotes in the concluding page of this report.

Recovery is shown in **Green** when within suggested criteria or **Red** with an appended reason identifier when outside suggested criteria. Refer to the footnotes section at the end of this report for failure reasons.

Speciated Phenols in Soil (continued)

Method: ME-(AU)-[ENV]AN420

QC Sample	Sample Number	Parameter	Units	LOR	Result	Original	Spike	Recovery%	
SE206178.001	LB199507.004	2-nitrophenol	mg/kg	0.5	<0.5	<0.5	-	-	
		4-nitrophenol	mg/kg	1	<1	<1	-	-	
		2,4,5-trichlorophenol	mg/kg	0.5	<0.5	<0.5	-	-	
		2,3,4,6/2,3,5,6-tetrachlorophenol	mg/kg	1	<1	<1	-	-	
		Pentachlorophenol	mg/kg	0.5	1.0	<0.5	1	103	
		2,4-dinitrophenol	mg/kg	2	<2	<2	-	-	
		4-chloro-3-methylphenol	mg/kg	2	<2	<2	-	-	
		Surrogates	2,4,6-Tribromophenol (Surrogate)	mg/kg	-	4.2	5.0	-	84
		d5-phenol (Surrogate)	mg/kg	-	1.7	1.6	-	85	
		SE206178.021	LB199508.004	Phenol	mg/kg	0.5	0.9	<0.5	1
2-methyl phenol (o-cresol)	mg/kg			0.5	<0.5	<0.5	-	-	
3/4-methyl phenol (m/p-cresol)	mg/kg			1	<1	<1	-	-	
Total Cresol	mg/kg			1.5	<1.5	<1.5	-	-	
2-chlorophenol	mg/kg			0.5	<0.5	<0.5	-	-	
2,4-dimethylphenol	mg/kg			0.5	<0.5	<0.5	-	-	
2,6-dichlorophenol	mg/kg			0.5	<0.5	<0.5	-	-	
2,4-dichlorophenol	mg/kg			0.5	0.8	<0.5	1	83	
2,4,6-trichlorophenol	mg/kg			0.5	1.1	<0.5	1	106	
2-nitrophenol	mg/kg			0.5	<0.5	<0.5	-	-	
4-nitrophenol	mg/kg			1	<1	<1	-	-	
2,4,5-trichlorophenol	mg/kg			0.5	1.0	<0.5	-	-	
2,3,4,6/2,3,5,6-tetrachlorophenol	mg/kg			1	<1	<1	-	-	
Pentachlorophenol	mg/kg			0.5	1.1	<0.5	1	109	
2,4-dinitrophenol	mg/kg			2	<2	<2	-	-	
Surrogates	4-chloro-3-methylphenol			mg/kg	2	<2	<2	-	-
2,4,6-Tribromophenol (Surrogate)	mg/kg	-	5.1	5.1	-	103			
d5-phenol (Surrogate)	mg/kg	-	1.6	1.6	-	80			

Total Recoverable Elements in Soil/Waste Solids/Materials by ICPOES

Method: ME-(AU)-[ENV]AN040/AN320

QC Sample	Sample Number	Parameter	Units	LOR	Result	Original	Spike	Recovery%
SE206178.001	LB199533.004	Arsenic, As	mg/kg	1	46	3	50	86
		Cadmium, Cd	mg/kg	0.3	40	<0.3	50	79
		Chromium, Cr	mg/kg	0.5	62	18	50	88
		Copper, Cu	mg/kg	0.5	50	5.1	50	89
		Nickel, Ni	mg/kg	0.5	49	4.7	50	89
		Lead, Pb	mg/kg	1	90	63	50	53 @
		Zinc, Zn	mg/kg	2	75	34	50	80
		SE206178.020	LB199534.004	Arsenic, As	mg/kg	1	49	2
Cadmium, Cd	mg/kg			0.3	43	<0.3	50	87
Chromium, Cr	mg/kg			0.5	60	11	50	98
Copper, Cu	mg/kg			0.5	53	3.6	50	99
Nickel, Ni	mg/kg			0.5	53	3.6	50	100
Lead, Pb	mg/kg			1	67	19	50	97
Zinc, Zn	mg/kg			2	70	20	50	100

TRH (Total Recoverable Hydrocarbons) in Soil

Method: ME-(AU)-[ENV]AN403

QC Sample	Sample Number	Parameter	Units	LOR	Result	Original	Spike	Recovery%	
SE206178.002	LB199507.028	TRH C10-C14	mg/kg	20	39	<20	40	98	
		TRH C15-C28	mg/kg	45	<45	<45	40	95	
		TRH C29-C36	mg/kg	45	<45	<45	40	88	
		TRH C37-C40	mg/kg	100	<100	<100	-	-	
		TRH C10-C36 Total	mg/kg	110	<110	<110	-	-	
		TRH >C10-C40 Total (F bands)	mg/kg	210	<210	<210	-	-	
		TRH F Bands	TRH >C10-C16	mg/kg	25	39	<25	40	98
		TRH >C10-C16 - Naphthalene (F2)	mg/kg	25	39	<25	-	-	
		TRH >C16-C34 (F3)	mg/kg	90	<90	<90	40	75	
		TRH >C34-C40 (F4)	mg/kg	120	<120	<120	-	-	
SE206178.021	LB199508.004	TRH C10-C14	mg/kg	20	50	<20	40	125	
		TRH C15-C28	mg/kg	45	47	<45	40	118	
		TRH C29-C36	mg/kg	45	<45	<45	40	93	
		TRH C37-C40	mg/kg	100	<100	<100	-	-	
		TRH C10-C36 Total	mg/kg	110	<110	<110	-	-	

Matrix Spike (MS) results are evaluated as the percentage recovery of an expected result, typically the concentration of analyte spiked into a field sub-sample during the sample preparation stage. The original sample's result is subtracted from the sub-sample result before determining the percentage recovery. The criteria applied to the percentage recovery is established in the SGS QA/QC plan (ref: MP-(AU)-[ENV]QU-022). For more information refer to the footnotes in the concluding page of this report.

Recovery is shown in **Green** when within suggested criteria or **Red** with an appended reason identifier when outside suggested criteria. Refer to the footnotes section at the end of this report for failure reasons.

TRH (Total Recoverable Hydrocarbons) in Soil (continued)

Method: ME-(AU)-[ENV]AN403

QC Sample	Sample Number	Parameter	Units	LOR	Result	Original	Spike	Recovery%
SE206178.021	LB199496.004	TRH >C10-C40 Total (F bands)	mg/kg	210	<210	<210	-	-
		TRH F Bands						
		TRH >C10-C16	mg/kg	25	50	<25	40	125
		TRH >C10-C16 - Naphthalene (F2)	mg/kg	25	50	<25	-	-
		TRH >C16-C34 (F3)	mg/kg	90	<90	<90	40	115
		TRH >C34-C40 (F4)	mg/kg	120	<120	<120	-	-

VOC's in Soil

Method: ME-(AU)-[ENV]AN433

QC Sample	Sample Number	Parameter	Units	LOR	Result	Original	Spike	Recovery%			
SE206178.001	LB199496.004	Monocyclic	Benzene	mg/kg	0.1	3.7	<0.1	5	75		
		Aromatic	Toluene	mg/kg	0.1	3.8	<0.1	5	74		
			Ethylbenzene	mg/kg	0.1	4.0	<0.1	5	79		
			m/p-xylene	mg/kg	0.2	8.0	<0.2	10	79		
			o-xylene	mg/kg	0.1	4.0	<0.1	5	79		
		Polycyclic	Naphthalene	mg/kg	0.1	<0.1	<0.1	-	-		
		Surrogates	d4-1,2-dichloroethane (Surrogate)	mg/kg	-	11.1	11.1	10	111		
			d8-toluene (Surrogate)	mg/kg	-	11.3	11.2	10	113		
			Bromofluorobenzene (Surrogate)	mg/kg	-	10.0	9.9	10	100		
		Totals	Total Xylenes	mg/kg	0.3	12	<0.3	-	-		
			Total BTEX	mg/kg	0.6	24	<0.6	-	-		
		SE206178.021	LB199497.004	Monocyclic	Benzene	mg/kg	0.1	3.5	<0.1	5	70
				Aromatic	Toluene	mg/kg	0.1	4.0	<0.1	5	80
					Ethylbenzene	mg/kg	0.1	3.9	<0.1	5	78
	m/p-xylene			mg/kg	0.2	9.1	<0.2	10	90		
	o-xylene			mg/kg	0.1	4.5	<0.1	5	89		
Polycyclic	Naphthalene			mg/kg	0.1	<0.1	<0.1	-	-		
Surrogates	d4-1,2-dichloroethane (Surrogate)			mg/kg	-	10.4	11.0	10	104		
	d8-toluene (Surrogate)			mg/kg	-	9.6	17.4	10	96		
	Bromofluorobenzene (Surrogate)			mg/kg	-	10.9	8.3	10	109		
Totals	Total Xylenes			mg/kg	0.3	14	<0.3	-	-		
	Total BTEX			mg/kg	0.6	25	<0.6	-	-		

Volatile Petroleum Hydrocarbons in Soil

Method: ME-(AU)-[ENV]AN433

QC Sample	Sample Number	Parameter	Units	LOR	Result	Original	Spike	Recovery%		
SE206178.001	LB199496.004	TRH C6-C10	mg/kg	25	80	<25	92.5	86		
		TRH C6-C9	mg/kg	20	72	<20	80	89		
		Surrogates	d4-1,2-dichloroethane (Surrogate)	mg/kg	-	11.1	11.1	10	111	
			d8-toluene (Surrogate)	mg/kg	-	11.3	11.2	10	113	
			Bromofluorobenzene (Surrogate)	mg/kg	-	10.0	9.9	-	100	
		VPH F	Benzene (F0)	mg/kg	0.1	3.7	<0.1	-	-	
		Bands	TRH C6-C10 minus BTEX (F1)	mg/kg	25	56	<25	62.5	89	
		SE206178.021	LB199497.004	TRH C6-C10	mg/kg	25	67	<25	92.5	72
				TRH C6-C9	mg/kg	20	57	<20	80	71
				Surrogates	d4-1,2-dichloroethane (Surrogate)	mg/kg	-	10.4	11.0	10
	d8-toluene (Surrogate)			mg/kg	-	9.6	17.4	10	96	
	Bromofluorobenzene (Surrogate)			mg/kg	-	10.9	8.3	-	109	
VPH F	Benzene (F0)			mg/kg	0.1	3.5	<0.1	-	-	
Bands	TRH C6-C10 minus BTEX (F1)			mg/kg	25	42	<25	62.5	67	

Matrix spike duplicates are calculated as Relative Percent Difference (RPD) using the formula: $RPD = | \text{OriginalResult} - \text{ReplicateResult} | \times 100 / \text{Mean}$

The original result is the analyte concentration of the matrix spike. The Duplicate result is the analyte concentration of the matrix spike duplicate.

