DETAILED SITE CONTAMINATION INVESTIGATION

11a Canopus Close
ERSKINE PARK NSW 2759

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CLIENT:	**Penrith City Council**
SITE:	**11a Canopus Close ERSKINE PARK NSW 2759**
REPORT NUMBER:	**11538.02.TSCA**
DATE OF REPORT:	**3 May 2021**
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1. EXECUTIVE SUMMARY

Getex Pty Ltd (Getex) was engaged by Penrith City Council to undertake a Detailed Site Contamination Investigation for Lots 1 and 2 of 11a Canopus Close, ERSKINE PARK NSW 2759 (the Site). The purpose of this investigation was to provide a detailed investigation of the current belowground conditions of the Site, with respect to potential belowground contamination, for use as a residential lot.

The scope of the investigation was limited to:

- A review of site history documentation including:
  - Section 10.7 (Parts 2 and 5) certificate;
  - Land title ownership records;
  - Local geology, hydrology and hydrogeology records;
  - Aerial photographs;
  - Below ground utilities search;
  - Local council property files;
  - Hazardous chemicals search;
  - Previous investigations conducted;
  - Historical business directory records; and
  - EPA public registers.

- A site surface walkover inspection;

- Preparation of a Conceptual Site Model (CSM);

- Undertaking a subsurface soil sampling and analysis regime on the Site that included:
  - Test pits to visually inspect the subsurface soil from 7 locations across the Site.
  - The collection of samples from the 7 locations.
  - The following laboratory analysis regime:

    i. 7 Samples analysed for Metals (As, Cd, Cr, Cu, Hg, Pb, Ni & Zn);
    ii. 7 Samples analysed for Total Recoverable Hydrocarbons (TRH);
    iii. 7 Samples analysed for Benzene, Toluene, Ethyl Benzene and Xylenes (BTEX);
    iv. 7 Samples analysed for Polycyclic Aromatic Hydrocarbons (PAHs);
    v. 4 Samples analysed for Organochloride Pesticides (OCP);
    vi. 4 Samples analysed for Organophosphate Pesticides (OPP);
    vii. 4 Samples analysed for Polychlorinated Biphenyls (PCBs); and
    viii. 6 Samples analysed for Asbestos (includes 1 material sample).

- Interpretation of the analytical results against the adopted Site Assessment Criteria (SAC); and

- Prepare a report outlining the findings of the investigation including an assessment of the suitability of the Site for the development with respect to below ground contamination based on the results of the investigation.

Based on the findings from the site historical review and walkover inspection there was the potential for contamination from previous site activities (farmers, dairy farmers and graziers), imported fill and building materials.

Soil samples were collected from the Site and analysed for TRH, BTEX, Metals, PAHs, OCPs, OPPs, PCBs and Asbestos.

The soil concentrations of TRH, BTEX, Metals, PAHs, OCPs, OPPs and PCBs were within the adopted criteria.

Bonded Asbestos (ACM) was identified within test pit TP04 at a depth of 0.3m above the adopted asbestos assessment criteria.

No Friable Asbestos (FA & AF) was detected within any of the test pits.

Based on the observations of the belowground site conditions and findings from the analysis results, it is the current opinion of the consultant that the asbestos identified as being present within test pit TP04 can be managed as **bonded (non-friable) asbestos**.

As stated in the WA DOH (2009) Guidelines for the Assessment, Remediation and Management of Asbestos-Contaminated Sites in Western Australia endorsed by NEPM (2013), asbestos-containing materials (ACM) that mainly appears as fragments, pieces or sheets is asbestos bound in a matrix and there is little free fibre present. Asbestos in these forms is not likely to release appreciable amounts of free asbestos fibre, which presents the main risk from asbestos through inhalation.

Therefore, based on the information provided above, asbestos contamination within the material represents a low risk to human health with respect to the Site use.

Within the Scope and Limitations made for the purpose of the investigation, it is the opinion of the consultant that the findings of the investigation identified bonded asbestos contamination within the fill material at the Site that represents a potential risk to human health/environment with respect to the Site use as a residential lot.

It is recommended that further investigation works are conducted to determine the extent of the bonded asbestos contamination (i.e. is it an isolated hotspot or further widespread).

Following determining the extent of contamination, appropriate site remediation can be conducted.

The preferred hierarchy of options for site remediation or management described in the NEPM are as follows:

- on-site treatment of the contamination so that it is destroyed or the associated risk is reduced to an acceptable level; and
- off-site treatment of excavated soil, so that the contamination is destroyed or the associated risk is reduced to an acceptable level, after which soil is returned to the site; or,

if the above are not practicable,

- consolidation and isolation of the soil on site by containment with a properly designed barrier; and
- removal of contaminated material to an approved site or facility, followed, where necessary, by replacement with appropriate material; or,
- where the assessment indicates remediation would have no net environmental benefit or would have a net adverse environmental effect, implementation of an appropriate management strategy.

The NEPM states that when deciding which option to choose, the sustainability (environmental, economic and social) of each option should be considered, in terms of achieving an appropriate balance between the benefits and effects of undertaking the option. In cases where no readily available or economically feasible method is available for remediation, it may be possible to adopt appropriate regulatory controls or develop other forms of remediation. The NEPM emphasises that the appropriateness of any particular option will vary depending on a range of local factors. Acceptance of any specific option or mix of options in any particular set of circumstances is therefore a matter for the responsible participating jurisdiction.

It is recommended that a Remedial Action Plan (RAP) is developed and undertaken for the Site which would outline remediation options. A summary of the remediation options are as follows:

1. On-site treatment by hand picking/tilling of the asbestos contamination; and/or

2. On-site containment of the asbestos contamination as per the requirements of ANZECC (1999) Guidelines for the Assessment of On-site Containment of Contaminated Soil with a carefully considered site specific management plan; and/or

3. Excavation and removal of the asbestos contamination.

Any fill material to be removed is to be disposed of appropriately pending a suitable waste classification.

Once remedial actions have been undertaken and a validation assessment has determined that the contamination has been remediated then the Site would be suitable for use as a residential lot.

This Executive Summary should be read in conjunction with all sections of this report.

2. SCOPE

Getex Pty Ltd (Getex) was engaged by Penrith City Council to undertake a Detailed Site Contamination Investigation for Lots 1 and 2 of 11a Canopus Close, ERSKINE PARK NSW 2759 (the Site). The purpose of this investigation was to provide a detailed investigation of the current belowground conditions of the Site, with respect to potential belowground contamination, for use as a residential lot.

The scope of the investigation was limited to:

- A review of site history documentation including:
  - Section 10.7 (Parts 2 and 5) certificate;
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    viii. 6 Samples analysed for Asbestos (includes 1 material sample).

- Interpretation of the analytical results against the adopted Site Assessment Criteria (SAC); and

- Prepare a report outlining the findings of the investigation including an assessment of the suitability of the Site for the development with respect to below ground contamination based on the results of the investigation.

The scope of work was undertaken with reference to the National Environmental Protection (Assessment of Site Contamination) Measure (2013), NSW EPA Consultants Reporting on Contaminated Land: Contaminated Land Guidelines (2020) and State Environmental Planning Policy No.55 – Remediation of Land (1998).

3. LIMITATIONS

The investigation conducted was limited in scope. The area considered in the investigation was limited to Lots 1 & 2 of 11a Canopus Close, ERSKINE PARK NSW 2759 (the Site).

This investigation included the collection of limited soil samples up to the natural soil horizon (maximum depth of 1.25m). The investigation did not include the analysis of ground water samples or the assessment of ground water quality on site. The investigation involved the inspection/sampling of a selected number of locations/materials at the time of inspection which may or may not be representative of conditions between the locations/materials assessed. Furthermore, conditions on site may also change over time subsequent to the Getex assessment.

As such, although all work is performed to a professional and diligent standard, the potential variance between the practical limitations of the scope of work undertaken, the cost of our services, all possible issues of concern, and any loss or damages which may be associated with our work are such that we cannot warrant that all issues of concern/contamination or potential contamination have been identified. We therefore limit any potential liability associated with our work to the cost of our services.

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4. SITE IDENTIFICATION

The Site to be investigated is Lots 1 and 2 of 11a Canopus Close, ERSKINE PARK NSW 2759. The Site is located within the Parish of Melville, County of Cumberland. The local government authority is Penrith City Council. Penrith City Council zoned the Site as R2 Low Density Residential within the Penrith Local Environment Plan (2010).

The site identification details are summarised in the following table.

Site Address:	11a Canopus Close, ERSKINE PARK NSW 2759
Lot & Deposited Plan:	Part of Lot 2174 DP 776426
Current Land Use:	Public Park/Reserve
Proposed Land Use:	Residential
Local Government Authority:	Penrith City Council
Geographical Location (MGA56):	Easting: 296453 Northing: 6257169 (approximately)
Site Investigation Area:	Approximately 1,111 m^2

Table 4-1: Site Identification Details

Refer to Figure 1 for the general location of the Site.

*Aerial image derived under license from Google Earth and is indicative of on-ground locations only.

Figure 1. Site Locality Map

5. DESCRIPTION OF SITE AND SURROUNDING ENVIRONMENT

A surface walkover inspection of the Site and surrounding area was conducted on the 25th of March 2021. The Site is also identified as part of Lot 2174 DP 776426.

Surrounding the Site was vacant land, residential dwellings, Sydney Waters water reservoir and Capella Street.

5.1 Part of Lot 2174 DP 776426

Identified as part of 11a Canopus Close, ERSKINE PARK NSW 2759, the Site is part of the public open space (park/reserve) with grass covering the Site.

No underground storage tanks were identified onsite. No olfactory or visual indications of contamination were noted during the inspection. A large water tank owned by Sydney Water is located south-west to the Site.

5.2 Surrounding Area

The Site is within a residential area.

To the North of the Site is Capella Street.

To the East of the Site is residential dwellings.

To the south of the Site is residential dwellings along with Canopus Close.

To the west of the Site is vacant land followed by Sydney Waters large water tank for their water reservoir and residential dwellings.

5.3 Proposed Development

Subdivision of the Site to be a residential lot as part of Penrith City Council's Erskine Park Reinvestment Project.

6. TOPOGRAPHY, GEOLOGY, HYDROLOGY AND HYDROGEOLOGY

6.1 Topography

The topography of the Site appears to slope down gently towards the east. Areas surrounding the Site appears to also slope down gently towards the east.

6.2 Geology

The NSW Office of Environment and Heritage eSPADE map shows the Site to be within the Residual Blacktown Soil Landscapes.

This type of landscape is characterised by gently undulating rises on Wianamatta Group shales, local relief to 30m and slopes usually >5%. This landscape contains broad rounded crests and with gently inclined slopes. Cleared Eucalypt woodland and tall open-forest (dry sclerophyll forests). The soils consist of shallow to moderately deep (>100 cm) hardsetting mottled texture contrast soils. Red and Brown Podzolic Soils on crests grading to Yellow Podzolic Soils on lower slopes and drainage lines. The limitations to development are localised seasonal waterlogging, localised water erosion hazard, moderately reactive highly plastic subsoil and localised surface movement potential.

The geology in the area is associated with the following Wianamatta Group Units; Ashfield Shale consisting of laminite and dark grey siltstone; Bringelly Shale which consists of shale with occasional calcareous claystone, laminate and infrequent coal, and Minchinbury Sandstone consisting of fine to medium -grained quartz lithic sandstone.

The Department of Finance, Services & Innovation 2020 shows the bedrock underlying the Site to be Triassic Age Ashfield Shale consisting of laminite and dark grey siltstone.

6.3 Hydrology

Within the site, precipitation is expected to infiltrate the surface soils. Infiltration is expected to be at a rate reflective of the soil. During heavy of prolonged rain periods, surface runoff is expected to run towards the east. Ropes Creek is located approximately 1.2km east of the Site.

6.4 Hydrogeology

Groundwater bore information obtained from the NSW Office of Water are included in Appendix III. There were ten (10) registered bores located within a 2km radius of the Site, a summary of these ten (10) bores are presented in Table 6.1.

Bore ID	Use	Approximate Distance from Site	Bore Depth	Standing Water Level
GW101082	Monitoring Bore	1264m South	40.30	-
GW101085	Monitoring Bore	1467m South	99.30	-
GW101086	Monitoring Bore	1496m South	69.70	-
GW114265	Monitoring Bore	1717m North West	13.00	-
GW114269	Monitoring Bore	1718m North West	10.00	-
GW102674	Monitoring Bore	1718m South West	71.90	-
GW114268	Monitoring Bore	1723m North West	12.00	-
GW114266	Monitoring Bore	1728m North West	13.00	-
GW114267	Monitoring Bore	1738m North West	12.00	-
GW102673	Monitoring Bore	1851m South West	78.00	

Table 6-1: Summary of Groundwater Bores

Therefore, based on the available geological and hydro-geological information it is anticipated that groundwater may be encountered at the soil-rock interface as a result of subsurface water movement during and following wet weather and is expected to flow in an east direction due to the topography of the Site and surrounding area and that the closest water body is Ropes Creek. The permanent groundwater table is anticipated to occur within the underlying bedrock, within zones of relatively higher permeability or associated with inconsistencies in the bedrock (faults, joints, weathered zones, etc).

6.5 Acid Sulfate Soil

According to Acid Sulfate Soil Planning Maps, the Site is within soil class C. The Atlas of Australian Acid Sulfate Soils categorises the Site as within an area of extremely low probability of occurrence (1-5% chance of occurrence). Furthermore, the Acid Sulfate Soil Risk Maps reveal the Site to be in an area of no known risks of acid sulfate soil materials. Therefore, acid sulfate soils are not expected to occur in this environment.

6.6 Local Sensitive Environments

According to SEED - The Central Resource for Sharing and Enabling Environmental Data in NSW, the Site does not contain environmentally sensitive land.

7. SITE HISTORY

7.1 Land Titles Search

A land titles search was conducted by Advanced Legal Search Pty Limited for 11a Canopus Close, ERSKINE PARK NSW 2759. The search identified Lot 2174 DP 776426. The land titles search for the above-mentioned Lot is summarised in the following table.

Year	Proprietor
	(Lot 2174 DP 776426)
2004 – to date	Penrith City Council
1988 – 2004	Land Commission of New South Wales
	(Lot 1115 DP 709078)
1984 – 1988	Land Commission of New South Wales
	(Lot 22 DP 595535 – CTVol 13974 Fol 185)
1980 – 1984	Land Commission of New South Wales
1979 – 1980	Austrocom Pty. Limited
	(Lot 2 DP 578786 – CTVol 13443 Fol 54)
1977 – 1979	Austrocom Pty. Limited
	(Lot 2 DP 229158 – CTVol 10312 Fol 133)
1969 – 1977	Austrocom Pty. Limited
(1969 – 1977)	*(leases to Hugh Henry Mackillop and Frederick Charles Mackillop, farmers & graziers)*
1966 – 1969	Hugh Henry Mackillop, farmer & grazier Frederick Charles Mackillop, farmer & grazier
	(Lot 1 DP 513139 – CTVol 9918 Fol's 55A & B)
1965 – 1966	Hugh Henry Mackillop, farmer & grazier Frederick Charles Mackillop, farmer & grazier
	(Lot 11 of Erskine Park Estate – Area 252 Acres 3 Roods 33 ½ Perches – CTVol 8420 Fol's 76 & 77)
1962 – 1965	Hugh Henry Mackillop, farmer & grazier Frederick Charles Mackillop, farmer & grazier
	(Lot 11 of Erskine Park Estate – Area 268 Acres 3 Roods – CTVol 6657 Fol's 89 & 90)
1953 – 1962	Hugh Henry Mackillop, farmer & grazier Frederick Charles Mackillop, farmer & grazier
	(Lot 11 of Erskine Park Estate – Area 268 Acres 3 Roods – CTVol 5636 Fol 111)
1951 – 1953	Sydney Clarence Ward, farmer
1950 – 1951	Charles Arthur Speller, farmer
1950 – 1950	William Arthur Graetz, artist
1947 – 1950	Bernard Vandyke, farmer
	(Lot 11 of Erskine Park Estate – Area 268 Acres 3 Roods – CTVol 1853 Fol 238)
1944 – 1947	Leslie Charles Roberts, dairy farmer
1938 – 1944	Charles Henry Buckley, farmer
1931 – 1938	George Charles Golding, property owner
1931 – 1931	Susan Robertson, feme sole
1926 – 1931	John Samuel Edgecombe, farmer
1918 – 1926	Henry Gray Parker Sellen, auctioneer

Year	Proprietor
1908 – 1918	Bridget Dorahy, widow Henry Sylvester Dorahy, farmer
1908 – 1908	Lewis May, grazier
(1906 – 1911)	*(lease to William Taylor, farmer)*

Table 7-1: Summary of Land Titles Search Lot 2174 DP 776426

7.2 Aerial Photographs

Fourteen historical photographs have been provided for viewing. These photographs were for the years 1949, 1956, 1961, 1965, 1970, 1978, 1982, 1986, 1991, 1994, 2000, 2009, 2015 and 2020. The aerial photographs are presented in **Appendix III**. The inspection of the aerial photographs is summarised in Table 7-2.

Year	Summary
1949	The aerial photo is in black and white. Discernible details are clear. The Site is currently part of a large forest land with high density trees. Further south-east of the Site appears to be farmland. A dirt track is present south of the Site. The remaining surrounding areas are part of the forest land.
1956	The aerial photo is in black and white. Discernible details are clearer. The Site appears unchanged. No obvious changes within the Site or surrounding areas.
1961	The aerial photo is in black and white. Discernible details are clear. The Site appears unchanged. Minor developments to the dirt track south of the Site appear to have been conducted. No obvious changes within the Site or remaining surrounding areas.
1965	The aerial photo is in black and white. Discernible details are clearer. The Site appears unchanged. No obvious changes within the Site or surrounding areas.
1970	The aerial photograph is in black and white. Discernible details are clear. The Site and areas adjacent east, south-east and south of the Site appear to have undergone deforestation and appear to be one large block of vacant land. No other obvious changes to the remaining surrounding areas.
1978	The aerial photo is in black and white. Discernible details are clearer. The Site appears unchanged. No obvious changes within the Site or surrounding areas.
1982	The aerial photo is in colour. Discernible details are clearer. The Site appears unchanged. No obvious changes within the Site or surrounding areas.
1986	The aerial photo is in colour. Discernible details of the Site are clear. Further deforestation has been conducted, north, west and south-west of the Site with major residential developments conducted north, north-west and north east of the Site. The addition of paved roads (Capella Street, Kawana Place and Peppertree Drive) has also been conducted within these residential areas. A large tank for Sydney Water's Reservoir is now present west of the Site. A dirt track running in a north-south direction is now present south-west of the Site. The Site appears unchanged.
1991	The aerial photo is in colour. Discernible details of the Site are less clear. Major residential developments have begun east, south-east and south of the Site. The dirt track south-west of the Site is now paved and Canopus Close is now present. Further paved roads (Pisces Place and Swallow Drive) have

Year	Summary
	been developed south of the Site. Erskine Park High School is also now present further south-east of the Site.
1994	The aerial photo is in colour. Discernible details of the Site are clear. Minor developments have occurred within residential properties and surrounding roads surrounding the Site. The Site appears unchanged.
2000	The aerial photo is in colour. Discernible details of the Site are clear. Further minor developments have occurred within residential properties and surrounding roads surrounding the Site. The Site appears unchanged.
2009	The aerial photo is in colour. Discernible details of the Site are clear. No obvious changes to the Site and surrounding areas.
2015	The aerial photo is in colour. Discernible details of the Site are clear. No obvious changes to the Site and surrounding areas.
2020	The aerial photo is in colour. Discernible details of the Site are clear. No obvious changes to the Site and surrounding areas.

Table 7-2: Summary of Aerial Photograph Inspection

7.3 EPA Records

A search of the EPA public register under the Protection of the Environment Operations Act 1997 was undertaken. The search results are presented in **Appendix III**. The search identified that, for the Site there were:

- No prevention, clean-up or prohibition notices; and
- No transfer, variation, suspension, surrender or revocation of an environment protection license (EPL).

A search was undertaken of the EPA public contaminated land registers. The search results are presented in **Appendix III**. The search did not identify any matters which apply for the Site or adjoining properties under the Contaminated Land Management Act (CLM Act) 1997.

7.4 Council Records

Penrith City Council was requested to make available for review property documentation held which may provide information pertinent to the ground contamination status of the Site.

No previous property documentation pertinent to the ground contamination status of the Site was provided to Getex from the council.

7.5 Historical Business Directories

A search of the historical business directories was undertaken. Records for the years 1950, 1961, 1970, 1982, 1986 and 1991 were reviewed. The search results are presented in **Appendix III**. The search identified no historical business' on or surrounding the Site.

7.6 Section 10.7 Certificate

A review of the Section 10.7 (2 and 5) certificate issued by Penrith City Council indicates that the land is not declared to be significantly contaminated land or other matters under the Contaminated Land Management Act 1997 (Refer to **Appendix II**).

7.7 SafeWork NSW Records

SafeWork NSW undertook a search for information on licenses to keep hazardous chemicals for the site. The search of the Stored Chemical Information Database and the microfiche records did not locate any records pertaining to the Site (refer to **Appendix VI** SafeWork NSW Hazardous Chemicals Search).

7.8 Underground Utilities Search

An online search for utilities located within the site was conducted and is summarised in Table 7-3, below. Asset owners Endeavour Energy, Jemena, NBN Co, Sydney Water and Telstra provided information on their utilities (refer to **Appendix VII** – Below Ground Utilities Search).

Asset Owner	Utility Type	Utility Location
Endeavour Energy	Cable	Along Capella Street
	Duct	Running north-south on Capella Street, north-west of the Site
	Duct	Running north-south on Capella Street, north-east of the Site
	Cable	Along Canopus Close
Jemena	32mm Nylon Medium Pressure gas main	Along Capella Street
	32mm Nylon Medium Pressure gas main	Along Kawana Place
	32mm Nylon Medium Pressure gas main	Along Canopus Close
	32mm Nylon Medium Pressure gas main	Along Pisces Place
NBN Co	Telstra's 35mm PVC Conduit	Along Capella Street, north-east to the Site
	NBN's 100mm PVC Conduit	Along Capella Street, north-west to the Site
Sydney Water	100mm Ductile Iron Cement Line Water Main	Along Capella Street

Asset Owner	Utility Type	Utility Location
	150mm Vitrified Clay Sewer Main	Along the northern borders of residential dwellings north of the Site
	150mm Vitrified Clay Sewer Main	Along the southern border of residential welling east to the Site
Telstra	Conduits	Along Capella Street
	Conduits	Along Kawana Place
	Conduits	Along Canopus Place
	Conduits	Along Pisces Place

Table 7-3: Below Ground Utilities Search

7.9 Assessment of Historical Information Integrity

The site history assessment has been obtained from a variety of resources including government records from the NSW land titles office, council records, historical aerial photographs, utilities providers, historical business directories, NSW Office of Water and NSW EPA. The veracity of the information from the obtained sources is considered to be high. The site history assessment is generally considered to be of high integrity with respect to the historical use of the Site.

8. CONCEPTUAL SITE MODEL

The following sections detail a conceptual site model which has been developed in relation to the potential origin, impact and migration of contaminants. This model has been developed for the Site based on the findings of the site history review and walkover inspection.

8.1 Sources of Potential Contaminants

The following table lists potential contaminants based on site activities and conditions identified during the site historical review and walkover inspection (refer to Sections 5 to 7). Refer to **Appendix I** for Site Map of the sources.

Source	Location	Potential Contaminants
Past activities on site – Farmer, Dairy Farmer, Grazier	Entire Site	Metals, Organochloride Pesticides (OCP), Organophosphorus Pesticides (OPP)
Potentially contaminated fill	Entire Site	Total Recoverable Hydrocarbons (TRH), Benzene Toluene Ethyl-Benzene Xylenes (BTEX), Metals, Polycyclic Aromatic Hydrocarbons (PAHs), Organochloride Pesticides (OCP), Organophosphorus Pesticides (OPP), Poly-chlorinated Biphenyls (PCBs), Asbestos

Table 8-1: Potential Contaminants

8.2 Potentially Contaminated Media

Potentially contaminated media present at the site included:

- Topsoil/fill material; and
- Natural Soils and/or Bedrock.

The desk top site history and walkover assessment has identified historical activities on the Site that include a Farmer, Dairy Farmer and Grazier. During such activities, spillage and/or leakage of chemicals associated with these activities may have resulted in localised impacts at the ground surface. There is also the potential for contaminated material to have been imported during amendments to Site levels. Based on this, the topsoil and fill material has been identified as a potentially contaminated media.

Based on the potential mobility of contaminants and their associated potential leachability through the soil/fill profile, vertical migration of contaminants from the surface soils into the underlying natural soils/bedrock may have occurred. As a result, the natural soils and underlying bedrock are also considered to be potentially contaminated media.

Groundwater is expected at depth in bedrock and is not considered to be impacted.

8.3 Potential for Migration

Contaminants generally migrate from Site via a combination of windblown dusts, rainwater infiltration, groundwater migration and surface water runoff. The potential for contaminants to migrate is a combination of:

- The nature of the contaminants (solid/liquid and mobility characteristics);
- The extent of the contaminants (isolated or widespread);
- The location of the contaminants (surface soils or at depth);
- The site topography, geology, hydrology and hydrogeology;
- The adjacent properties; and
- Underground utility corridors.

The potential contaminants identified as part of the site history and site inspections are generally in either a solid form (*e.g*. heavy metals, asbestos, *etc*) or liquid form (*e.g*. hydrocarbons, pesticides, *etc*).

The potential for contaminants to migrate along the underground utility corridors is not likely to occur as there are no underground utilities identified to be traversing through the property.

There is the potential for erosion due to aeolian and water processes however erosion impact appeared minimal during the walkover inspection. Therefore, dust and water erosion potential of the Site is anticipated to be low.

The potential for rainwater infiltration to occur at the Site was relatively high given the permeable surface. If rainfall does penetrate the natural soil, this movement may result in vertical migration of contaminants through the natural soil profile however this is likely to be intermittent and dependent on rainfall.

Some potential contaminants identified may be in liquid form (i.e. hydrocarbons). There is the potential for natural dispersion/diffusion of these contaminants to migrate west due to the Site's topography however, this is anticipated to be low.

The potential sources of contamination are likely to be present above bedrock. Depth to groundwater is expected to be at depth within the bedrock. It is therefore considered that the groundwater is not likely to have a potential to facilitate the migration of contaminants due to the expected depth of groundwater and the limited mobility of groundwater through the bedrock profiles, with higher mobility confined to faults in the bedrock (if present).

8.4 Conceptual Site Model Summary

The following table provides a summary of the conceptual site model detailed in the previous sections and includes potential contaminant origin, impact, migration and receptor's exposure pathways.

The assessment has identified the following contamination issues at the Site:

Source	Contaminants of Concern	Location	Affected Media	Migration Potential	Current Receptors	Current Exposure Pathway	Future Receptors	Future Exposure Pathway
Past activities on site - Farmer, Dairy Farmer, Grazier	Metals. OCPs. OPPs	Entire Site	Surface soil; Underlying natural soils and bedrock;	Surface water and dust - low potential; Vertical migration.	Site Occupants; Neighbouring properties; Ecological receptors.	Skin contact with potentially contaminated soil; Ingestion of potentially contaminated soil;	Site Occupants; Neighbouring properties; Construction workers; Ecological receptors.	Skin contact with potentially contaminated soil; Ingestion of potentially contaminated soil;
Potentially contaminated fill materials.	Metals, TRH, BTEX, PAHs, OCPs, OPPs PCBs and Asbestos	Entire Site	Surface soil; Underlying natural soils and bedrock.	Surface water and dust - low potential; Vertical migration.	Site Occupants; Neighbouring properties; Ecological receptors.	Skin contact with potentially contaminated soil; Vapour inhalation of potentially contaminated soil; Inhalation of potential asbestos; Ingestion of potentially contaminated soil	Site Occupants; Neighbouring properties; Construction workers; Ecological receptors.	Skin contact with potentially contaminated soil; Vapour inhalation of potentially contaminated soil; Inhalation of potential asbestos; Ingestion of potentially contaminated soil.

Table 8-2: Conceptual Site Model Summary

9. SAMPLING AND ANALYSIS PLAN

9.1 Data Quality Objectives

The methodology employed to design an appropriate sampling and analysis plan for this investigation involves firstly defining the Data Quality Objectives (DQOs) for the sampling (**Sections 9.1.1 to 9.1.6**), then selecting a sampling strategy (**Section 9.1.7**) and corresponding sampling points (**Section 9.2**) to best achieve the DQOs. This methodology is described in sequence in the following sections.

9.1.1 State the Problem

The desktop site historical review and walkover inspection has identified the potential for Site contamination conditions to occur at the Site which may impact upon the suitability of the Site for to be used as a residential lot (**Section 8**).

Assessment of contamination conditions is necessary to assess the presence of soil contamination of the Site and draw conclusions regarding if there is contamination that will affect the suitability, or otherwise, for the Site to be a residential lot.

Information on Site contamination conditions presented in earlier sections of this report resulted in the conceptual site contamination model presented in **Section 8** of this report.

9.1.2 Identify the Decision

Based on the decision-making process for assessing urban redevelopment sites detailed in *Guidelines for the NSW Site Auditor Scheme (3rd edition),* Environmental Protection Authority (EPA) (October 2017), and the information within **Section 8**, the following decision was required to be made as part of the Site assessment:

- Is there any contamination within the soil that will pose a risk to future onsite receptors?
- Does the fill material identified from the desktop site history and walkover inspection contain any aesthetic (stains/odours/inert waste) issues?

9.1.3 Identify Inputs into the Decision

Inputs identified to provide sufficient data to make the decisions nominated above include:

- The Site description and history as provided in **Section 5, 6 and 7** respectively;
- Potential contamination issues as described in **Section 8**;
- Visual and olfactory indications;
- PID screening data in **Section 12;**
- Soil environmental data as collected by soil sampling and analysis in **Appendix VIII**;
- Soil criteria to be achieved on the Site as based on a proposed future land-use as defined by assessment criteria prepared in **Section 10**; and
- Confirmation that data generated by sample analysis are of a sufficient quality to allow reliable comparison to assessment criteria as undertaken by assessment of quality

assurance / quality control as per the data quality indicators established in **Sections 9.1.6 & 11 and Appendix X**.

9.1.4 Define the Study Boundaries

The study area is defined as part of Lot 2174 DP 776426, known as Lots 1 and 2 of 11a Canopus Close, ERSKINE PARK NSW 2759, as shown in **Figure 1** and has an area of approximately 1,111m^2.

The vertical extent of the soil investigation was limited up to the natural soil horizon (maximum depth of 1.25m).

Due to the nature of potential contaminants identified and project deadline requirements, seasonality and other temporal variables were not assessed as part of this investigation.

The temporal boundaries of this investigation are limited to the period of field investigation during March 2021 and reported during May 2021.

9.1.5 Develop a Decision Rule

Soil analytical data was assessed against NSW Environmental Protection Authority (EPA) endorsed criteria including:

- *National Environment Protection (Assessment of Site Contamination) Measure,* National Environment Protection Council, 2013.

The decision rules adopted to answer the decisions identified in **Section 9.1.2** are summarised in the following table.

Decision Required to be Made	Decision Rule
1. Is there any contamination within the soil that will pose a risk to future onsite receptors?	*Soil analytical data will be compared against EPA endorsed criteria. Statistical analyses of the data in accordance with relevant guidance documents will be undertaken, if appropriate, to facilitate the decisions.* *The following statistical criteria will be adopted with respect to soils:* *Either: the reported concentrations are all below the site criteria;* *Or: the average site concentration for each analyte must be below the adopted site criterion; no single analyte concentration exceeds 250% of the adopted site criterion; the standard deviation of the results must be less than 50% of the site criteria; and the 95% upper confidence limit (UCL) of the average concentration for each analyte must be below the adopted site criterion as per the NSW EPA Contaminated Sites - Sampling Design Guidelines, 1995.* *If the statistical criteria stated above are satisfied, the decision is No.* *If the statistical criteria are not satisfied, the decision is Yes.*
2. Does the fill material identified from the desktop site history and walkover inspection contain any aesthetic (stains/odours/inert waste) issues?	*If there are any unacceptable odours and/or discolouration and/or inert waste (or other aesthetic indicators) identified the answer to the decision is Yes.* *Otherwise, the answer to the decision is No*

Table 9-1: Decision Rules

9.1.6 Specify Limits on Decision Errors

Specific limits for this project have been adopted in accordance with the appropriate guidance from the NEPC (2013), EPA (2017), appropriate indicators of data quality (DQIs used to assess quality assurance / quality control) and standard Getex procedures for field sampling and handling.

To assess the usability of the data prior to making decisions, the data will be assessed against predetermined Data Quality Indicators (DQIs) for completeness, comparability, representativeness, precision and accuracy. The acceptable limit on decision error is 95% compliance with DQIs.

The pre-determined Data Quality Indicators (DQIs) established for the investigation are discussed below in relation to precision, accuracy, representativeness, comparability, completeness and sensitivity (PARCCS parameters) and are shown in Table 9-2.

Precision - measures the reproducibility of measurements under a given set of conditions. The precision of the laboratory data and sampling techniques is assessed by calculating the Relative Percent Difference (RPD) of duplicate samples for chemical COPCs.

Accuracy - measures the bias in a measurement system. The accuracy of the laboratory data that are generated during this study is a measure of the closeness of the analytical results obtained by a method to the 'true' value. Accuracy is assessed by reference to the analytical

results of laboratory control samples, laboratory spikes and analyses against reference standards. Note only applied to chemical COPC.

Representativeness – expresses the degree which sample data accurately and precisely represent a characteristic of a population or an environmental condition. Representativeness is achieved by collecting samples on a representative basis across the Site, and by using an adequate number of sample locations to characterise the Site to the required accuracy.

Comparability – expresses the confidence with which one data set can be compared with another. This is achieved through maintaining a level of consistency in techniques used to collect samples; and ensuring analysing laboratories use consistent analysis techniques; and reporting methods.

Completeness – is defined as the percentage of measurements made which are judged to be valid measurements. The completeness goal is set at there being sufficient valid data generated during the study.

Sensitivity – expresses the appropriateness of the chosen laboratory methods, including the limits of reporting, in producing reliable data in relation to the adopted Site assessment criteria.

Data Quality Indicator	Frequency	Data Quality Criteria
Precision		
Blind duplicates (intra laboratory) analysis	1/20 samples	RPD <30% inorganics and <50% for organics
Split duplicates (inter laboratory)	1/20 samples	RPD <30% inorganics and <50% for organics
Accuracy		
Laboratory control samples	1 per lab batch	<LOR
Surrogate spikes	1 per lab batch	70-130%
Matrix spikes	1 per lab batch	70-130%
Representativeness		
Sampling appropriate for media and analytes	All samples	All samples
Samples extracted and analysed within holding times	All samples	Within holding times
Rinsate	1 per sample batch	<LOR
Trip blank	1 per sample batch	70-130%
Comparability		
Standard operating procedures for sample collection & handling	All samples	All samples
Standard analytical methods used for all analyses	All samples	All samples
Consistent field conditions, sampling staff and laboratory analysis	All samples	All samples
Limits of reporting appropriate and consistent	All samples	All samples
Completeness		
Soil description and COCs completed and appropriate	All samples	All samples
Appropriate documentation	All samples	All samples
Satisfactory frequency and result for QC samples	All QA/QC samples	-
Data from critical samples is considered valid	-	Critical samples valid
Sensitivity		
Analytical methods and limits of recovery appropriate for media and adopted site assessment criteria	All samples	LOR<= site assessment criteria

Table 9-2: Summary of DQI

Note: If the RPD between duplicates is greater than the pre-determined data quality criteria, a judgement will be made as to whether the excess is critical in relation to the validation of the data set or unacceptable sampling error is occurring in the field.

The DQOs for the assessment of the laboratory analytical data include the following conditions:

- Maximum sample holding times for organics are 7 days. Metals and metalloids holding times are 6 months. Mercury (Hg) holding time is 28 days;
- Sample preservation and handling will be conducted in accordance with industry accepted standards;
- All sample analyses will be conducted by NATA accredited laboratories;
- Laboratory blank analysis to be below practical quantitation limits (PQLs); and
- The relative percentage difference (RPD) of duplicates/soil replicates and percent recoveries of control spikes to be calculated and compared to the following criteria:
    - Less than 30% for field soil replicates; and
    - Less than 40% for internal duplicate samples and less than 44% on duplicates with 10 times the limit of reporting; and
    - 75-125% recovery for internal recovery samples.

9.1.7 Optimise the Design for Obtaining Data

Various strategies for developing a statistically based sampling plan are identified in NSW EPA Contaminated Sites - Sampling Design Guidelines, 1995, including judgemental, random, systematic and stratified sampling patterns.

Since the potential contaminants were potentially throughout the Site, systematic soil sampling by an orthogonal grid across the Site was considered to be the most appropriate for the current investigation. Therefore, test pits were conducted at seven (7) locations and sampled resulting in an staggered sampling pattern.

During excavation, a 10.6eV PID was used to screen each of the seven (7) test pits at 1.0m intervals and if contamination was suspected or observed and at final depth.

Based upon the objectives of this investigation, the density of the sampling undertaken as part of the investigation of the Site soil is considered appropriate.

9.2 Soil Sampling Program

Chris Chen of Getex attended the Site on the 31st of March 2021.

Test pits were excavated using an excavator at selected locations across the Site at multiple depths within fill and natural material to allow for evaluation of the strata. The seven (7) locations were excavated approximately 1.0m long by 1.0m wide and down to virgin natural material.

The soil profile at the Site consisted of:

Topsoil/Fill

Topsoil/fill consisted of dark brown topsoil to depths ranging 0.05-0.20m and mottled orange, and grey clays to depths ranging 0.25-1.1m

Natural Soils

Across the Site the natural soil horizons were mixtures of either orange, grey or reddish brown clays.

Bedrock

Bedrock was not encountered during the investigation.

Groundwater

No groundwater or saturated soil was encountered from any of the test pits.

No olfactory indications of contamination were noted during the site visits. In addition, no visible signs of contamination such as unnatural discoloration or major hydro-carbon related stains were present on the ground surfaces.

A 10.6eV Photo-Ionisation Detector (PID) was used to screen soils via head space analysis for VOCs at each sampling location. Small samples of soil were collected and placed within zip-loc plastic bags, each bag was then sealed. Samples were then disturbed to release any gas held within the void space between grains. The PID intake was then inserted into the bag via a small gap and the VOC levels were recorded. Results are noted within **Section 12**.

The edges, base and excavated material of each test pit were visually inspected for the presence of possible asbestos containing materials.

Bulk 10L soil samples were assessed on site from each test as per the requirements of Table 5 within the WA DOH Guidelines for the Assessment, Remediation and Management of Asbestos-Contaminated Sites in Western Australia, 2009, endorsed by the National Environment Protection (Assessment of Site Contamination) Measure, 2013. Each Bulk 10L sample was collected, spread out on a mat, and any asbestos fragments were collected, weighed and recorded. The fragments were weighed using a Mettler AT261 Scales.

Any fragments collected were placed into a ‘zip-loc’ bag and analysed for asbestos content.

500mL soil samples were also collected from selected test pit locations to be analysed for fibrous asbestos (FA) and asbestos fines (AF) as per Section 11.3.2 within Schedule B2 from the NEPM guidelines.

Soil samples for chemical analysis were collected from each test pit within the fill layer, as that layer had the higher potential for contamination, and placed directly into new 250mL clean glass jars with screw top plastic lids with inert plastic inserts.