The RPD is evaluated against the Maximum Allowable Difference (MAD) criteria and can be graphically represented by a curve calculated from the Statistical Detection Limit (SDL) and Limiting Repeatability (LR) using the formula: $MAD = 100 \times \text{SDL} / \text{Mean} + \text{LR}$

Where the Maximum Allowable Difference evaluates to a number larger than 200 it is displayed as 200.

RPD is shown in **Green** when within suggested criteria or **Red** with an appended reason identifier when outside suggested criteria. Refer to the footnotes section at the end of this report for failure reasons.

No matrix spike duplicates were required for this job.

Samples analysed as received.

Solid samples expressed on a dry weight basis.

QC criteria are subject to internal review according to the SGS QA/QC plan and may be provided on request or alternatively can be found here: https://www.sgs.com.au/~media/Local/Australia/Documents/Technical Documents/MP-AU-ENV-QU-022_QA_QC_Plan.pdf

- * NATA accreditation does not cover the performance of this service .
 - ** Indicative data, theoretical holding time exceeded.
 - Sample not analysed for this analyte.
 - IS Insufficient sample for analysis.
 - LNR Sample listed, but not received.
 - LOR Limit of reporting.
 - QFH QC result is above the upper tolerance.
 - QFL QC result is below the lower tolerance.
-
- ① At least 2 of 3 surrogates are within acceptance criteria.
 - ② RPD failed acceptance criteria due to sample heterogeneity.
 - ③ Results less than 5 times LOR preclude acceptance criteria for RPD.
 - ④ Recovery failed acceptance criteria due to matrix interference.
 - ⑤ Recovery failed acceptance criteria due to the presence of significant concentration of analyte (i.e. the concentration of analyte exceeds the spike level).
 - ⑥ LOR was raised due to sample matrix interference.
 - ⑦ LOR was raised due to dilution of significantly high concentration of analyte in sample.
 - ⑧ Reanalysis of sample in duplicate confirmed sample heterogeneity and inconsistency of results.
 - ⑨ Recovery failed acceptance criteria due to sample heterogeneity.
 - ⑩ LOR was raised due to high conductivity of the sample (required dilution).
 - † Refer to relevant report comments for further information.

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 Samples 35

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SGS Reference **SE206178 R0**
 Date Received 13 May 2020
 Date Reported 20 May 2020

COMMENTS

Accredited for compliance with ISO/IEC 17025 - Testing. NATA accredited laboratory 2562(4354).

% Clay subcontracted to SGS Cairns, 2/58 Comport St, Portsmith QLD 4870, NATA Accreditation Number: 2562, Site Number: 3146. Report No: CE146121

No respirable fibres detected in all soil samples using trace analysis technique.

Sample # 1-24,28-31 :A portion of the sample supplied has been sub-sampled for asbestos analysis in soil according to SGS In-house procedures due to large volume.

We therefore cannot guarantee that the sub-sample is representative of the entire sample supplied. SGS Environmental Services recommends supplying approximately 50-100g of sample in a separate container.

Asbestos analysed by Approved Identifier Yusuf Kuthpudin .

SIGNATORIES

Akheeque BENIAMEEN
 Chemist

Bennet LO
 Senior Organic Chemist/Metals Chemis

Dong LIANG
 Metals/Inorganics Team Leader

Ly Kim HA
 Organic Section Head

Yusuf KUTHPUDIN
 Asbestos Analyst

RESULTS

Fibre Identification in soil

Method AN602

Laboratory Reference	Client Reference	Matrix	Sample Description	Date Sampled	Fibre Identification	Est.%w/w*
SE206178.001	LC1 0.0-0.1	Soil	205g Clay,Sand,Rocks	11 May 2020	No Asbestos Found Organic Fibres Detected	<0.01
SE206178.002	LC1 0.5-0.6	Soil	190g Clay,Sand,Rocks	11 May 2020	No Asbestos Found	<0.01
SE206178.003	LC2 0.0-0.1	Soil	166g Clay,Sand,Rocks	11 May 2020	No Asbestos Found Organic Fibres Detected	<0.01
SE206178.004	LC2 0.5-0.6	Soil	170g Clay,Sand,Rocks	11 May 2020	No Asbestos Found	<0.01
SE206178.005	LC3 0.0-0.1	Soil	152g Clay,Sand,Rocks	11 May 2020	No Asbestos Found	<0.01
SE206178.006	LC3 0.5-0.6	Soil	162g Clay,Sand,Rocks	11 May 2020	No Asbestos Found Organic Fibres Detected	<0.01
SE206178.007	LC4 0.0-0.1	Soil	172g Clay,Sand,Rocks	11 May 2020	No Asbestos Found Organic Fibres Detected	<0.01
SE206178.008	LC5 0.0-0.1	Soil	204g Clay,Sand,Rocks	11 May 2020	No Asbestos Found	<0.01
SE206178.009	LC5 0.5-0.6	Soil	169g Clay,Sand,Rocks	11 May 2020	No Asbestos Found	<0.01
SE206178.010	LC6 0.0-0.1	Soil	199g Clay,Sand,Rocks	11 May 2020	No Asbestos Found	<0.01
SE206178.011	LC6 1.0-1.1	Soil	170g Clay,Rocks	11 May 2020	No Asbestos Found	<0.01
SE206178.012	LC7 0.0-0.1	Soil	192g Clay,Sand,Rocks	11 May 2020	No Asbestos Found	<0.01
SE206178.013	LC7 0.5-0.6	Soil	209g Clay,Rocks	11 May 2020	No Asbestos Found	<0.01
SE206178.014	LC8 0.0-0.1	Soil	177g Clay,Sand,Rocks	11 May 2020	No Asbestos Found	<0.01
SE206178.015	LC8 1.0-1.1	Soil	199g Clay,Sand,Rocks	11 May 2020	No Asbestos Found	<0.01
SE206178.016	LC9 0.0-0.1	Soil	184g Clay,Sand,Soil, Rocks	11 May 2020	No Asbestos Found Organic Fibres Detected	<0.01
SE206178.017	LC9 1.0-1.1	Soil	144g Clay,Sand,Rocks	11 May 2020	No Asbestos Found	<0.01
SE206178.018	LC10 0.0-0.1	Soil	191g Clay,Sand,Rocks	11 May 2020	No Asbestos Found	<0.01
SE206178.019	LC10 0.5-0.6	Soil	186g Clay,Sand,Rocks	11 May 2020	No Asbestos Found	<0.01
SE206178.020	LC11 0.0-0.1	Soil	186g Clay,Sand,Rocks	11 May 2020	No Asbestos Found Organic Fibres Detected	<0.01

RESULTS

Fibre Identification in soil

Method AN602

Laboratory Reference	Client Reference	Matrix	Sample Description	Date Sampled	Fibre Identification	Est.%w/w*
SE206178.021	LC12 0.0-0.1	Soil	184g Clay,Sand,Rocks	11 May 2020	No Asbestos Found	<0.01
SE206178.022	LC13 0.0-0.1	Soil	192g Clay,Sand,Rocks	11 May 2020	No Asbestos Found	<0.01
SE206178.023	LC14 0.5-0.6	Soil	172g Clay,Sand,Rocks	11 May 2020	No Asbestos Found	<0.01
SE206178.024	LC15 0.0-0.1	Soil	177g Clay,Sand,Rocks	11 May 2020	No Asbestos Found	<0.01
SE206178.028	SP1-1	Soil	221g Clay,Sand,Rocks	11 May 2020	No Asbestos Found	<0.01
SE206178.029	SP1-2	Soil	191g Clay,Sand,Rocks	11 May 2020	No Asbestos Found	<0.01
SE206178.030	SP1-3	Soil	171g Clay,Sand,Rocks	11 May 2020	No Asbestos Found	<0.01
SE206178.031	SP1-4	Soil	183g Clay,Sand,Soil, Rocks	11 May 2020	No Asbestos Found	<0.01
SE206178.032	SP1-5	Soil	553g Clay,Sand,Soil, Rocks	11 May 2020	No Asbestos Found Organic Fibres Detected	<0.01
SE206178.033	SP2-1	Soil	505g Clay,Sand,Soil, Rocks	11 May 2020	No Asbestos Found Organic Fibres Detected	<0.01
SE206178.034	SP2-2	Soil	469g Clay,Sand,Soil, Rocks	11 May 2020	No Asbestos Found	<0.01
SE206178.035	SP2-3	Soil	504g Clay,Sand,Soil, Rocks	11 May 2020	No Asbestos Found	<0.01
SE206178.036	SP2-4	Soil	416g Clay,Sand,Soil, Rocks	11 May 2020	No Asbestos Found Organic Fibres Detected	<0.01
SE206178.037	SP2-5	Soil	566g Clay,Sand,Soil, Rocks	11 May 2020	No Asbestos Found Organic Fibres Detected	<0.01
SE206178.038	SP3-1	Soil	464g Clay,Sand,Soil, Rocks	11 May 2020	No Asbestos Found Organic Fibres Detected	<0.01

Gravimetric Determination of Asbestos in Soil [AN605] Tested: 19/5/2020

PARAMETER	UOM	LOR	SP1-5	SP2-1	SP2-2	SP2-3	SP2-4
			SOIL	SOIL	SOIL	SOIL	SOIL
			11/5/2020 SE206178.032	11/5/2020 SE206178.033	11/5/2020 SE206178.034	11/5/2020 SE206178.035	11/5/2020 SE206178.036
Total Sample Weight*	g	1	553	505	469	504	416
Bonded ACM in >7mm Sample*	g	0.001	<0.001	<0.001	<0.001	<0.001	<0.001
AF/FA in >2mm to <7mm Sample*	g	0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001
AF/FA in <2mm Sample*	g	0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001
Asbestos in soil (>7mm ACM)*	%w/w	0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Asbestos in soil (>2mm to <7mm AF/FA)*	%w/w	0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Asbestos in soil (<2mm AF/FA)*	%w/w	0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Asbestos in soil (<7mm AF/FA)*	%w/w	0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Fibre Type*	No unit	-	-	-	-	-	-