The glass jars and ‘zip-loc’ bags were labelled using a waterproof permanent marker pen with the date, a Getex unique reference number that indicated the sampling location, and a sub sample number. The samples were then delivered to the laboratory.

Between samples the sampling equipment was decontaminated using a 5% Decon 90 solution, rinsed with Milli Q water and dried with Kimberly Clark Epic Wipes.

The chain of custody process involved writing the Getex unique reference number on the sample jar at the time of sampling and on the chain of custody form. The chain of custody form remained with the samples until they were delivered to the laboratory. Once delivered to the laboratory the officer at sample receipt signed the chain of custody form taking responsibility for the samples. A copy of the chain of custody showing the time of delivery, condition of samples (cold etc) and the unique laboratory number was emailed to Getex by the laboratory. On receipt Getex checked that the laboratory details were correct.

Table 9-3 (below) presents a summary of the locations for eighteen (18) laboratory analysis samples collected within the Site. Please refer to **Appendix I** for the Site Map and sample locations.

Sample Number	Sample Type	Location Collected	Analysis Performed
11538/ST2/TP01/S1	Soil Sample	Sample taken at a depth of 0.15m at location TP01. Refer to Appendix I.	TRH, BTEX, PAHs, Metals, OCP, OPP, PCBs
11538/ST2/TP02/S1	Soil Sample	Sample taken at a depth of 0.20m at location TP02. Refer to Appendix I.	TRH, BTEX, PAHs, Metals
11538/ST2/TP02/AS01	Soil Sample	Sample taken at a depth of 0.20m at location TP02. Refer to Appendix I.	Asbestos
11538/ST2/TP03/S1	Soil Sample	Sample taken at a depth of 0.25m at location TP03. Refer to Appendix I.	TRH, BTEX, PAHs, Metals, OCP, OPP, PCBs
11538/ST2/TP03/AS01	Soil Sample	Sample taken at a depth of 0.25m at location TP03. Refer to Appendix I.	Asbestos
11538/ST2/TP04/S1	Soil Sample	Sample taken at a depth of 0.30m at location TP04. Refer to Appendix I.	TRH, BTEX, PAHs, Metals
11538/ST2/TP04/AS01	Soil Sample	Sample taken at a depth of 0.30m at location TP04. Refer to Appendix I.	Asbestos
11538/ST2/TP04/AS02	Soil Sample	Sample taken at a depth of 0.30m at location TP04. Refer to Appendix I.	Asbestos
11538/ST2/TP05/S1	Soil Sample	Sample taken at a depth of 0.10m at location TP05. Refer to Appendix I.	TRH, BTEX, PAHs, Metals, OCP, OPP, PCBs
11538/ST2/TP05/AS01	Soil Sample	Sample taken at a depth of 0.10m at location TP05. Refer to Appendix I.	Asbestos
11538/ST2/TP06/S1	Soil Sample	Sample taken at a depth of 0.30m at location TP06. Refer to Appendix I.	TRH, BTEX, PAHs, Metals
11538/ST2/TP06/AS01	Soil Sample	Sample taken at a depth of 0.30m at location TP06. Refer to Appendix I.	Asbestos
11538/ST2/TP07/S1	Soil Sample	Sample taken at a depth of 0.25m at location TP07. Refer to Appendix I	TRH, BTEX, PAHs, Metals, OCP, OPP, PCBs
11538/ST5/TP01/S1*	Soil Sample	Sample taken at a depth of 0.40m at location TP01 of site Lots 1-4 of 25-29 Chameleon Drive, ERSKINE PARK NSW 2759	TRH, BTEX, PAHs, Metals
11538/ST5/TP01/S1a	Split Replicate	Split Replicate of 11538/ST5/TP01/S1	TRH, BTEX, PAHs, Metals
11538/ST5/TP01/S1b	Blind Replicate	Blind Replicate of 11538/ST5/TP01/S1	TRH, BTEX, PAHs, Metals
11538/ST2/RB01	Rinsate Blank	-	BTEX

Sample Number	Sample Type	Location Collected	Analysis Performed
11538/ST2/TB01	Trip Blank	-	BTEX

Table 9-3: Sample Information

*Sampling from site Lots 1-4 of 25-29 Chameleon Drive, ERSKINE PARK NSW 2759 (part of the same project) was conducted on the same day as this site. Therefore, sample 11538/ST5/TP01/S1 and its replicates have been used for Quality Assurance / Quality Control purposes.

Primary and replicate soil samples that were to be analysed for chemicals were sampled directly from the ground using a stainless-steel trowel and single use nitrile-gloved hands and placed directly into new 250mL clean glass jars with screw top plastic lids with inert plastic inserts. Samples of soil for analysis of asbestos content were collected and placed within zip-loc bags.

Between samples sampling equipment was decontaminated using a 5% Decon 90 solution, rinsed with Milli Q water and dried with Kimberly Clark Epic Wipes.

The glass jars and zip-loc bags were labelled using a waterproof permanent marker pen with the date, a Getex unique reference number that indicated the sampling location, and a sub sample number. The samples were then stored on ice in an insulated container until they were delivered to the laboratory within acceptable holding times.

The chain of custody process involved writing the Getex unique reference number on the sample jars at the time of sampling and on the chain of custody form. The chain of custody form remained with the samples until they were delivered to the laboratory. Once delivered to the laboratory the officer at sample receipt signed the chain of custody form taking responsibility for the samples. A copy of the chain of custody showing the time of delivery, condition of samples (cold etc) and the unique laboratory number was emailed to Getex by the laboratory. On receipt Getex checked that the laboratory details were correct.

10. ASSESSMENT CRITERIA

10.1 Regulatory Guidelines

The investigation was undertaken in general accordance with the following guidelines, as relevant:

- *Contaminated Sites: Sampling Design Guidelines,* NSW EPA, 1995;
- *Consultants Reporting on Contaminated Land: Contaminated Land Guidelines*, NSW EPA, 2020;
- *Contaminated Land Management: Guidelines for NSW Site Auditor Scheme*, NSW EPA (2017);
- *Contaminated Sites: Guidelines on the Duty to Report Contamination under the Contaminated Land Management Act 1997*, NSW EPA, 2015;
- *National Environment Protection (Assessment of Site Contamination) Measure,* National Environment Protection Council, 2013; and

- *Environmental Health Risk Assessment: Guidelines for assessing human health risks from environmental hazards,* Department of Health and Ageing and EnHealth Council, Commonwealth of Australia, June 2002.

10.2 Soil Aesthetic Considerations

The National Environment Protection (Assessment of Site Contamination) Measure, 2013 states, “aesthetic issues generally relate to the presence of low-concern or non-hazardous inert foreign material in soil or fill resulting from human activity”. Caution is also recommended when assessing a site for potentially sensitive land uses (such as residential) when significant quantities of fill or demolition materials are present.

Soil or fill material tested to be within accepted human health and environmental guideline levels may still contain low-concern or non-hazardous inert foreign material. Examples of these foreign materials include bricks, tiles, metal piping, glass, concrete, bitumen and plastics.

The quantity, type and distribution of foreign materials identified within the soil profile will be considered in relation to the future land use. In assessing the sensitivity of future site users to aesthetic issues consideration will be given to the depth of the material in relation to the future site levels following any development, the practicality of management options and the ability of the foreign materials to cause concern.

10.3 Soil Analysis Criteria

Health-based soil Criteria Levels can be applied for a range of different exposure settings, which are based on the nature of the use(s) for which the land is currently used and/or its approved use(s).

Given that the use of the Site is for a residential lot, the assessment criteria are based on following exposure setting within the National Environment Protection (Assessment of Site Contamination) Measure, National Environmental Protection Council, 2013:

- Health investigation level setting A (Standard residential with garden/accessible soil) from Table 1A(1);
- Health screening level setting A and soil classification Sand or Clay (depending on the type of soil) for petroleum hydrocarbon compounds from Table 1A(3); and
- Health screening level setting A for Asbestos from Table 7.

For F3 and F4, health screening levels were used from Table B4 of HSLs for petroleum hydrocarbons in soil and groundwater, part 1: technical development document, Technical report no. 10, CRC for Contamination Assessment and Remediation of the Environment, Adelaide, Australia (2011).

Ecological Screening/Investigation Levels are to be applied to soil within 2m below the proposed ground level.

Ecological Screening Levels (ESLs) for petroleum hydrocarbon compounds are based on Urban Residential and soil texture Coarse or Fine (dependent on the sample) from Table 1B(6) from the *National Environment Protection (Assessment of Site Contamination) Measure,* National Environment Protection Council, 2013.

Ecological Investigation Levels (EILs) are based on Urban Residential from the *National Environment Protection (Assessment of Site Contamination) Measure,* National Environment

Protection Council, 2013. EILs have been derived for arsenic, copper, chromium (III), DDT, naphthalene, nickel, lead and zinc.

The EILs presented for zinc, chromium (III), copper and lead are added contaminant limits (ACLs) based on added concentrations. The EILs is calculated from summing the ACL and the ambient background concentration (ABC) to derive the site-specific soil quality guideline (SQG) taking into account the effect caused by pH and exchangeable cations in soil that can affect concentration toxicity data.

Values presented for arsenic and naphthalene are generic EILs based on total concentrations and aged contaminants.

The EIL for lead has been calculated using the most conservative SQG value based upon the reported pH and exchangeable cation values. All other EIL's have assumed that the majority of any contamination on site is more than 2 years old. Where EIL values required input including CEC, pH and organic content, values from Sample 11538/ST2/TP05/S1 was used from the Site. A summary of the EIL input values is:

- Cation exchange capacity: 10 cmolc/kg;
- pH: 4.6;
- organic carbon: 1.7%;
- iron: 4.0%; and
- clay: 26%.

The spreadsheet calculations are presented in **Appendix VIII**.

Acceptance criteria levels are given within **Appendix VIII** alongside the sample analysis results.

11. QUALITY ASSURANCE / QUALITY CONTROL

11.1 Standard Operating Procedures

Field works were conducted by Chris Chen BSc (App Chem) who is an experienced environmental consultant in accordance with Getex internal procedures. This includes but is not limited to; inspections, the methods of sampling, decontamination of sampling equipment, sample preparation and storage, the documentation of site conditions, and the completion of chain of custody documentation.

All inspection and sampling information was documented and where necessary collected utilising properly maintained equipment. Prior to use all equipment was assessed for appropriateness and inspected for defects.

11.2 QA/QA Data Evaluation

Data Quality Indicators (DQI) are used to document and quantify compliance, or otherwise with the requirements of the Data Quality Objectives (DQO). They are used to assess the reliability of the field procedures and analytical results. The DQIs are Completeness, Comparability, Representativeness, Precision, and Accuracy. Evaluation of the DQIs is documented in the following table.

Please Refer to **Appendix X** for QA/QC Results and Assessment.

DQI		Consideration	Compliance
Completeness	Field	All critical locations sampled	Sampling was conducted across the Site and within areas of potentially higher likelihood of contamination.
		All samples collected (from location and at depth)	Samples were collected from within the material most likely to be contaminated (fill material).
		Sampling procedures appropriate and complied with	All samples were collected in accordance with relevant guidelines, industry practices, and Australian Standards
		Experienced sampler	Samples were recovered by one (1) suitably qualified and experienced sampler.
		Documentation correct	All required documentation was completed including test pit logs and photographic logs
		Duplicates at least 5% of primary samples	>5% duplicates
	Laboratory	Critical samples analysed	100% of samples requested for analysis were analysed
		Analysis addresses contaminants of concern	100% of samples analysed for requested contaminant
		Documentation supplied	SRA and COC supplied from laboratories
Comparability	Field	Same sampling procedures used on each occasion	Each sample was recovered in accordance with the sampling procedures
		Experienced sampler	Samples were recovered by one (1) suitably qualified and experienced sampler.

DQI		Consideration	Compliance
		Climatic conditions	No potential for variation based on climatic conditions exists.
		Same types of samples collected	The type of samples collected was consistent
	Laboratory	NATA registered laboratories	Envirolab Services Pty Ltd, Eurofins | mgt and ASET Pty Ltd are NATA registered
		Consistent analysis methods for samples	Analysis methods were equivalent across all samples
Representativeness	Field	Appropriate media sampled according to NEPM	All samples were recovered in accordance with NEPM
		All media identified	The soil profile (fill and natural) to a depth of 1.25m was identified and recorded
		Satisfactory results for: trip blank, rinsate samples.	All results within acceptable levels and therefore satisfactory
	Laboratory	Critical samples analysed	100% of samples requested for analysis were analysed
		Analysis addresses contaminants of concern	100% of samples analysed for requested contaminant
		Within holding times	All samples analysed within acceptable holding times
Precision	Field	Sampling procedures appropriate and complied with	All samples were recovered in accordance with the sampling procedures
		Acceptable RPD's for all replicates	All QA/QC data is either within the RPD or the result was less than three times the laboratories limit of reporting. Therefore, acceptable
	Laboratory	Acceptable RPD's for all laboratory duplicates	Laboratory RPD's acceptable

DQI		Consideration	Compliance
Accuracy	Field	Sampling procedures appropriate and complied with	All samples were recovered in accordance with the sampling procedures
	Laboratory	Satisfactory results for: blank samples, matrix spikes, control samples, and surrogate spike samples.	All results within acceptable levels and therefore satisfactory
Sensitivity	Laboratory	Analytical methods appropriate for media	All laboratory methods used are NATA accredited for the sample media type
		Limits of recovery within 70-130%	All results within 70-130%

Table 11-1: Data Quality Indicators

Based on the results from Table 11-1, it is the opinion of the consultant that the Data Quality Indicators have been met.

12. INSPECTION DETAILS AND RESULTS

12.1 Ground Surface Inspection

No visually identifiable asbestos containing materials were identified on the upper ground surfaces within the Site during the ground surface inspection.

12.2 Sub-Surface Inspection

The inspection details of the seven (7) Test Pits excavated and the corresponding ACM field screening sample results and FA/AF laboratory analysis results are presented in Table 12-1 below.

Please refer to **Appendix I** for the Site Map.

Test Pit	Test Pit Profile	Location (Refer to Appendix I)	Maximum Depth of Test Pit (m)	Foreign Material Observed	Asbestos Visually Observed	Sample ID(s) (Sample Type)	Sample Depth (m)	ACM Weight (grams)	ACM (10L Sample) Results % w/w#	500mL Laboratory Sample		Depth of Asbestos Contamination (m)	PID
										FA & AF Results % w/w	Free Fibres		
TP01	0.0m - Grass, 0.05m - Dark brown topsoil, 0.15m - Mottled reddish brown clay with mottled white sandstone, 0.25m - Reddish brown clay, 0.65m - Orange and grey clay mixture	11538/ST2/TP01	0.65	None	**No**	11538/ST2/TP01/ S1, 10L	0.15	0	0 No Asbestos Detected *	-	-	N/A	0.1m – 0.0 0.65m – 0.0
TP02	0.0m - Grass, 0.05m - Dark brown topsoil, 0.1m - Mottled loose orange and grey clay, 0.45m - Reddish brown clay	11538/ST2/TP02	0.75	None	**No**	11538/ST2/TP02/ S1, 10L, AS01	0.2	0	0 No Asbestos Detected	0 No Asbestos Detected*	No*	N/A	0.1m – 0.0 0.75m – 0.2
TP03	0.0m - Grass, 0.05m - Dark brown clayey topsoil, 0.1m - Mottled orange and grey clay mixture, 0.55m - Reddish brown clay, 0.85m - Reddish brown clay with grey shale	11538/ST2/TP03	0.85	None	**No**	11538/ST2/TP03/ S1, 10L, AS01	0.25	0	0 No Asbestos Detected	0 No Asbestos Detected*	No*	N/A	0.1m – 0.2 0.85m – 0.1
TP04	0.0m - Grass, 0.05m - Dark brown topsoil, 0.1m - Mottled orange and grey clay mixture, 0.6m - Reddish brown clay	11538/ST2/TP04	0.9	None	**Yes @0.3m**	11538/ST2/TP04/ S1, 10L, AS01, AS02	0.3	17.0	**0.0155** **Chrysotile & Amosite Asbestos Detected***	0 No Asbestos Detected*	No*	N/A	0.1m – 0.1 0.9m – 0.3

Test Pit	Test Pit Profile	Location (Refer to Appendix I)	Maximum Depth of Test Pit (m)	Foreign Material Observed	Asbestos Visually Observed	Sample ID(s) (Sample Type)	Sample Depth (m)	ACM Weight (grams)	ACM (10L Sample) Results % w/w#	500mL Laboratory Sample		Depth of Asbestos Contamination (m)	PID
										FA & AF Results % w/w	Free Fibres		
TP05	0.0m - Grass, 0.05m - Dark brown topsoil, 0.1m - Dark brown clayey loam, 0.15m - Mottled orange clay, 0.55m - Reddish brown clay	11538/ST2/TP05	0.7	None	**No**	11538/ST2/TP05/ S1, 10L, AS01	0.1	0	0 No Asbestos Detected	0 No Asbestos Detected*	No*	N/A	0.1m – 0.1 0.7m – 0.1
TP06	0.0m - Grass, 0.05m - Dark brown topsoil, 0.1m - Dark brown loam, 0.15m - Mottled orange and grey clay mixture, 0.75m - Reddish brown clay, 0.85m - Orange and white clay mixture	11538/ST2/TP06	0.9	None	**No**	11538/ST2/TP06/ S1, 10L, AS01	0.3	0	0 No Asbestos Detected	0 No Asbestos Detected*	No*	N/A	0.1m – 0.2 0.9m – 0.0
TP07	0.0m - Grass, 0.05m - Dark brown topsoil, 0.1m - Brown clayey loam, 0.2m - Mottled orange and grey clay mixture, 1.1m Orange and grey clay mixture	11538/ST2/TP07	1.25	Yes, Minor Glass @0.25m	**No**	11538/ST2/TP07/ S1, 10L	0.25	0	-	-	-	N/A	0.1m – 0.0 1.25m – 0.2
Asbestos Assessment Criteria									**0.01%**	**0.001%^**			

Table 12-1: Test Pit Inspection Details

[$]%w/w asbestos in soil = [% asbestos content x bonded ACM (kg)] /[soil volume (L) x soil density (kg/L)] - assumed that: % asbestos content (within bonded ACM) = 15% and soil density (for sandy soils) = 1.65 kg/L, as established in NEPM 2013.

^The screening level of 0.001% w/w asbestos in soil for FA and AF (i.e. non-bonded/friable asbestos) only applies where the FA and AF are able to be quantified by gravimetric procedures. The screening level is not applicable to free fibres.

[#]**Refer to Appendix VIII for Chemical Analysis Results**

***Refer to Appendix IX for Laboratory Analysis Report.**

13. DISCUSSION

13.1 Soil Aesthetic Discussion

Low occurrences (<5%) of foreign materials were identified within the fill material across the Site. The amount of foreign material is not considered to be a trigger with regards to aesthetic soil considerations.

During excavation of the test pits, it was noted that the test pits were excavated up to depths ranging from 0.65-1.25m due to natural clay observed at depths ranging from 0.25-1.1m

Upon inspection of each test pit, Getex identified minor foreign material at a depth of 0.25m from test pit TP07. The foreign materials observed include 1 small fragment of glass.

13.2 Asbestos Discussion

No asbestos containing materials were identified on the ground surfaces of the Site.

One (1) fragment of Bonded Asbestos (ACM) was identified within test pit TP04 at a depth of 0.3m above the adopted asbestos assessment criteria.

No asbestos containing materials were identified in any of the remaining test pits.

13.3 Soil Analytical Discussion

The summaries of laboratory results are discussed in the following sections.

13.3.1 TRH

A total of seven (7) soil samples were analysed for TRH fractions. All results for F1 (C6-C10 minus BTEX), F2 (C10-C16 minus Napthalene), F3 (C16-C34) and F4 (C34-C40) were below the adopted Site assessment criteria.

13.3.2 BTEX

A total of seven (7) soil samples were analysed for BTEX. All concentrations were below the adopted Site assessment criteria.

13.3.3 Metals

A total of seven (7) soil samples were analysed for Metals. All concentrations were below the adopted Site assessment criteria.

13.3.4 PAHs

A total of seven (7) soil samples were analysed for PAHs. All concentrations were below the adopted Site assessment criteria.

13.3.5 Carcinogenic PAHs

A total of seven (7) soil samples were analysed for Carcinogenic PAHs (as Benzo(a)pyrene TEQ). All concentrations were below the adopted Site assessment criteria.

13.3.6 OCP

A total of four (4) soil samples were analysed for OCP. All concentrations were below the adopted Site assessment criteria.

13.3.7 OPP

A total of four (4) soil samples were analysed for OPP. All concentrations were below the adopted Site assessment criteria.

13.3.8 PCBs

A total of four (4) soil samples were analysed for PCBs. All concentrations were below the adopted Site assessment criteria.

13.3.9 Asbestos in Soil

A total of five (5) soil samples were analysed for Asbestos FA & AF. All concentrations were below the adopted Site assessment criteria.

13.4 Response to Identified Decisions

The results are discussed in the following sections in relation to the identified decisions developed as part of the DQO process (**Section 9.1.2**):

- Is there any contamination within the soil that will pose a risk to future onsite receptors?
- Does the fill material identified from the desktop site history and walkover inspection contain any aesthetic (stains/odours/inert waste) issues?

13.4.1 Risks to Future Onsite and Offsite Receptors from Soil Contamination

The collected samples of the soil were analysed for a broad range of identified potential contaminants including TRH, BTEX, Metals, PAHs, OCPs, OPPs PCBs and Asbestos. Concentrations of TRH, BTEX, Metals, PAHs, OCPs, OPPs and PCBs were within the

adopted criteria and PID analysis of soil headspace was within acceptable levels and thus do not present an unacceptable risk to human or environmental health.

One (1) fragment of Bonded Asbestos (ACM) was identified within test pit TP04 at a depth of 0.3m above the adopted asbestos assessment criteria.

No Friable Asbestos (FA & AF) was detected within any of the test pits.

Based on the observations of the belowground site conditions and findings from the analysis results, it is the current opinion of the consultant that the asbestos identified as being present within test pits TP04 can be managed as **bonded (non-friable) asbestos**.

As stated in the WA DOH (2009) Guidelines for the Assessment, Remediation and Management of Asbestos-Contaminated Sites in Western Australia endorsed by NEPM (2013), asbestos-containing materials (ACM) that mainly appears as fragments, pieces or sheets is asbestos bound in a matrix and there is little free fibre present. Asbestos in these forms is not likely to release appreciable amounts of free asbestos fibre, which presents the main risk from asbestos through inhalation.

Therefore, based on the information provided above, asbestos contamination within the material represents a low risk to human health with respect to the Site use.

13.4.2 Aesthetic Issues from Fill Material

The amount of foreign material is not considered to be a trigger with regards to aesthetic soil considerations.

13.5 Updated Conceptual Site Model

Based on the findings from the assessment, the updated Conceptual Site Model (CSM) is provided in Table 13-1.

Source	Receptors	Contaminants of Concern	Exposure Pathway	Potential for Completeness
Contaminated soils from: - Potentially contaminated fill materials; - Past farmer on Site; - Past dairy farmer on Site; and - Past grazier on Site.	Site Occupants; Neighbouring properties; Construction Workers	Metals, TRH, BTEX, PAHs, OCPs, OPPs and PCBs	Skin contact with potentially contaminated soil; Vapour inhalation; Ingestion of potentially contaminated soil.	**Pathway incomplete** – No CoPC detected above criteria levels within the Site.
	Site Occupants; Neighbouring properties; Construction Workers	Asbestos	Inhalation of asbestos fibres;	**Pathway complete** – Asbestos identified within fill material at test pit locations TP04.
	Ecological receptors	Metals, TRH , BTEX, PAHs, OCP, OPPS and PCBs	Plant uptake; Ingestion of contamination soil; Terrestrial ecology.	**Pathway incomplete** – No CoPC detected above criteria levels within the Site.

Table 13-1: Conceptual Site Model Summary

14. CONCLUSIONS AND RECOMMENDATIONS

Based on the findings from the site historical review and walkover inspection there was the potential for contamination from previous site activities (farmers, dairy farmers and graziers), imported fill and building materials.

Soil samples were collected from the Site and analysed for TRH, BTEX, Metals, PAHs, OCPs, OPPs, PCBs and Asbestos.

The soil concentrations of TRH, BTEX, Metals, PAHs, OCPs, OPPs and PCBs were within the adopted criteria.

Bonded Asbestos (ACM) was identified within test pit TP04 at a depth of 0.3m above the adopted asbestos assessment criteria.

No Friable Asbestos (FA & AF) was detected within any of the test pits.

Based on the observations of the belowground site conditions and findings from the analysis results, it is the current opinion of the consultant that the asbestos identified as being present within test pit TP04 can be managed as **bonded (non-friable) asbestos**.

As stated in the WA DOH (2009) Guidelines for the Assessment, Remediation and Management of Asbestos-Contaminated Sites in Western Australia endorsed by NEPM (2013), asbestos-containing materials (ACM) that mainly appears as fragments, pieces or sheets is asbestos bound in a matrix and there is little free fibre present. Asbestos in these forms is not likely to release appreciable amounts of free asbestos fibre, which presents the main risk from asbestos through inhalation.

Therefore, based on the information provided above, asbestos contamination within the material represents a low risk to human health with respect to the Site use.

Within the Scope and Limitations made for the purpose of the investigation, it is the opinion of the consultant that the findings of the investigation identified bonded asbestos contamination within the fill material at the Site that represents a potential risk to human health/environment with respect to the Site use as a residential lot.

It is recommended that further investigation works are conducted to determine the extent of the bonded asbestos contamination (i.e. is it an isolated hotspot or further widespread).

Following determining the extent of contamination, appropriate site remediation can be conducted.

The preferred hierarchy of options for site remediation or management described in the NEPM are as follows:

- on-site treatment of the contamination so that it is destroyed or the associated risk is reduced to an acceptable level; and
- off-site treatment of excavated soil, so that the contamination is destroyed or the associated risk is reduced to an acceptable level, after which soil is returned to the site; or,

if the above are not practicable,

- consolidation and isolation of the soil on site by containment with a properly designed barrier; and
- removal of contaminated material to an approved site or facility, followed, where necessary, by replacement with appropriate material; or,
- where the assessment indicates remediation would have no net environmental benefit or would have a net adverse environmental effect, implementation of an appropriate management strategy.

The NEPM states that when deciding which option to choose, the sustainability (environmental, economic and social) of each option should be considered, in terms of achieving an appropriate balance between the benefits and effects of undertaking the option. In cases where no readily available or economically feasible method is available for remediation, it may be possible to adopt appropriate regulatory controls or develop other forms of remediation. The NEPM emphasises that the appropriateness of any particular option will vary depending on a range of local factors. Acceptance of any specific option or mix of options in any particular set of circumstances is therefore a matter for the responsible participating jurisdiction.

It is recommended that a Remedial Action Plan (RAP) is developed and undertaken for the Site which would outline remediation options. A summary of the remediation options are as follows:

1. On-site treatment by hand picking/tilling of the asbestos contamination; and/or

2. On-site containment of the asbestos contamination as per the requirements of ANZECC (1999) Guidelines for the Assessment of On-site Containment of Contaminated Soil with a carefully considered site specific management plan; and/or

3. Excavation and removal of the asbestos contamination.

Any fill material to be removed is to be disposed of appropriately pending a suitable waste classification.

Once remedial actions have been undertaken and a validation assessment has determined that the contamination has been remediated then the Site would be suitable for use as a residential lot.

APPENDIX I

SITE MAP

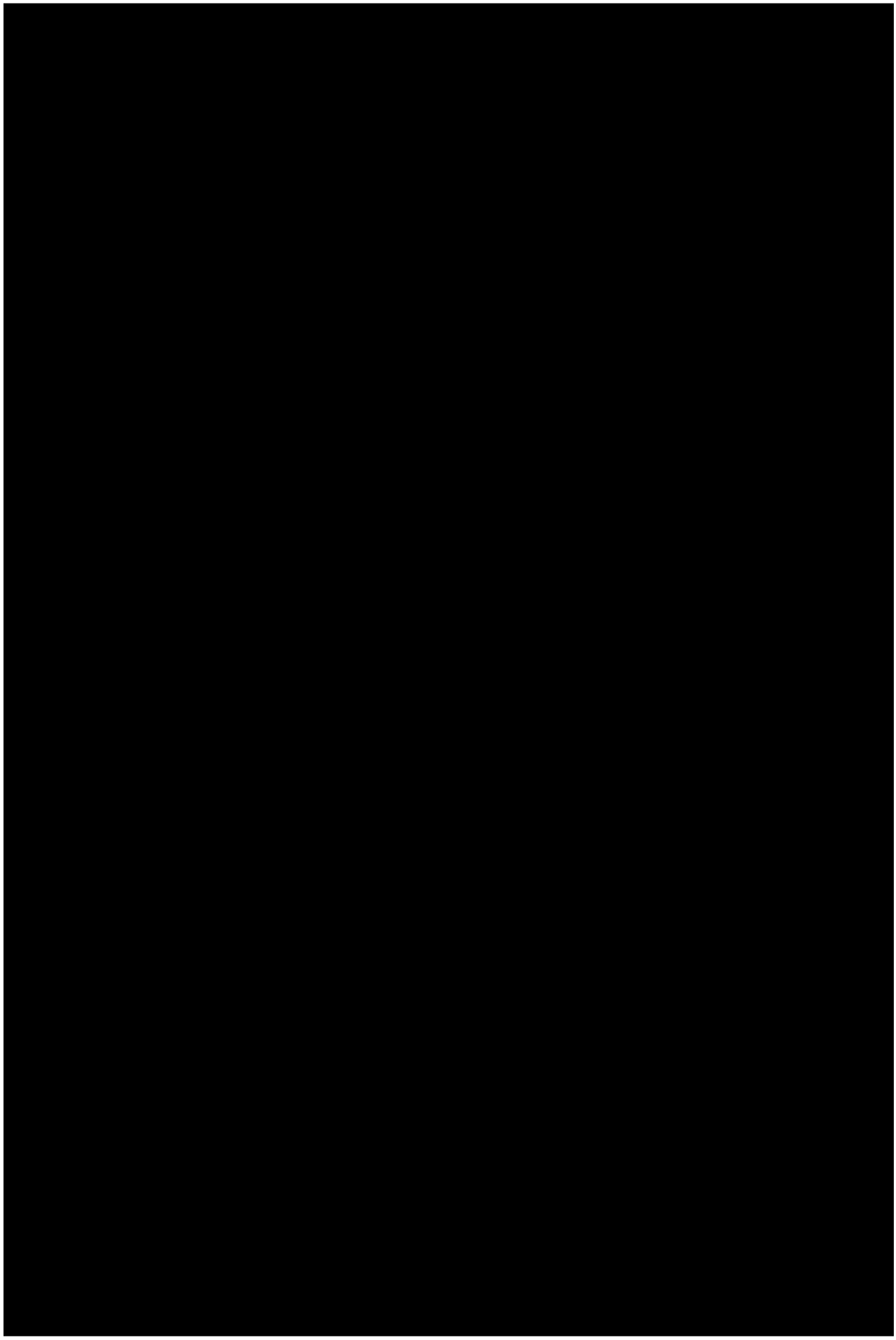
GETEX

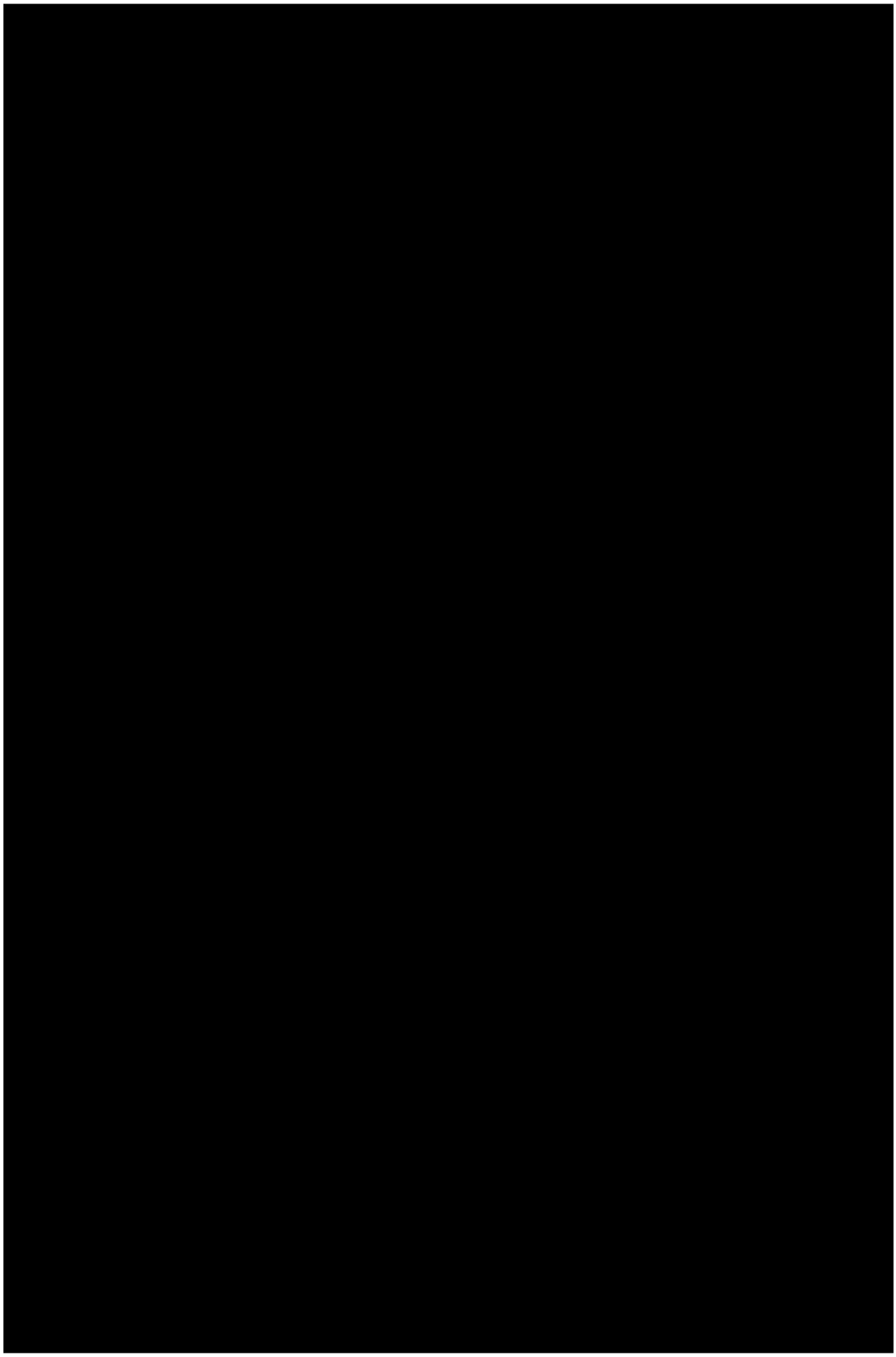
Figure 2: Site Map
11a Canopus Close, ERSKINE PARK NSW 2759

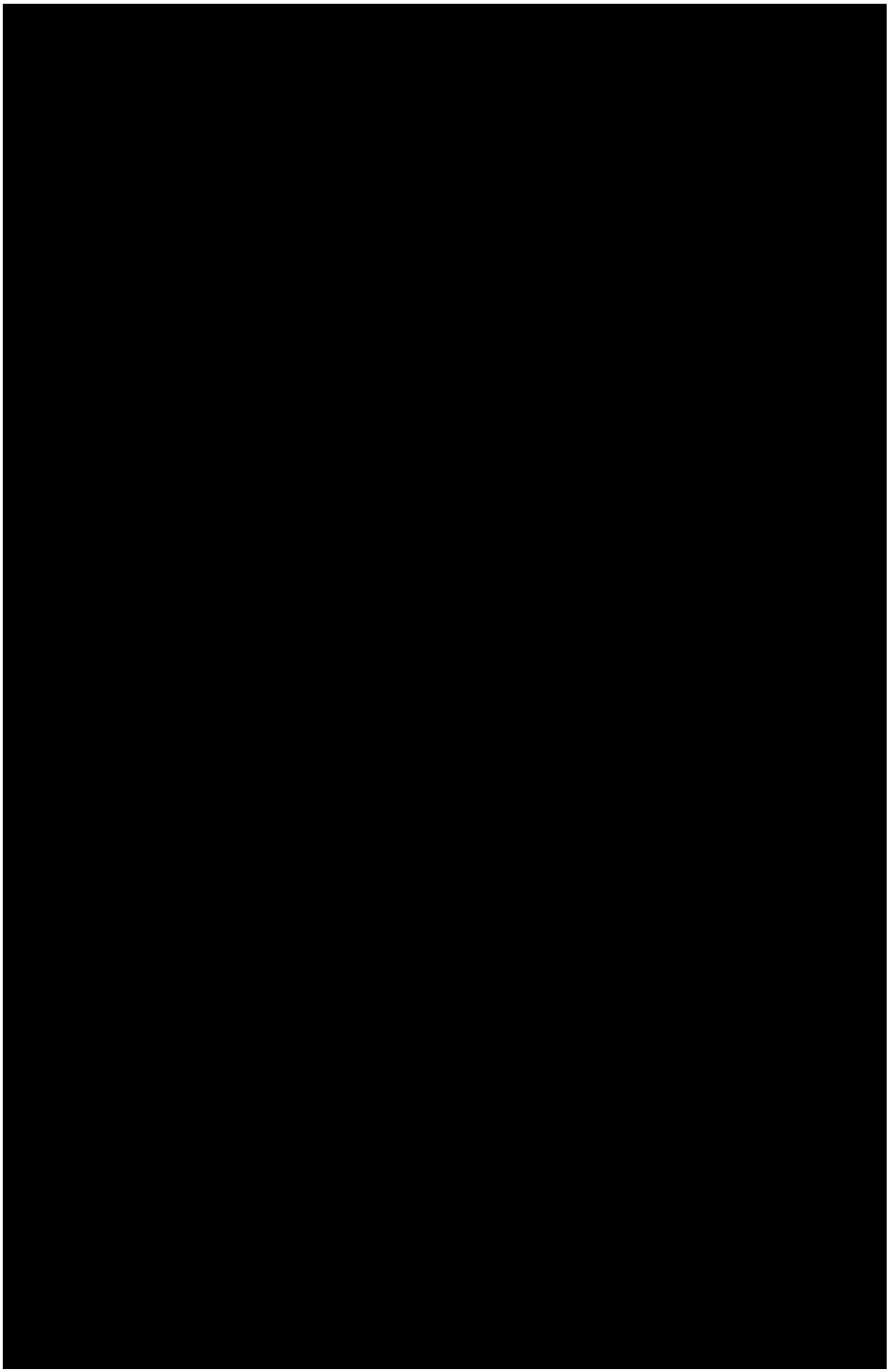
Aerial image derived from Google Earth

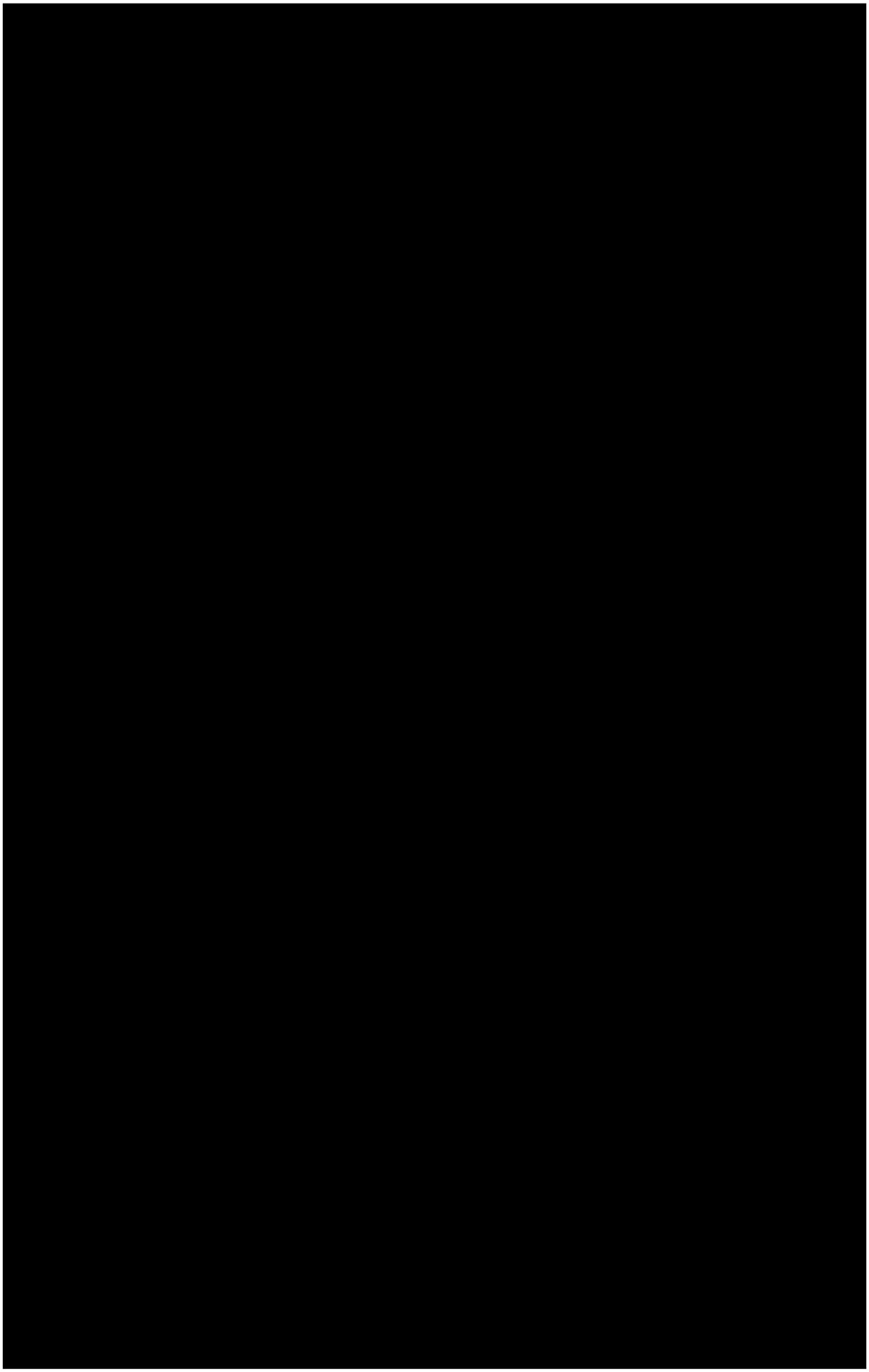
APPENDIX II

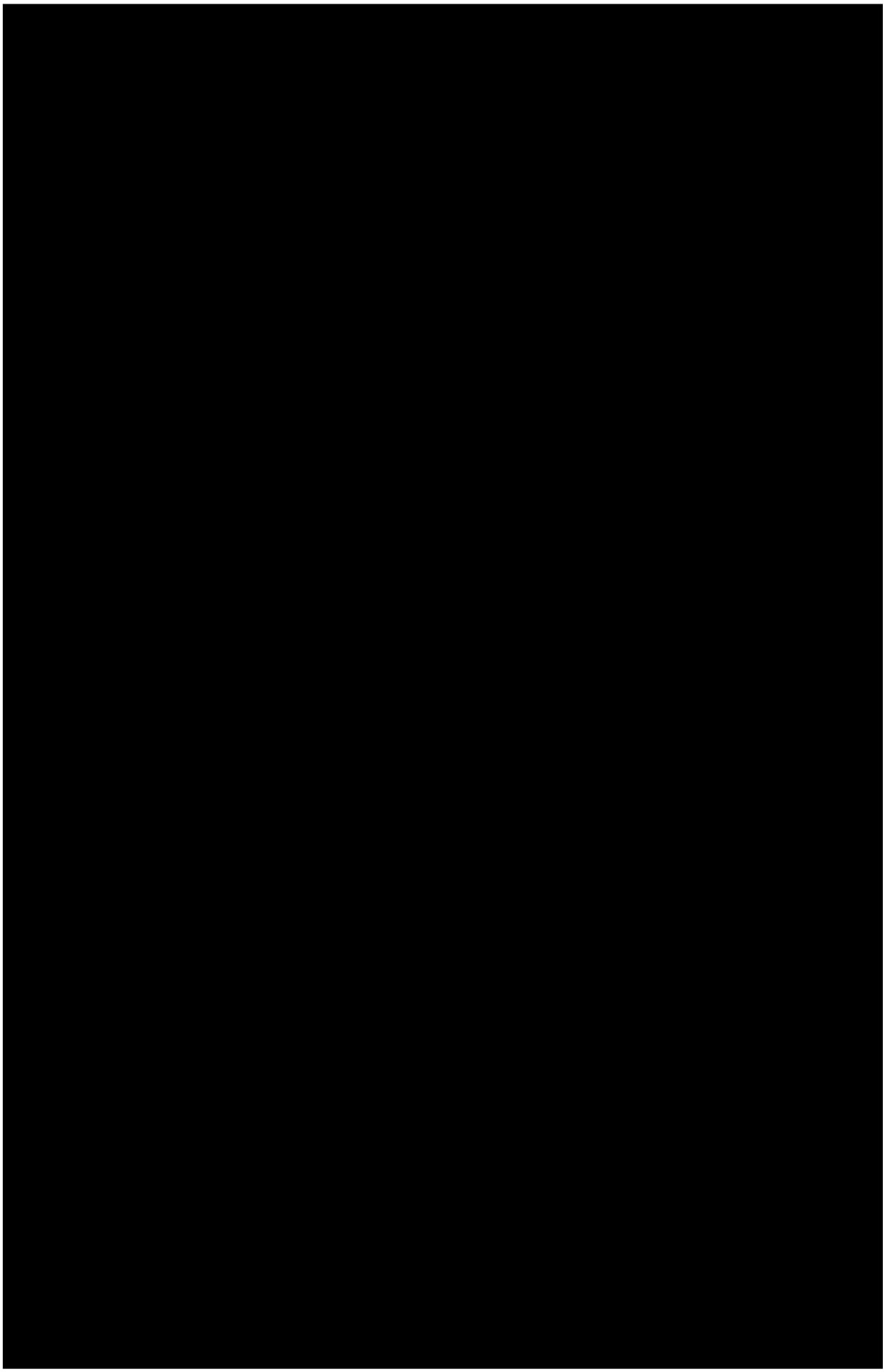
PLANNING CERTIFICATE (SECTION 10.7 PARTS 2 AND 5)

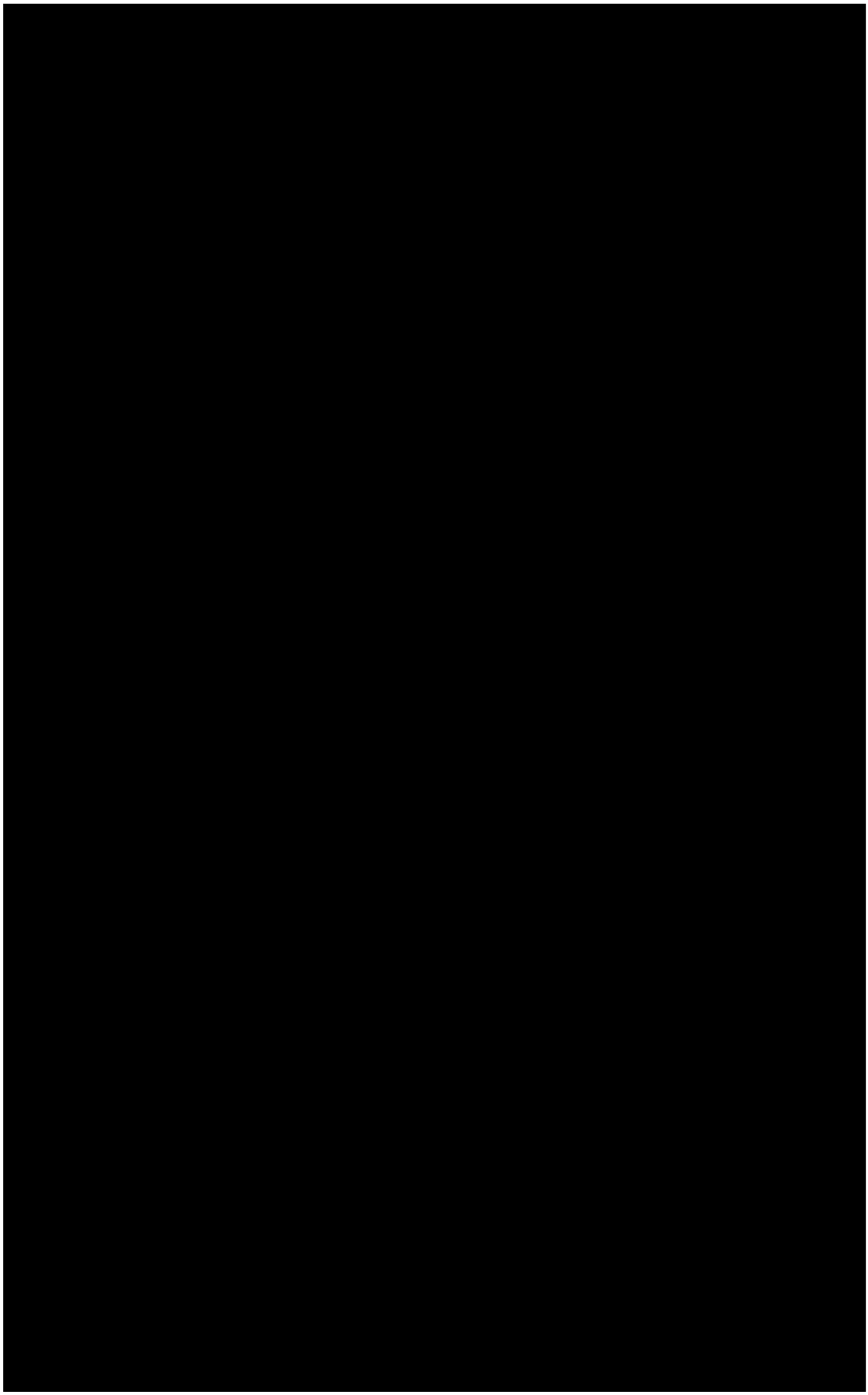


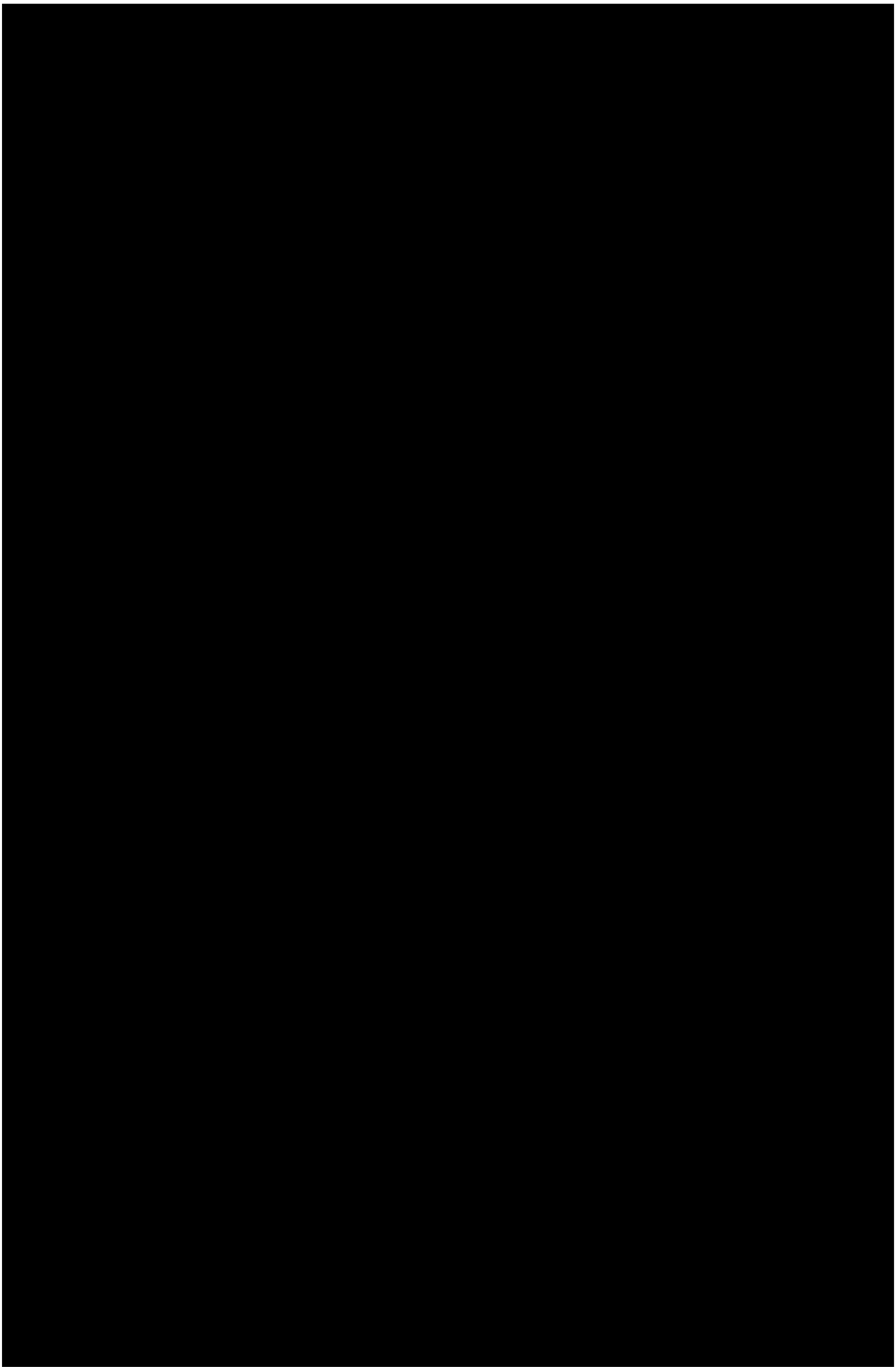


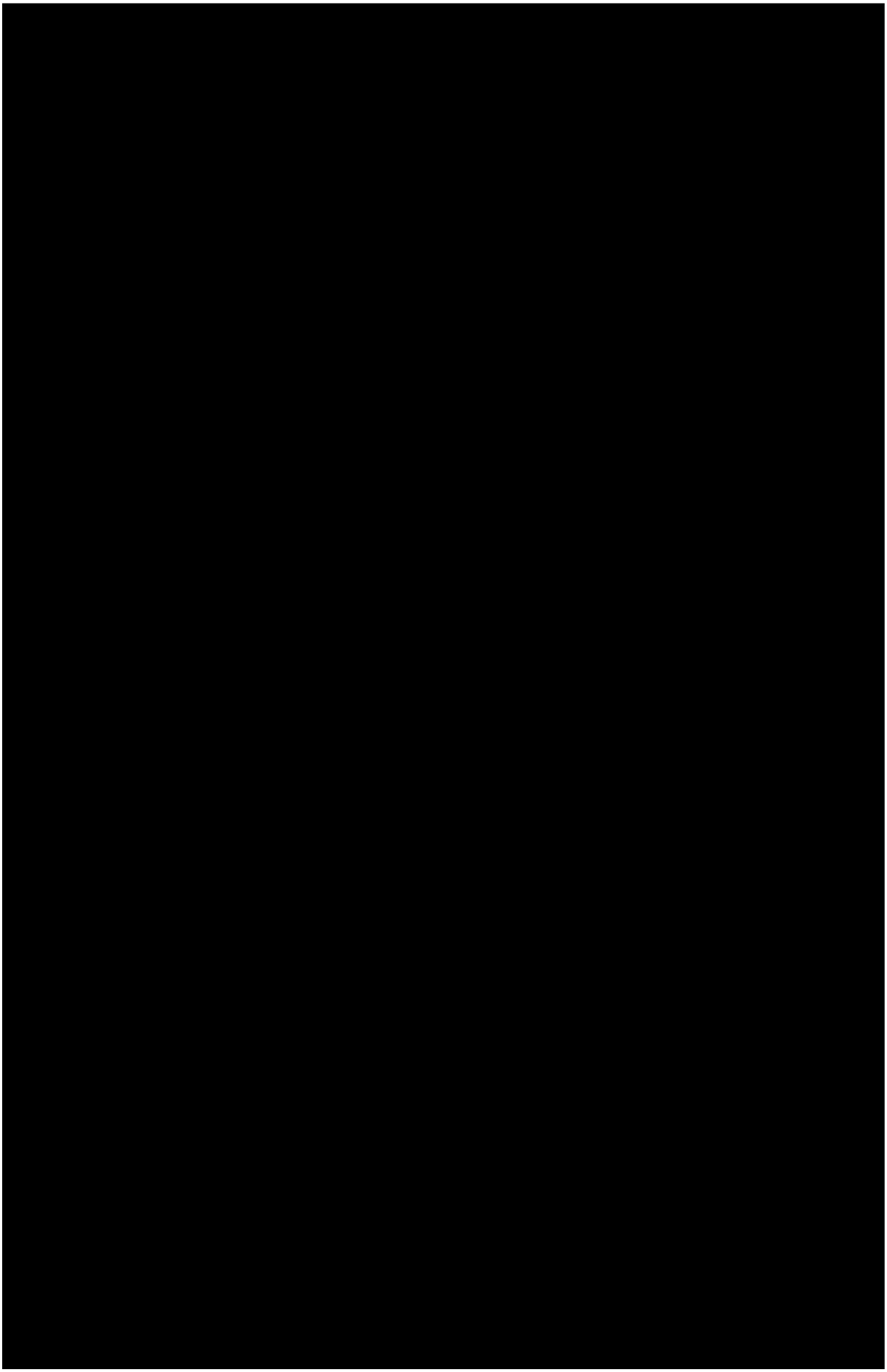


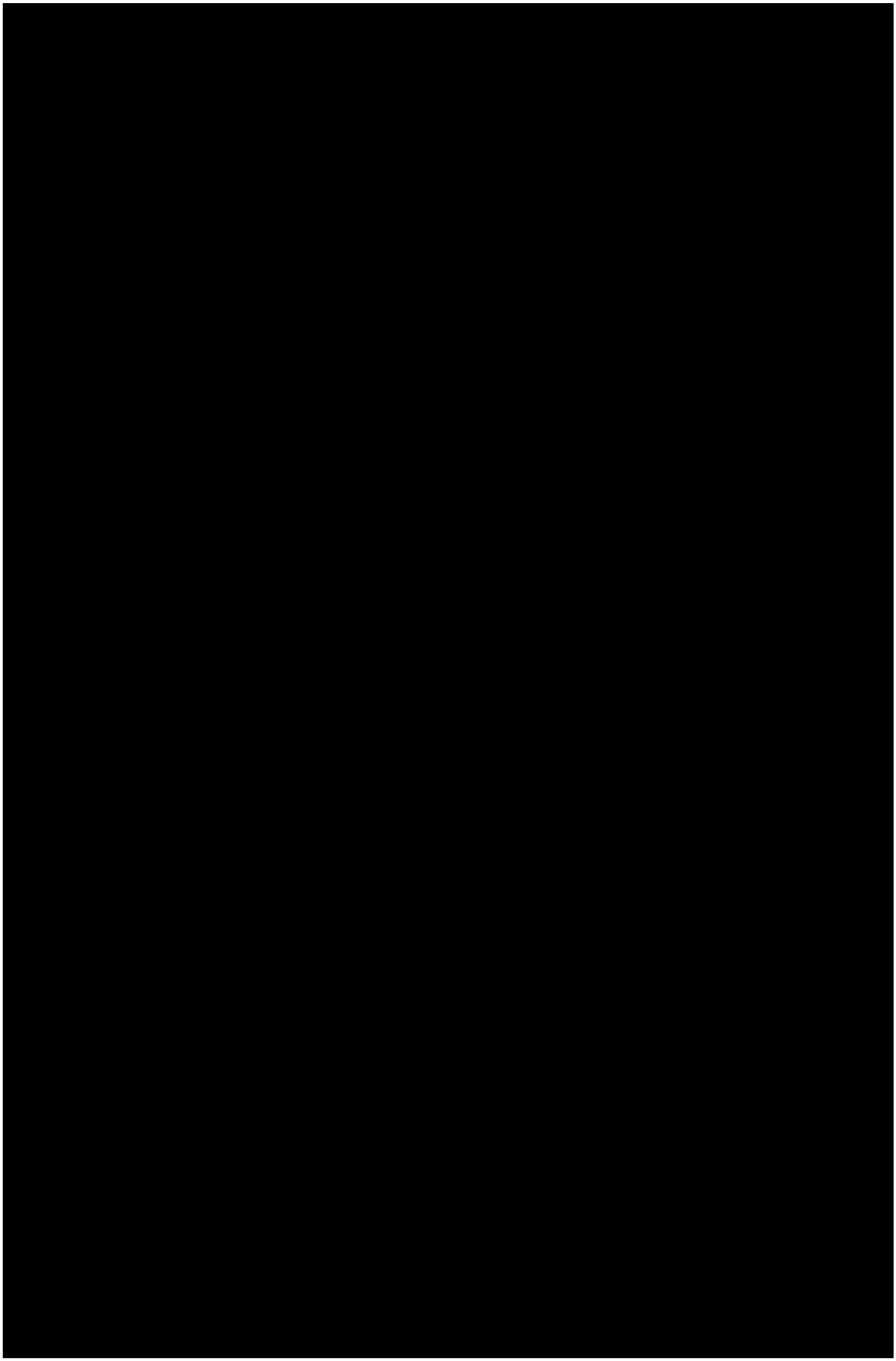


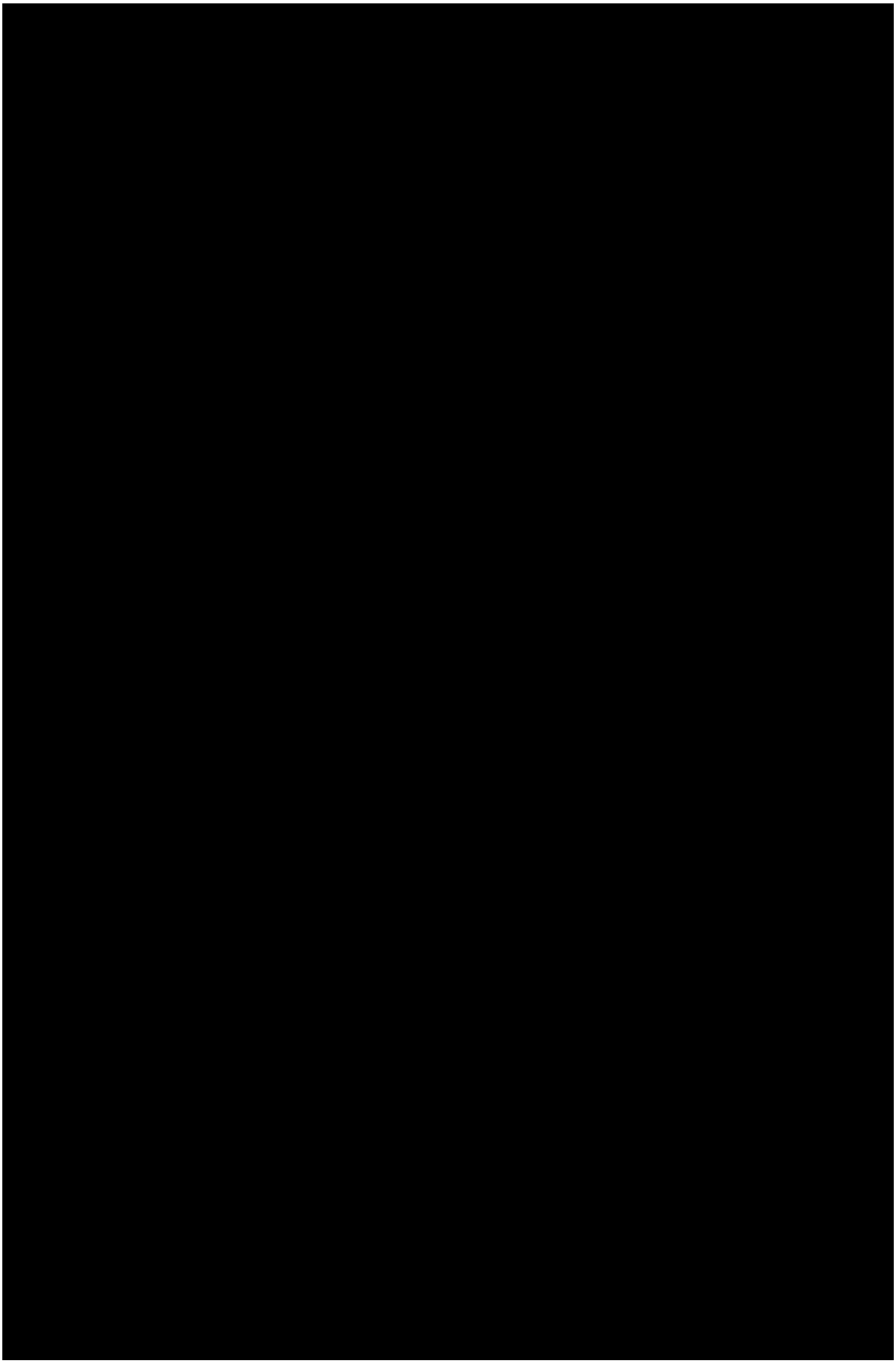


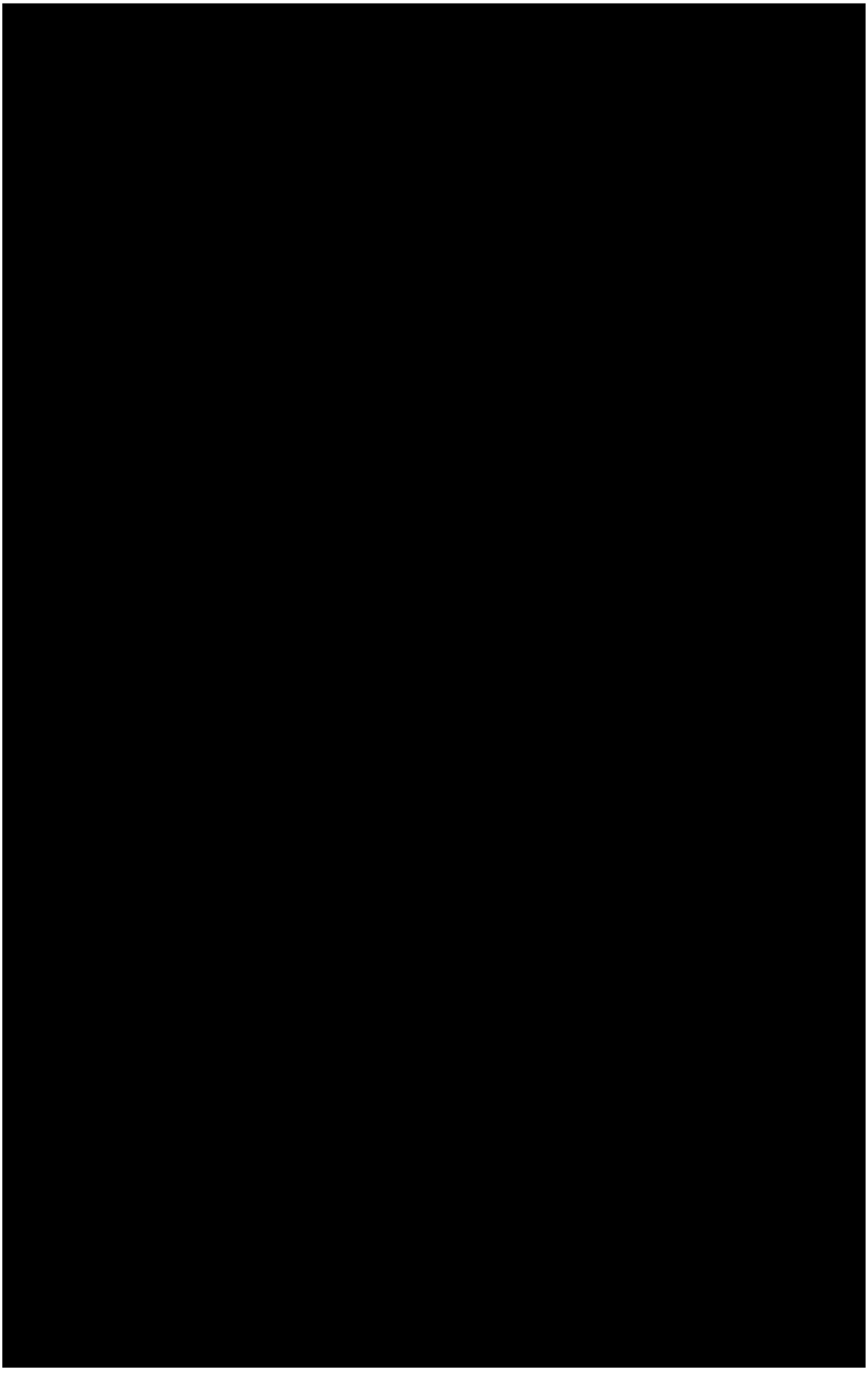


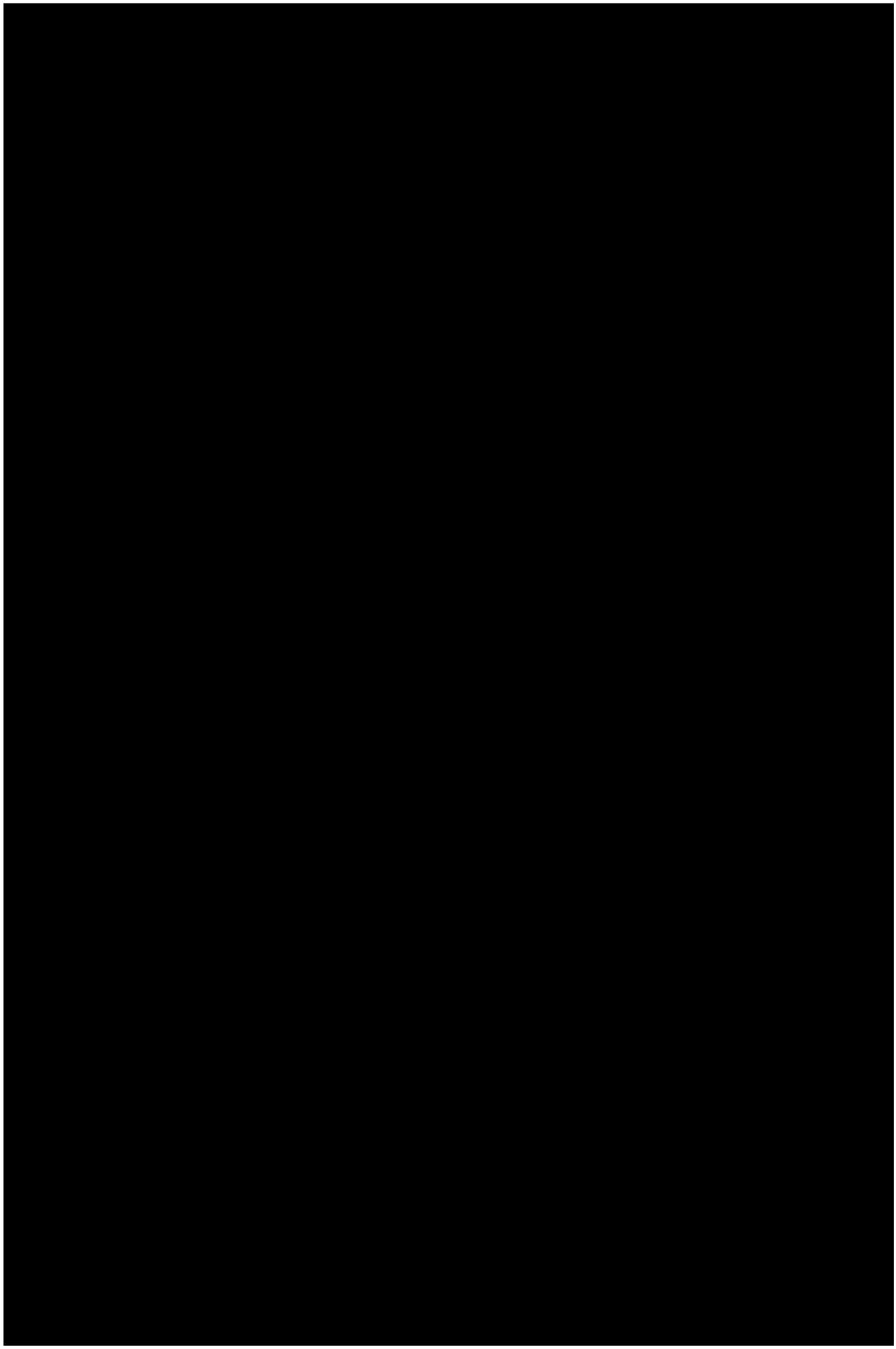


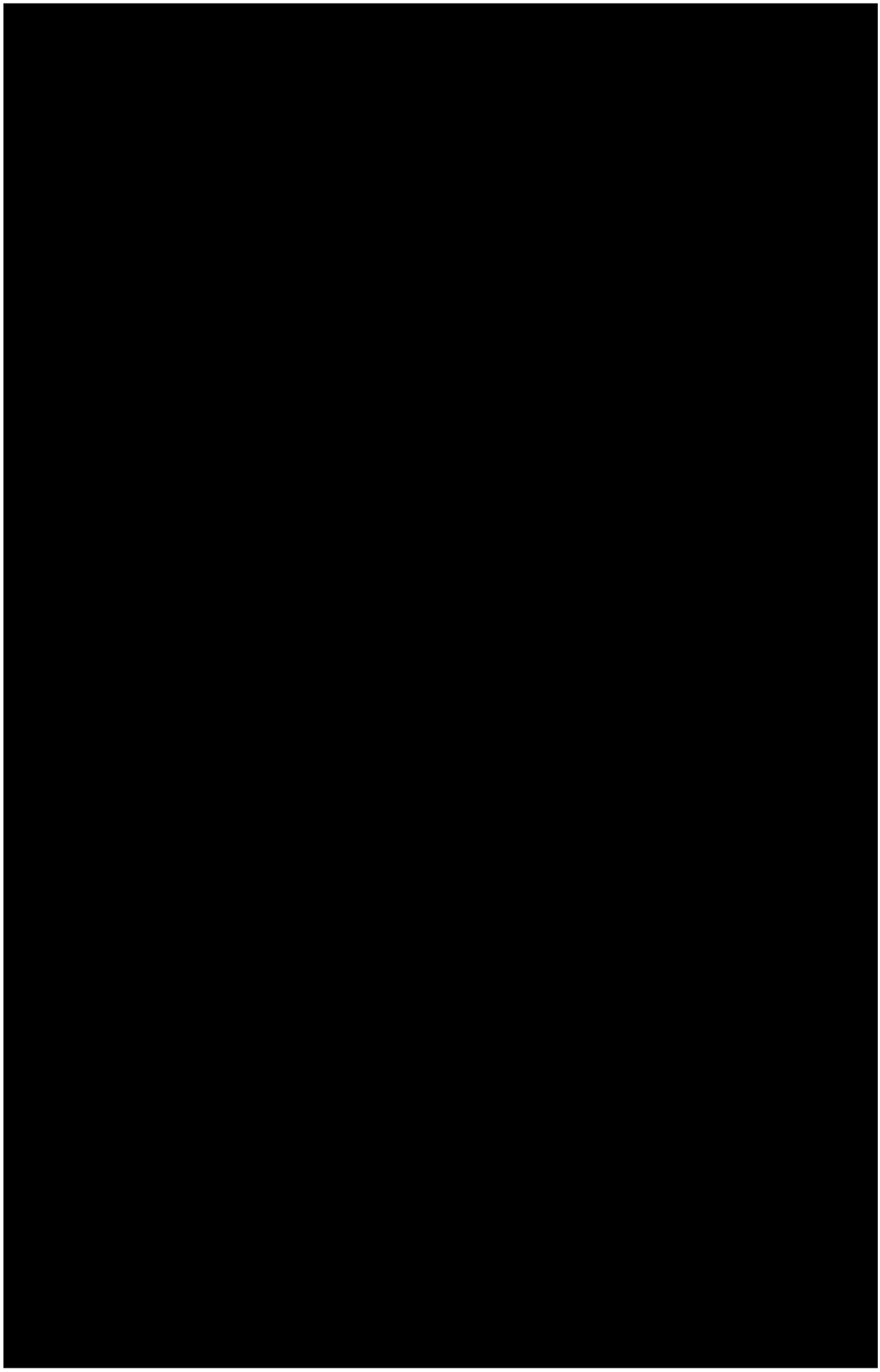












APPENDIX III

LOTSEARCH ENVIRO REPORT

LOTSEARCH

LOTSEARCH ENVIRO PROFESSIONAL

Date: 09 Mar 2021 21:27:00

Reference: LS018566 EP

Address: 11a Canopus Close, Erskine Park, NSW 2759

Dataset Listing

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

Dataset Name	Custodian	Supply Date	Currency Date	Update Frequency	Dataset Buffer (m)	No. Features Onsite	No. Features within 100m	No. Features within Buffer
Cadastre Boundaries	NSW Department of Finance, Services & Innovation	19/02/2021	19/02/2021	Quarterly	-	-	-	-
Topographic Data	NSW Department of Finance, Services & Innovation	25/06/2019	25/06/2019	As required	-	-	-	-
List of NSW contaminated sites notified to EPA	Environment Protection Authority	14/01/2021	14/01/2021	Monthly	1000	0	0	0
Contaminated Land Records of Notice	Environment Protection Authority	04/03/2021	04/03/2021	Monthly	1000	0	0	0
Former Gasworks	Environment Protection Authority	09/03/2021	11/10/2017	Monthly	1000	0	0	0
National Waste Management Facilities Database	Geoscience Australia	11/02/2021	07/03/2017	Quarterly	1000	0	0	0
National Liquid Fuel Facilities	Geoscience Australia	15/02/2021	13/07/2012	Quarterly	1000	0	0	0
EPA PFAS Investigation Program	Environment Protection Authority	15/02/2021	23/11/2020	Monthly	2000	0	0	0
Defence PFAS Investigation & Management Program - Investigation Sites	Department of Defence	02/03/2021	02/03/2021	Monthly	2000	0	0	0
Defence PFAS Investigation & Management Program - Management Sites	Department of Defence	02/03/2021	02/03/2021	Monthly	2000	0	0	0
Airservices Australia National PFAS Management Program	Airservices Australia	01/03/2021	01/03/2021	Monthly	2000	0	0	0
Defence 3 Year Regional Contamination Investigation Program	Department of Defence	15/02/2021	15/02/2021	Monthly	2000	0	0	0
EPA Other Sites with Contamination Issues	Environment Protection Authority	02/02/2021	13/12/2018	Annually	1000	0	0	0
Licensed Activities under the POEO Act 1997	Environment Protection Authority	08/03/2021	08/03/2021	Monthly	1000	0	0	0
Delicensed POEO Activities still regulated by the EPA	Environment Protection Authority	08/03/2021	08/03/2021	Monthly	1000	0	0	0
Former POEO Licensed Activities now revoked or surrendered	Environment Protection Authority	08/03/2021	08/03/2021	Monthly	1000	0	0	3
UBD Business Directories (Premise & Intersection Matches)	Hardie Grant			Not required	150	0	0	0
UBD Business Directories (Road & Area Matches)	Hardie Grant			Not required	150	-	0	0
UBD Business Directory Dry Cleaners & Motor Garages/Service Stations (Premise & Intersection Matches)	Hardie Grant			Not required	500	0	0	0
UBD Business Directory Dry Cleaners & Motor Garages/Service Stations (Road & Area Matches)	Hardie Grant			Not required	500	-	0	0
Points of Interest	NSW Department of Finance, Services & Innovation	18/02/2021	18/02/2021	Quarterly	1000	0	1	33
Tanks (Areas)	NSW Department of Customer Service - Spatial Services	16/02/2021	16/02/2021	Quarterly	1000	0	0	2
Tanks (Points)	NSW Department of Customer Service - Spatial Services	16/02/2021	16/02/2021	Quarterly	1000	0	0	1
Major Easements	NSW Department of Finance, Services & Innovation	17/02/2021	17/02/2021	Quarterly	1000	0	0	1
State Forest	Forestry Corporation of NSW	25/02/2021	14/02/2021	Annually	1000	0	0	0
NSW National Parks and Wildlife Service Reserves	NSW Office of Environment & Heritage	22/01/2021	11/12/2020	Annually	1000	0	0	0
Hydrogeology Map of Australia	Commonwealth of Australia (Geoscience Australia)	08/10/2014	17/03/2000	As required	1000	1	1	1
Temporary Water Restriction (Botany Sands Groundwater Source) Order 2018	NSW Department of Planning, Industry and Environment	26/10/2020	21/02/2018	Annually	1000	0	0	0