PARAMETER	UOM	LOR	SP2-5	SP3-1
			SOIL	SOIL
			11/5/2020 SE206178.037	11/5/2020 SE206178.038
Total Sample Weight*	g	1	566	464
Bonded ACM in >7mm Sample*	g	0.001	<0.001	<0.001
AF/FA in >2mm to <7mm Sample*	g	0.00001	<0.00001	<0.00001
AF/FA in <2mm Sample*	g	0.00001	<0.00001	<0.00001
Asbestos in soil (>7mm ACM)*	%w/w	0.01	<0.01	<0.01
Asbestos in soil (>2mm to <7mm AF/FA)*	%w/w	0.001	<0.001	<0.001
Asbestos in soil (<2mm AF/FA)*	%w/w	0.001	<0.001	<0.001
Asbestos in soil (<7mm AF/FA)*	%w/w	0.001	<0.001	<0.001
Fibre Type*	No unit	-	-	-

METHOD

METHODOLOGY SUMMARY

AN602	<p>Qualitative identification of chrysotile, amosite and crocidolite in bulk samples by polarised light microscopy (PLM) in conjunction with dispersion staining (DS). AS4964 provides the basis for this document. Unequivocal identification of the asbestos minerals present is made by obtaining sufficient diagnostic 'clues', which provide a reasonable degree of certainty, dispersion staining is a mandatory 'clue' for positive identification. If sufficient 'clues' are absent, then positive identification of asbestos is not possible. This procedure requires removal of suspect fibres/bundles from the sample which cannot be returned.</p>
AN602	<p>Fibres/material that cannot be unequivocally identified as one of the three asbestos forms, will be reported as unknown mineral fibres (umf) The fibres detected may or may not be asbestos fibres.</p>
AN602	<p>AS4964.2004 Method for the Qualitative Identification of Asbestos in Bulk Samples, Section 8.4, Trace Analysis Criteria, Note 4 states: "Depending upon sample condition and fibre type, the detection limit of this technique has been found to lie generally in the range of 1 in 1,000 to 1 in 10,000 parts by weight, equivalent to 1 to 0.1 g/kg."</p>
AN602	<p>The sample can be reported "no asbestos found at the reporting limit of 0.1 g/kg" (<0.01%/w/w) where AN602 section 4.5 of this method has been followed, and if-</p> <ul style="list-style-type: none"> (a) no trace asbestos fibres have been detected (i.e. no 'respirable' fibres); (b) the estimated weight of non-respirable asbestos fibre bundles and/or the estimated weight of asbestos in asbestos-containing materials are found to be less than 0.1g/kg; and (c) these non-respirable asbestos fibre bundles and/or the asbestos containing materials are only visible under stereo-microscope viewing conditions.
AN605	<p>This technique gravimetrically determines the mass of Bonded Asbestos Containing Material retained on a 7mm Sieve and assumes that 15% of this ACM is asbestos. This calculated asbestos weight is then calculated as a percentage of the total sample weight. Any fibrous asbestos (FA) found in this fraction will be added to the 2-7mm fraction and its mass recorded there.</p>
AN605	<p>This technique also gravimetrically determines the mass of Fibrous Asbestos (FA) and Asbestos Fines (AF) Containing Material retained on and passing a 2mm sieve post 7mm sieving. Assumes that FA and AF are 100% asbestos containing. This calculated asbestos weight is then calculated as a percentage of the total sample weight. This does not include free/respirable fibres which are only observed by standard trace analysis as per AN602.</p>
AN605	<p>Bonded asbestos containing material (Bonded ACM) comprises asbestos-containing-material which is sound in condition. Fibrous asbestos (FA) comprises friable asbestos material and includes severely weathered cement sheet, insulation products and woven asbestos material. Asbestos fines (AF) includes free fibres, small fibre bundles and also small fragments of bonded ACM that passes through a 7mm sieve - which implies that the bonded ACM fragments have a substantial degree of damage which increases the potential for fibre release.</p>
AN-605	<p>Insofar as is technically feasible, this report is consistent with the analytical reporting recommendations in the Western Australian Department of Health Guidelines for the Assessment Remediation and Management of Asbestos - Contaminated Sites in Western Australia - May 2009 and NEPM 1999 (2013) schedule B1 section 4..</p>

FOOTNOTES

Amosite	-	Brown Asbestos	NA	-	Not Analysed
Chrysotile	-	White Asbestos	LNR	-	Listed, Not Required
Crocidolite	-	Blue Asbestos	*	-	NATA accreditation does not cover the performance of this service .
Amphiboles	-	Amosite and/or Crocidolite	**	-	Indicative data, theoretical holding time exceeded.

(In reference to soil samples only) This report does not comply with the analytical reporting recommendations in the Western Australian Department of Health Guidelines for the Assessment and Remediation and Management of Asbestos Contaminated sites in Western Australia - May 2009.

Unless it is reported that sampling has been performed by SGS, the samples have been analysed as received.

Where reported: 'Asbestos Detected': Asbestos detected by polarised light microscopy, including dispersion staining.

Where reported: 'No Asbestos Found': No Asbestos Found by polarised light microscopy, including dispersion staining.

Where reported: 'UMF Detected': Mineral fibres of unknown type detected by polarised light microscopy, including dispersion staining. Confirmation by another independent analytical technique may be necessary.

Even after disintegration it can be very difficult, or impossible, to detect the presence of asbestos in some asbestos-containing bulk materials using polarised light microscopy. This is due to the low grade or small length or diameter of asbestos fibres present in the material, or to the fact that very fine fibres have been distributed intimately throughout the materials.

The QC and MU criteria are subject to internal review according to the SGS QAQC plan and may be provided on request or alternatively can be found here: www.sgs.com.au/en-gb/environment-health-and-safety.

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Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client only. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law .

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CHAIN OF CUSTODY & ANALYSIS REQUEST

SGS Environmental Services
Unit 16, 33 Maddox Street
Alexandria NSW 2015
Telephone No: (02) 85940400
Facsimile No: (02) 85940499
Email: au.samplerreceipt.sydney@sgs.com

Company Name:	Lanterra Consulting Pty Ltd	Project Name/No:	P20023 – Block 45 Sect 3, Hume
Address:	Unit 4, 19 Trenerry Street Weston, ACT, 2611	Purchase Order No:	
Contact Name:	Chris Gunton	Results Required By:	Standard TAT
		Telephone:	0432 324 348
		Facsimile:	
		Email Results:	Chris.gunton@lanterra.com.au

Client Sample ID	Date Sampled	Lab Sample ID	WATER	SOIL	PRESERVATIVE	NO OF CONTAINERS	CL15, TRH, BTEX, PAH, OCP, OPP, PCB, Phenols, 8 Metals	Asbestos ID	pH, CEC, % Clay	HOLD										
LC1 0.0-0.1	11/5/2020	1		X		2	X	X												
LC1 0.5-0.6	11/5/2020	2		X		2	X	X	X											
LC1 1.0-1.1	11/5/2020			X		2														
LC2 0.0-0.1	11/5/2020	3		X		2	X	X												
LC2 0.5-0.6	11/5/2020	4		X		2	X	X												
LC2 1.0-1.1	11/5/2020			X		2														
LC3 0.0-0.1	11/5/2020	5		X		2	X	X												
LC3 0.5-0.6	11/5/2020	6		X		2	X	X												
LC3 1.0-1.1	11/5/2020			X		2														

SGS EHS Sydney COC
SE206178



Relinquished By: <i>K. Lockwood</i>	Date/Time: 12/05/2020 15.45	Received By: <i>[Signature]</i>	Date/Time: 13/05/20 @ 11.40
Relinquished By:	Date/Time:	Received By:	Date/Time:
Samples Intact: <input checked="" type="radio"/> Yes / <input type="radio"/> No	Temperature: Ambient / <input checked="" type="radio"/> Chilled	Sample Cooler Sealed: Yes/ No	Laboratory Quotation No:
Comments:			



CHAIN OF CUSTODY & ANALYSIS REQUEST

SGS Environmental Services
Unit 16, 33 Maddox Street
Alexandria NSW 2015
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Company Name: <u>Lanterra Consulting Pty Ltd</u>	Project Name/No: <u>P20023 – Block 45 Sect 3, Hume</u>
Address: <u>Unit 4, 19 Trenerry Street</u>	Purchase Order No: _____
<u>Weston, ACT, 2611</u>	Results Required By: <u>Standard TAT</u>
Contact Name: <u>Chris Gunton</u>	Telephone: <u>0432 324 348</u>
	Facsimile: _____
	Email Results: <u>Chris.gunton@lanterra.com.au</u>

Client Sample ID	Date Sampled	Lab Sample ID	WATER	SOIL	PRESERVATIVE	NO OF CONTAINERS	CL15, TRH, BTEX, PAH, OCP, OPP, PCB, Phenols, 8 Metals	Asbestos ID	pH, CEC, % Clay	HOLD										
LC4 0.0-0.1	11/5/2020	7		X		2	X	X												
LC4 0.5-0.6	11/5/2020			X		2														
LC4 1.0-1.1	11/5/2020			X		2														
LC5 0.0-0.1	11/5/2020	8		X		2	X	X												
LC5 0.5-0.6	11/5/2020	9		X		2	X	X												
LC5 1.0-1.1	11/5/2020			X		2														
LC6 0.0-0.1	11/5/2020	10		X		2	X	X												
LC6 0.5-0.6	11/5/2020			X		2														
LC6 1.0-1.1	11/5/2020	11		X		2	X	X												

Relinquished By: <u>K. Lockwood</u>	Date/Time: <u>12/05/2020 15.45</u>	Received By: <u>[Signature]</u>	Date/Time: <u>13/05/20 @ 11.40</u>
Relinquished By: _____	Date/Time: _____	Received By: _____	Date/Time: _____
Samples Intact: <input checked="" type="radio"/> Yes / <input type="radio"/> No	Temperature: <input checked="" type="radio"/> Ambient / <input type="radio"/> Chilled	Sample Cooler Sealed: <input type="radio"/> Yes / <input type="radio"/> No	Laboratory Quotation No: _____
Comments: _____			