Dataset Name	Custodian	Supply Date	Currency Date	Update Frequency	Dataset Buffer (m)	No. Features Onsite	No. Features within 100m	No. Features within Buffer
Groundwater Boreholes	NSW Dept. of Primary Industries - Water NSW; Commonwealth of Australia (Bureau of Meteorology)	24/07/2018	23/07/2018	Annually	2000	0	0	10
Geological Units 1:100,000	NSW Department of Planning, Industry and Environment	20/08/2014		Annually	1000	1	-	2
Geological Structures 1:100,000	NSW Department of Planning, Industry and Environment	20/08/2014		Annually	1000	0	-	0
Naturally Occurring Asbestos Potential	NSW Dept. of Industry, Resources & Energy	04/12/2015	24/09/2015	Unknown	1000	0	0	0
Atlas of Australian Soils	Australian Bureau of Agriculture and Resource Economics and Sciences (ABARES)	19/05/2017	17/02/2011	As required	1000	1	1	2
Soil Landscapes of Central and Eastern NSW	NSW Department of Planning, Industry and Environment	14/10/2020	27/07/2020	Annually	1000	1	-	2
Environmental Planning Instrument Acid Sulfate Soils	NSW Department of Planning, Industry and Environment	22/02/2021	12/02/2021	Monthly	500	0	-	-
Atlas of Australian Acid Sulfate Soils	CSIRO	19/01/2017	21/02/2013	As required	1000	1	1	1
Dryland Salinity - National Assessment	National Land and Water Resources Audit	18/07/2014	12/05/2013	None planned	1000	1	1	2
Dryland Salinity Potential of Western Sydney	NSW Department of Planning, Industry and Environment	12/05/2017	01/01/2002	None planned	1000	1	1	3
Mining Subsidence Districts	NSW Department of Customer Service - Subsidence Advisory NSW	16/02/2021	16/02/2021	Quarterly	1000	0	0	0
Current Mining Titles	NSW Department of Industry	04/03/2021	04/03/2021	Monthly	1000	0	0	0
Mining Title Applications	NSW Department of Industry	04/03/2021	04/03/2021	Monthly	1000	0	0	0
Historic Mining Titles	NSW Department of Industry	04/03/2021	04/03/2021	Monthly	1000	8	8	9
Environmental Planning Instrument SEPP State Significant Precincts	NSW Department of Planning, Industry and Environment	22/02/2021	07/12/2018	Monthly	1000	0	0	0
Environmental Planning Instrument Land Zoning	NSW Department of Planning, Industry and Environment	22/02/2021	12/02/2021	Monthly	1000	2	3	28
Commonwealth Heritage List	Australian Government Department of the Agriculture, Water and the Environment	23/02/2021	20/11/2019	Quarterly	1000	0	0	0
National Heritage List	Australian Government Department of the Agriculture, Water and the Environment	23/02/2021	20/11/2019	Quarterly	1000	0	0	0
State Heritage Register - Curtilages	NSW Department of Planning, Industry and Environment	15/02/2021	30/11/2020	Quarterly	1000	0	0	0
Environmental Planning Instrument Local Heritage	NSW Department of Planning, Industry and Environment	22/02/2021	12/02/2021	Monthly	1000	0	0	0
Bush Fire Prone Land	NSW Rural Fire Service	08/03/2021	11/02/2021	Weekly	1000	0	0	3
Remnant Vegetation of the Cumberland Plain	NSW Office of Environment & Heritage	07/10/2014	04/08/2011	Unknown	1000	2	2	4
Ramsar Wetlands of Australia	Australian Government Department of Agriculture, Water and the Environment	24/02/2021	19/03/2020	Annually	1000	0	0	0
Groundwater Dependent Ecosystems	Bureau of Meteorology	14/08/2017	15/05/2017	Annually	1000	1	1	2
Inflow Dependent Ecosystems Likelihood	Bureau of Meteorology	14/08/2017	15/05/2017	Unknown	1000	1	1	4
NSW BioNet Species Sightings	NSW Office of Environment & Heritage	08/03/2021	08/03/2021	Weekly	10000	-	-	-

Site Diagram

11a Canopus Close, Erskine Park, NSW 2759

Legend

- Site Boundary
- Internal Parcel Boundaries

Total Area: 1039m²

Total Perimeter: 131m

Disclaimers:

Measurements are approximate only and may have been simplified or smaller lengths removed for readability.

Parcels that make up a small percentage of the total site area have not been labelled for increased legibility.

Scale: 0 5 10 Meters

Data Sources: Aerial Imagery © Aerometrex Pty Ltd

Coordinate System: GDA 1994 MGA Zone 56

Date: 09 March 2021

Contaminated Land

11a Canopus Close, Erskine Park, NSW 2759

List of NSW contaminated sites notified to EPA

Records from the NSW EPA Contaminated Land list within the dataset buffer:

Map Id	Site	Address	Suburb	Activity	Management Class	Status	Location Confidence	Dist (m)	Direction
N/A	No records in buffer								

The values within the EPA site management class in the table above, are given more detailed explanations in the table below:

EPA site management class	Explanation
Contamination being managed via the planning process (EP&A Act)	The EPA has completed an assessment of the contamination and decided that the contamination is significant enough to warrant regulation. The contamination of this site is managed by the consent authority under the Environmental Planning and Assessment Act 1979 (EP&A Act) planning approval process, with EPA involvement as necessary to ensure significant contamination is adequately addressed. The consent authority is typically a local council or the Department of Planning and Environment.
Contamination currently regulated under CLM Act	The EPA has completed an assessment of the contamination and decided that the contamination is significant enough to warrant regulation under the Contaminated Land Management Act 1997 (CLM Act). Management of the contamination is regulated by the EPA under the CLM Act. Regulatory notices are available on the EPA's Contaminated Land Public Record of Notices.
Contamination currently regulated under POEO Act	The EPA has completed an assessment of the contamination and decided that the contamination is significant enough to warrant regulation. Management of the contamination is regulated under the Protection of the Environment Operations Act 1997 (POEO Act). The EPA's regulatory actions under the POEO Act are available on the POEO public register.
Contamination formerly regulated under the CLM Act	The EPA has determined that the contamination is no longer significant enough to warrant regulation under the Contaminated Land Management Act 1997 (CLM Act). The contamination was addressed under the CLM Act.
Contamination formerly regulated under the POEO Act	The EPA has determined that the contamination is no longer significant enough to warrant regulation. The contamination was addressed under the Protection of the Environment Operations Act 1997 (POEO Act).
Contamination was addressed via the planning process (EP&A Act)	The EPA has determined that the contamination is no longer significant enough to warrant regulation. The contamination was addressed by the appropriate consent authority via the planning process under the Environmental Planning and Assessment Act 1979 (EP&A Act).
Ongoing maintenance required to manage residual contamination (CLM Act)	The EPA has determined that ongoing maintenance, under the Contaminated Land Management Act 1997 (CLM Act), is required to manage the residual contamination. Regulatory notices under the CLM Act are available on the EPA's Contaminated Land Public Record of Notices.
Regulation being finalised	The EPA has completed an assessment of the contamination and decided that the contamination is significant enough to warrant regulation under the Contaminated Land Management Act 1997. A regulatory approach is being finalised.
Regulation under the CLM Act not required	The EPA has completed an assessment of the contamination and decided that regulation under the Contaminated Land Management Act 1997 is not required.
Under assessment	The contamination is being assessed by the EPA to determine whether regulation is required. The EPA may require further information to complete the assessment. For example, the completion of management actions regulated under the planning process or Protection of the Environment Operations Act 1997. Alternatively, the EPA may require information via a notice issued under s77 of the Contaminated Land Management Act 1997 or issue a Preliminary Investigation Order.

NSW EPA Contaminated Land List Data Source: Environment Protection Authority

Contaminated Land

11a Canopus Close, Erskine Park, NSW 2759

Contaminated Land: Records of Notice

Record of Notices within the dataset buffer:

Map Id	Name	Address	Suburb	Notices	Area No	Location Confidence	Distance	Direction
N/A	No records in buffer							

Contaminated Land Records of Notice Data Source: Environment Protection Authority

Terms of use and disclaimer for Contaminated Land: Record of Notices, please visit http://www.epa.nsw.gov.au/clm/clmdisclaimer.htm

Former Gasworks

Former Gasworks within the dataset buffer:

Map Id	Location	Council	Further Info	Location Confidence	Distance	Direction
N/A	No records in buffer					

Former Gasworks Data Source: Environment Protection Authority

Waste Management & Liquid Fuel Facilities

11a Canopus Close, Erskine Park, NSW 2759

National Waste Management Site Database

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

Site Id	Owner	Name	Address	Suburb	Class	Landfill	Reprocess	Transfer	Comments	Loc Conf	Dist (m)	Direction
N/A	No records in buffer											

National Liquid Fuel Facilities

National Liquid Fuel Facilties 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										

PFAS Investigation & Management Programs

11a Canopus Close, Erskine Park, NSW 2759

EPA PFAS Investigation Program

Sites that are part of the EPA PFAS investigation program, within the dataset buffer:

Id	Site	Address	Loc Conf	Dist	Dir
N/A	No records in buffer				

EPA PFAS Investigation Program: Environment Protection Authority

Defence PFAS Investigation Program

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

Map ID	Base Name	Address	Loc Conf	Dist	Dir
N/A	No records in buffer				

Defence PFAS Investigation Program Data Custodian: Department of Defence, Australian Government

Defence PFAS Management Program

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

Map ID	Base Name	Address	Loc Conf	Dist	Dir
N/A	No records in buffer				

Defence PFAS Management Program Data Custodian: 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	Loc Conf	Dist	Dir
N/A	No records in buffer				

Airservices Australia National PFAS Management Program Data Custodian: Airservices Australia

Defence Sites

11a Canopus Close, Erskine Park, NSW 2759

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 Other Sites with Contamination Issues

11a Canopus Close, Erskine Park, NSW 2759

EPA Other Sites with Contamination Issues

This dataset contains other sites identified on the EPA website as having contamination issues. This dataset currently includes:

- James Hardie asbestos manufacturing and waste disposal sites
- Radiological investigation sites in Hunter's Hill
- Pasminco Lead Abatement Strategy Area

Sites within the dataset buffer:

Site Id	Site Name	Site Address	Dataset	Comments	Location Confidence	Distance	Direction
N/A	No records in buffer						

EPA Activities

11a Canopus Close, Erskine Park, NSW 2759

Licensed Activities under the POEO Act 1997

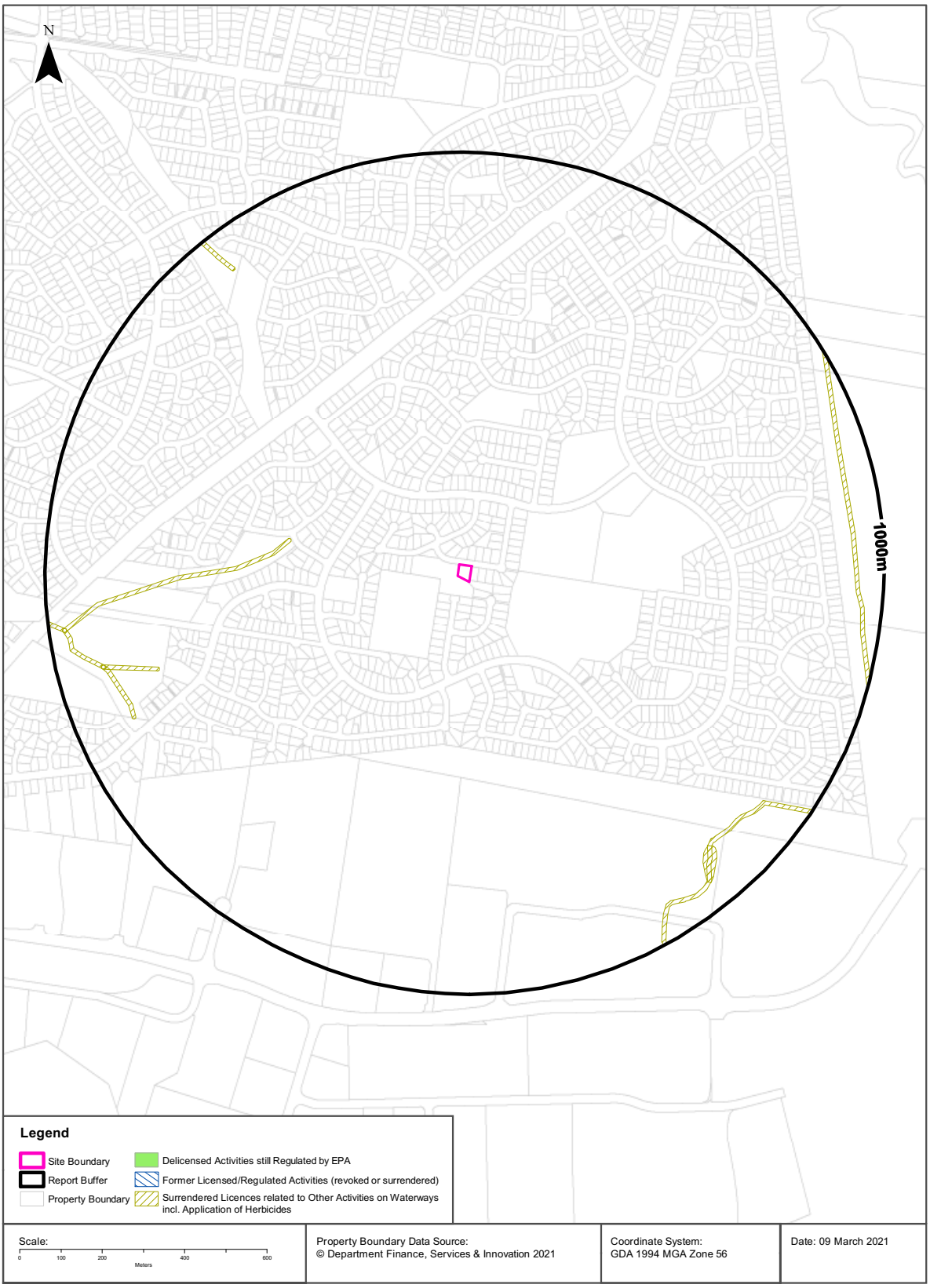
Licensed activities under the Protection of the Environment Operations Act 1997, within the dataset buffer:

EPL	Organisation	Name	Address	Suburb	Activity	Loc Conf	Distance	Direction
N/A	No records in buffer							

POEO Licence Data Source: Environment Protection Authority

Delicensed & Former Licensed EPA Activities

11a Canopus Close, Erskine Park, NSW 2759



EPA Activities

11a Canopus Close, Erskine Park, NSW 2759

Delicensed Activities still regulated by the EPA

Delicensed activities still regulated by the EPA, within the dataset buffer:

Licence No	Organisation	Name	Address	Suburb	Activity	Loc Conf	Distance	Direction
N/A	No records in buffer							

Delicensed Activities Data Source: Environment Protection Authority

Former Licensed Activities under the POEO Act 1997, now revoked or surrendered

Former Licensed activities under the Protection of the Environment Operations Act 1997, now revoked or surrendered, within the dataset buffer:

Licence No	Organisation	Location	Status	Issued Date	Activity	Loc Conf	Distance	Direction
4653	LUHRMANN ENVIRONMENT MANAGEMENT PTY LTD	WATERWAYS THROUGHOUT NSW	Surrendered	06/09/2000	Other Activities / Non Scheduled Activity - Application of Herbicides	Network of Features	411m	-
4838	Robert Orchard	Various Waterways throughout New South Wales - SYDNEY NSW 2000	Surrendered	07/09/2000	Other Activities / Non Scheduled Activity - Application of Herbicides	Network of Features	411m	-
6630	SYDNEY WEED & PEST MANAGEMENT PTY LTD	WATERWAYS THROUGHOUT NSW - PROSPECT, NSW, 2148	Surrendered	09/11/2000	Other Activities / Non Scheduled Activity - Application of Herbicides	Network of Features	411m	-

Former Licensed Activities Data Source: Environment Protection Authority

Historical Business Directories

11a Canopus Close, Erskine Park, NSW 2759

Business Directory Records 1950-1991
Premise or Road Intersection Matches

Universal Business Directory records from years 1991, 1986, 1982, 1970, 1961 & 1950, 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						

Business Directory Records 1950-1991
Road or Area Matches

Universal Business Directory records from years 1991, 1986, 1982, 1970, 1961 & 1950, 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					

Historical Business Directories

11a Canopus Close, Erskine Park, NSW 2759

Dry Cleaners, Motor Garages & Service Stations 1948-1993 Premise or Road Intersection Matches

Dry Cleaners, Motor Garages & Service Stations from UBD Business Directories, mapped to a premise or road intersection, within the dataset buffer.

Note: The Universal Business Directories were published between 1948 and 1993. Dry Cleaners, Motor Garages & Service Stations have been extracted from all of these directories except the following years 1951, 1955, 1957, 1960, 1963, 1973, 1974, 1977, 1987.

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

Dry Cleaners, Motor Garages & Service Stations 1948-1993 Road or Area Matches

Dry Cleaners, Motor Garages & Service Stations from UBD Business Directories, 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.

Note: The Universal Business Directories were published between 1948 and 1993. Dry Cleaners, Motor Garages & Service Stations have been extracted from all of these directories except the following years 1951, 1955, 1957, 1960, 1963, 1973, 1974, 1977, 1987.

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

Aerial Imagery 2020

11a Canopus Close, Erskine Park, NSW 2759

Aerial Imagery 2015

11a Canopus Close, Erskine Park, NSW 2759

Aerial Imagery 2009

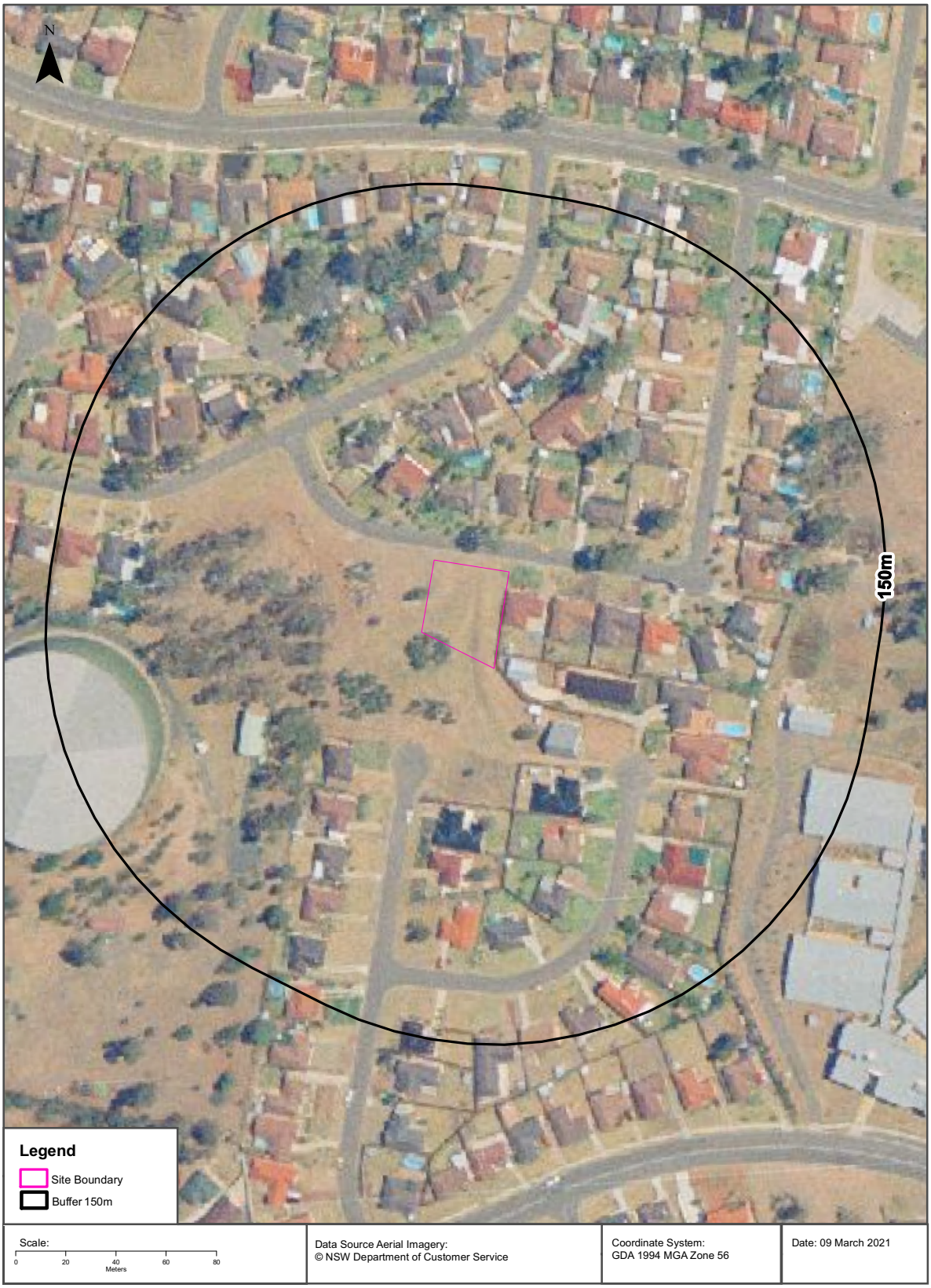
11a Canopus Close, Erskine Park, NSW 2759

Aerial Imagery 2000

11a Canopus Close, Erskine Park, NSW 2759

Aerial Imagery 1994

11a Canopus Close, Erskine Park, NSW 2759



Aerial Imagery 1991

11a Canopus Close, Erskine Park, NSW 2759

Aerial Imagery 1986

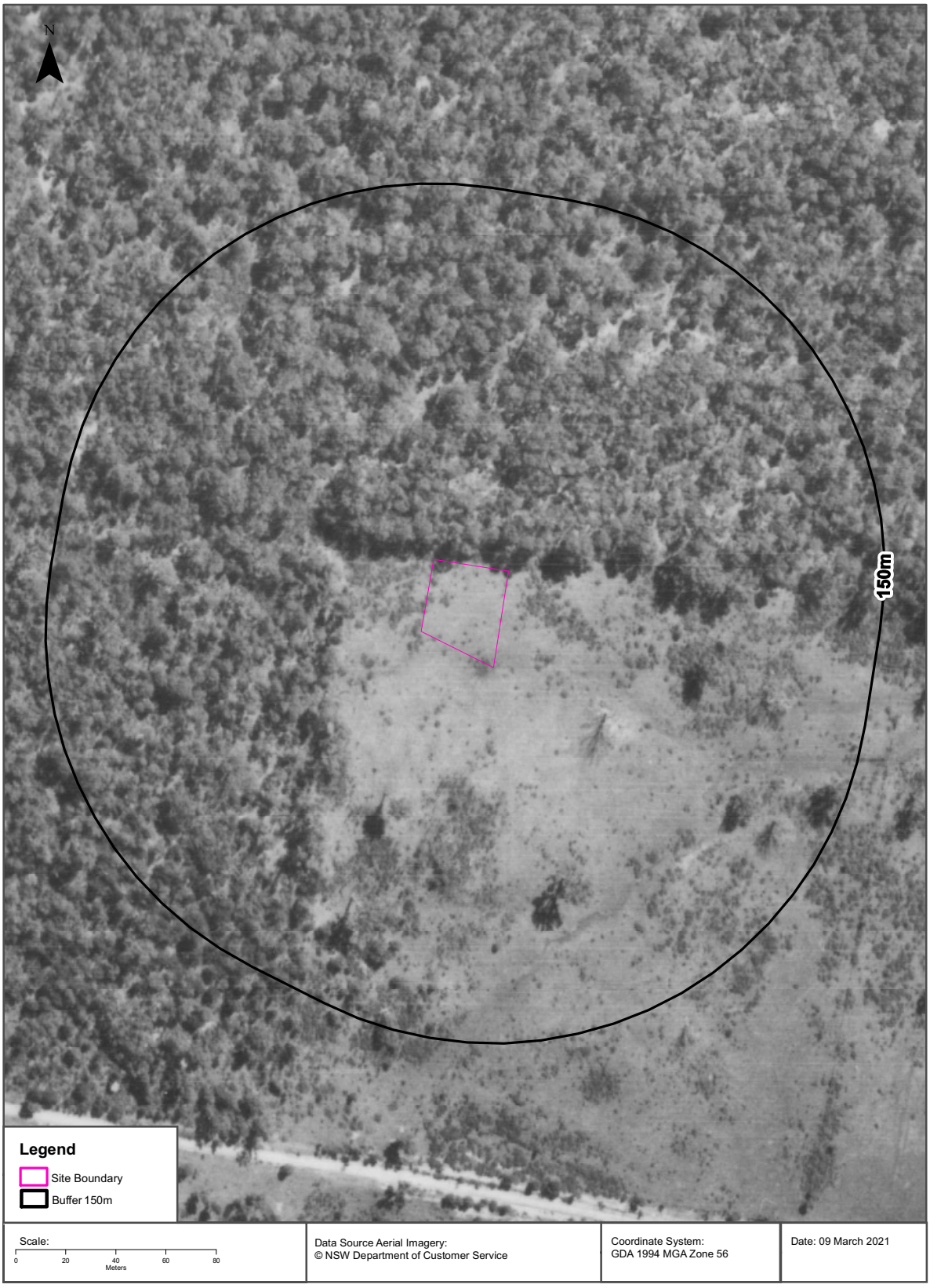
11a Canopus Close, Erskine Park, NSW 2759

Aerial Imagery 1982

11a Canopus Close, Erskine Park, NSW 2759

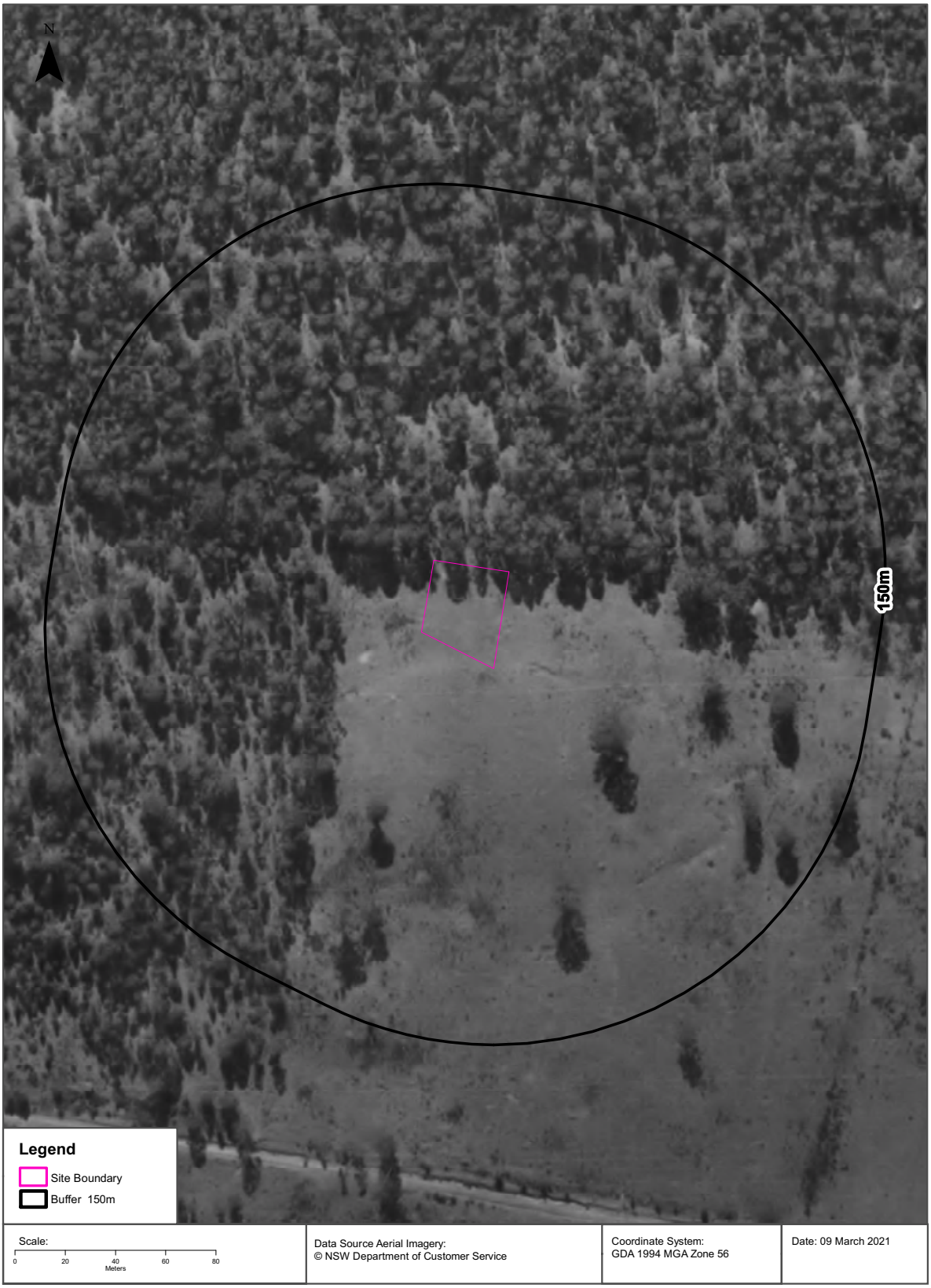
Aerial Imagery 1978

11a Canopus Close, Erskine Park, NSW 2759



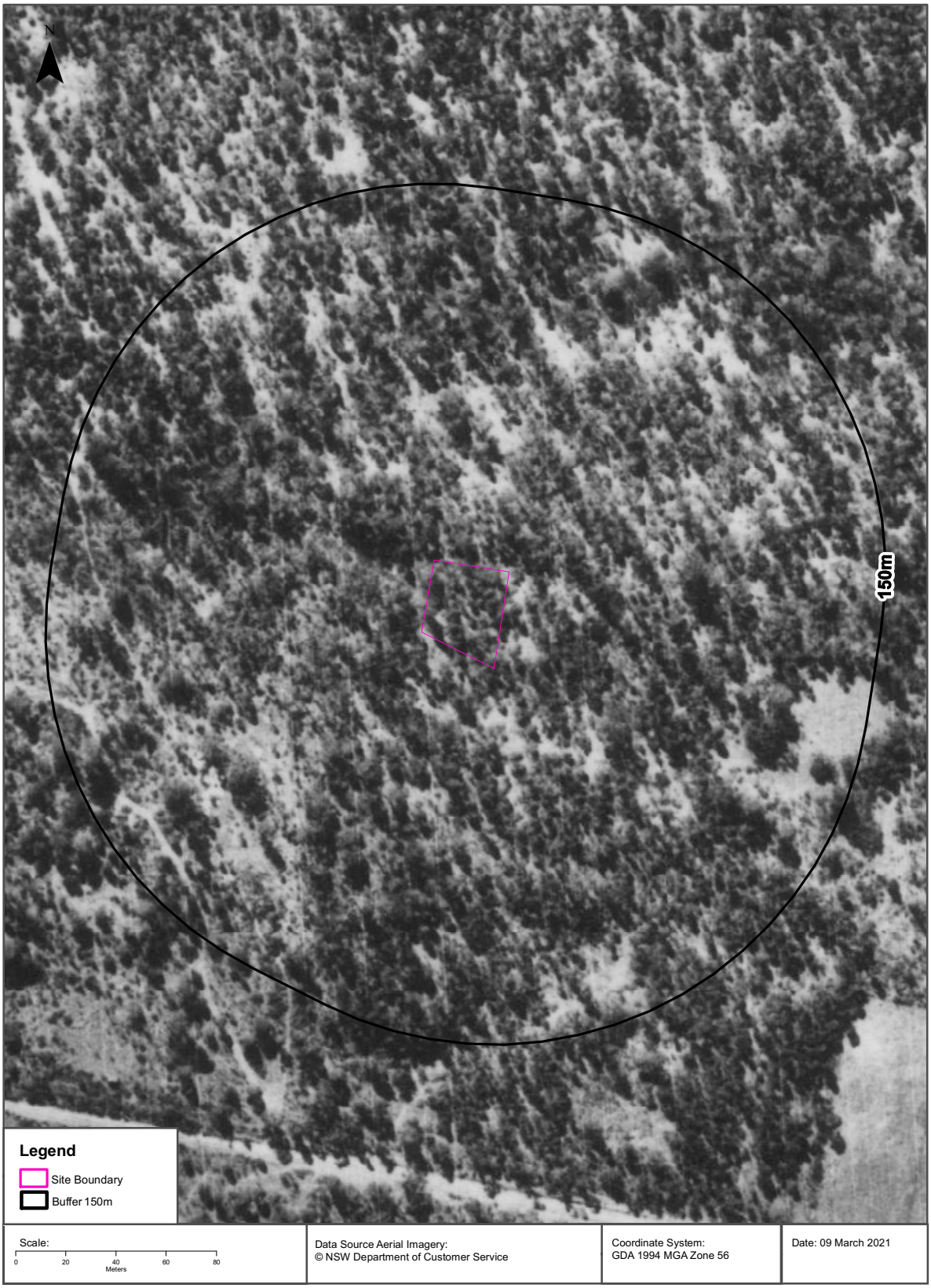
Aerial Imagery 1970

11a Canopus Close, Erskine Park, NSW 2759



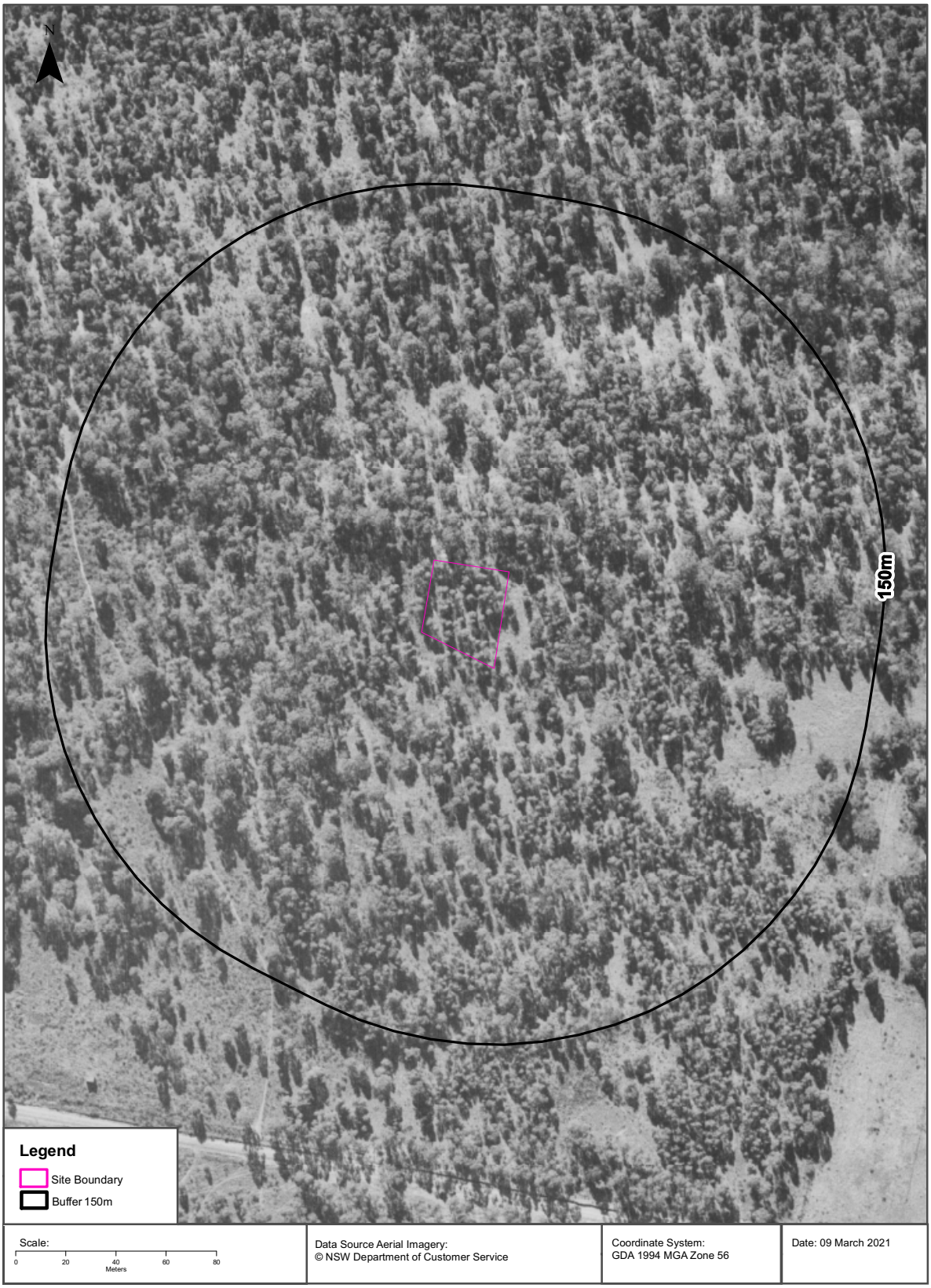
Aerial Imagery 1965

11a Canopus Close, Erskine Park, NSW 2759



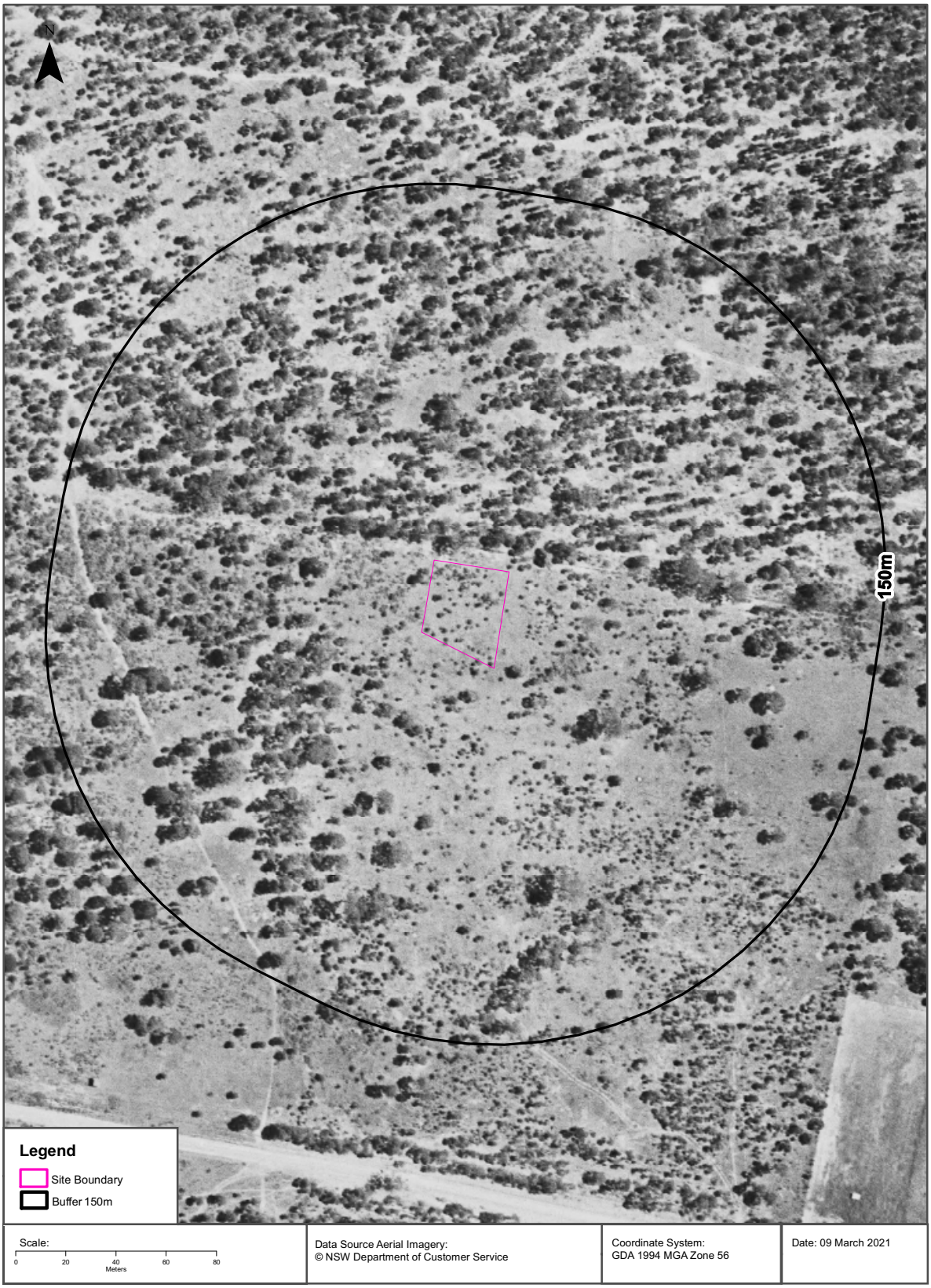
Aerial Imagery 1961

11a Canopus Close, Erskine Park, NSW 2759



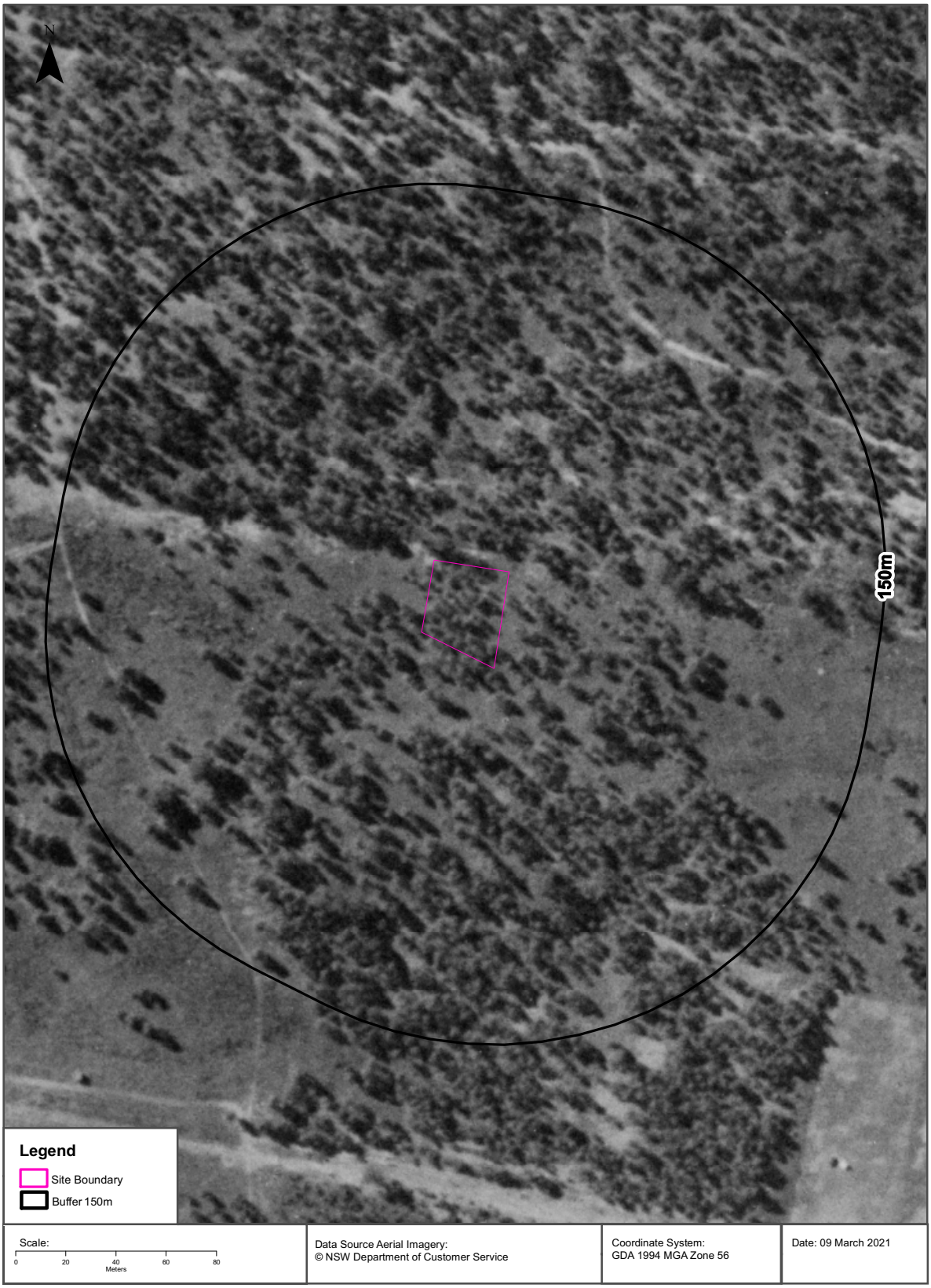
Aerial Imagery 1956

11a Canopus Close, Erskine Park, NSW 2759



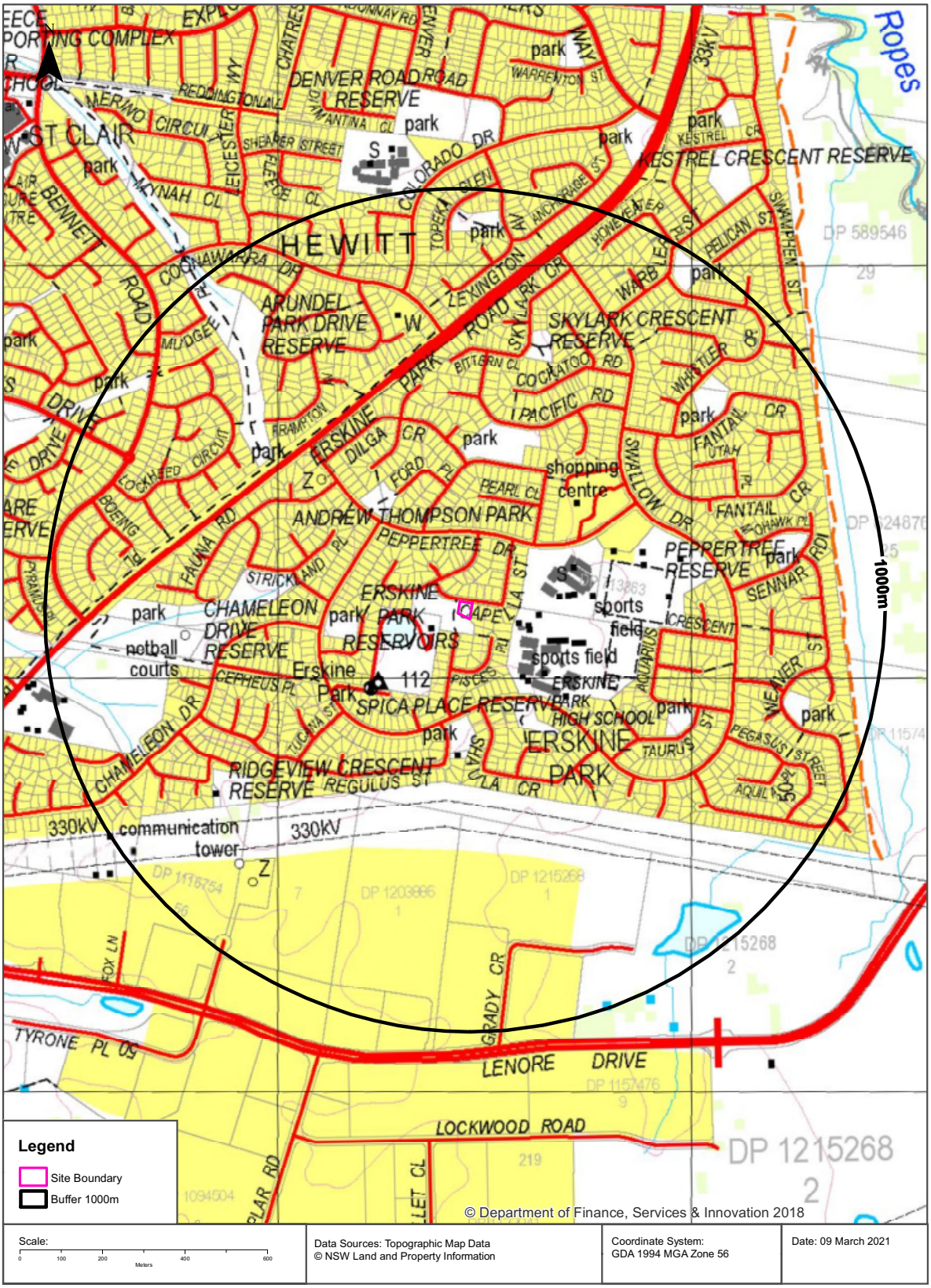
Aerial Imagery 1949

11a Canopus Close, Erskine Park, NSW 2759



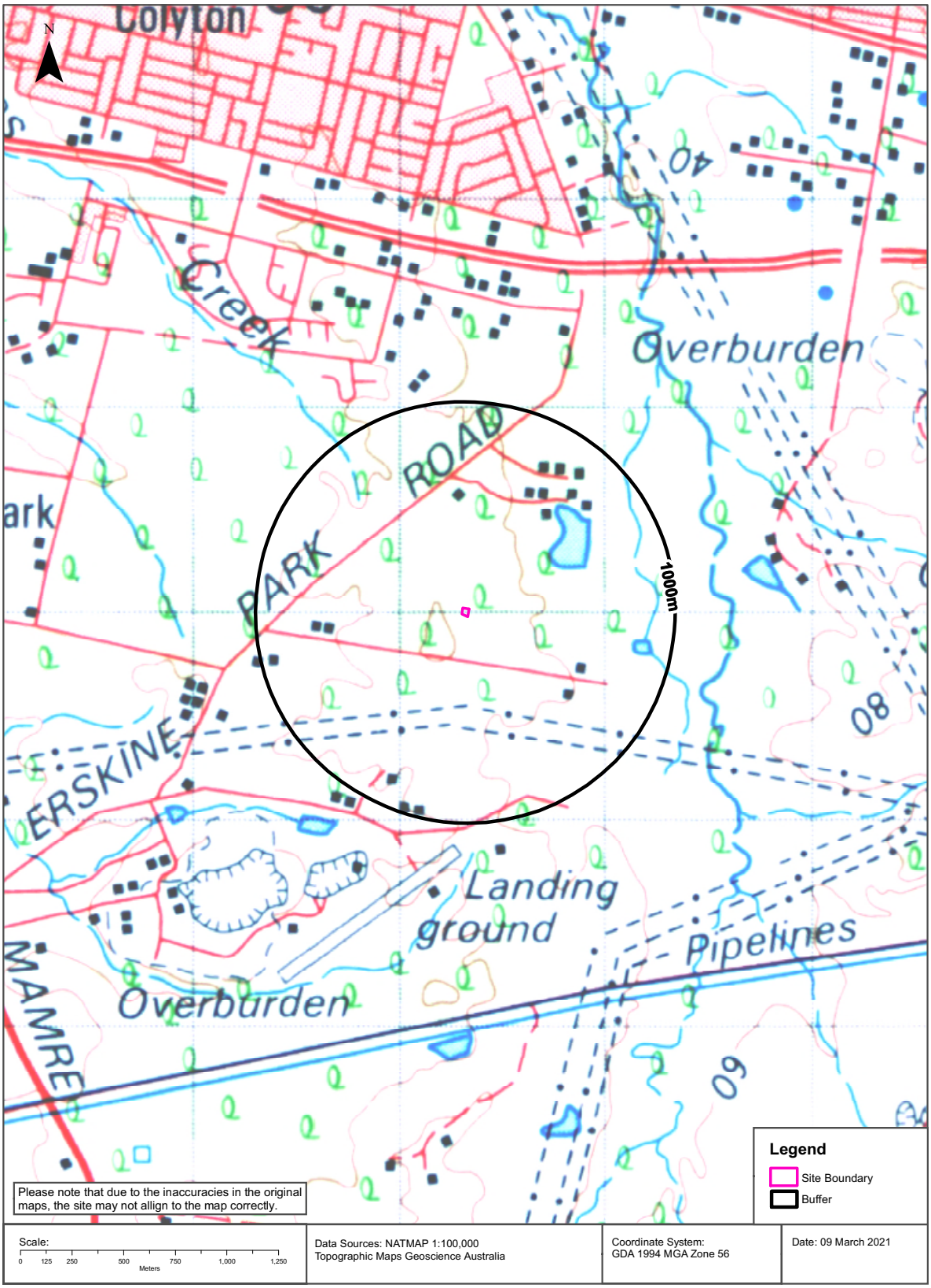
Topographic Map 2015

11a Canopus Close, Erskine Park, NSW 2759



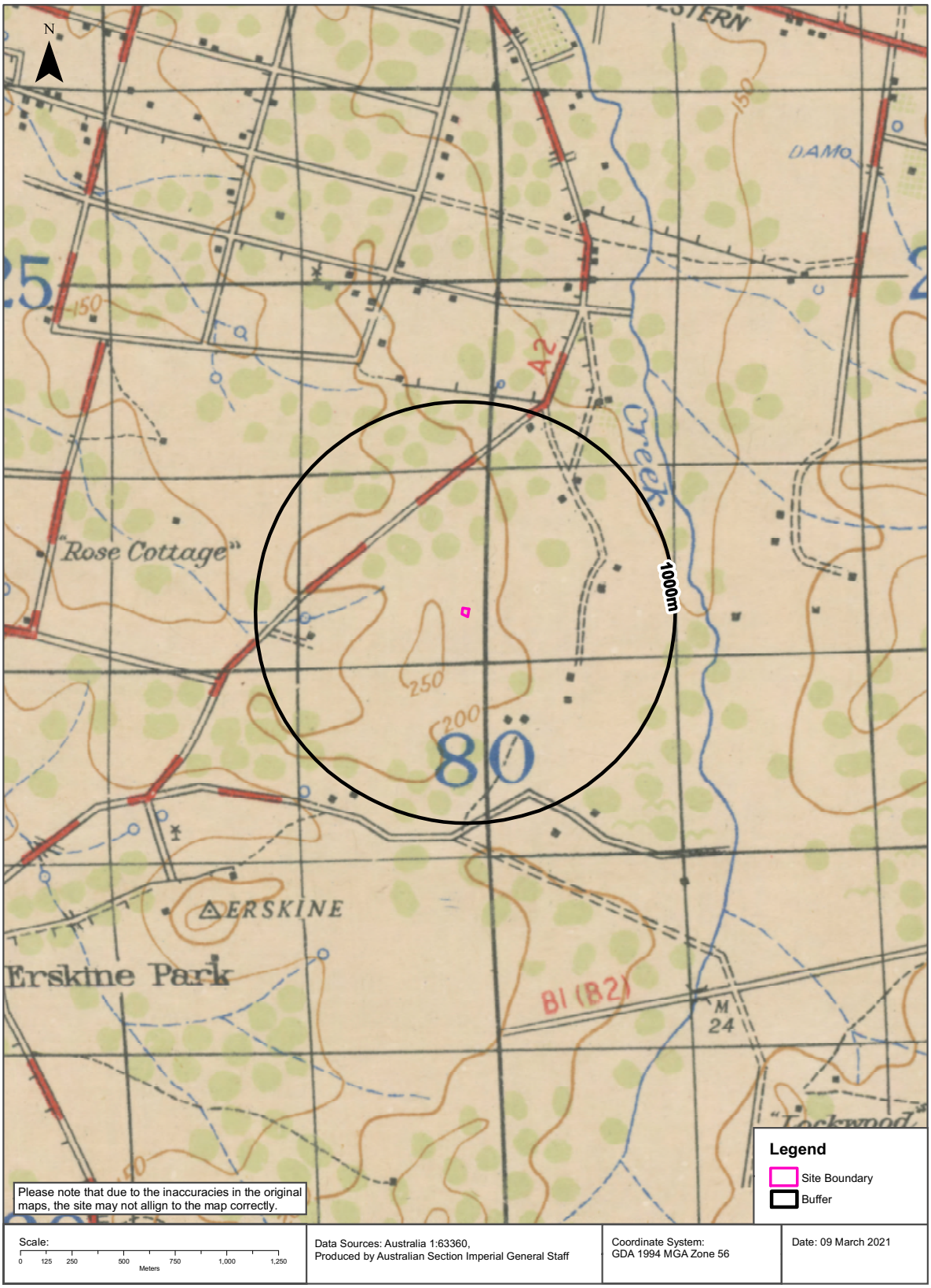
Historical Map 1975

11a Canopus Close, Erskine Park, NSW 2759



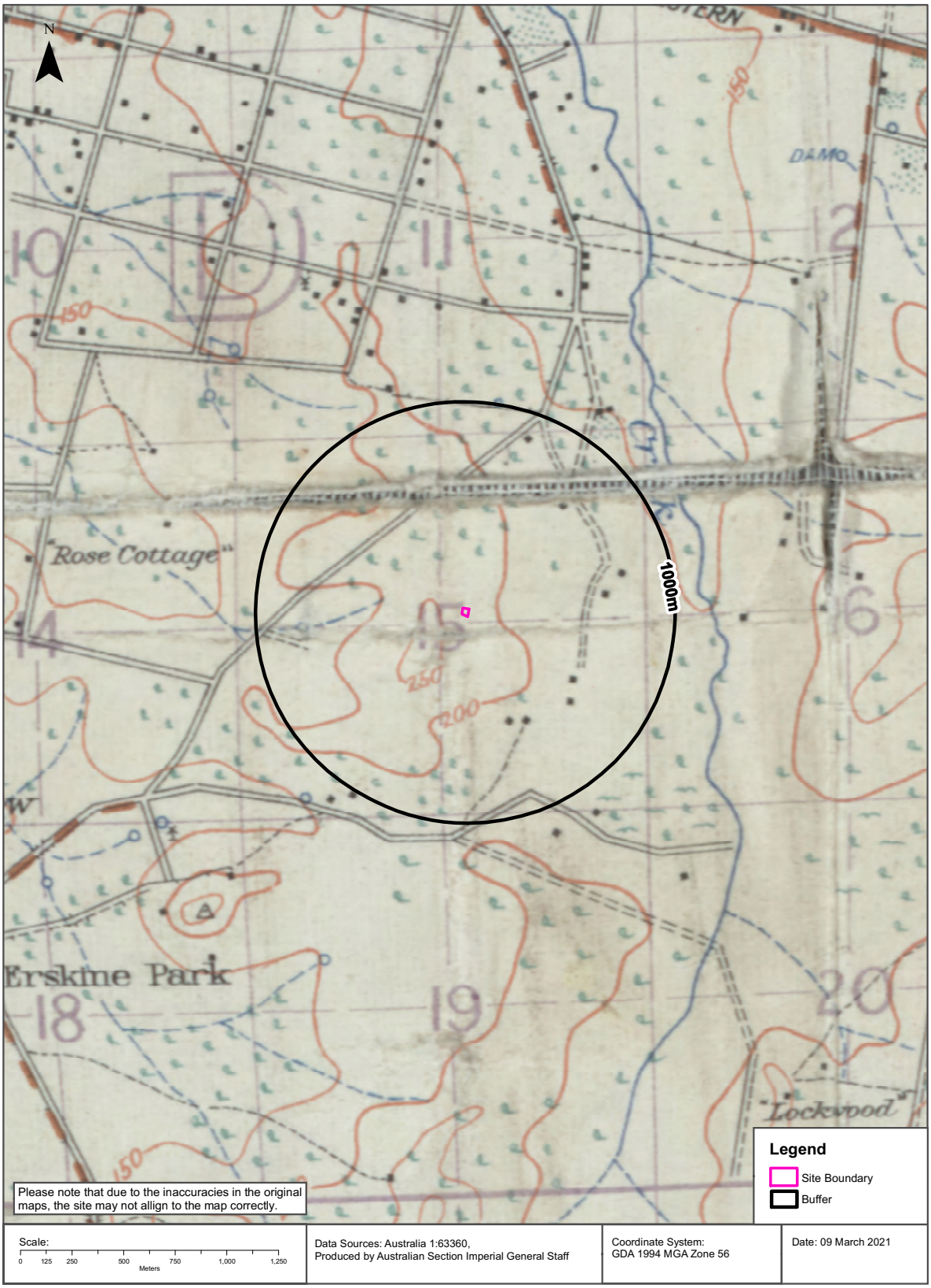
Historical Map c.1942

11a Canopus Close, Erskine Park, NSW 2759



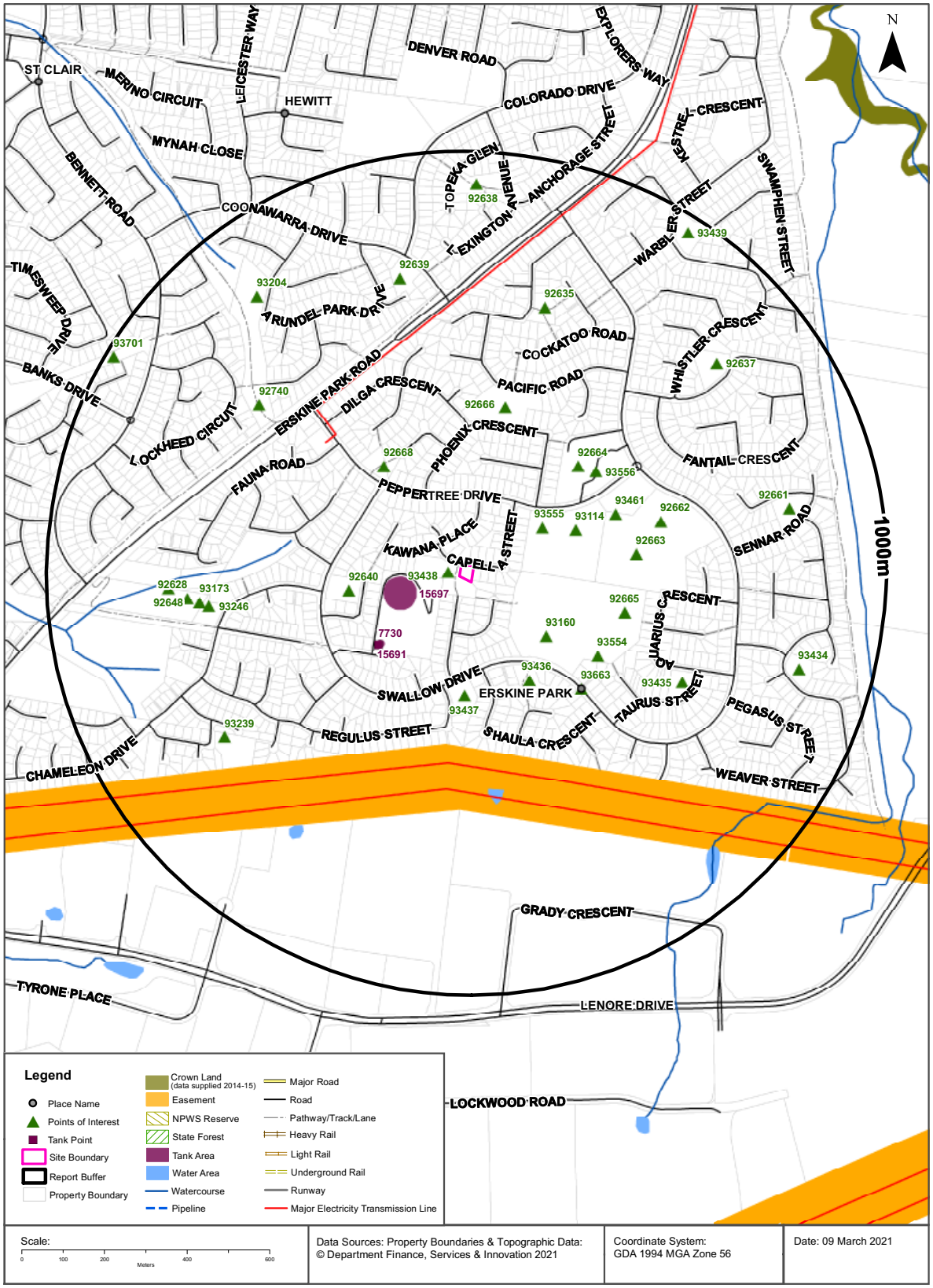
Historical Map c.1929

11a Canopus Close, Erskine Park, NSW 2759



Topographic Features

11a Canopus Close, Erskine Park, NSW 2759



Topographic Features

11a Canopus Close, Erskine Park, NSW 2759

Points of Interest

What Points of Interest exist within the dataset buffer?

Map Id	Feature Type	Label	Distance	Direction
93438	Park	Park	30m	West
93555	Parking Area	Parking Area	189m	North East
93160	High School	ERSKINE PARK HIGH SCHOOL	222m	South East
93114	Primary School	JAMES ERSKINE PUBLIC SCHOOL	261m	East
92640	Park	Park	270m	West
93437	Park	Park	274m	South
93436	Park	SPICA PLACE RESERVE	276m	South East
92668	Park	ANDREW THOMPSON PARK	303m	North West
92664	Shopping Centre	ERSKINE PARK SHOPPING CENTRE	349m	North East
93554	Parking Area	Parking Area	353m	South East
93461	Community Facility	ERSKINE PARK COMMUNITY CENTRE	365m	East
93663	Suburb	ERSKINE PARK	370m	South East
93556	Parking Area	Parking Area	373m	North East
92665	Sports Field	Sports Field	377m	East
92666	Park	Park	393m	North
92663	Sports Field	Sports Field	393m	East
92662	Park	PEPPERTREE RESERVE	464m	East
93435	Park	Park	563m	South East
93246	Parking Area	Parking Area	611m	West
92740	Park	Park	625m	North West
93173	Park	CHAMELEON DRIVE RESERVE	633m	West
92635	Park	SKYLARK CRESCENT RESERVE	650m	North
92628	Sports Court	NETBALL COURTS	661m	West
93239	Park	RIDGEVIEW CRESCENT RESERVE	689m	South West
92648	Park	Park	705m	West
92639	Place Of Worship	ANGLICAN CHURCH	709m	North
92637	Park	Park	765m	North East
92661	Park	Park	775m	East
93204	Park	ARUNDEL PARK DRIVE RESERVE	816m	North West
93434	Park	Park	819m	East
92638	Park	Park	922m	North

Map Id	Feature Type	Label	Distance	Direction
93439	Park	Park	959m	North East
93701	Park	Park	981m	North West

Topographic Features

11a Canopus Close, Erskine Park, NSW 2759

Tanks (Areas)

What are the Tank Areas located within the dataset buffer?
Note. The large majority of tank features provided by LPI are derived from aerial imagery & are therefore primarily above ground tanks.

Map Id	Tank Type	Status	Name	Feature Currency	Distance	Direction
15697	Water	Operational	ERSKINE PARK RESERVOIRS	13/07/2018	109m	West
15691	Water	Operational		13/07/2018	241m	South West

Tanks (Points)

What are the Tank Points located within the dataset buffer?
Note. The large majority of tank features provided by LPI are derived from aerial imagery & are therefore primarily above ground tanks.

Map Id	Tank Type	Status	Name	Feature Currency	Distance	Direction
7730	Tank-RuralWater	Feature on Previous LPI Tank Point Supply		01/01/2009	256m	South West

Major Easements

What Major Easements exist within the dataset buffer?
Note. Easements provided by LPI are not at the detail of local governments. They are limited to major easements such as Right of Carriageway, Electrical Lines (66kVa etc.), Easement to drain water & Significant subterranean pipelines (gas, water etc.).

Map Id	Easement Class	Easement Type	Easement Width	Distance	Direction
120107751	Primary	Undefined		398m	South West

Topographic Features

11a Canopus Close, Erskine Park, NSW 2759

State Forest

What State Forest exist within the dataset buffer?

State Forest Number	State Forest Name	Distance	Direction
N/A	No records in buffer		

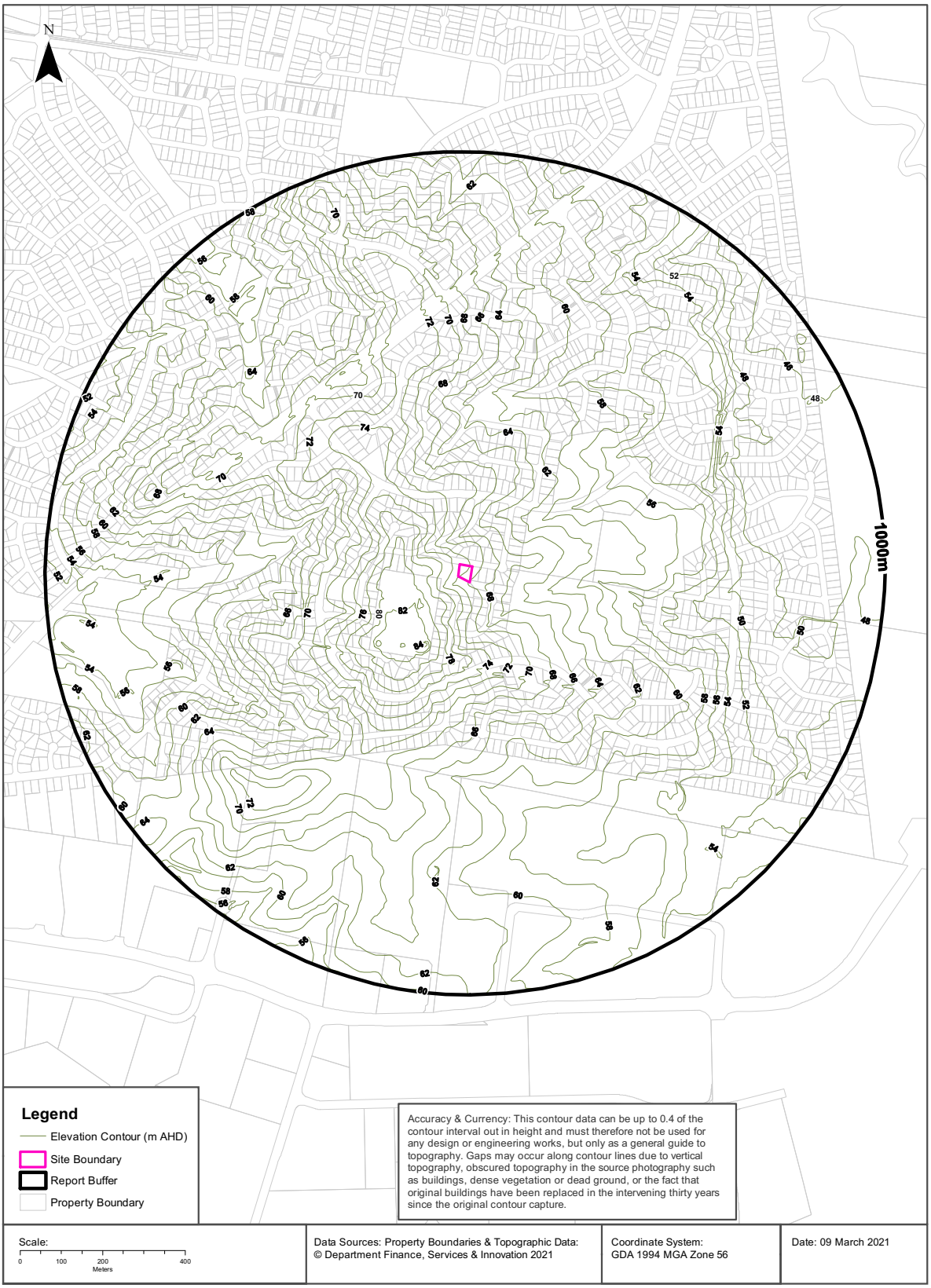
National Parks and Wildlife Service Reserves

What NPWS Reserves exist within the dataset buffer?