CHAIN OF CUSTODY & ANALYSIS REQUEST

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Unit 16, 33 Maddox Street
Alexandria NSW 2015
Telephone No: (02) 85940400
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Company Name:	Lanterra Consulting Pty Ltd	Project Name/No:	P20023 – Block 45 Sect 3, Hume
Address:	Unit 4, 19 Trenerry Street Weston, ACT, 2611	Purchase Order No:	
Contact Name:	Chris Gunton	Results Required By:	Standard TAT
		Telephone:	0432 324 348
		Facsimile:	
		Email Results:	Chris.gunton@lanterra.com.au

Client Sample ID	Date Sampled	Lab Sample ID	WATER	SOIL	PRESERVATIVE	NO OF CONTAINERS	CL15, TRH, BTEX, PAH, OCP, OPP, PCB, Phenols, 8 Metals	Asbestos ID	pH, CEC, % Clay	HOLD															
LC10 0.0-0.1	11/5/2020	18		X		2	X	X																	
LC10 0.5-0.6	11/5/2020	19		X		2	X	X																	
LC10 1.0-1.1	11/5/2020			X		2																			
LC11 0.0-0.1	11/5/2020	20		X		2	X	X																	
LC11 0.5-0.6	11/5/2020			X		2																			
LC11 1.0-1.1	11/5/2020			X		2																			
LC12 0.0-0.1	11/5/2020	21		X		2	X	X																	
LC12 0.5-0.6	11/5/2020			X		2																			
LC12 1.0-1.1	11/5/2020			X		2																			

Relinquished By: <i>K. Lockwood</i>	Date/Time: 12/05/2020 15.45	Received By: <i>[Signature]</i>	Date/Time: 13/05/20 @ 11.40
Relinquished By:	Date/Time:	Received By:	Date/Time:
Samples Intact: <input checked="" type="radio"/> Yes / <input type="radio"/> No	Temperature: Ambient / <input checked="" type="radio"/> Chilled	Sample Cooler Sealed: Yes / No	Laboratory Quotation No:
Comments:			



CHAIN OF CUSTODY & ANALYSIS REQUEST

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Telephone No: (02) 85940400
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Company Name:	Lanterra Consulting Pty Ltd	Project Name/No:	P20023 – Block 45 Sect 3, Hume
Address:	Unit 4, 19 Trenerry Street Weston, ACT, 2611	Purchase Order No:	
Contact Name:	Chris Gunton	Results Required By:	Standard TAT
		Telephone:	0432 324 348
		Facsimile:	
		Email Results:	Chris.gunton@lanterra.com.au

Client Sample ID	Date Sampled	Lab Sample ID	WATER	SOIL	PRESERVATIVE	NO OF CONTAINERS	CL15, TRH, BTEX, PAH, OCP, OPP, PCB, Phenols, & Metals	Asbestos ID	pH, CEC, % Clay	HOLD										
LC13 0.0-0.1	11/5/2020	22		X		2	X	X												
LC13 0.5-0.6	11/5/2020			X		2														
	11/5/2020																			
LC14 0.0-0.1	11/5/2020			X		2														
LC14 0.5-0.6	11/5/2020	23		X		2	X	X												
LC14 1.0-1.1	11/5/2020			X		2														
LC15 0.0-0.1	11/5/2020	24		X		2	X	X												
LC15 0.5-0.6	11/5/2020			X		2														
LC15 1.0-1.1	11/5/2020			X		2														

Relinquished By: <i>K. Lockwood</i>	Date/Time: 12/05/2020 15.45	Received By: <i>B. Puhay</i>	Date/Time: 13/05/20 @ 11.40
Relinquished By:	Date/Time:	Received By:	Date/Time:
Samples Intact: <input checked="" type="radio"/> Yes / <input type="radio"/> No	Temperature: Ambient / <input checked="" type="radio"/> Chilled	Sample Cooler Sealed: Yes/ No	Laboratory Quotation No:
Comments:			



CHAIN OF CUSTODY & ANALYSIS REQUEST

SGS Environmental Services
Unit 16, 33 Maddox Street
Alexandria NSW 2015
Telephone No: (02) 85940400
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Email: au.samplerreceipt.sydney@sgs.com

Company Name:	Lanterra Consulting Pty Ltd	Project Name/No:	P20023 – Block 45 Sect 3, Hume
Address:	Unit 4, 19 Trenerry Street Weston, ACT, 2611	Purchase Order No:	
Contact Name:	Chris Gunton	Results Required By:	Standard TAT
		Telephone:	0432 324 348
		Facsimile:	
		Email Results:	Chris.gunton@lanterra.com.au

Client Sample ID	Date Sampled	Lab Sample ID	WATER	SOIL	PRESERVATIVE	NO OF CONTAINERS	CL15, TRH, BTEX, PAH, OCP, OPP, PCB, Phenols, 8 Metals	Asbestos ID	pH, CEC, % Clay	TRH, BTEX, PAH, 8 Metals												
QC1	11/5/2020	25		X		1	X															
QC2	11/5/2020			X		1				X												Please Forward to Envirolab
QC3	11/5/2020	26		X		1	X															
QC4	11/5/2020	27		X		1	X															
SP1-1	11/5/2020	28		X		2	X	X														
SP1-2	11/5/2020	29		X		2	X	X														
SP1-3	11/5/2020	30		X		2	X	X														
SP1-4	11/5/2020	31		X		2	X	X														

Relinquished By: <i>K. Lockwood.</i>	Date/Time: 12/05/2020 15.45	Received By: <i>[Signature]</i>	Date/Time: 13/05/20 @ 11.40
Relinquished By:	Date/Time:	Received By:	Date/Time:
Samples Intact: <input checked="" type="radio"/> Yes / <input type="radio"/> No	Temperature: Ambient / <input checked="" type="radio"/> Chilled	Sample Cooler Sealed: Yes / No	Laboratory Quotation No:
Comments:			



SAMPLE RECEIPT ADVICE

SE206178

CLIENT DETAILS

Contact Chris Gunton
Client LANTERRA CONSULTING PTY LTD
Address PO BOX 3626
WESTON ACT 2611

Telephone (Not specified)
Facsimile (Not specified)
Email Chris.Gunton@lanterra.com.au

Project **P20023-Block 45 Sect 3,Hume**
Order Number **P20023**
Samples 38

LABORATORY DETAILS

Manager Huong Crawford
Laboratory SGS Alexandria Environmental
Address Unit 16, 33 Maddox St
Alexandria NSW 2015

Telephone +61 2 8594 0400
Facsimile +61 2 8594 0499
Email au.environmental.sydney@sgs.com

Samples Received Wed 13/5/2020
Report Due Wed 20/5/2020
SGS Reference **SE206178**

SUBMISSION DETAILS

This is to confirm that 38 samples were received on Wednesday 13/5/2020. Results are expected to be ready by COB Wednesday 20/5/2020. Please quote SGS reference SE206178 when making enquiries. Refer below for details relating to sample integrity upon receipt.

Samples clearly labelled	Yes	Complete documentation received	Yes
Sample container provider	SGS	Sample cooling method	Ice Bricks
Samples received in correct containers	Yes	Sample counts by matrix	38 Soil
Date documentation received	13/5/2020	Type of documentation received	COC
Samples received in good order	Yes	Samples received without headspace	Yes
Sample temperature upon receipt	7.8°C	Sufficient sample for analysis	Yes
Turnaround time requested	Standard		

Unless otherwise instructed, water and bulk samples will be held for one month from date of report, and soil samples will be held for two months.

COMMENTS

% Clay subcontracted to SGS Cairns, 2/58 Comport St, Portsmith QLD 4870, NATA Accreditation Number: 2562, Site Number: 3146.
20 soil samples have been placed on hold as no tests have been assigned for them by the client. These samples will not be processed.

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CLIENT DETAILS

Client **LAN TERRA CONSULTING PTY LTD**

Project **P20023-Block 45 Sect 3,Hume**

SUMMARY OF ANALYSIS

No.	Sample ID	OC Pesticides in Soil	OP Pesticides in Soil	PAH (Polynuclear Aromatic Hydrocarbons) in Soil	PCBs in Soil	Speciated Phenols in Soil	TRH (Total Recoverable Hydrocarbons) in Soil	VOC's in Soil	Volatile Petroleum Hydrocarbons in Soil
001	LC1 0.0-0.1	29	14	26	11	18	10	11	7
002	LC1 0.5-0.6	29	14	26	11	18	10	11	7
003	LC2 0.0-0.1	29	14	26	11	18	10	11	7
004	LC2 0.5-0.6	29	14	26	11	18	10	11	7
005	LC3 0.0-0.1	29	14	26	11	18	10	11	7
006	LC3 0.5-0.6	29	14	26	11	18	10	11	7
007	LC4 0.0-0.1	29	14	26	11	18	10	11	7
008	LC5 0.0-0.1	29	14	26	11	18	10	11	7
009	LC5 0.5-0.6	29	14	26	11	18	10	11	7
010	LC6 0.0-0.1	29	14	26	11	18	10	11	7
011	LC6 1.0-1.1	29	14	26	11	18	10	11	7
012	LC7 0.0-0.1	29	14	26	11	18	10	11	7
013	LC7 0.5-0.6	29	14	26	11	18	10	11	7
014	LC8 0.0-0.1	29	14	26	11	18	10	11	7
015	LC8 1.0-1.1	29	14	26	11	18	10	11	7
016	LC9 0.0-0.1	29	14	26	11	18	10	11	7
017	LC9 1.0-1.1	29	14	26	11	18	10	11	7
018	LC10 0.0-0.1	29	14	26	11	18	10	11	7
019	LC10 0.5-0.6	29	14	26	11	18	10	11	7
020	LC11 0.0-0.1	29	14	26	11	18	10	11	7
021	LC12 0.0-0.1	29	14	26	11	18	10	11	7
022	LC13 0.0-0.1	29	14	26	11	18	10	11	7
023	LC14 0.5-0.6	29	14	26	11	18	10	11	7
024	LC15 0.0-0.1	29	14	26	11	18	10	11	7

CONTINUED OVERLEAF

The above table represents SGS' interpretation of the client-supplied Chain Of Custody document. The numbers shown in the table indicate the number of results requested in each package. Please indicate as soon as possible should your request differ from these details. Testing as per this table shall commence immediately unless the client intervenes with a correction.