Reserve Number	Reserve Type	Reserve Name	Gazetted Date	Distance	Direction
N/A	No records in buffer				

Elevation Contours (m AHD)

11a Canopus Close, Erskine Park, NSW 2759



Hydrogeology & Groundwater

11a Canopus Close, Erskine Park, NSW 2759

Hydrogeology

Description of aquifers on-site:

Description
Porous, extensive aquifers of low to moderate productivity

Description of aquifers within the dataset buffer:

Description
Porous, extensive aquifers of low to moderate productivity

Hydrogeology Map of Australia : Commonwealth of Australia (Geoscience Australia)

Temporary Water Restriction (Botany Sands Groundwater Source) Order 2018

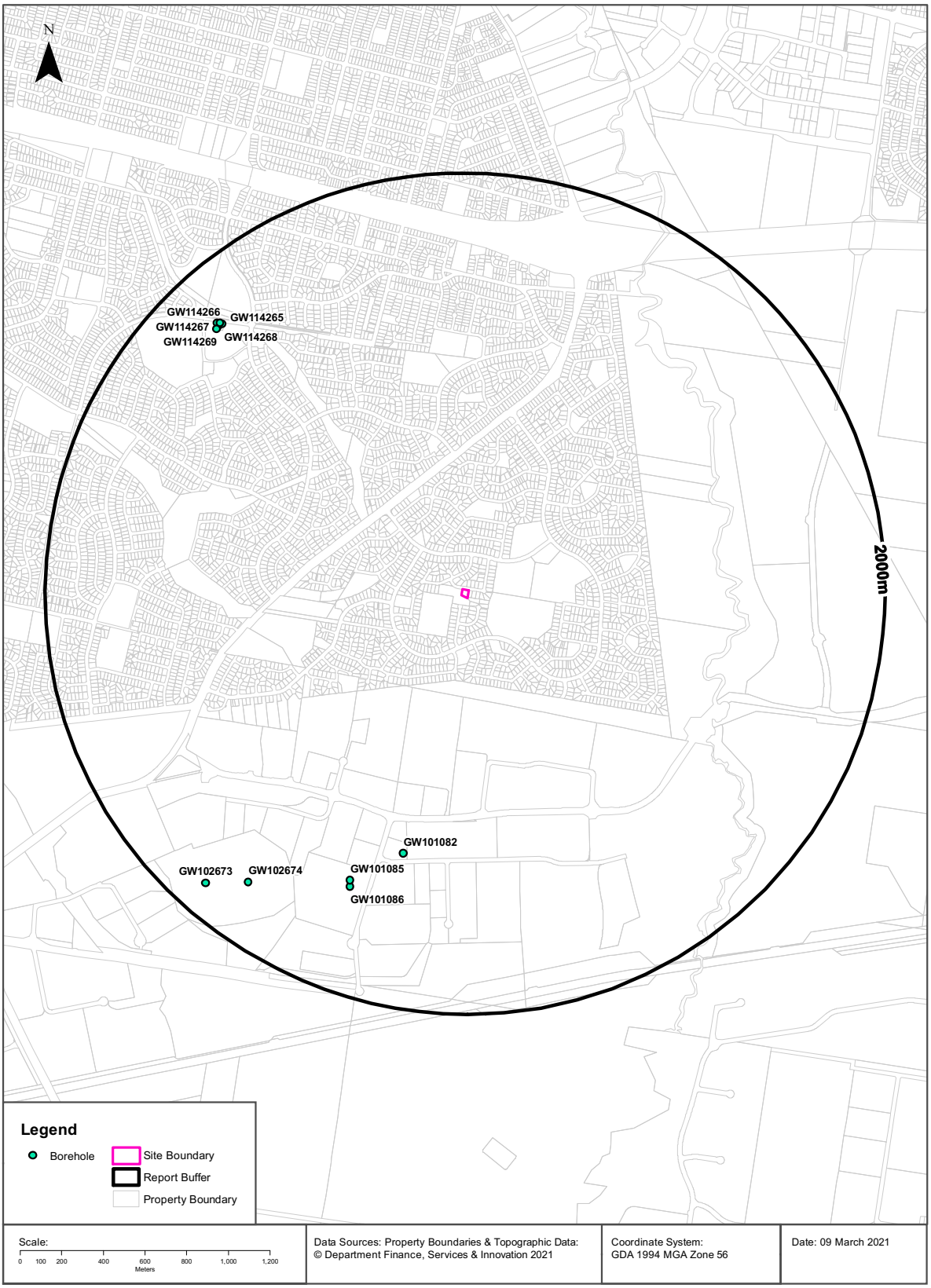
Temporary water restrictions relating to the Botany Sands aquifer within the dataset buffer:

Prohibition Area No.	Prohibition	Distance	Direction
N/A	No records in buffer		

Temporary Water Restriction (Botany Sands Groundwater Source) Order 2018 Data Source : NSW Department of Primary Industries

Groundwater Boreholes

11a Canopus Close, Erskine Park, NSW 2759



Hydrogeology & Groundwater

11a Canopus Close, Erskine Park, NSW 2759

Groundwater Boreholes

Boreholes within the dataset buffer:

GW No.	Licence No	Work Type	Owner Type	Authorised Purpose	Intended Purpose	Name	Complete Date	Final Depth (m)	Drilled Depth (m)	Salinity (mg/L)	SWL (m bgl)	Yield (L/s)	Elev (AHD)	Dist	Dir
GW101082	10BL157654	Bore		Monitoring Bore	Test Bore		27/05/1996	40.30	40.30		12.43			1264m	South
GW101085	10BL157654	Bore		Monitoring Bore	Test Bore		30/05/1996	99.30	99.30					1467m	South
GW101086	10BL157654	Bore		Monitoring Bore	Test Bore		29/05/1996	69.70	69.70					1496m	South
GW114265	10BL603923	Bore	Private	Monitoring Bore	Monitoring Bore		03/06/2010	13.00	13.00					1717m	North West
GW114269	10BL603923	Bore	Private	Monitoring Bore	Monitoring Bore		01/06/2010	10.00	10.00					1718m	North West
GW102674	10BL152917	Bore		Monitoring Bore	Monitoring Bore		25/08/1993	69.70	71.90	4400				1718m	South West
GW114268	10BL603923	Bore	Private	Monitoring Bore	Monitoring Bore		02/06/2010	12.00	12.00					1723m	North West
GW114266	10BL603923	Bore	Private	Monitoring Bore	Monitoring Bore		02/06/2010	13.00	13.00					1728m	North West
GW114267	10BL603923	Bore	Private	Monitoring Bore	Monitoring Bore		03/06/2010	12.00	12.00					1738m	North West
GW102673	10BL152917	Bore		Monitoring Bore	Monitoring Bore		20/08/1993	78.00	78.00	4750				1851m	South West

Hydrogeology & Groundwater

11a Canopus Close, Erskine Park, NSW 2759

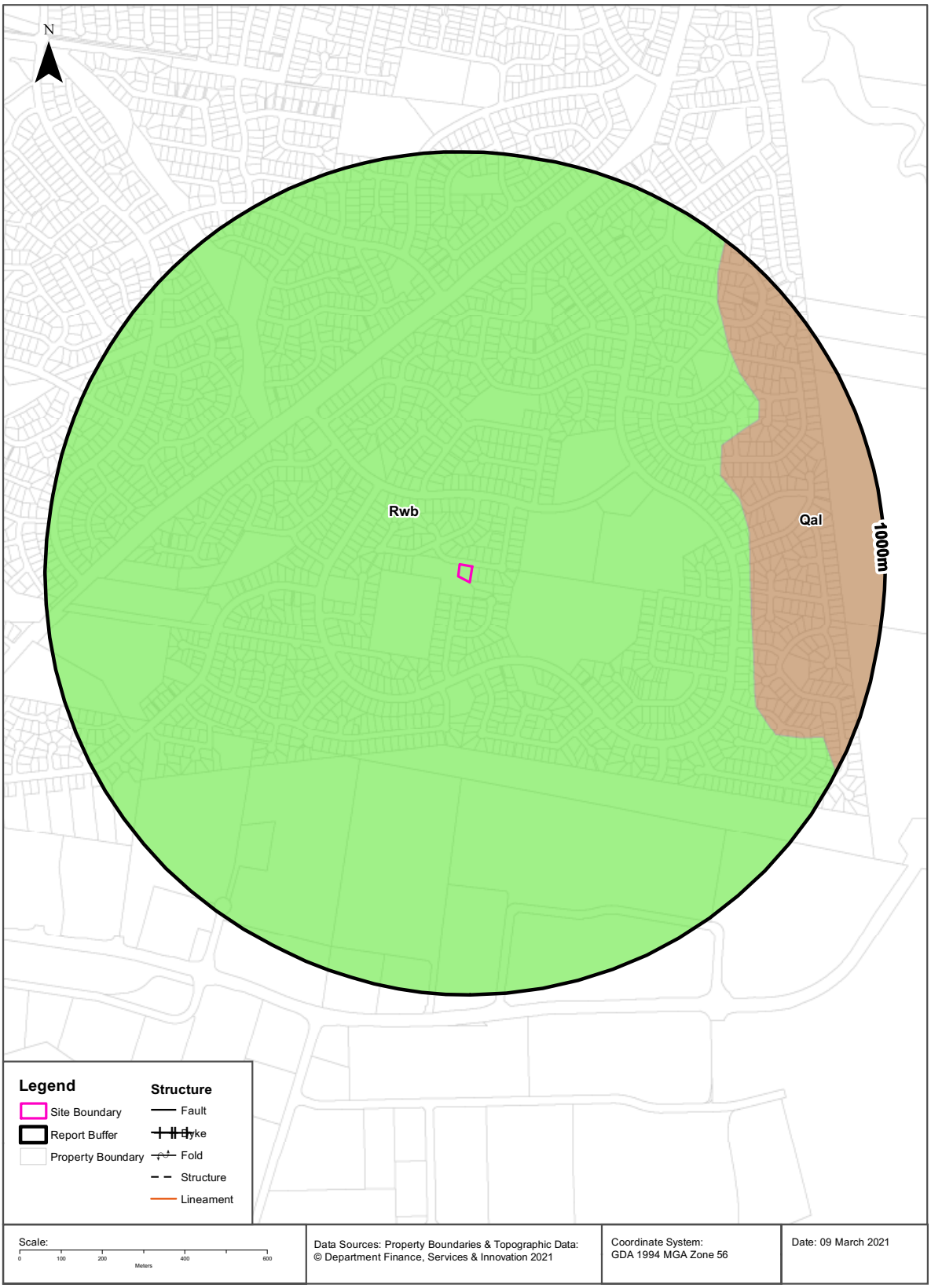
Driller's Logs

Drill log data relevant to the boreholes within the dataset buffer:

Groundwater No	Drillers Log	Distance	Direction
GW102674	0.00m-2.00m SHALE/GREY/BROWN 2.00m-9.00m SILTSTONE/SHALE 9.00m-12.00m SHALE/SILTSTONE 12.00m-25.00m SILTSTONE/SANDSTONE/SHALE 25.00m-32.00m SANDSTONE/SILTSTONE/SHALE 32.00m-37.40m SILTSTONE,SHALE 37.40m-40.00m SHALE,CARBONACEOUS 40.00m-48.00m SILTSTONE/SHALE 48.00m-53.00m SHALE/SILTSTONE/SANDSTONE 53.00m-56.00m SHALE 56.00m-60.00m SANDSTONE/SILTSTONE 60.00m-71.90m SHALE/SILTSTOINE	1718m	South West
GW102673	0.00m-3.00m FILL 3.00m-4.00m CLAY BROWN 4.00m-9.00m SILTSTONE/BROWN/CREAM 9.00m-10.00m SHALE/ GREY 10.00m-15.00m SILTSTONE/ GREY/FINE 15.00m-18.00m SHALE/GREY 18.00m-21.00m SANDSTONE/GREY 21.00m-25.30m SILTSTONE/SANDSTONE/GREY 25.30m-26.00m SILTSTONE 26.00m-27.30m SHALE 27.30m-30.30m SILTSTONE/SHALE/GREY 30.30m-31.80m SILTSTONE/SANDSTONE/SHALE 31.80m-40.00m SHALE 40.00m-48.00m SILTSTONE/SANDSTONE/SHALE	1851m	South West

Geology 1:100,000

11a Canopus Close, Erskine Park, NSW 2759



Geology

11a Canopus Close, Erskine Park, NSW 2759

Geological Units

What are the Geological Units onsite?

Symbol	Description	Unit Name	Group	Sub Group	Age	Dom Lith	Map Sheet	Dataset
Rwb	Shale, carbonaceous claystone,claystone, laminate, fine to medium-grained lithic sandstone, rare coal and tuff	Bringelly Shale	Wianamatta Group (undifferentiated)		Middle Triassic		Penrith	1:100,000

What are the Geological Units within the dataset buffer?

Symbol	Description	Unit Name	Group	Sub Group	Age	Dom Lith	Map Sheet	Dataset
Qal	Fine-grained sand, silt and clay				Quaternary		Penrith	1:100,000
Rwb	Shale, carbonaceous claystone,claystone, laminate, fine to medium-grained lithic sandstone, rare coal and tuff	Bringelly Shale	Wianamatta Group (undifferentiated)		Middle Triassic		Penrith	1:100,000

Geological Structures

What are the Geological Structures onsite?

Feature	Name	Description	Map Sheet	Dataset
No features				1:100,000

What are the Geological Structures within the dataset buffer?

Feature	Name	Description	Map Sheet	Dataset
No features				1:100,000

Naturally Occurring Asbestos Potential

11a Canopus Close, Erskine Park, NSW 2759

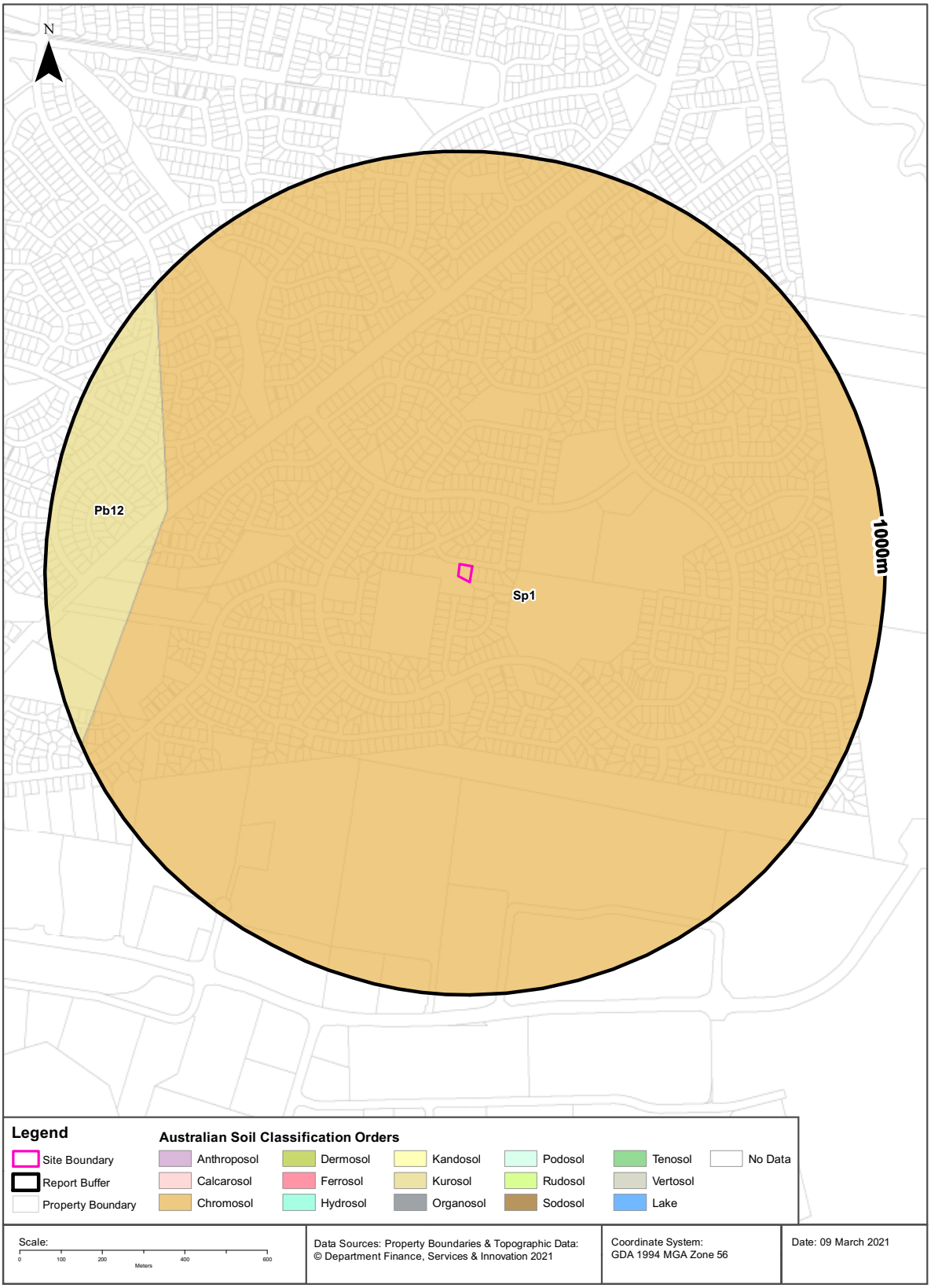
Naturally Occurring Asbestos Potential

Naturally Occurring Asbestos Potential within the dataset buffer:

Potential	Sym	Strat Name	Group	Formation	Scale	Min Age	Max Age	Rock Type	Dom Lith	Description	Dist	Dir
No records in buffer												

Atlas of Australian Soils

11a Canopus Close, Erskine Park, NSW 2759



Soils

11a Canopus Close, Erskine Park, NSW 2759

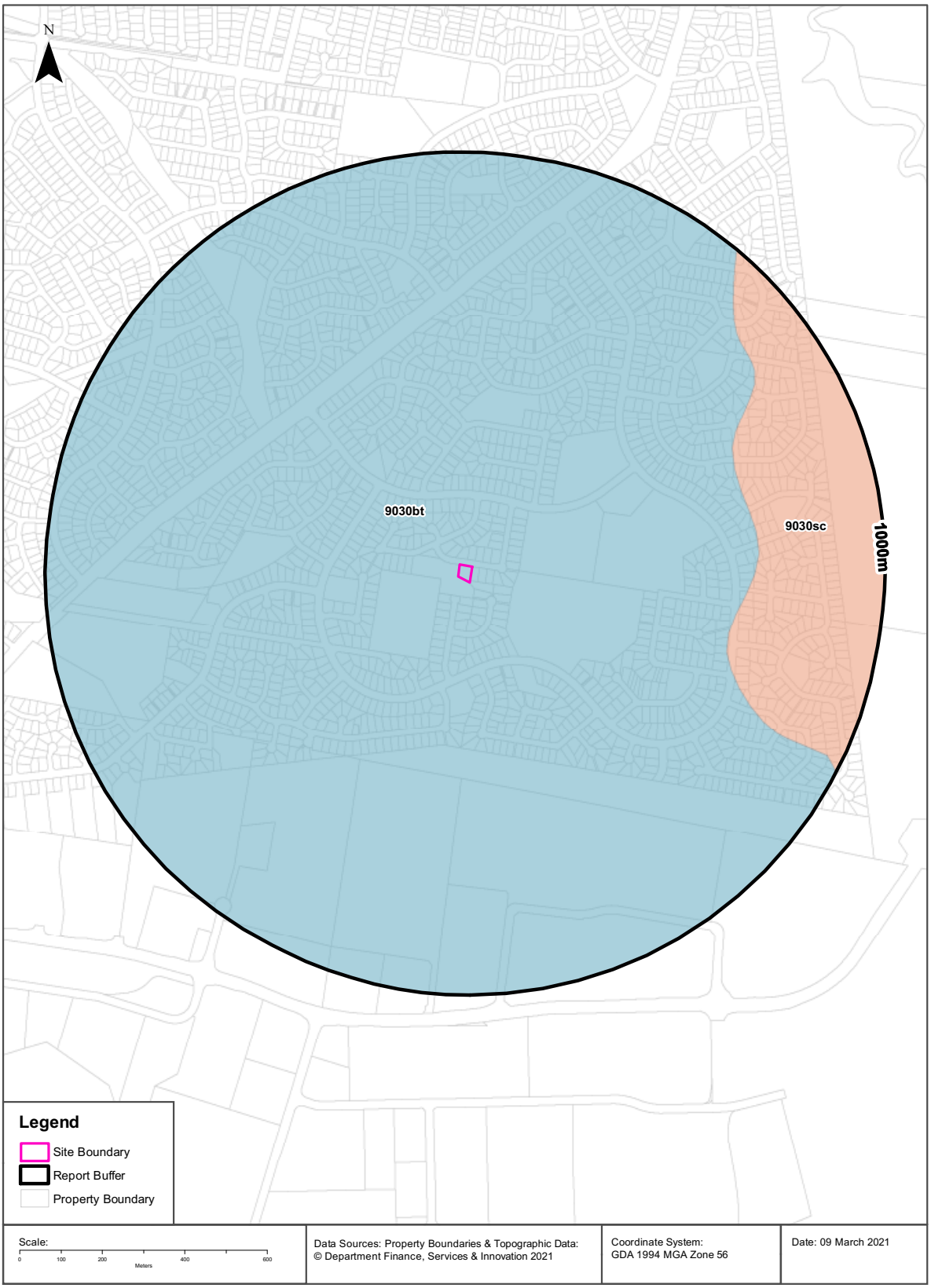
Atlas of Australian Soils

Soil mapping units and Australian Soil Classification orders within the dataset buffer:

Map Unit Code	Soil Order	Map Unit Description	Distance
Sp1	Chromosol	Gently undulating plain usually with a surface scatter of ironstone gravel: chief soils are hard acidic yellow soils (Dy2.61) on flat-topped ridges and higher situations generally and hard acidic yellow mottled soils (Dy3.41) or (Dy3.81) in lower-lying situations. They all commonly contain ironstone gravel through the profile. Associated are (Dy5.41) or (Dy5.81) soils, containing ironstone gravels; and shallow (Gn2.1) gravelly soils also with indurated materials below the solum. Iron-cemented and/or silica-cemented strata have been recorded in many areas below the soils. As mapped, areas of units X9, Pb12, and Tb35 may be included.	0m
Pb12	Kurosol	Gently rolling to rounded hilly country with some steep slopes and broad valleys: chief soils are hard acidic red soils (Dr2.21) with hard neutral and acidic yellow mottled soils (Dy3.42 and Dy3.41) on lower slopes and in valleys. Associated are small areas of various soils including (Gn3.54) on some ridges, (Dr3.31) on some slopes; (Dr2.23) in saddles and some mid-slope positions, and some low- lying swampy areas of (Uf6) soils and (Uc1.2) soils with peaty surfaces. Small areas of other soils such as (Db1.2) are likely throughout.	719m

Soil Landscapes of Central and Eastern NSW

11a Canopus Close, Erskine Park, NSW 2759



Soils

11a Canopus Close, Erskine Park, NSW 2759

Soil Landscapes of Central and Eastern NSW

What are the on-site Soil Landscapes?

Soil Code	Name
9030bt	Blacktown

What are the Soil Landscapes within the dataset buffer?

Soil Code	Name
9030bt	Blacktown
9030sc	South Creek

Acid Sulfate Soils

11a Canopus Close, Erskine Park, NSW 2759

Environmental Planning Instrument - Acid Sulfate Soils

What is the on-site Acid Sulfate Soil Plan Class that presents the largest environmental risk?

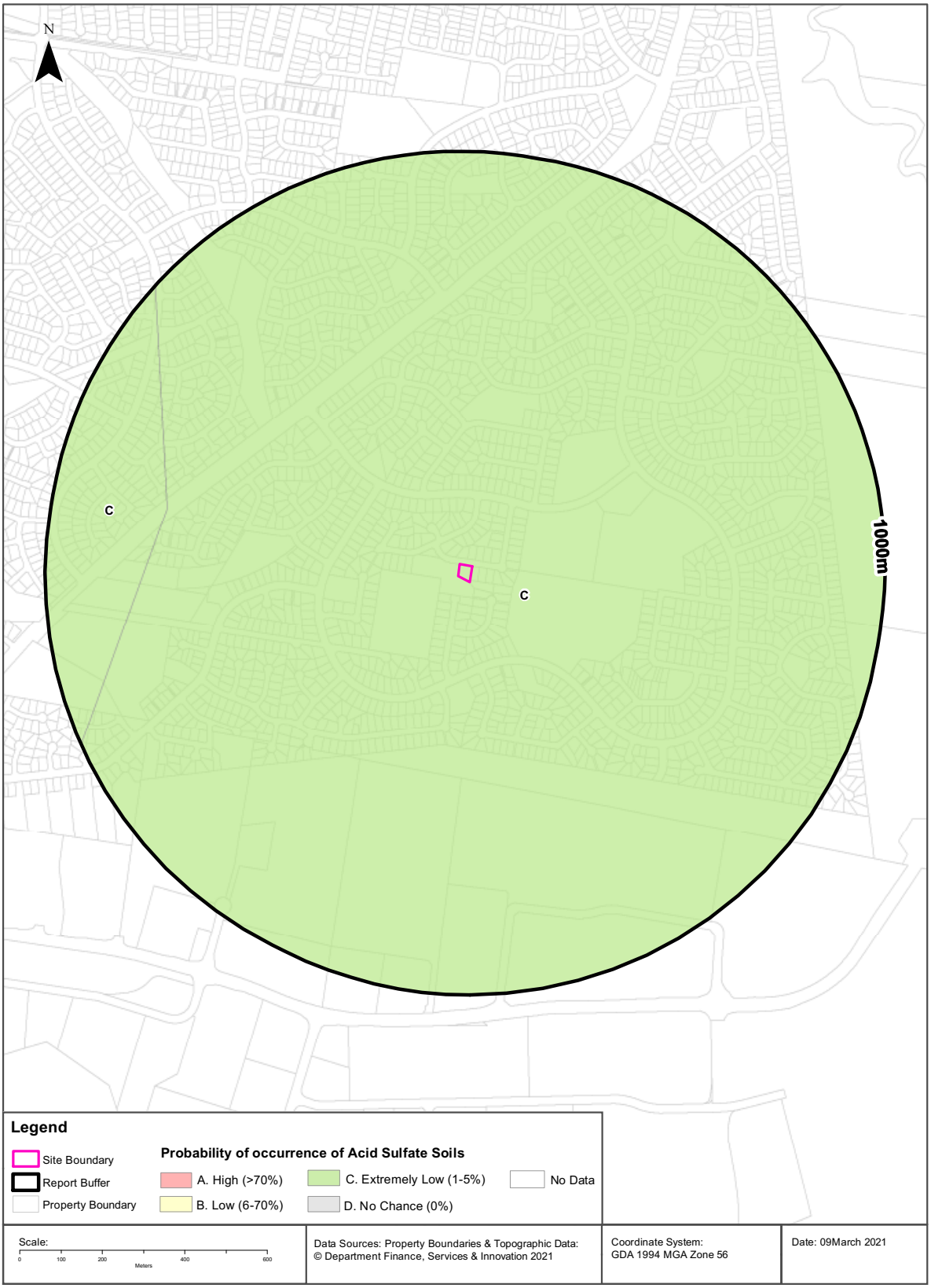
Soil Class	Description	EPI Name
N/A		

If the on-site Soil Class is 5, what other soil classes exist within 500m?

Soil Class	Description	EPI Name	Distance	Direction
N/A				

Atlas of Australian Acid Sulfate Soils

11a Canopus Close, Erskine Park, NSW 2759



Acid Sulfate Soils

11a Canopus Close, Erskine Park, NSW 2759

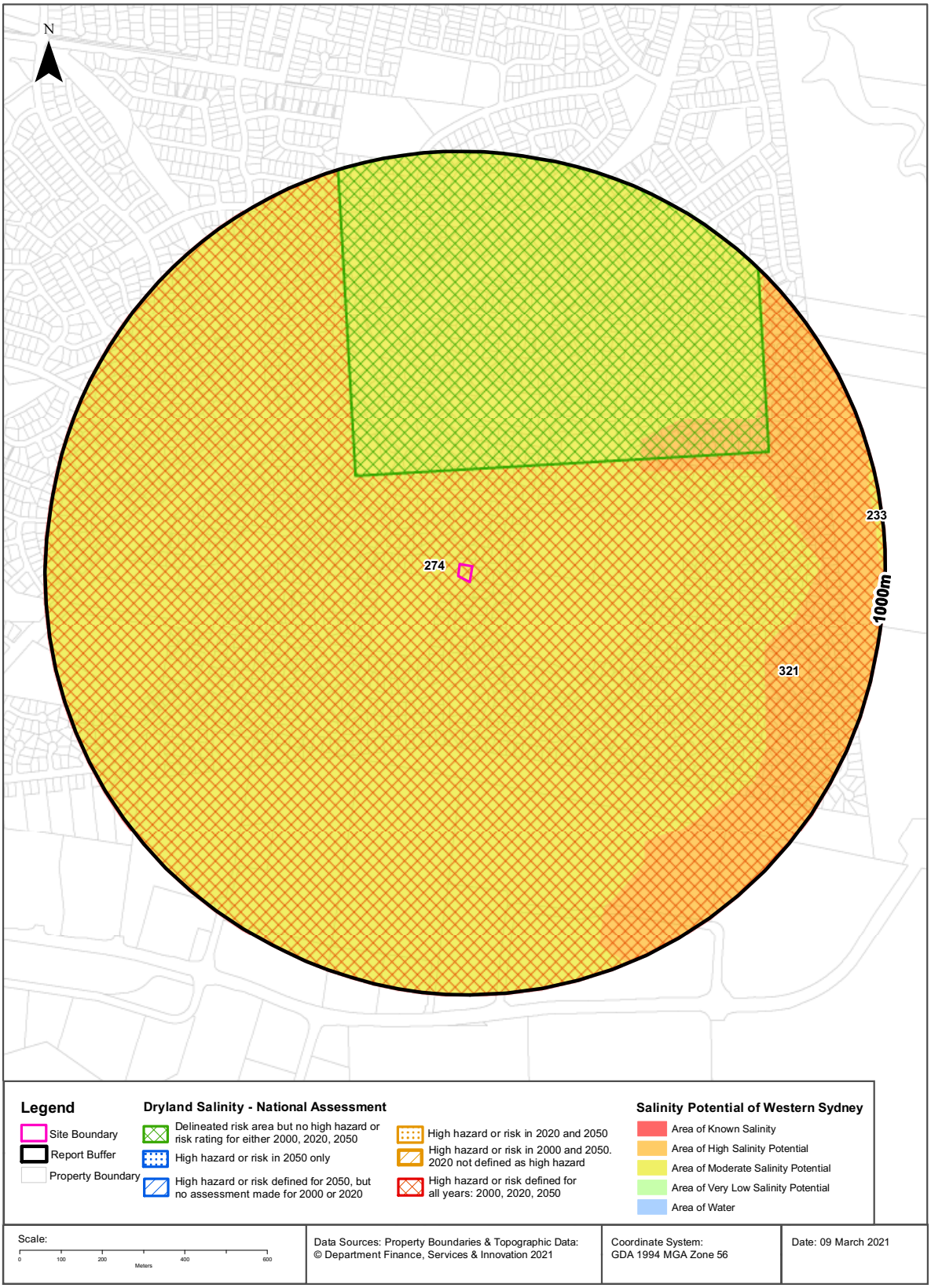
Atlas of Australian Acid Sulfate Soils

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

Dryland Salinity

11a Canopus Close, Erskine Park, NSW 2759



Dryland Salinity

11a Canopus Close, Erskine Park, NSW 2759

Dryland Salinity - National Assessment

Is there Dryland Salinity - National Assessment data onsite?

Yes

Is there Dryland Salinity - National Assessment data within the dataset buffer?

Yes

What Dryland Salinity assessments are given?

Assessment 2000	Assessment 2020	Assessment 2050	Distance	Direction
High hazard or risk	High hazard or risk	High hazard or risk	0m	Onsite
Delineated risk area but no high hazard or risk rating	Delineated risk area but no high hazard or risk rating	Delineated risk area but no high hazard or risk rating	227m	North

Dryland Salinity Data Source : National Land and Water Resources Audit
The Commonwealth and all suppliers of source data used to derive the maps of "Australia, Forecast Areas Containing Land of High Hazard or Risk of Dryland Salinity from 2000 to 2050" do not warrant the accuracy or completeness of information in this product. Any person using or relying upon such information does so on the basis that the Commonwealth and data suppliers shall bear no responsibility or liability whatsoever for any errors, faults, defects or omissions in the information. Any persons using this information do so at their own risk.
In many cases where a high risk is indicated, less than 100% of the area will have a high hazard or risk.

Dryland Salinity Potential of Western Sydney

Dryland Salinity Potential of Western Sydney within the dataset buffer?

Feature Id	Classification	Description	Distance	Direction
274	MODERATE	Area of Moderate Salinity Potential	0m	Onsite
321	HIGH	Area of High Salinity Potential	469m	North East
233	MODERATE	Area of Moderate Salinity Potential	978m	North East

Dryland Salinity Potential of Western Sydney Data Source : NSW Office of Environment and Heritage

Mining

11a Canopus Close, Erskine Park, NSW 2759

Mining Subsidence Districts

Mining Subsidence Districts within the dataset buffer:

District	Distance	Direction
There are no Mining Subsidence Districts within the report buffer		

Mining & Exploration Titles

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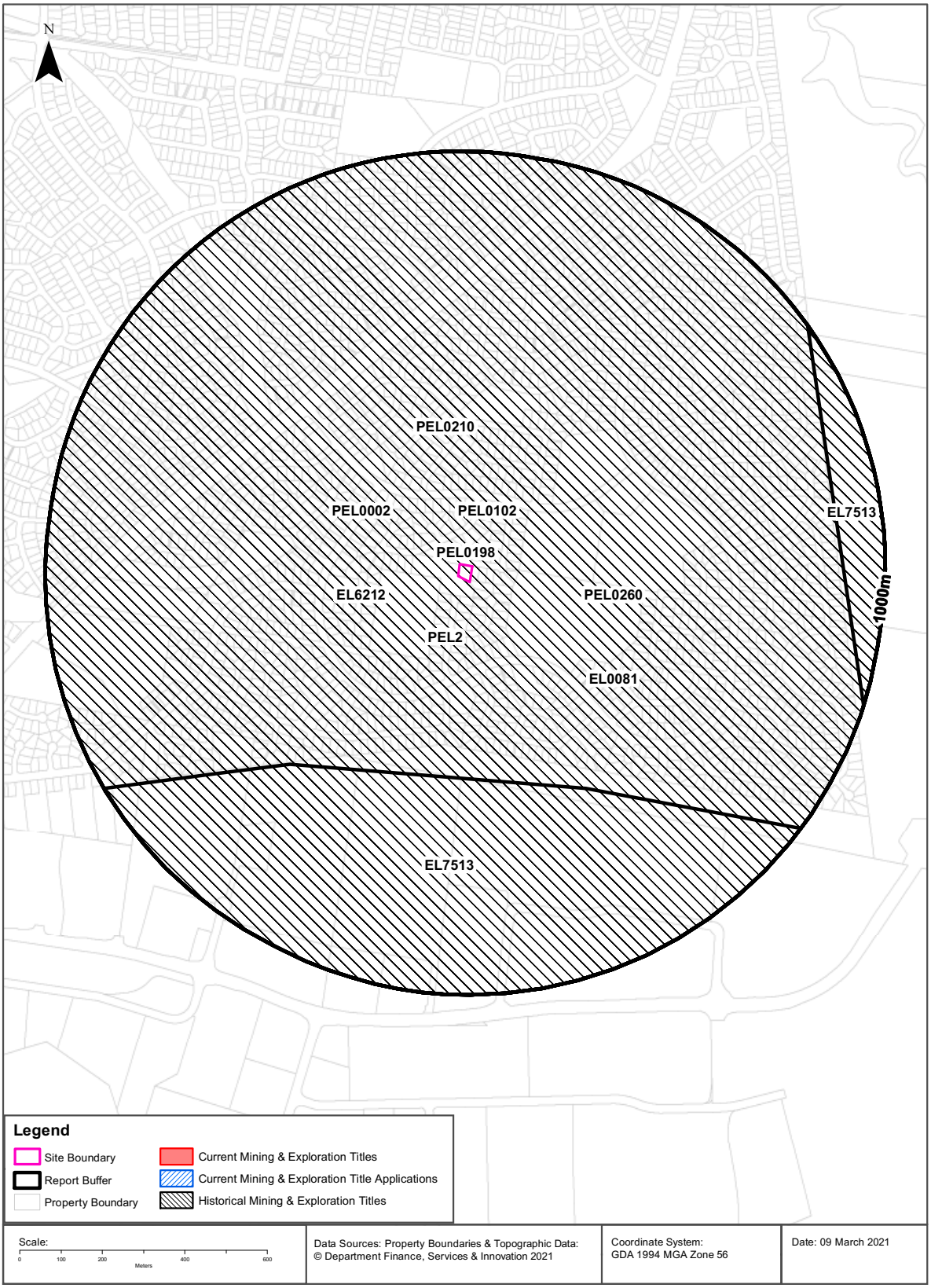

Mining

11a Canopus Close, Erskine Park, NSW 2759

Current Mining & Exploration Titles

Current Mining & Exploration Titles within the dataset buffer:

Title Ref	Holder	Grant Date	Expiry Date	Last Renewed	Operation	Resource	Minerals	Dist (m)	Dir'
N/A	No Records in Buffer								

Current Mining & Exploration Titles Data Source: © State of New South Wales through NSW Department of Industry

Current Mining & Exploration Title Applications

Current Mining & Exploration Title Applications within the dataset buffer:

Application Ref	Applicant	Application Date	Operation	Resource	Minerals	Dist (m)	Dir'
N/A	No Records in Buffer						

Current Mining & Exploration Title Applications Data Source: © State of New South Wales through NSW Department of Industry

Mining

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Historical Mining & Exploration Titles

Historical Mining & Exploration Titles within the dataset buffer:

Title Ref	Holder	Start Date	End Date	Resource	Minerals	Dist (m)	Dir'
EL0081	CONTINENTAL OIL CO OF AUSTRALIA LIMITED	01 Feb 1967	01 Feb 1968	MINERALS		0m	Onsite
EL6212	HOT ROCK ENERGY PTY LTD,LONGREACH OIL LIMITED	4 Mar 2004	3 Mar 2013	MINERALS	Geothermal	0m	Onsite
PEL0002	AGL UPSTREAM INVESTMENTS PTY LIMITED	29/03/1993	6/07/2015	PETROLEUM	Petroleum	0m	Onsite
PEL0102	AUSTRALIAN OIL AND GAS CORPORATION LTD			PETROLEUM	Petroleum	0m	Onsite
PEL0198	JOHN STREVENS (TERRIGAL) NL			PETROLEUM	Petroleum	0m	Onsite
PEL0210	THE AUSTRALIAN GAS LIGHT COMPANY (AGL), NORTH BULLI COLLIERIES PTY LTD			PETROLEUM	Petroleum	0m	Onsite
PEL0260	NORTH BULLI COLLIERIES PTY LTD, AGL PETROLEUM OPERATIONS PTY LTD, THE AUSTRALIAN GAS LIGHT CO.	9/09/1981	8/03/1993	PETROLEUM	Petroleum	0m	Onsite
PEL2	AGL UPSTREAM INVESTMENTS PTY LIMITED			MINERALS		0m	Onsite
EL7513	GRADIENT ENERGY LIMITED	7 Apr 2010	15 Apr 2011	MINERALS	Geothermal	475m	South

State Environmental Planning Policy

11a Canopus Close, Erskine Park, NSW 2759

State Significant Precincts

What SEPP State Significant Precincts exist within the dataset buffer?

Map Id	Precinct	EPI Name	Published Date	Commenced Date	Currency Date	Amendment	Distance	Direction
N/A	No Records in Buffer							

EPI Planning Zones

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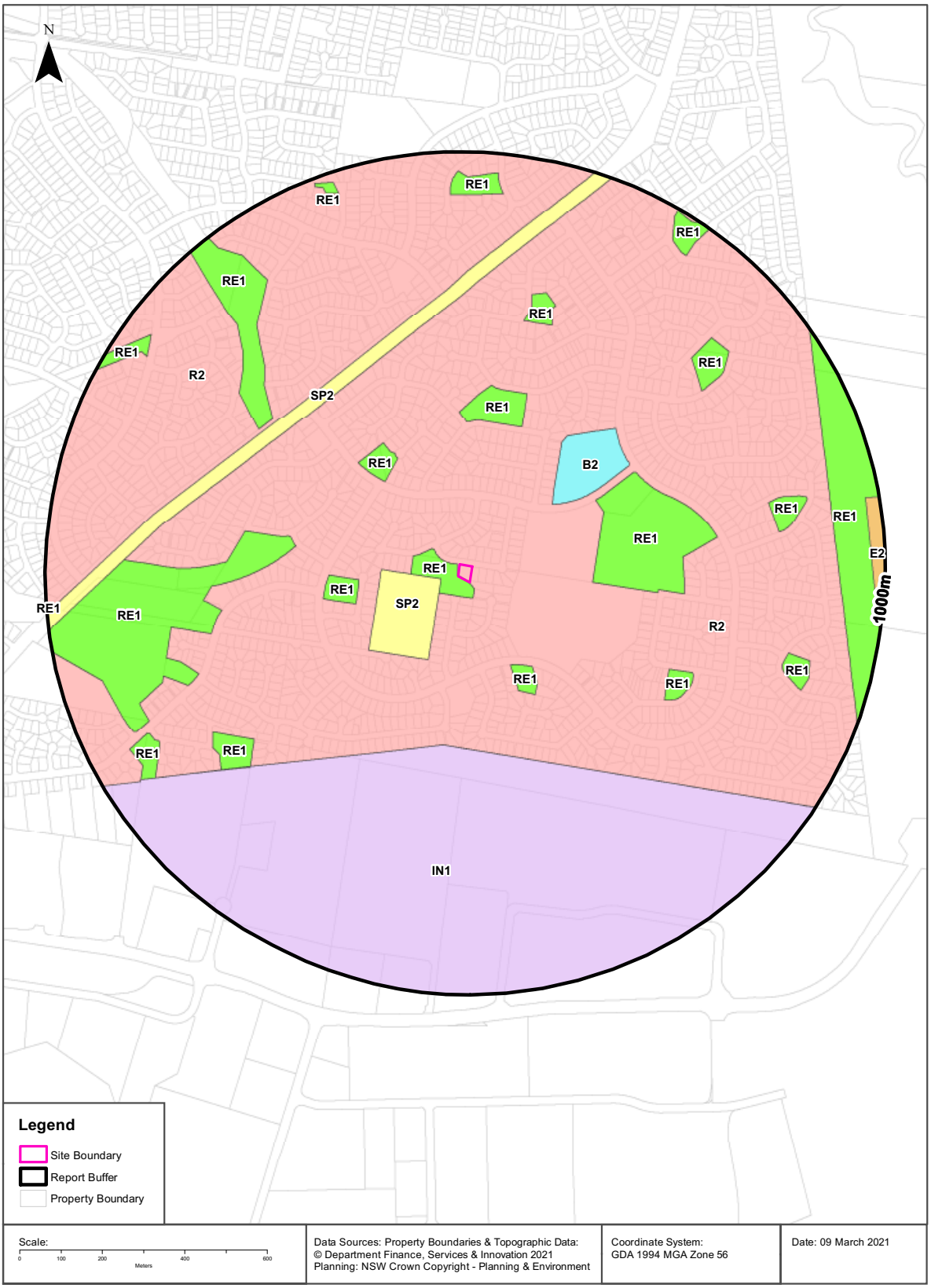

Environmental Planning Instrument

11a Canopus Close, Erskine Park, NSW 2759

Land Zoning

What EPI Land Zones exist within the dataset buffer?