CLIENT DETAILS

Client **LANTERRA CONSULTING PTY LTD**

Project **P20023-Block 45 Sect 3,Hume**

SUMMARY OF ANALYSIS

No.	Sample ID	OC Pesticides in Soil	OP Pesticides in Soil	PAH (Polynuclear Aromatic Hydrocarbons) in Soil	PCBs in Soil	Speciated Phenols in Soil	TRH (Total Recoverable Hydrocarbons) in Soil	VOC's in Soil	Volatile Petroleum Hydrocarbons in Soil
025	QC1	29	14	26	11	18	10	11	7
026	QC3	29	14	26	11	18	10	11	7
027	QC4	29	14	26	11	18	10	11	7
028	SP1-1	29	14	26	11	18	10	11	7
029	SP1-2	29	14	26	11	18	10	11	7
030	SP1-3	29	14	26	11	18	10	11	7
031	SP1-4	29	14	26	11	18	10	11	7
032	SP1-5	29	14	26	11	18	10	11	7
033	SP2-1	29	14	26	11	18	10	11	7
034	SP2-2	29	14	26	11	18	10	11	7
035	SP2-3	29	14	26	11	18	10	11	7
036	SP2-4	29	14	26	11	18	10	11	7
037	SP2-5	29	14	26	11	18	10	11	7
038	SP3-1	29	14	26	11	18	10	11	7

CONTINUED OVERLEAF

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CLIENT DETAILS

Client **LAN TERRA CONSULTING PTY LTD**

Project **P20023-Block 45 Sect 3,Hume**

SUMMARY OF ANALYSIS

No.	Sample ID	Exchangeable Cations and Cation Exchange Capacity	Fibre Identification in soil	Mercury in Soil	Moisture Content	pH in soil (1:5)	Total Recoverable Elements in Soil/Waste
001	LC1 0.0-0.1	-	2	1	1	-	7
002	LC1 0.5-0.6	13	2	1	1	1	7
003	LC2 0.0-0.1	-	2	1	1	-	7
004	LC2 0.5-0.6	-	2	1	1	-	7
005	LC3 0.0-0.1	-	2	1	1	-	7
006	LC3 0.5-0.6	-	2	1	1	-	7
007	LC4 0.0-0.1	-	2	1	1	-	7
008	LC5 0.0-0.1	-	2	1	1	-	7
009	LC5 0.5-0.6	-	2	1	1	-	7
010	LC6 0.0-0.1	-	2	1	1	-	7
011	LC6 1.0-1.1	-	2	1	1	-	7
012	LC7 0.0-0.1	-	2	1	1	-	7
013	LC7 0.5-0.6	-	2	1	1	-	7
014	LC8 0.0-0.1	-	2	1	1	-	7
015	LC8 1.0-1.1	-	2	1	1	-	7
016	LC9 0.0-0.1	-	2	1	1	-	7
017	LC9 1.0-1.1	13	2	1	1	1	7
018	LC10 0.0-0.1	-	2	1	1	-	7
019	LC10 0.5-0.6	-	2	1	1	-	7
020	LC11 0.0-0.1	-	2	1	1	-	7
021	LC12 0.0-0.1	-	2	1	1	-	7
022	LC13 0.0-0.1	-	2	1	1	-	7
023	LC14 0.5-0.6	-	2	1	1	-	7
024	LC15 0.0-0.1	-	2	1	1	-	7

CONTINUED OVERLEAF

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CLIENT DETAILS

Client **LANTERRA CONSULTING PTY LTD**

Project **P20023-Block 45 Sect 3,Hume**

SUMMARY OF ANALYSIS

No.	Sample ID	Fibre Identification in soil	Gravimetric Determination of Asbestos in Soil	Mercury in Soil	Moisture Content	Total Recoverable Elements in Soil/Waste
025	QC1	-	-	1	1	7
026	QC3	-	-	1	1	7
027	QC4	-	-	1	1	7
028	SP1-1	2	-	1	1	7
029	SP1-2	2	-	1	1	7
030	SP1-3	2	-	1	1	7
031	SP1-4	2	-	1	1	7
032	SP1-5	2	9	1	1	7
033	SP2-1	2	9	1	1	7
034	SP2-2	2	9	1	1	7
035	SP2-3	2	9	1	1	7
036	SP2-4	2	9	1	1	7
037	SP2-5	2	9	1	1	7
038	SP3-1	2	9	1	1	7

CONTINUED OVERLEAF

The above table represents SGS' interpretation of the client-supplied Chain Of Custody document. The numbers shown in the table indicate the number of results requested in each package. Please indicate as soon as possible should your request differ from these details . Testing as per this table shall commence immediately unless the client intervenes with a correction .

CLIENT DETAILS

Client **LANTERRA CONSULTING PTY LTD**

Project **P20023-Block 45 Sect 3,Hume**

SUMMARY OF ANALYSIS

No.	Sample ID	Particle sizing of soils <75µm by hydrometer	Particle sizing of soils by sieving
002	LC1 0.5-0.6	1	2
017	LC9 1.0-1.1	1	2

The above table represents SGS' interpretation of the client-supplied Chain Of Custody document. The numbers shown in the table indicate the number of results requested in each package. Please indicate as soon as possible should your request differ from these details . Testing as per this table shall commence immediately unless the client intervenes with a correction .

CERTIFICATE OF ANALYSIS 242802

Client Details

Client	Lanterra Consulting Pty Ltd
Attention	Chris Gunton
Address	4, 19 Trenerry St, Weston, ACT, 2611

Sample Details

Your Reference	<u>Lanterra - P20023 - Block 45 Sect 3, Hume</u>
Number of Samples	1 Soil
Date samples received	13/05/2020
Date completed instructions received	13/05/2020

Analysis Details

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

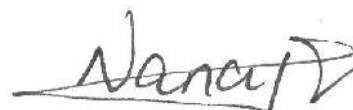
Report Details

Date results requested by	20/05/2020
Date of Issue	19/05/2020
NATA Accreditation Number 2901. This document shall not be reproduced except in full.	
Accredited for compliance with ISO/IEC 17025 - Testing. Tests not covered by NATA are denoted with *	

Results Approved By

Jaimie Loa-Kum-Cheung, Metals Supervisor
 Josh Williams, Senior Chemist

Authorised By



Nancy Zhang, Laboratory Manager

vTRH(C6-C10)/BTEXN in Soil		
Our Reference		242802-1
Your Reference	UNITS	QC2
Date Sampled		11/05/2020
Type of sample		Soil
Date extracted	-	14/05/2020
Date analysed	-	15/05/2020
TRH C ₆ - C ₉	mg/kg	<25
TRH C ₆ - C ₁₀	mg/kg	<25
vTPH C ₆ - C ₁₀ less BTEX (F1)	mg/kg	<25
Benzene	mg/kg	<0.2
Toluene	mg/kg	<0.5
Ethylbenzene	mg/kg	<1
m+p-xylene	mg/kg	<2
o-Xylene	mg/kg	<1
naphthalene	mg/kg	<1
Total +ve Xylenes	mg/kg	<3
Surrogate aaa-Trifluorotoluene	%	78

svTRH (C10-C40) in Soil		
Our Reference		242802-1
Your Reference	UNITS	QC2
Date Sampled		11/05/2020
Type of sample		Soil
Date extracted	-	14/05/2020
Date analysed	-	15/05/2020
TRH C ₁₀ - C ₁₄	mg/kg	<50
TRH C ₁₅ - C ₂₈	mg/kg	<100
TRH C ₂₉ - C ₃₆	mg/kg	<100
TRH >C ₁₀ -C ₁₆	mg/kg	<50
TRH >C ₁₀ - C ₁₆ less Naphthalene (F2)	mg/kg	<50
TRH >C ₁₆ -C ₃₄	mg/kg	<100
TRH >C ₃₄ -C ₄₀	mg/kg	<100
Total +ve TRH (>C10-C40)	mg/kg	<50
Surrogate o-Terphenyl	%	89

PAHs in Soil		
Our Reference		242802-1
Your Reference	UNITS	QC2
Date Sampled		11/05/2020
Type of sample		Soil
Date extracted	-	14/05/2020
Date analysed	-	15/05/2020
Naphthalene	mg/kg	<0.1
Acenaphthylene	mg/kg	<0.1
Acenaphthene	mg/kg	<0.1
Fluorene	mg/kg	<0.1
Phenanthrene	mg/kg	<0.1
Anthracene	mg/kg	<0.1
Fluoranthene	mg/kg	<0.1
Pyrene	mg/kg	<0.1
Benzo(a)anthracene	mg/kg	<0.1
Chrysene	mg/kg	<0.1
Benzo(b,j+k)fluoranthene	mg/kg	<0.2
Benzo(a)pyrene	mg/kg	<0.05
Indeno(1,2,3-c,d)pyrene	mg/kg	<0.1
Dibenzo(a,h)anthracene	mg/kg	<0.1
Benzo(g,h,i)perylene	mg/kg	<0.1
Total +ve PAH's	mg/kg	<0.05
Benzo(a)pyrene TEQ calc (zero)	mg/kg	<0.5
Benzo(a)pyrene TEQ calc(half)	mg/kg	<0.5
Benzo(a)pyrene TEQ calc(PQL)	mg/kg	<0.5
Surrogate <i>p</i> -Terphenyl-d14	%	104

Acid Extractable metals in soil		
Our Reference		242802-1
Your Reference	UNITS	QC2
Date Sampled		11/05/2020
Type of sample		Soil
Date prepared	-	14/05/2020
Date analysed	-	14/05/2020
Arsenic	mg/kg	4
Cadmium	mg/kg	<0.4
Chromium	mg/kg	39
Copper	mg/kg	16
Lead	mg/kg	27
Mercury	mg/kg	<0.1
Nickel	mg/kg	8
Zinc	mg/kg	15

Moisture		
Our Reference		242802-1
Your Reference	UNITS	QC2
Date Sampled		11/05/2020
Type of sample		Soil
Date prepared	-	14/05/2020
Date analysed	-	15/05/2020
Moisture	%	15