Zone	Description	Purpose	EPI Name	Published Date	Commenced Date	Currency Date	Amendment	Distance	Direction
R2	Low Density Residential		Penrith Local Environmental Plan 2010	22/06/2018	22/06/2018	18/12/2020	Amendment No 19	0m	Onsite
RE1	Public Recreation		Penrith Local Environmental Plan 2010	25/02/2015	25/02/2015	18/12/2020	Amendment No 4	0m	Onsite
SP2	Infrastructure	Water Supply System	Penrith Local Environmental Plan 2010	25/02/2015	25/02/2015	18/12/2020	Amendment No 4	40m	South West
RE1	Public Recreation		Penrith Local Environmental Plan 2010	22/06/2018	22/06/2018	18/12/2020	Amendment No 19	223m	South East
RE1	Public Recreation		Penrith Local Environmental Plan 2010	25/02/2015	25/02/2015	18/12/2020	Amendment No 4	239m	West
B2	Local Centre		Penrith Local Environmental Plan 2010	25/02/2015	25/02/2015	18/12/2020	Amendment No 4	246m	North East
RE1	Public Recreation		Penrith Local Environmental Plan 2010	25/02/2015	25/02/2015	18/12/2020	Amendment No 4	270m	North West
RE1	Public Recreation		Penrith Local Environmental Plan 2010	25/02/2015	25/02/2015	18/12/2020	Amendment No 4	294m	East
RE1	Public Recreation		Penrith Local Environmental Plan 2010	22/06/2018	22/06/2018	18/12/2020	Amendment No 19	345m	North
IN1	General Industrial		State Environmental Planning Policy (Western Sydney Employment Area) 2009	08/11/2013	08/11/2013	11/06/2020	Blacktown Local Environmental Plan Amendment (Western Sydney Employment Area) 2013	398m	South West
RE1	Public Recreation		Penrith Local Environmental Plan 2010	22/06/2018	22/06/2018	18/12/2020	Amendment No 19	398m	West
SP2	Infrastructure	Classified Road	Penrith Local Environmental Plan 2010	11/06/2020	11/06/2020	18/12/2020	State Environmental Planning Policy (Western Sydney Employment Area) Amendment 2020	512m	North West
RE1	Public Recreation		Penrith Local Environmental Plan 2010	25/02/2015	25/02/2015	18/12/2020	Amendment No 4	526m	South East
R2	Low Density Residential		Penrith Local Environmental Plan 2010	22/06/2018	22/06/2018	18/12/2020	Amendment No 19	545m	North West
RE1	Public Recreation		Penrith Local Environmental Plan 2010	25/02/2015	25/02/2015	18/12/2020	Amendment No 4	573m	North West
RE1	Public Recreation		Penrith Local Environmental Plan 2010	25/02/2015	25/02/2015	18/12/2020	Amendment No 4	609m	North
RE1	Public Recreation		Penrith Local Environmental Plan 2010	25/02/2015	25/02/2015	18/12/2020	Amendment No 4	631m	South West
RE1	Public Recreation		Penrith Local Environmental Plan 2010	25/02/2015	25/02/2015	18/12/2020	Amendment No 4	702m	North East
RE1	Public Recreation		Penrith Local Environmental Plan 2010	25/02/2015	25/02/2015	18/12/2020	Amendment No 4	734m	East
RE1	Public Recreation		Penrith Local Environmental Plan 2010	25/02/2015	25/02/2015	18/12/2020	Amendment No 4	783m	East
RE1	Public Recreation		Penrith Local Environmental Plan 2010	25/02/2015	25/02/2015	18/12/2020	Amendment No 4	825m	South West
RE1	Public Recreation		Penrith Local Environmental Plan 2010	22/09/2010	22/09/2010	18/12/2020		880m	East

Zone	Description	Purpose	EPI Name	Published Date	Commenced Date	Currency Date	Amendment	Distance	Direction
RE1	Public Recreation		Penrith Local Environmental Plan 2010	25/02/2015	25/02/2015	18/12/2020	Amendment No 4	897m	North
RE1	Public Recreation		Penrith Local Environmental Plan 2010	25/02/2015	25/02/2015	18/12/2020	Amendment No 4	910m	North West
RE1	Public Recreation		Penrith Local Environmental Plan 2010	25/02/2015	25/02/2015	18/12/2020	Amendment No 4	914m	North East
RE1	Public Recreation		Penrith Local Environmental Plan 2010	25/02/2015	25/02/2015	18/12/2020	Amendment No 4	946m	North
E2	Environmental Conservation		Penrith Local Environmental Plan 2010	22/09/2010	22/09/2010	18/12/2020		965m	East
RE1	Public Recreation		Penrith Local Environmental Plan 2010	25/02/2015	25/02/2015	18/12/2020	Amendment No 4	984m	West

Heritage

11a Canopus Close, Erskine Park, NSW 2759

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
N/A	No records in buffer							

Heritage Data Source: Australian Government Department of the Environment and Energy - Heritage Branch
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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
N/A	No records in buffer							

Heritage Data Source: Australian Government Department of the Environment and Energy - Heritage Branch
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State Heritage Register - Curtilages

What are the State Heritage Register Items located within the dataset buffer?

Map Id	Name	Address	LGA	Listing Date	Listing No	Plan No	Distance	Direction
N/A	No records in buffer							

Heritage Data Source: NSW Crown Copyright - Office of Environment & Heritage
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Environmental Planning Instrument - Heritage

What are the EPI Heritage Items located within the dataset buffer?

Map Id	Name	Classification	Significance	EPI Name	Published Date	Commenced Date	Currency Date	Distance	Direction
N/A	No records in buffer								

Heritage Data Source: NSW Crown Copyright - Planning & Environment
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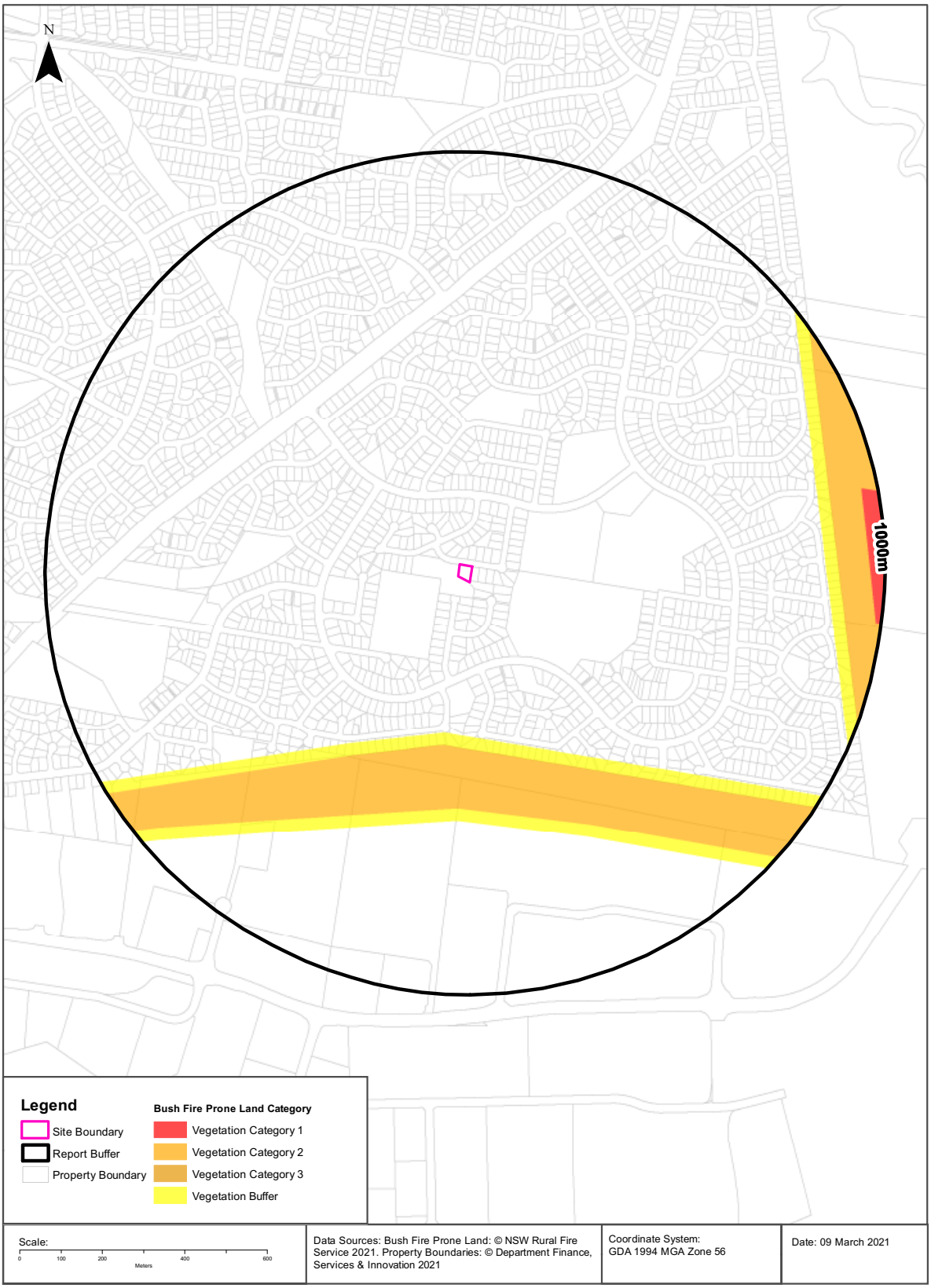
Natural Hazards - Bush Fire Prone Land

11a Canopus Close, Erskine Park, NSW 2759



Natural Hazards

11a Canopus Close, Erskine Park, NSW 2759

Bush Fire Prone Land

What are the nearest Bush Fire Prone Land Categories that exist within the dataset buffer?

Bush Fire Prone Land Category	Distance	Direction
Vegetation Buffer	367m	North West
Vegetation Category 2	397m	South West
Vegetation Category 1	956m	North East

Ecological Constraints - Remnant Vegetation of the Cumberland Plain

11a Canopus Close, Erskine Park, NSW 2759

Ecological Constraints

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Remnant Vegetation of the Cumberland Plain

What remnant vegetation of the Cumberland Plain exists within the dataset buffer?

Description	Crown Cover	Distance	Direction
10 - Shale Plains Woodland	Crown cover greater than 10%	0m	Onsite
10 - Shale Plains Woodland	Crown cover less than 10% (urban areas)	0m	Onsite
10 - Shale Plains Woodland	Crown cover less than 10%	271m	North West
11 - Alluvial Woodland	Crown cover less than 10%	844m	South East

Ramsar Wetlands

What Ramsar Wetland areas exist within the dataset buffer?

Map Id	Ramsar Name	Wetland Name	Designation Date	Source	Distance	Direction
N/A	No records in buffer					

Ecological Constraints - Groundwater Dependent Ecosystems Atlas

11a Canopus Close, Erskine Park, NSW 2759

Ecological Constraints

11a Canopus Close, Erskine Park, NSW 2759

Groundwater Dependent Ecosystems Atlas

Type	GDE Potential	Geomorphology	Ecosystem Type	Aquifer Geology	Distance
Terrestrial	Moderate potential GDE - from national assessment	Undulating to low hilly country, mainly on shale.	Vegetation	Consolidated sedimentary	0m
Terrestrial	High potential GDE - from national assessment	Undulating to low hilly country, mainly on shale.	Vegetation	Consolidated sedimentary	847m

Ecological Constraints - Inflow Dependent Ecosystems Likelihood

11a Canopus Close, Erskine Park, NSW 2759

Ecological Constraints

11a Canopus Close, Erskine Park, NSW 2759

Inflow Dependent Ecosystems Likelihood

Type	IDE Likelihood	Geomorphology	Ecosystem Type	Aquifer Geology	Distance
Terrestrial	6	Undulating to low hilly country, mainly on shale.	Vegetation	Consolidated sedimentary	0m
Terrestrial	9	Undulating to low hilly country, mainly on shale.	Vegetation	Consolidated sedimentary	847m
Terrestrial	10	Undulating to low hilly country, mainly on shale.	Vegetation	Consolidated sedimentary	908m
Terrestrial	8	Undulating to low hilly country, mainly on shale.	Vegetation	Unconsolidated sedimentary	999m

Ecological Constraints

11a Canopus Close, Erskine Park, NSW 2759

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	Migratory Species Agreements
Animalia	Amphibia	Litoria aurea	Green and Golden Bell Frog	Endangered	Not Sensitive	Vulnerable	
Animalia	Aves	Anseranas semipalmata	Magpie Goose	Vulnerable	Not Sensitive	Not Listed	
Animalia	Aves	Anthochaera phrygia	Regent Honeyeater	Critically Endangered	Not Sensitive	Critically Endangered	
Animalia	Aves	Apus pacificus	Fork-tailed Swift	Not Listed	Not Sensitive	Not Listed	ROKAMBA;CAMBA; JAMBA
Animalia	Aves	Artamus cyanopterus cyanopterus	Dusky Woodswallow	Vulnerable	Not Sensitive	Not Listed	
Animalia	Aves	Burhinus grallarius	Bush Stone-curlew	Endangered	Not Sensitive	Not Listed	
Animalia	Aves	Calidris acuminata	Sharp-tailed Sandpiper	Not Listed	Not Sensitive	Not Listed	ROKAMBA;CAMBA; JAMBA
Animalia	Aves	Callocephalon fimbriatum	Gang-gang Cockatoo	Vulnerable	Category 3	Not Listed	
Animalia	Aves	Calyptorhynchus banksii samueli	Red-tailed Black-Cockatoo (inland subspecies)	Vulnerable	Category 2	Not Listed	
Animalia	Aves	Calyptorhynchus lathami	Glossy Black-Cockatoo	Vulnerable	Category 2	Not Listed	
Animalia	Aves	Certhionyx variegatus	Pied Honeyeater	Vulnerable	Not Sensitive	Not Listed	
Animalia	Aves	Chthonicola sagittata	Speckled Warbler	Vulnerable	Not Sensitive	Not Listed	
Animalia	Aves	Climacteris picumnus victoriae	Brown Treecreeper (eastern subspecies)	Vulnerable	Not Sensitive	Not Listed	
Animalia	Aves	Daphoenositta chrysoptera	Varied Sittella	Vulnerable	Not Sensitive	Not Listed	
Animalia	Aves	Ephippiorhynchus asiaticus	Black-necked Stork	Endangered	Not Sensitive	Not Listed	
Animalia	Aves	Gallinago hardwickii	Latham's Snipe	Not Listed	Not Sensitive	Not Listed	ROKAMBA;JAMBA
Animalia	Aves	Glossopsitta pusilla	Little Lorikeet	Vulnerable	Not Sensitive	Not Listed	
Animalia	Aves	Haliaeetus leucogaster	White-bellied Sea-Eagle	Vulnerable	Not Sensitive	Not Listed	
Animalia	Aves	Hieraaetus morphnoides	Little Eagle	Vulnerable	Not Sensitive	Not Listed	
Animalia	Aves	Hirundapus caudacutus	White-throated Needletail	Not Listed	Not Sensitive	Vulnerable	ROKAMBA;CAMBA; JAMBA
Animalia	Aves	Ixobrychus flavicollis	Black Bittern	Vulnerable	Not Sensitive	Not Listed	
Animalia	Aves	Lathamus discolor	Swift Parrot	Endangered	Category 3	Critically Endangered	
Animalia	Aves	Lophoictinia isura	Square-tailed Kite	Vulnerable	Category 3	Not Listed	
Animalia	Aves	Melithreptus gularis gularis	Black-chinned Honeyeater (eastern subspecies)	Vulnerable	Not Sensitive	Not Listed	
Animalia	Aves	Ninox strenua	Powerful Owl	Vulnerable	Category 3	Not Listed	

Kingdom	Class	Scientific	Common	NSW Conservation Status	NSW Sensitivity Class	Federal Conservation Status	Migratory Species Agreements
Animalia	Aves	Oxyura australis	Blue-billed Duck	Vulnerable	Not Sensitive	Not Listed	
Animalia	Aves	Petroica boodang	Scarlet Robin	Vulnerable	Not Sensitive	Not Listed	
Animalia	Aves	Petroica phoenicea	Flame Robin	Vulnerable	Not Sensitive	Not Listed	
Animalia	Aves	Pezoporus wallicus wallicus	Eastern Ground Parrot	Vulnerable	Category 3	Not Listed	
Animalia	Aves	Pluvialis squatarola	Grey Plover	Not Listed	Not Sensitive	Not Listed	ROKAMBA;CAMBA; JAMBA
Animalia	Aves	Polytelis swainsonii	Superb Parrot	Vulnerable	Category 3	Vulnerable	
Animalia	Aves	Rostratula australis	Australian Painted Snipe	Endangered	Not Sensitive	Endangered	
Animalia	Aves	Stagonopleura guttata	Diamond Firetail	Vulnerable	Not Sensitive	Not Listed	
Animalia	Aves	Stictonetta naevosa	Freckled Duck	Vulnerable	Not Sensitive	Not Listed	
Animalia	Aves	Todiramphus chloris	Collared Kingfisher	Vulnerable	Not Sensitive	Not Listed	
Animalia	Aves	Tringa nebularia	Common Greenshank	Not Listed	Not Sensitive	Not Listed	ROKAMBA;CAMBA; JAMBA
Animalia	Aves	Tyto novaehollandiae	Masked Owl	Vulnerable	Category 3	Not Listed	
Animalia	Gastropoda	Meridolum corneovirens	Cumberland Plain Land Snail	Endangered	Not Sensitive	Not Listed	
Animalia	Mammalia	Dasyurus maculatus	Spotted-tailed Quoll	Vulnerable	Not Sensitive	Endangered	
Animalia	Mammalia	Falsistrellus tasmaniensis	Eastern False Pipistrelle	Vulnerable	Not Sensitive	Not Listed	
Animalia	Mammalia	Micronomus norfolkensis	Eastern Coastal Free-tailed Bat	Vulnerable	Not Sensitive	Not Listed	
Animalia	Mammalia	Miniopterus australis	Little Bent-winged Bat	Vulnerable	Not Sensitive	Not Listed	
Animalia	Mammalia	Miniopterus orianae oceanensis	Large Bent-winged Bat	Vulnerable	Not Sensitive	Not Listed	
Animalia	Mammalia	Myotis macropus	Southern Myotis	Vulnerable	Not Sensitive	Not Listed	
Animalia	Mammalia	Phascolarctos cinereus	Koala	Vulnerable	Not Sensitive	Vulnerable	
Animalia	Mammalia	Pteropus poliocephalus	Grey-headed Flying-fox	Vulnerable	Not Sensitive	Vulnerable	
Animalia	Mammalia	Saccolaimus flaviventris	Yellow-bellied Sheathtail-bat	Vulnerable	Not Sensitive	Not Listed	
Animalia	Mammalia	Scoteanax rueppellii	Greater Broad-nosed Bat	Vulnerable	Not Sensitive	Not Listed	
Animalia	Mammalia	Vespadelus troughtoni	Eastern Cave Bat	Vulnerable	Not Sensitive	Not Listed	
Animalia	Reptilia	Aspidites ramsayi	Woma	Vulnerable	Not Sensitive	Not Listed	
Animalia	Reptilia	Caretta caretta	Loggerhead Turtle	Endangered	Not Sensitive	Endangered	
Animalia	Reptilia	Chelonia mydas	Green Turtle	Vulnerable	Not Sensitive	Vulnerable	
Animalia	Reptilia	Tiliqua occipitalis	Western Blue-tongued Lizard	Vulnerable	Not Sensitive	Not Listed	
Plantae	Flora	Acacia pubescens	Downy Wattle	Vulnerable	Not Sensitive	Vulnerable	
Plantae	Flora	Allocasuarina glareicola		Endangered	Not Sensitive	Endangered	
Plantae	Flora	Callistemon linearifolius	Netted Bottle Brush	Vulnerable	Category 3	Not Listed	
Plantae	Flora	Cynanchum elegans	White-flowered Wax Plant	Endangered	Not Sensitive	Endangered	
Plantae	Flora	Dillwynia tenuifolia		Endangered Population, Vulnerable	Not Sensitive	Not Listed	
Plantae	Flora	Dillwynia tenuifolia		Vulnerable	Not Sensitive	Not Listed	

Kingdom	Class	Scientific	Common	NSW Conservation Status	NSW Sensitivity Class	Federal Conservation Status	Migratory Species Agreements
Plantae	Flora	Eucalyptus leucoxylon subsp. pruinosa	Yellow Gum	Vulnerable	Not Sensitive	Not Listed	
Plantae	Flora	Eucalyptus nicholii	Narrow-leaved Black Peppermint	Vulnerable	Not Sensitive	Vulnerable	
Plantae	Flora	Eucalyptus scoparia	Wallangarra White Gum	Endangered	Not Sensitive	Vulnerable	
Plantae	Flora	Grevillea juniperina subsp. juniperina	Juniper-leaved Grevillea	Vulnerable	Not Sensitive	Not Listed	
Plantae	Flora	Grevillea parviflora subsp. parviflora	Small-flower Grevillea	Vulnerable	Not Sensitive	Vulnerable	
Plantae	Flora	Hibbertia puberula		Endangered	Not Sensitive	Not Listed	
Plantae	Flora	Isotoma fluviatilis subsp. fluviatilis		Not Listed	Not Sensitive	Extinct	
Plantae	Flora	Macadamia integrifolia	Macadamia Nut	Not Listed	Not Sensitive	Vulnerable	
Plantae	Flora	Marsdenia viridiflora subsp. viridiflora	Native Pear	Endangered Population	Not Sensitive	Not Listed	
Plantae	Flora	Micromyrtus minutiflora		Endangered	Not Sensitive	Vulnerable	
Plantae	Flora	Persoonia nutans	Nodding Geebung	Endangered	Not Sensitive	Endangered	
Plantae	Flora	Pilularia novae-hollandiae	Austral Pillwort	Endangered	Category 3	Not Listed	
Plantae	Flora	Pimelea curviflora var. curviflora		Vulnerable	Not Sensitive	Vulnerable	
Plantae	Flora	Pimelea spicata	Spiked Rice-flower	Endangered	Not Sensitive	Endangered	
Plantae	Flora	Pterostylis saxicola	Sydney Plains Greenhood	Endangered	Category 2	Endangered	
Plantae	Flora	Pultenaea parviflora		Endangered	Not Sensitive	Vulnerable	
Plantae	Flora	Senna acclinis	Rainforest Cassia	Endangered	Not Sensitive	Not Listed	
Plantae	Flora	Syzygium paniculatum	Magenta Lilly Pilly	Endangered	Not Sensitive	Vulnerable	

Data does not include NSW category 1 sensitive species.

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

USE OF REPORT - APPLICABLE TERMS

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    (b) any loss of profit, loss of revenue, loss of interest, loss of data, loss of goodwill or loss of business opportunities, business interruption arising directly or indirectly out of or in relation to the Report or these Terms,

    irrespective of how that liability arises including in contract or tort, liability under indemnity or for any other common law, equitable or statutory cause of action or otherwise.
12. These Terms are subject to New South Wales law.

APPENDIX IV

COUNCIL RECORDS

Chris Chen

From: Karin Fuller <Karin.Fuller@penrith.city>
Sent: Monday, 15 March 2021 12:26 PM
To: GTX
Subject: Acknowledged consent for various properties from GETEX
Attachments: Consent for Park, Carpark & Netball Courts at Lot 1107 29 Chameleon Drive Erskine Park File No DA00-1459 20-06-2000.pdf

Good Afternoon

I refer to your open access application under the Government Information (Public Access) Act 2009 (GIPA), requesting access to information relating to various properties listed below:

11 Ashwick Circuit ST CLAIR – nothing found for property.
11a Canopus Close ERSKINE PARK – nothing found for property.
27a Phoenix Crescent ERSKINE PARK – nothing found
25-29 Chameleon Drive ERSKINE PARK – consent only found - attached
9a Dilga Crescent ERSKINE PARK – nothing found

On 15 March 2021, I determined to provide access to the requested information under Section 6 of the GIPA Act (Open Access). Copies of information, which I have determined to release, are attached.

I can be contacted on 47 328220 or email karin.fuller@penrith.city should you require further information on this matter.

Kind regards

Karin Fuller
Administration Officer

E Karin.Fuller@penrith.city
T +612 4732 8220 | F +612 4732 7958 | M
PO Box 60, PENRITH NSW 2751
www.visitpenrith.com.au
www.penrithcity.nsw.gov.au

PENRITH
CITY COUNCIL

APPENDIX V

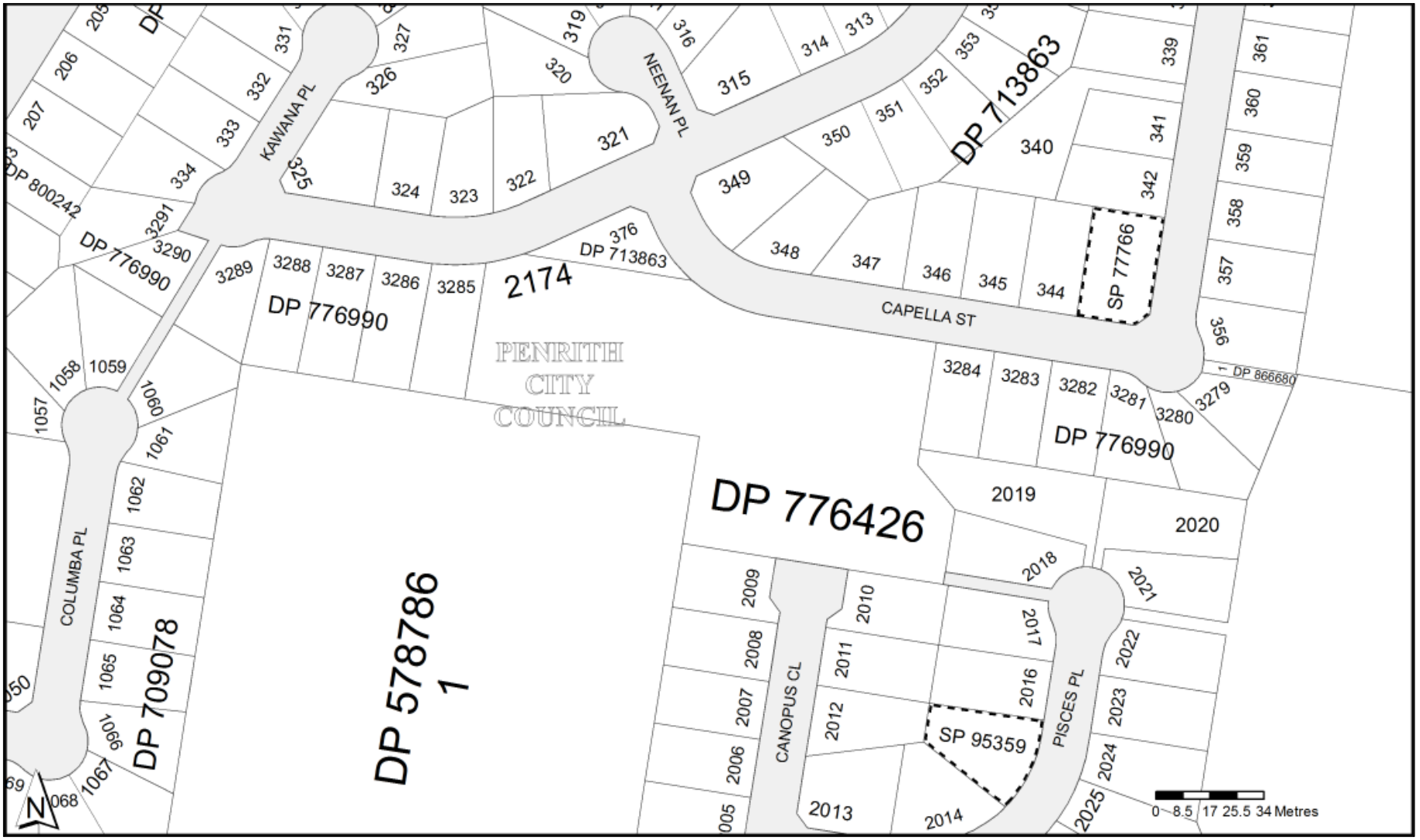
DP PLAN

LAND REGISTRY SERVICES

Cadastral Records Enquiry Report : Lot 2174 DP 776426

Ref : NOUSER

Locality : ERSKINE PARK
Parish : MELVILLE
LGA : PENRITH
County : CUMBERLAND

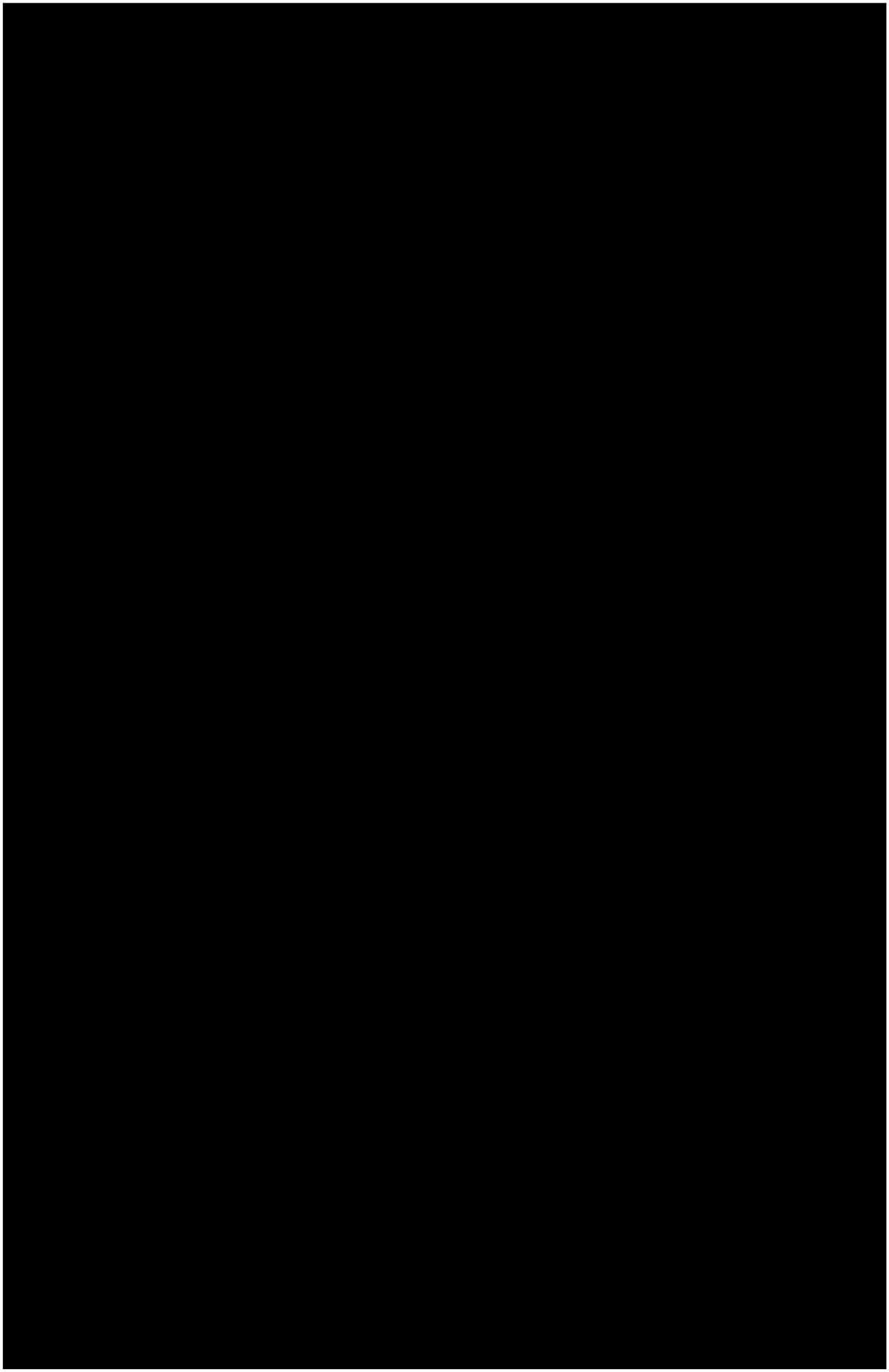


Report Generated 2:47:16 PM, 8 March, 2021

This information is provided as a searching aid only.Whilst every endeavour is made to ensure that current map, plan and titling information is accurately reflected, the Registrar General cannot guarantee the information provided. For ALL ACTIVITY PRIOR TO SEPTEMBER 2002 you must refer to the RGs Charting and Reference Maps

	Status	Surv/Comp	Purpose
SP77766			
DP713863	HISTORICAL	SURVEY	SUBDIVISION
DP1103051	HISTORICAL	SURVEY	REDEFINITION
SP95359			
DP776426	HISTORICAL	SURVEY	SUBDIVISION
DP1259183	HISTORICAL	SURVEY	REDEFINITION

Plan	Surv/Comp	Purpose
DP578786	SURVEY	RESUMPTION OR ACQUISITION
DP707615	SURVEY	SUBDIVISION
DP709078	SURVEY	SUBDIVISION
DP713863	SURVEY	SUBDIVISION
DP776426	SURVEY	SUBDIVISION
DP776990	SURVEY	SUBDIVISION
DP800242	COMPILATION	SUBDIVISION
DP845272	SURVEY	SUBDIVISION
DP866680	COMPILATION	ROADS ACT, 1993
SP77766	COMPILATION	STRATA PLAN
SP95359	COMPILATION	STRATA PLAN
SP95359	UNRESEARCHED	STRATA SUBDIVISION PLAN