Method ID	Methodology Summary
Inorg-008	Moisture content determined by heating at 105+/-5 °C for a minimum of 12 hours.
Metals-020	Determination of various metals by ICP-AES.
Metals-021	Determination of Mercury by Cold Vapour AAS.
Org-020	Soil samples are extracted with Dichloromethane/Acetone and waters with Dichloromethane and analysed by GC-FID. F2 = (>C10-C16)-Naphthalene as per NEPM B1 Guideline on Investigation Levels for Soil and Groundwater (HSLs Tables 1A (3, 4)). Note Naphthalene is determined from the VOC analysis.
Org-020	Soil samples are extracted with Dichloromethane/Acetone and waters with Dichloromethane and analysed by GC-FID. F2 = (>C10-C16)-Naphthalene as per NEPM B1 Guideline on Investigation Levels for Soil and Groundwater (HSLs Tables 1A (3, 4)). Note Naphthalene is determined from the VOC analysis. Note, the Total +ve TRH PQL is reflective of the lowest individual PQL and is therefore "Total +ve TRH" is simply a sum of the positive individual TRH fractions (>C10-C40).
Org-022/025	Soil samples are extracted with Dichloromethane/Acetone and waters with Dichloromethane and analysed by GC-MS and/or GC-MS/MS. Benzo(a)pyrene TEQ as per NEPM B1 Guideline on Investigation Levels for Soil and Groundwater - 2013. For soil results:- 1. 'EQ PQL' values are assuming all contributing PAHs reported as <PQL are actually at the PQL. This is the most conservative approach and can give false positive TEQs given that PAHs that contribute to the TEQ calculation may not be present. 2. 'EQ zero' values are assuming all contributing PAHs reported as <PQL are zero. This is the least conservative approach and is more susceptible to false negative TEQs when PAHs that contribute to the TEQ calculation are present but below PQL. 3. 'EQ half PQL' values are assuming all contributing PAHs reported as <PQL are half the stipulated PQL. Hence a mid-point between the most and least conservative approaches above. Note, the Total +ve PAHs PQL is reflective of the lowest individual PQL and is therefore "Total +ve PAHs" is simply a sum of the positive individual PAHs.
Org-023	Soil samples are extracted with methanol and spiked into water prior to analysing by purge and trap GC-MS.
Org-023	Soil samples are extracted with methanol and spiked into water prior to analysing by purge and trap GC-MS. Water samples are analysed directly by purge and trap GC-MS. F1 = (C6-C10)-BTEX as per NEPM B1 Guideline on Investigation Levels for Soil and Groundwater.

Method ID	Methodology Summary
Org-023	Soil samples are extracted with methanol and spiked into water prior to analysing by purge and trap GC-MS. Water samples are analysed directly by purge and trap GC-MS. F1 = (C6-C10)-BTEX as per NEPM B1 Guideline on Investigation Levels for Soil and Groundwater. Note, the Total +ve Xylene PQL is reflective of the lowest individual PQL and is therefore "Total +ve Xylenes" is simply a sum of the positive individual Xylenes.

Client Reference: Lanterra - P20023 - Block 45 Sect 3, Hume

QUALITY CONTROL: vTRH(C6-C10)/BTEXN in Soil					Duplicate			Spike Recovery %		
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-3	[NT]
Date extracted	-			14/05/2020	[NT]	[NT]	[NT]	[NT]	14/05/2020	[NT]
Date analysed	-			15/05/2020	[NT]	[NT]	[NT]	[NT]	15/05/2020	[NT]
TRH C ₆ - C ₉	mg/kg	25	Org-023	<25	[NT]	[NT]	[NT]	[NT]	83	[NT]
TRH C ₆ - C ₁₀	mg/kg	25	Org-023	<25	[NT]	[NT]	[NT]	[NT]	83	[NT]
Benzene	mg/kg	0.2	Org-023	<0.2	[NT]	[NT]	[NT]	[NT]	75	[NT]
Toluene	mg/kg	0.5	Org-023	<0.5	[NT]	[NT]	[NT]	[NT]	85	[NT]
Ethylbenzene	mg/kg	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	86	[NT]
m+p-xylene	mg/kg	2	Org-023	<2	[NT]	[NT]	[NT]	[NT]	81	[NT]
o-Xylene	mg/kg	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	86	[NT]
naphthalene	mg/kg	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Surrogate aaa-Trifluorotoluene	%		Org-023	107	[NT]	[NT]	[NT]	[NT]	104	[NT]

Client Reference: Lanterra - P20023 - Block 45 Sect 3, Hume

QUALITY CONTROL: svTRH (C10-C40) in Soil					Duplicate			Spike Recovery %		
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-3	[NT]
Date extracted	-			14/05/2020	[NT]	[NT]	[NT]	[NT]	14/05/2020	[NT]
Date analysed	-			14/05/2020	[NT]	[NT]	[NT]	[NT]	14/05/2020	[NT]
TRH C ₁₀ - C ₁₄	mg/kg	50	Org-020	<50	[NT]	[NT]	[NT]	[NT]	105	[NT]
TRH C ₁₅ - C ₂₈	mg/kg	100	Org-020	<100	[NT]	[NT]	[NT]	[NT]	77	[NT]
TRH C ₂₉ - C ₃₆	mg/kg	100	Org-020	<100	[NT]	[NT]	[NT]	[NT]	108	[NT]
TRH >C ₁₀ -C ₁₆	mg/kg	50	Org-020	<50	[NT]	[NT]	[NT]	[NT]	105	[NT]
TRH >C ₁₆ -C ₃₄	mg/kg	100	Org-020	<100	[NT]	[NT]	[NT]	[NT]	77	[NT]
TRH >C ₃₄ -C ₄₀	mg/kg	100	Org-020	<100	[NT]	[NT]	[NT]	[NT]	108	[NT]
Surrogate o-Terphenyl	%		Org-020	87	[NT]	[NT]	[NT]	[NT]	100	[NT]

Client Reference: Lanterra - P20023 - Block 45 Sect 3, Hume

QUALITY CONTROL: PAHs in Soil				Duplicate				Spike Recovery %		
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-3	[NT]
Date extracted	-			14/05/2020	[NT]	[NT]	[NT]	[NT]	14/05/2020	[NT]
Date analysed	-			15/05/2020	[NT]	[NT]	[NT]	[NT]	15/05/2020	[NT]
Naphthalene	mg/kg	0.1	Org-022/025	<0.1	[NT]	[NT]	[NT]	[NT]	118	[NT]
Acenaphthylene	mg/kg	0.1	Org-022/025	<0.1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Acenaphthene	mg/kg	0.1	Org-022/025	<0.1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Fluorene	mg/kg	0.1	Org-022/025	<0.1	[NT]	[NT]	[NT]	[NT]	118	[NT]
Phenanthrene	mg/kg	0.1	Org-022/025	<0.1	[NT]	[NT]	[NT]	[NT]	110	[NT]
Anthracene	mg/kg	0.1	Org-022/025	<0.1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Fluoranthene	mg/kg	0.1	Org-022/025	<0.1	[NT]	[NT]	[NT]	[NT]	106	[NT]
Pyrene	mg/kg	0.1	Org-022/025	<0.1	[NT]	[NT]	[NT]	[NT]	110	[NT]
Benzo(a)anthracene	mg/kg	0.1	Org-022/025	<0.1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Chrysene	mg/kg	0.1	Org-022/025	<0.1	[NT]	[NT]	[NT]	[NT]	92	[NT]
Benzo(b,j+k)fluoranthene	mg/kg	0.2	Org-022/025	<0.2	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Benzo(a)pyrene	mg/kg	0.05	Org-022/025	<0.05	[NT]	[NT]	[NT]	[NT]	118	[NT]
Indeno(1,2,3-c,d)pyrene	mg/kg	0.1	Org-022/025	<0.1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Dibenzo(a,h)anthracene	mg/kg	0.1	Org-022/025	<0.1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Benzo(g,h,i)perylene	mg/kg	0.1	Org-022/025	<0.1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Surrogate p-Terphenyl-d14	%		Org-022/025	107	[NT]	[NT]	[NT]	[NT]	103	[NT]

Client Reference: Lanterra - P20023 - Block 45 Sect 3, Hume

QUALITY CONTROL: Acid Extractable metals in soil				Duplicate				Spike Recovery %		
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-3	[NT]
Date prepared	-			14/05/2020	[NT]	[NT]	[NT]	[NT]	14/05/2020	[NT]
Date analysed	-			14/05/2020	[NT]	[NT]	[NT]	[NT]	14/05/2020	[NT]
Arsenic	mg/kg	4	Metals-020	<4	[NT]	[NT]	[NT]	[NT]	100	[NT]
Cadmium	mg/kg	0.4	Metals-020	<0.4	[NT]	[NT]	[NT]	[NT]	100	[NT]
Chromium	mg/kg	1	Metals-020	<1	[NT]	[NT]	[NT]	[NT]	101	[NT]
Copper	mg/kg	1	Metals-020	<1	[NT]	[NT]	[NT]	[NT]	102	[NT]
Lead	mg/kg	1	Metals-020	<1	[NT]	[NT]	[NT]	[NT]	98	[NT]
Mercury	mg/kg	0.1	Metals-021	<0.1	[NT]	[NT]	[NT]	[NT]	93	[NT]
Nickel	mg/kg	1	Metals-020	<1	[NT]	[NT]	[NT]	[NT]	98	[NT]
Zinc	mg/kg	1	Metals-020	<1	[NT]	[NT]	[NT]	[NT]	96	[NT]

Result Definitions

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

Quality Control Definitions

Blank	This is the component of the analytical signal which is not derived from the sample but from reagents, glassware etc, can be determined by processing solvents and reagents in exactly the same manner as for samples.
Duplicate	This is the complete duplicate analysis of a sample from the process batch. If possible, the sample selected should be one where the analyte concentration is easily measurable.
Matrix Spike	A portion of the sample is spiked with a known concentration of target analyte. The purpose of the matrix spike is to monitor the performance of the analytical method used and to determine whether matrix interferences exist.
LCS (Laboratory Control Sample)	This comprises either a standard reference material or a control matrix (such as a blank sand or water) fortified with analytes representative of the analyte class. It is simply a check sample.
Surrogate Spike	Surrogates are known additions to each sample, blank, matrix spike and LCS in a batch, of compounds which are similar to the analyte of interest, however are not expected to be found in real samples.
Australian Drinking Water Guidelines recommend that Thermotolerant Coliform, Faecal Enterococci, & E.Coli levels are less than 1cfu/100mL. The recommended maximums are taken from "Australian Drinking Water Guidelines", published by NHMRC & ARMC 2011.	
The recommended maximums for analytes in urine are taken from "2018 TLVs and BEIs", as published by ACGIH (where available). Limit provided for Nickel is a precautionary guideline as per Position Paper prepared by AIOH Exposure Standards Committee, 2016.	
Guideline limits for Rinse Water Quality reported as per analytical requirements and specifications of AS 4187, Amdt 2 2019, Table 7.2	

Laboratory Acceptance Criteria

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

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

Spikes for Physical and Aggregate Tests are not applicable.

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

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

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

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

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

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

Measurement Uncertainty estimates are available for most tests upon request.

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

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



CHAIN OF CUSTODY & ANALYSIS REQUEST

SGS Environmental Services
 Unit 16, 33 Maddox Street
 Alexandria NSW 2015
 Telephone No: (02) 85940400
 Facsimile No: (02) 85940499
 Email: au.samplerreceipt.sydney@sgs.com

Company Name: Lanterra Consulting Pty Ltd
 Address: Unit 4, 19 Trenerry Street
 Weston, ACT, 2611
 Contact Name: Chris Gunton
 Project Name/No: P20023 – Block 45 Sect 3, Hume
 Purchase Order No:
 Results Required By: Standard TAT
 Telephone: 0432 324 348
 Facsimile:
 Email Results: Chris.gunton@lanterra.com.au

Client Sample ID	Date Sampled	Lab Sample ID	WATER	SOIL	PRESERVATIVE	NO OF CONTAINERS	CL15, TRH, BTEX, PAH, OCP, OPP, PCB, Phenols, 8 Metals	Asbestos ID	pH, CEC, % Clay	TRH, BTEX, PAH, 8 Metals											
QC1	11/5/2020			X		1	X														
QC2	11/5/2020			X		1				X											
QC3	11/5/2020			X		1	X														
QC4	11/5/2020			X		1	X														
SP1-1	11/5/2020			X		2	X	X													
SP1-2	11/5/2020			X		2	X	X													
SP1-3	11/5/2020			X		2	X	X													
SP1-4	11/5/2020			X		2	X	X													

Please Forward to Envirolab

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

Job No: 242802

Date Received: 13/5/2020
 Time Received: 1515
 Received By: [Signature]
 Temp: Cool/Ambient
 Cooling: Ice/Icepack
 Security: Intact/Broken/None

Relinquished By: K. Lockwood
 Date/Time: 12/05/2020 15.45
 Received By: [Signature] EW
 Date/Time: 13/5/2020 1515


Relinquished By:
 Date/Time:
 Received By:
 Date/Time:

Samples Intact: Yes/ No
 Temperature: Ambient / Chilled
 Sample Cooler Sealed: Yes/ No
 Laboratory Quotation No:


Comments:

Borehole Logs


PROJECT NUMBER P20034	DRILLING DATE 11/05/2020	COORDINATES
PROJECT NAME Preliminary Site and Soil Investi	TOTAL DEPTH 1.2	COORD SYS MGA / GDA 95
CLIENT Forestrack Pty Ltd	DIAMETER 300 mm	SURFACE ELEVATION 645m AHD
ADDRESS Sheppard Rd and Lanyon Dr corner, Hume, ACT 2620		
Block 45, Section 3		
COMMENTS		LOGGED BY LB
		CHECKED BY CG

Samples	Sample Type	Depth (m)	Graphic Log	USCS	Material Description	Additional Observations	Elevation (m)
LC1_0.0-0.1	Soil	0.0		SC	Silty Clay: brown, soft, moist	Topsoil, surface covered with grass	565.8
		0.2					565.6
		0.4					
LC1_0.5-0.6		0.6					565.4
		0.8					565.2
LC1_1.0-1.1		1.0		SC	Silty Clay: brown to orange, soft to hard, moist to dry	Traces of volcanic rock fragments	565
		1.2			End of Hole at 1.2 m: Target Depth		564.8
		1.4					564.6
		1.6					564.4
		1.8					564.2
		2.0					564
		2.2					563.8
		2.4					563.6
		2.6					563.4
		2.8					563.2


PROJECT NUMBER P20034	DRILLING DATE 11/05/2020	COORDINATES
PROJECT NAME Preliminary Site and Soil Investi	TOTAL DEPTH 1.2	COORD SYS MGA / GDA 95
CLIENT Forestrack Pty Ltd	DIAMETER 300 mm	SURFACE ELEVATION 645m AHD
ADDRESS Sheppard Rd and Lanyon Dr corner, Hume, ACT 2620		
Block 45, Section 3		
COMMENTS		LOGGED BY LB
		CHECKED BY CG

Samples	Sample Type	Depth (m)	Graphic Log	USCS	Material Description	Additional Observations	Elevation (m)
LC2_0.0-0.1	Soil	0.0		SC	Silty Clay: dark brown to brown, soft, moist	Topsoil, surface covered with grass	565.8
		0.2					565.6
LC2_0.5-0.6		0.4					565.4
		0.6					565.2
		0.8					565.0
LC2_1.0-1.1		1.0		SC	Silty Clay: brown to orange, hard, moist	Traces of volcanic rock fragments	564.8
		1.2			End of Hole at 1.2 m: Target Depth		564.6
		1.4					564.4
		1.6					564.2
		1.8					564.0
		2.0					563.8
		2.2					563.6
		2.4					563.4
		2.6					563.2
		2.8					

PROJECT NUMBER P20034	DRILLING DATE 11/05/2020	COORDINATES
PROJECT NAME Preliminary Site and Soil Investi	TOTAL DEPTH 1.2	COORD SYS MGA / GDA 95
CLIENT Forestrack Pty Ltd	DIAMETER 300 mm	SURFACE ELEVATION 645m AHD
ADDRESS Sheppard Rd and Lanyon Dr corner, Hume, ACT 2620		
Block 45, Section 3		
COMMENTS		LOGGED BY LB
		CHECKED BY CG


Samples	Sample Type	Depth (m)	Graphic Log	USCS	Material Description	Additional Observations	Elevation (m)
LC3_0.0-0.1	Soil	0.0		SC	Silty Clay: dark brown, soft, moist	Topsoil, surface covered with grass	565.8
		0.2					565.6
		0.4					
LC3_0.5-0.6		0.6					565.4
		0.8					565.2
LC3_1.0-1.1		1.0		SC	Silty Clay: brown to orange, soft to hard, moist		565
		1.2			End of Hole at 1.2 m: Target Depth		564.8
		1.4					564.6
		1.6					564.4
		1.8					564.2
		2.0					564
		2.2					563.8
		2.4					563.6
		2.6					563.4
		2.8					563.2

PROJECT NUMBER P20034	DRILLING DATE 11/05/2020	COORDINATES
PROJECT NAME Preliminary Site and Soil Investi	TOTAL DEPTH 1.2	COORD SYS MGA / GDA 95
CLIENT Forestrack Pty Ltd	DIAMETER 300 mm	SURFACE ELEVATION 645m AHD
ADDRESS Sheppard Rd and Lanyon Dr corner, Hume, ACT 2620		
Block 45, Section 3		
COMMENTS		LOGGED BY LB
		CHECKED BY CG


Samples	Sample Type	Depth (m)	Graphic Log	USCS	Material Description	Additional Observations	Elevation (m)	
LC4_0.0-0.1	Soil	0.0		SC	Silty Clay: dark brown to brown, soft, moist	Topsoil, surface covered with grass	565.8	
		0.2						565.6
		0.4						565.4
LC4_0.5-0.6		0.6						565.2
		0.8						565.0
LC4_1.0-1.1		1.0		SC	Gravelly Silty Clay: brown to orange, soft to hard, dry to moist		564.8	
		1.2			End of Hole at 1.2 m: Target Depth		564.6	
		1.4					564.4	
		1.6					564.2	
		1.8					564.0	
		2.0					563.8	
		2.2					563.6	
		2.4					563.4	
		2.6					563.2	
		2.8						

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PROJECT NUMBER P20034	DRILLING DATE 11/05/2020	COORDINATES
PROJECT NAME Preliminary Site and Soil Investi	TOTAL DEPTH 1.2	COORD SYS MGA / GDA 95
CLIENT Forestrack Pty Ltd	DIAMETER 300 mm	SURFACE ELEVATION 645m AHD
ADDRESS Sheppard Rd and Lanyon Dr corner, Hume, ACT 2620 Block 45, Section 3		
COMMENTS		LOGGED BY LB CHECKED BY CG

Samples	Sample Type	Depth (m)	Graphic Log	USCS	Material Description	Additional Observations	Elevation (m)
LC5_0.0-0.1	Soil	0.0		SC	Silty Clay: brown, soft, moist	Topsoil, surface covered with grass	645.0
		0.2					565.8
		0.4					565.6
LC5_0.5-0.6		0.6					565.4
		0.8					565.2
LC5_1.0-1.1		1.0		SC	Silty Clay: brown to orange, soft to firm, dry to moist		565.0
		1.2			End of Hole at 1.2 m: Target Depth		564.8
		1.4					564.6
		1.6					564.4
		1.8					564.2
		2.0					564.0
		2.2					563.8
		2.4					563.6
		2.6					563.4
		2.8					563.2

PROJECT NUMBER P20034	DRILLING DATE 11/05/2020	COORDINATES
PROJECT NAME Preliminary Site and Soil Investi	TOTAL DEPTH 1.2	COORD SYS MGA / GDA 95
CLIENT Forestrack Pty Ltd	DIAMETER 300 mm	SURFACE ELEVATION 645m AHD
ADDRESS Sheppard Rd and Lanyon Dr corner, Hume, ACT 2620 Block 45, Section 3		
COMMENTS		LOGGED BY LB CHECKED BY CG


Samples	Sample Type	Depth (m)	Graphic Log	USCS	Material Description	Additional Observations	Elevation (m)
LC6_0.0-0.1	Soil	0.0		SC	Silty Clay: dark brown to brown, soft, moist	Topsoil, surface covered with grass	565.8
		0.2					565.6
		0.4					
LC6_0.5-0.6		0.6					565.4
		0.8					565.2
LC6_1.0-1.1		1.0		SC	Silty Clay: brown to orange, soft to hard, moist	Natural	565
		1.2			End of Hole at 1.2 m: Target Depth		564.8
		1.4					564.6
		1.6					564.4
		1.8					564.2
		2.0					564
		2.2					563.8
		2.4					563.6
		2.6					563.4
		2.8					563.2

PROJECT NUMBER P20034	DRILLING DATE 11/05/2020	COORDINATES
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CLIENT Forestrack Pty Ltd	DIAMETER 300 mm	SURFACE ELEVATION 645m AHD
ADDRESS Sheppard Rd and Lanyon Dr corner, Hume, ACT 2620 Block 45, Section 3		
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Samples	Sample Type	Depth (m)	Graphic Log	USCS	Material Description	Additional Observations	Elevation (m)
LC7_0.0-0.1	Soil	0.0		SC	Silty Clay: dark brown to brown, soft, moist	Topsoil, surface covered with grass	565.8
		0.2					565.6
		0.4					
LC7_0.5-0.6		0.6					565.4
		0.8					565.2
LC7_1.0-1.1		1.0		SC	Silty Clay: brown to orange, soft to hard, dry to moist		565
		1.2			End of Hole at 1.2 m: Target Depth		564.8
		1.4					564.6
		1.6					564.4
		1.8					564.2
		2.0					564
		2.2					563.8
		2.4					563.6
		2.6					563.4
		2.8					563.2

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PROJECT NAME Preliminary Site and Soil Investi	TOTAL DEPTH 1.2	COORD SYS MGA / GDA 95
CLIENT Forestrack Pty Ltd	DIAMETER 300 mm	SURFACE ELEVATION 645m AHD
ADDRESS Sheppard Rd and Lanyon Dr corner, Hume, ACT 2620		
Block 45, Section 3		
COMMENTS		LOGGED BY LB
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Samples	Sample Type	Depth (m)	Graphic Log	USCS	Material Description	Additional Observations	Elevation (m)
LC8_0.0-0.1	Soil	0.0		SC	Silty Clay: brown, soft, moist	Topsoil, surface covered with grass	565.8
		0.2					565.6
LC8_0.5-0.6		0.6				Silty Clay: brown to orange, soft, moist	Traces of volcanic rock fragments
		0.8					565.2
LC8_1.0-1.1		1.0		SC	Silty Clay: brown to orange, soft to firm, dry to moist	Natural	565
		1.2			End of Hole at 1.2 m: Target Depth		564.8
		1.4					564.6
		1.6					564.4
		1.8					564.2
		2.0					564
		2.2					563.8
		2.4					563.6
		2.6					563.4
		2.8					563.2

PROJECT NUMBER P20034	DRILLING DATE 11/05/2020	COORDINATES
PROJECT NAME Preliminary Site and Soil Investi	TOTAL DEPTH 1.2	COORD SYS MGA / GDA 95
CLIENT Forestrack Pty Ltd	DIAMETER 300 mm	SURFACE ELEVATION 645m AHD
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Samples	Sample Type	Depth (m)	Graphic Log	USCS	Material Description	Additional Observations	Elevation (m)
LC9_0.0-0.1	Soil	0.0		SC	Silty Clay: dark brown to brown, soft, moist	Topsoil, surface covered with grass	645.0
		0.2					565.8
		0.4					565.6
LC9_0.5-0.6		0.6					565.4
		0.8					565.2
LC9_1.0-1.1		1.0		SC	Silty Clay: brown to orange, soft to hard, dry to moist		565.0
		1.2			End of Hole at 1.2 m: Target Depth		564.8
		1.4					564.6
		1.6					564.4
		1.8					564.2
		2.0					564.0
		2.2					563.8
		2.4					563.6
		2.6					563.4
		2.8					563.2



PROJECT NUMBER P20034	DRILLING DATE 11/05/2020	COORDINATES
PROJECT NAME Preliminary Site and Soil Investi	TOTAL DEPTH 1.2	COORD SYS MGA / GDA 95
CLIENT Forestrack Pty Ltd	DIAMETER 300 mm	SURFACE ELEVATION 645m AHD
ADDRESS Sheppard Rd and Lanyon Dr corner, Hume, ACT 2620 Block 45, Section 3		
COMMENTS		LOGGED BY LB CHECKED BY CG

Samples	Sample Type	Depth (m)	Graphic Log	USCS	Material Description	Additional Observations	Elevation (m)
LC10_0.0-0.1	Soil	0.0		SC	Silty Clay: dark brown to brown, soft, moist	Topsoil, surface covered with grass	565.8
		0.2					565.6
		0.4					
LC10_0.5-0.6		0.6					565.4
		0.8					565.2
LC10_1.0-1.1		1.0		SC	Silty Clay: brown to orange, soft to hard, dry to moist		565
		1.2			End of Hole at 1.2 m: Target Depth		564.8
		1.4					564.6
		1.6					564.4
		1.8					564.2
		2.0					564
		2.2					563.8
		2.4					563.6
		2.6					563.4
		2.8					563.2

PROJECT NUMBER P20034	DRILLING DATE 11/05/2020	COORDINATES
PROJECT NAME Preliminary Site and Soil Investi	TOTAL DEPTH 1.2	COORD SYS MGA / GDA 95
CLIENT Forestrack Pty Ltd	DIAMETER 300 mm	SURFACE ELEVATION 645m AHD
ADDRESS Sheppard Rd and Lanyon Dr corner, Hume, ACT 2620 Block 45, Section 3		
COMMENTS		LOGGED BY LB CHECKED BY CG



Samples	Sample Type	Depth (m)	Graphic Log	USCS	Material Description	Additional Observations	Elevation (m)
LC11_0.0-0.1	Soil	0.0		SC	Silty Clay: brown, soft, moist	Topsoil, surface covered with grass. Volcanic rock outcrops in the surrounding comprised mainly of a crystal tuff (plagioclase and quartz) and possibly a dacitic to rhyolitic breccia	565.8
		0.2					565.6
LC11_0.5-0.6		0.6		CS	Clayey Silt: brown to orange, moist, soft		565.4
		0.8					565.2
LC11_1.0-1.1		1.0		S	Silt: pale brown to grey, hard, dry	Natural, drilling through volcanic rock	565
		1.2			End of Hole at 1.2 m: Target Depth		564.8
		1.4					564.6
		1.6					564.4
		1.8					564.2
		2.0					564
		2.2					563.8
		2.4					563.6
		2.6					563.4
		2.8					563.2

PROJECT NUMBER P20034	DRILLING DATE 11/05/2020	COORDINATES
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Samples	Sample Type	Depth (m)	Graphic Log	USCS	Material Description	Additional Observations	Elevation (m)
LC12_0.0-0.1	Soil	0.0		SC	Silty Clay: dark brown, soft, moist	Topsoil, surface covered with grass. Volcanic rock outcrops in the surroundings	565.8
		0.2					565.6
LC12_0.5-0.6		0.4		SC	Silty Clay: brown, moist, soft		565.4
		0.6					565.2
LC12_1.0-1.1		0.8		S	Silt: pale brown to grey, hard, dry	Natural, drilling through volcanic rock	565
		1.0					564.8
		1.2			End of Hole at 1.2 m: Target Depth		564.8
		1.4					564.6
		1.6					564.4
		1.8					564.2
		2.0					564
		2.2					563.8
		2.4					563.6
		2.6					563.4
		2.8					563.2

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Samples	Sample Type	Depth (m)	Graphic Log	USCS	Material Description	Additional Observations	Elevation (m)
LC13_0.0-0.1	Soil	0.0		SC	Silty Clay: brown, soft, moist	Topsoil, surface covered with grass. Volcanic rock outcrops in the surroundings	565.8
		0.2					
LC13_0.5-0.6		0.4		S	Silt: grey, hard, dry	Natural, drilling through volcanic rock	565.4
		0.6					
		0.6			End of Hole at 0.6 m bgl. Rock refusal		565.4
		0.8					565.2
		1.0					565.0
		1.2					564.8
		1.4					564.6
		1.6					564.4
		1.8					564.2
		2.0					564.0
		2.2					563.8
		2.4					563.6
		2.6					563.4
		2.8					563.2

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Samples	Sample Type	Depth (m)	Graphic Log	USCS	Material Description	Additional Observations	Elevation (m)
LC14_0.0-0.1	Soil	0.0		SC	Silty Clay: brown, soft, moist	Topsoil, surface covered with grass. Volcanic rock outcrops in the surroundings	565.8
		0.2					565.6
		0.4					
LC14_0.5-0.6		0.6		CS	Clayey Silt: brown to orange, dry, soft to hard	Possible volcanic rock drilling	565.4
		0.8		S	Silt: pale brown to grey, hard, dry	Natural, drilling through volcanic rock	565.2
		1.0			End of Hole at 0.9 m bgl. Rock refusal		565
		1.2					564.8
		1.4					564.6
		1.6					564.4
		1.8					564.2
		2.0					564
		2.2					563.8
		2.4					563.6
		2.6					563.4
		2.8					563.2

PROJECT NUMBER P20034	DRILLING DATE 11/05/2020	COORDINATES
PROJECT NAME Preliminary Site and Soil Investi	TOTAL DEPTH 1.2	COORD SYS MGA / GDA 95
CLIENT Forestrack Pty Ltd	DIAMETER 300 mm	SURFACE ELEVATION 645m AHD
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Samples	Sample Type	Depth (m)	Graphic Log	USCS	Material Description	Additional Observations	Elevation (m)
LC15_0.0-0.1	Soil	0.0		SC	Silty Clay: dark brown to brown, soft, moist to dry	Topsoil, surface covered with grass. Volcanic rock outcrops in the surroundings	565.8
		0.2					565.6
LC15_0.5-0.6		0.4		SC	Silty Clay: brown, dry to moist, soft		565.4
		0.6					565.2
LC15_1.0-1.1		0.8		S	Silt: grey to pale grey, hard, dry	Natural, drilling through volcanic rock	565
		1.0					564.8
		1.2			End of Hole at 1.2 m: Target Depth		564.8
		1.4					564.6
		1.6					564.4
		1.8					564.2
		2.0					564
		2.2					563.8
		2.4					563.6
		2.6					563.4
		2.8					563.2