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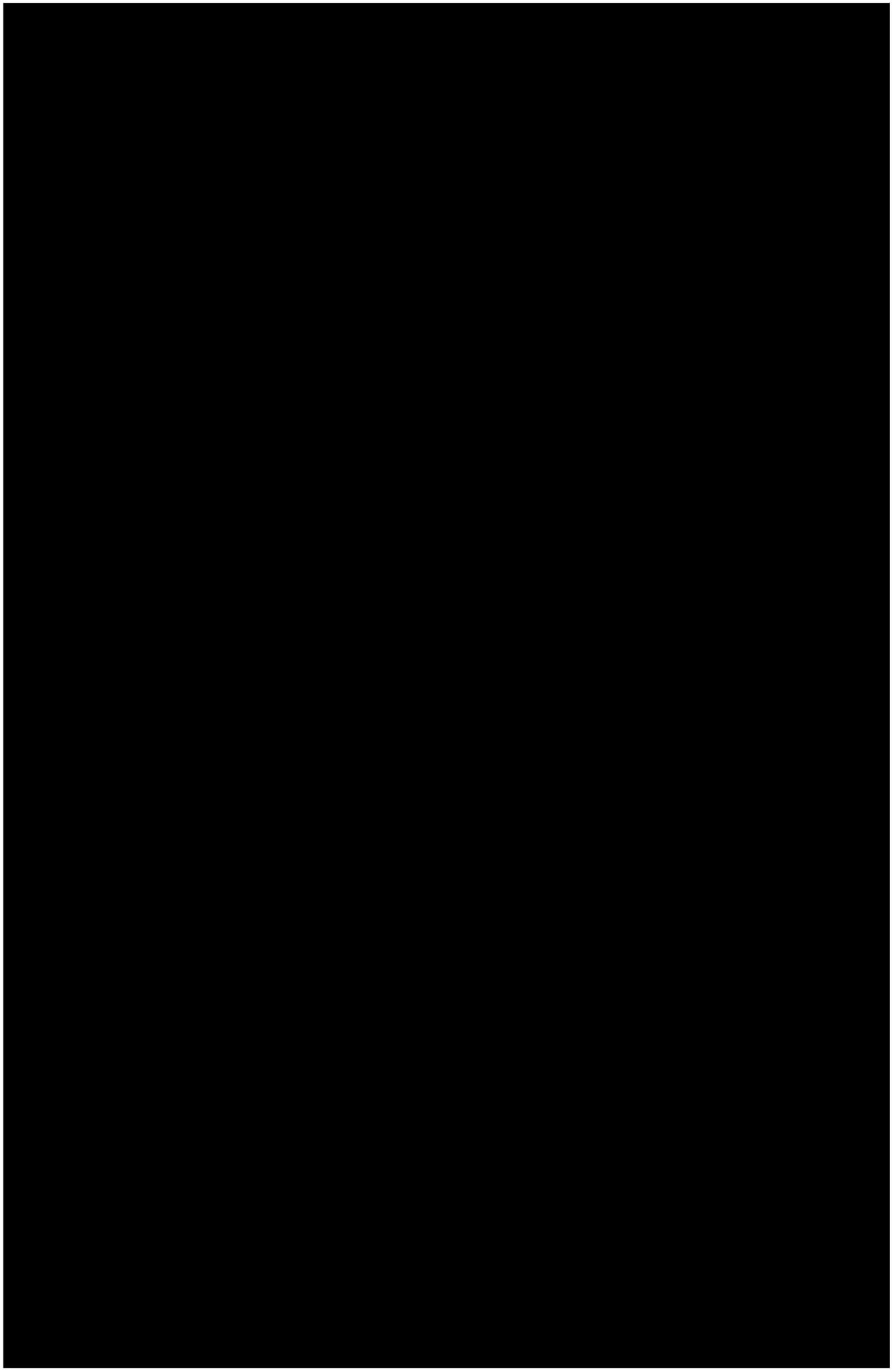
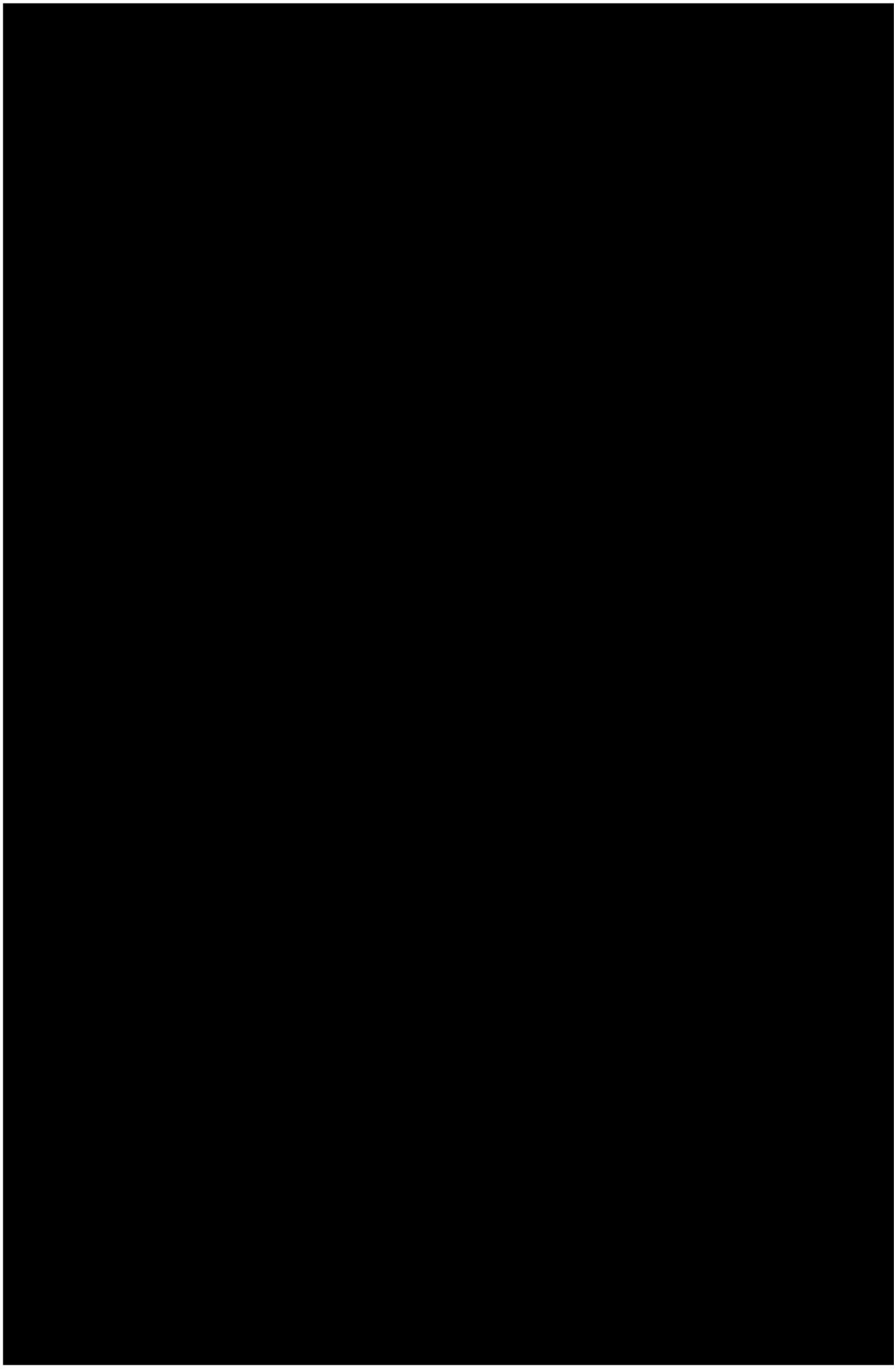
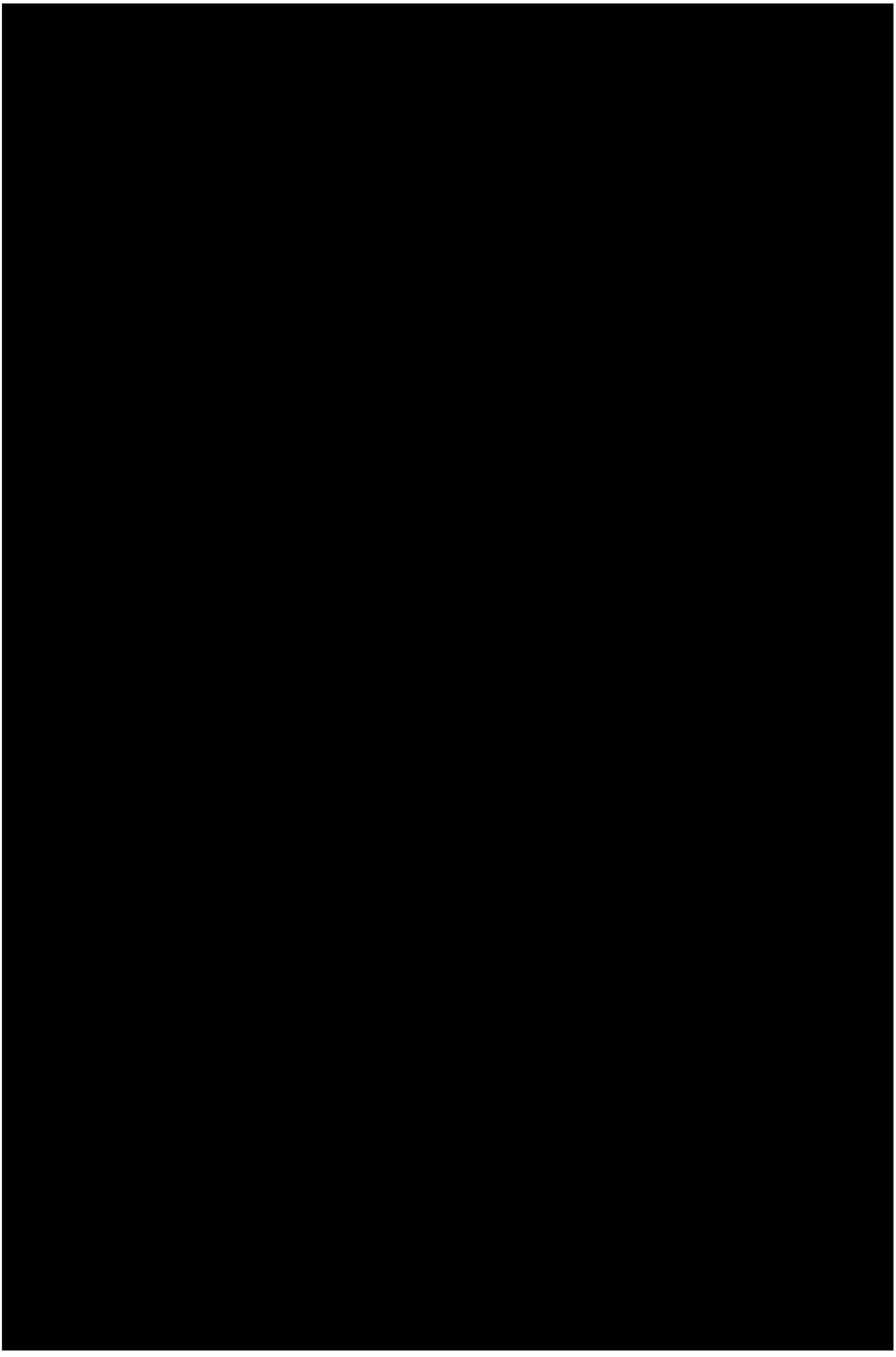
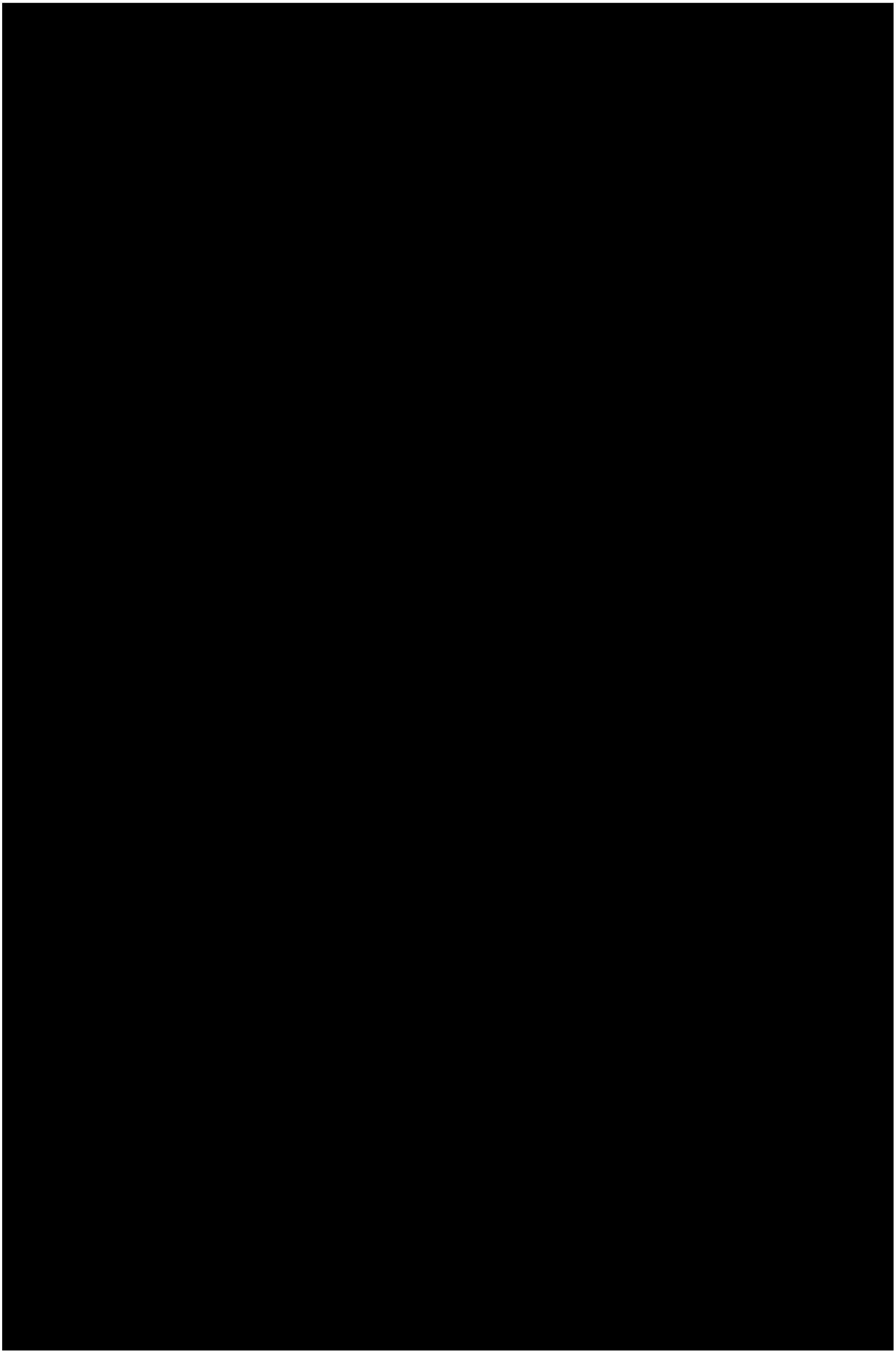
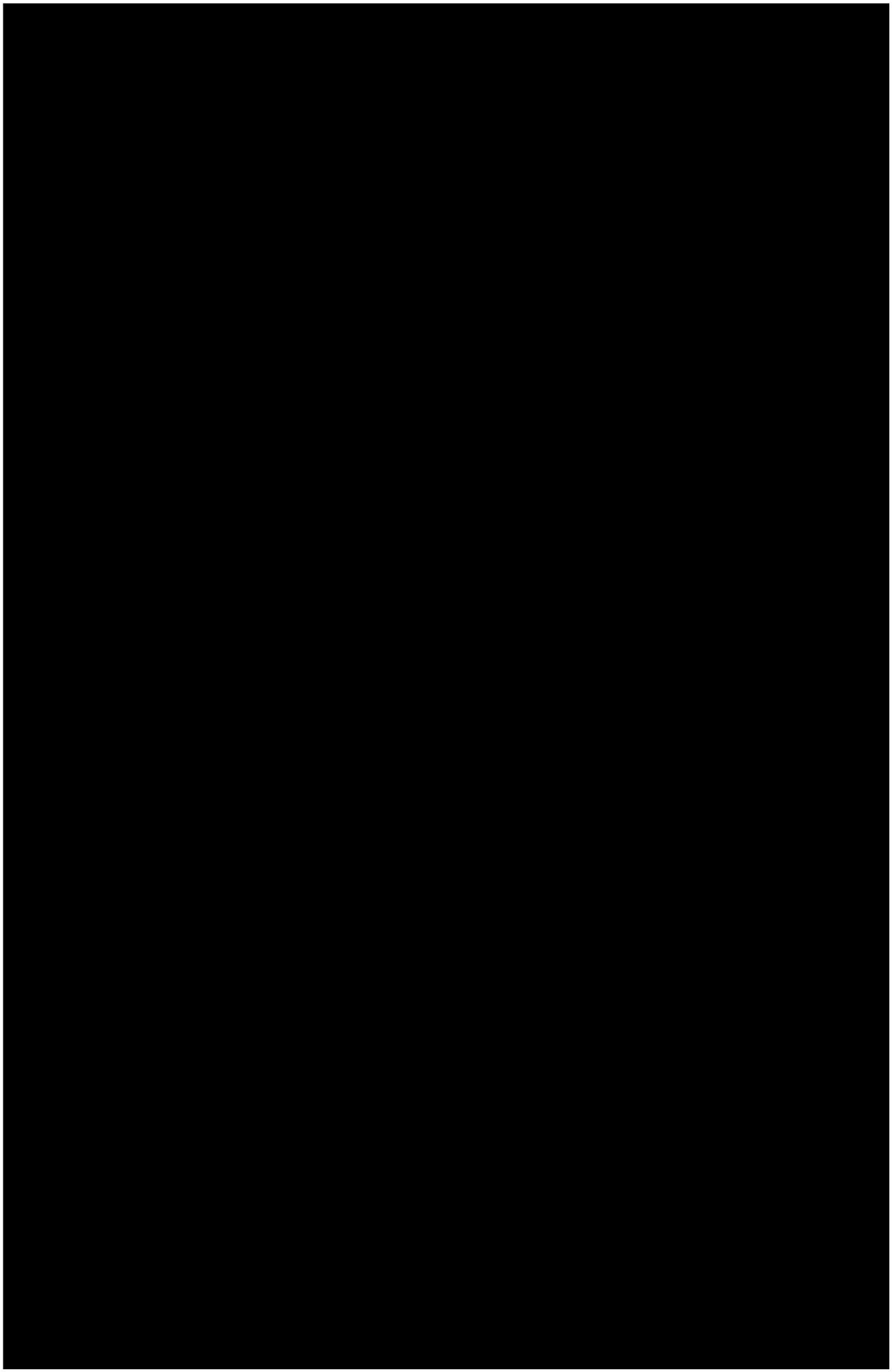
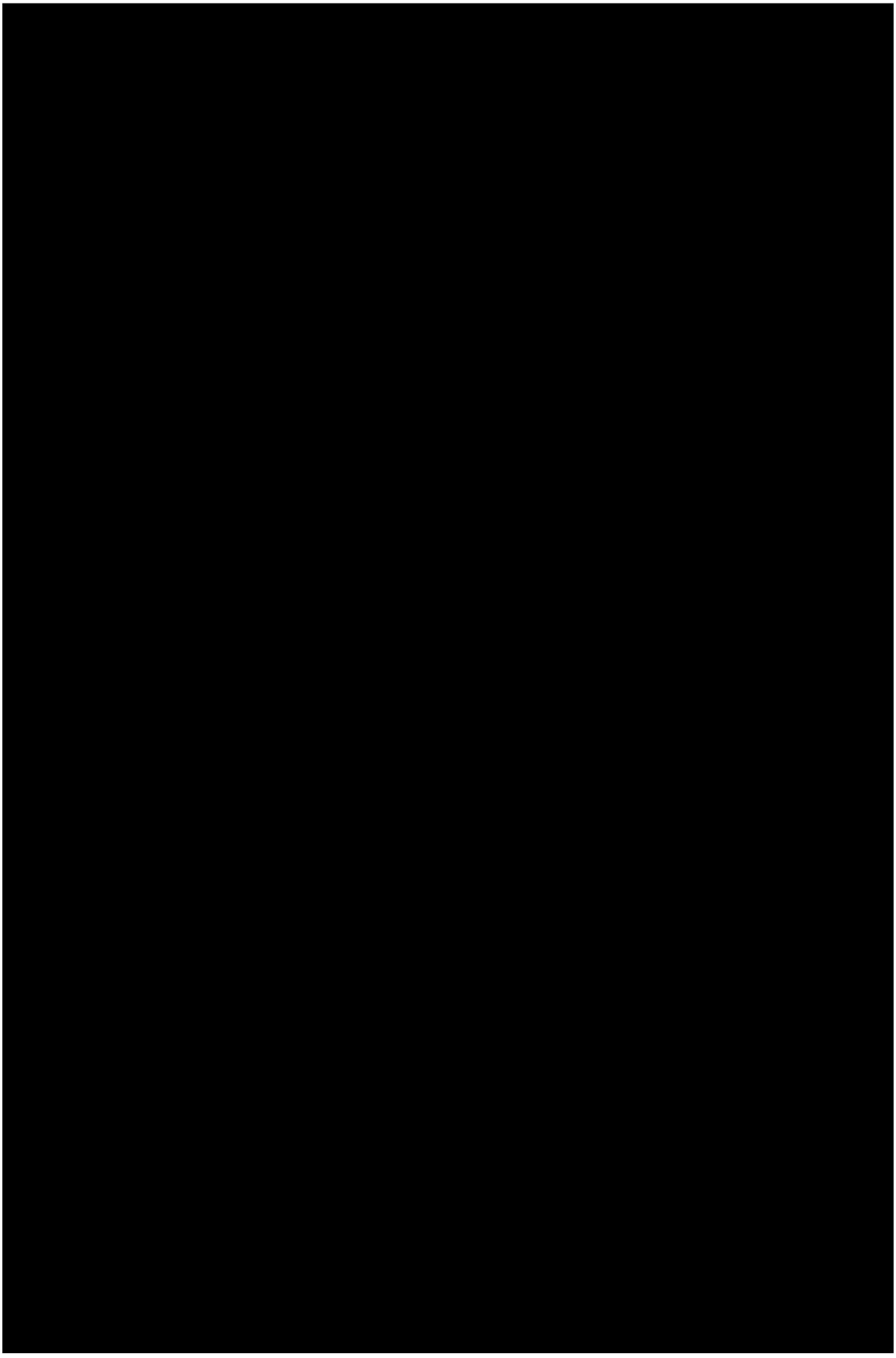


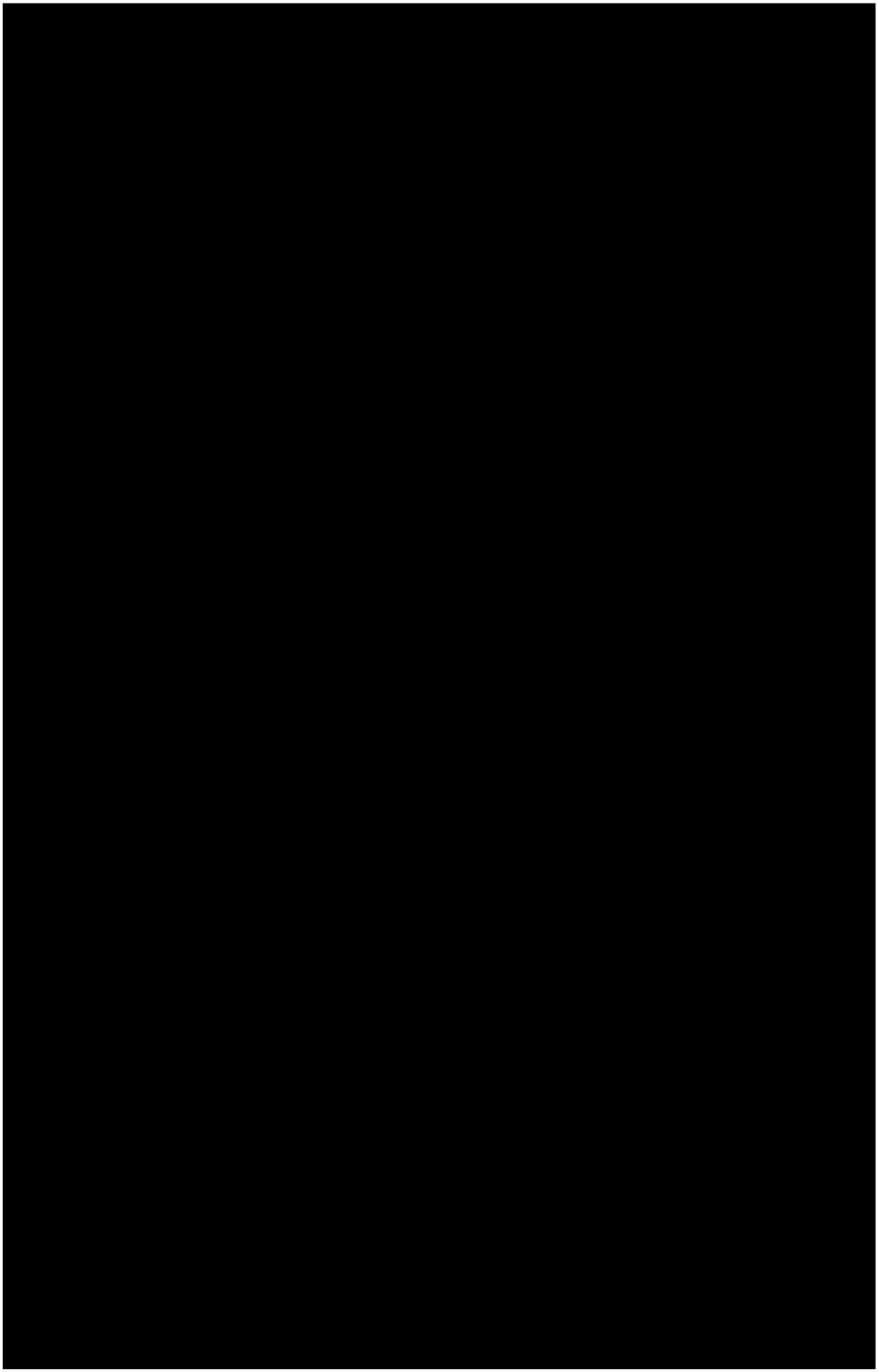


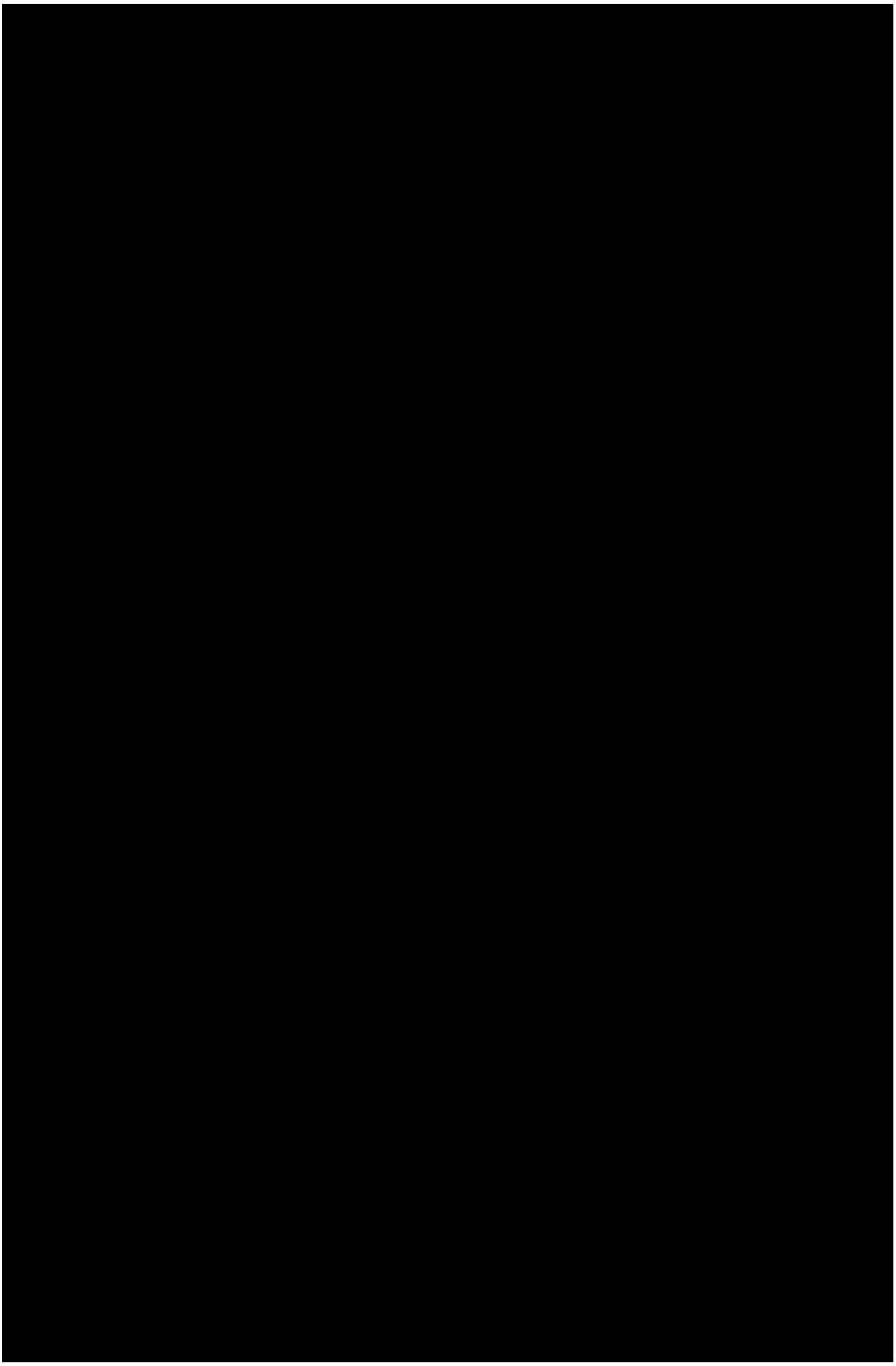






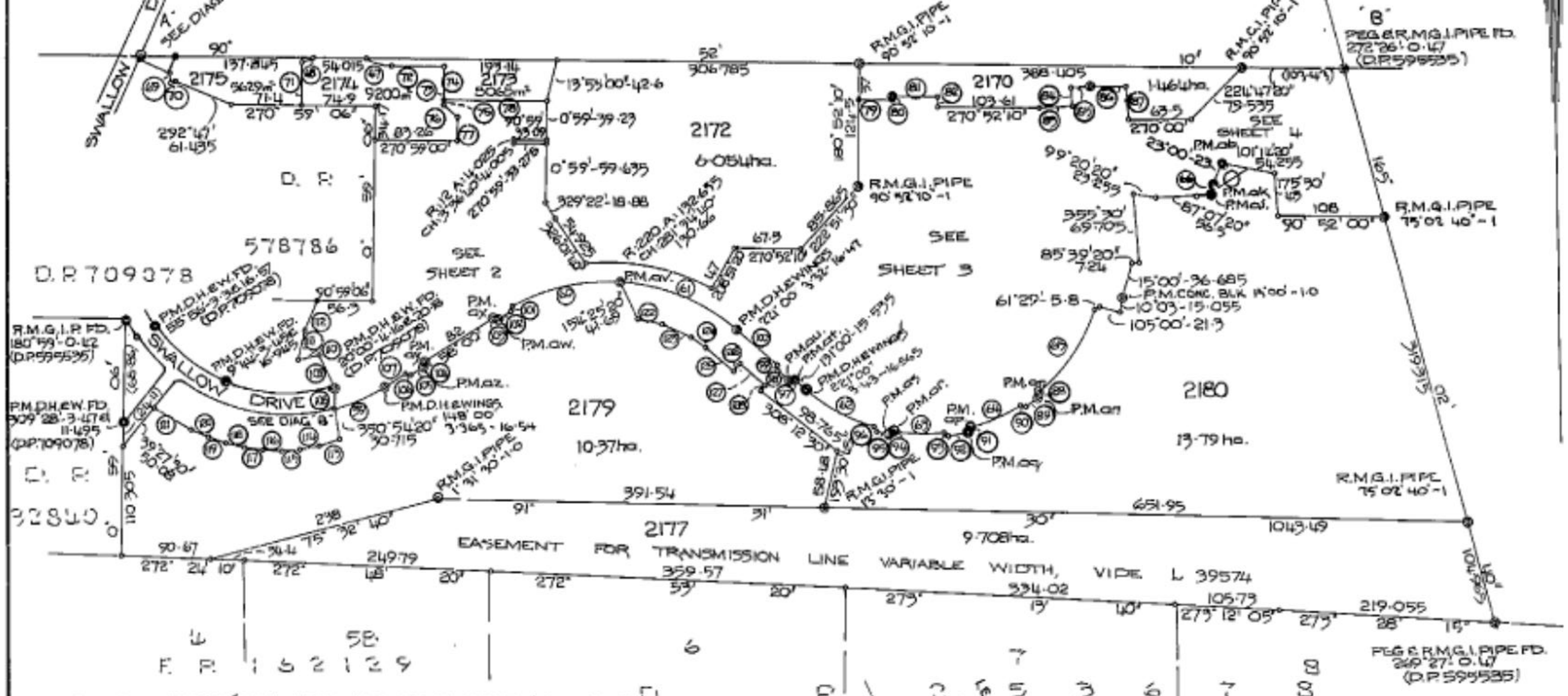






...RATION AND I HEREBY CERTIFY
HAVE NO NOTICE OF THE
...ATION OF SUCH DELEGATION :

[redacted]



PERMANENT MARKS (DRILL HOLE & WINGS IN KERB & CONC. BLOCKS) "⌐"

NO.	BEARING	DISTANCE	NO.	BEARING	DISTANCE
ab.	113° 00'	1·0 (CONC. BLK)	as.	120° 00'	3·44 - 10·64
ak.	113° 00'	1·0 (CONC. BLK)	at.	131° 00'	6·14 - 16·775
al.	87° 07' 20"	1·0 (CONC. BLK)	au.	148° 22' 45"	3·37 - 13·385
am.	136° 46' 30"	3·345 - 16·62	av.	154° 25' 20"	3·85 - 18·755
an.	70° 00'	3·46 - 12·795	aw.	165° 21' 30"	5·235 - 21·59
ap.	153° 08' 10"	3·425 - 16·925	ax.	148° 00'	3·41 - 16·585
aq.	100° 00'	3·525 - 11·14	ay.	337° 46' 30"	3·365 - 16·855
ar.	172° 04' 50"	3·545 - 17·495	az.	71° 00'	3·435 - 12·4

DIAGRAM B
RATIO 1:1000

CURVED BOUNDARIES.

NO.	BEARING	CHORD.	ARC.	RADIUS.
59	66° 35' 05"	55·02	55·225	185
60.	77° 32' 40"	111·93	113·445	200
61	112° 23' 50"	127·6	129·87	"
62.	118° 41' 25"	77·82	78·42	182·5
63	91° 50' 30"	50·45	50·61	"
64.	66° 29' 55"	54·61	54·815	"
65.	94° 38' 30"	100·795	102·125	"
66.	10° 09' 40"	10·635	10·725	23·745
67.	287° 11' 00"	26·69	27·055	47·5
68.	218° 43' 40"	12·05	12·075	47·5

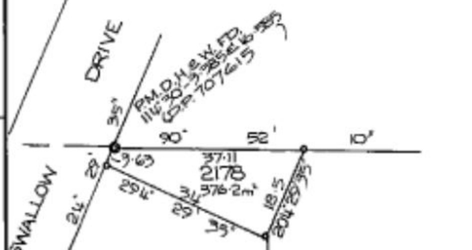


DIAGRAM 'A'
RATIO. 1:800

Ø EASEMENT FOR ELECTRICITY PURPOSES, 2·75 WIDE

SCHEDULE OF SHORT BOUNDARIES

NO.	BEARING	DISTANCE	NO.	BEARING	DISTANCE	NO.	BEARING	DISTANCE
69	355°00'00"	10	89.	234°17'00"	15	109.	334°30'40"	37·275
70.	250°00'00"	5	90.	280°46'00"	5·8	110.	257°15'00"	21·5
71.	180°52'10"	43·645	91.	212°37'00"	5·84	111.	13°00'00"	30·5
72.	270°52'10"	53·47	92.	259°30'00"	20	112.	22°30'00"	32·5
73.	0°59'00"	39	93.	306°23'00"	5·84	113.	252°00'00"	22
74.	0°59'00"	34	94.	236°45'00"	5·785	114.	260°00'00"	19·35
75.	0°59'00"	5	95.	283°09'00"	13	115.	265°30'00"	19
76.	311°59'20"	18·515	96.	329°25'00"	5·785	116.	274°00'00"	19
77.	0°59'00"	24	97.	266°00'00"	5·655	117.	278°00'00"	19
78.	270°52'10"	104·5	98.	311°00'00"	15	118.	283°00'00"	19
79.	270°52'10"	33·79	99.	356°00'00"	5·655	119.	290°00'00"	19
80.	180°52'10"	3·755	100.	311°00'00"	54·63	120.	292°00'00"	19
81.	270°52'10"	46	101.	194°21'00"	5·52	121.	301°05'40"	43·5
82.	0°52'10"	10·13	102.	238°32'20"	15	122.	281°40'00"	25
83.	266°23'10"	33·275	103.	283°00'00"	5·655	123.	294°36'00"	32·185
84.	355°30'00"	18·48	104.	193°00'00"	5·655	124.	304°53'00"	18·25
85.	265°30'00"	20	105.	238°00'00"	15	125.	311°00'00"	36·995
86.	270°52'10"	36	106.	283°00'00"	5·655	126.	221°00'00"	10·175
87.	355°30'00"	38·58	107.	238°00'00"	21·96	127.	311°00'00"	33·5
88.	187°47'00"	5·8	108.	0°28'40"	20·84	128.	44°00'00"	6·905

Council Clerk's Certificate

...ify that –

the requirements of the Local Government Act, 1919 (other than the requirements for the registration of plans), and

the requirements of section 34B of the †Metropolitan Water, Sewerage and Drainage Act, 1924, as amended. †Hunter District Water, Sewerage, and Drainage Act, 1938, as amended

complied with by the applicant in relation to the

...road", "subdivision" or "consolidated lot") set out herein

No. ....

(Signature) ....

Council Clerk

...rt of certificate to be deleted where the application is only ...dated lot or the opening of a new road or where the land ...vided is wholly outside the areas of operations of the ...n Water Sewerage and Drainage Board and the Hunter ...ter Board.

...if inapplicable.

Table of mm: 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150 160 170 ... 210 220 230 240 250 260 270 280 290 300 310 320 330 340 350 360 370 380 390

WARNING: CREASING OR FOLDING WILL LEAD TO REJECTION

Title System: TORRENS

Purpose: SUBDIVISION

Ref. Map: U7352 - 3" - 6*
U8252 - 1" - 4*

Last Plan: DP 709078

PLAN
OF SUBDIVISION OF LOT 1115 IN D.P. 709078

Reduction Ratio 1: 4000
Lengths are in metres

Mun./Shire City PENRITH.

Locality: ERSKINE PARK.

Parish: MELVILLE

County: CUMBERLAND.

This is sheet 1 of my plan in 4 sheets
(Delete if inapplicable)

I, PAUL MICHAEL DALY
OF JOHN M. DALY & ASSOCIATES,
of P.O. BOX 25 CAMPBELLTOWN...
a surveyor registered under the Surveyors Act, 1929, as amended, hereby certify that the survey represented in this plan .... is accurate and has been made *(1) by me (2) under my immediate supervision in accordance with the Surveyors Practice Regulations, 1933, and was completed on † ....

20 - 6 - 1988

Signature Paul M Daly

Surveyor registered under Surveyors Act, 1929, as amended.
Datum Line of Azimuth: 'A' - 'B'
*Strike out either (1) or (2). †Insert date of survey.

Panel for use only for statements of intention to dedicate public roads or to create public reserves, drainage reserves, easements or restrictions as to user.

PURSUANT TO SECTION 81 OF THE PUBLIC WORKS ACT, 1912 AND SECTION 15(5) OF THE HOUSING ACT, 1976, IT IS INTENDED TO DEDICATE SWALLOW DRIVE, LEO PLACE, CANOPUS CLOSE, PISCES PLACE, TAURUS STREET, VOLA... PLACE, AQUARIUS CRESCENT, KRUGE... PLACE, ADHARA STREET, WEAVER STREET, POLLUX CLOSE, PEGASUS STREET AND THE PATHWAYS AS PUBLIC HIGHWAY.

PURSUANT TO SECTION 15(5) OF THE HOUSING ACT, 1976, IT IS INTENDED TO DEDICATE LOTS 2171 AND 217... AS PUBLIC RESERVE.

WHERE ANY LOT SHOWN HEREON ABUTS ON A NON-TIDAL STREAM OR ROAD, THE TITLE EXTENDS ONLY TO THE BOUNDARY OF THE STREAM OR ROAD, AND NOT TO THE MIDDLE LINE THEREOF.

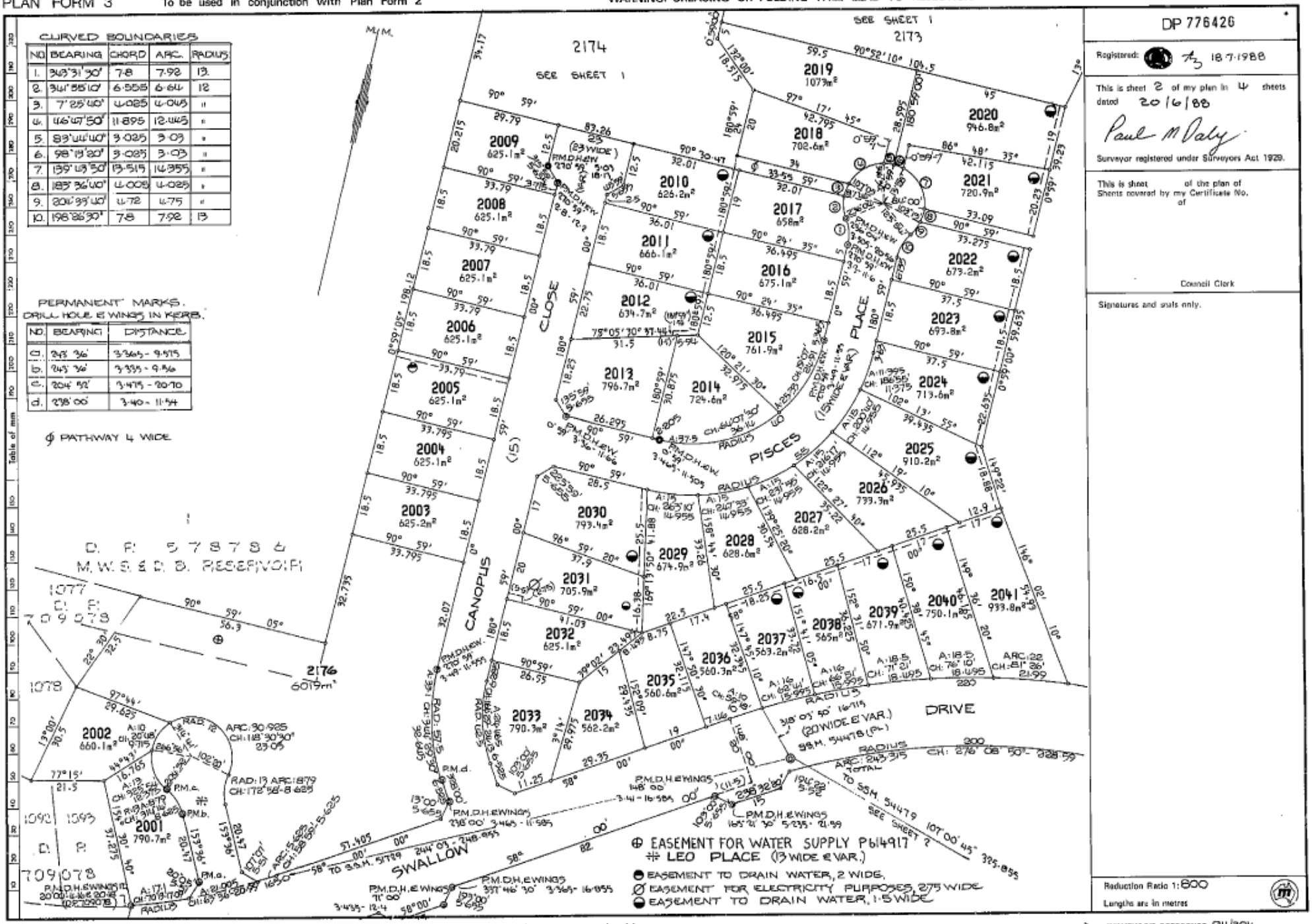
PURSUANT TO SECTION 88B OF THE CONVEYANCING ACT, 1919-1964, AS AMENDED, IT IS INTENDED TO CREATE:-

1. EASEMENT TO DRAIN WATER 1·5 WIDE.
2. EASEMENT TO DRAIN WATER 2 WIDE.
3. EASEMENT FOR UNDERGROUND MAINS 1 WIDE.
4. EASEMENT FOR ELECTRICITY PURPOSES, 2·75 WIDE.
5. RIGHT OF CARRIAGEWAY ... WIDE AND VARIABLE...
6. RIGHT OF CARRIAGEWAY ... W...
7. RESTRICTION ON ...

SURVEYOR'S REFERENCE 84/304

PLAN FORM 3 To be used in conjunction with Plan Form 2

WARNING: CREASING OR FOLDING WILL LEAD TO REJECTION



DP 776426

Registered: 18.7.1988

This is sheet 2 of my plan in 4 sheets dated 20/6/88

Paul M Daly

Surveyor registered under Surveyors Act 1929.

This is sheet of the plan of
Sheets covered by my Certificate No.
of

Council Clerk

Signatures and seals only.

Reduction Ratio 1:800

Lengths are in metres

Plan Drawing only to appear in this space

SURVEYOR'S REFERENCE 84/304

PLAN FORM 6 — To be used in conjunction with Plan Form 2 — WARNING: CREASING OR FOLDING WILL LEAD TO REJECTION — OFFICE USE ONLY

DP 776426

Registered: [redacted] 18-7-1988

This is sheet 3 of my plan in 4 sheets dated 20/6/88

[redacted]

Surveyor registered under Surveyors Act 1929.

This is sheet of the plan of Sheets covered by my Certificate No. of

Council Clerk

Signatures and seals only.

Reduction Ratio 1: 1000

Lengths are in metres

CURVED BOUNDARIES

NO.	BEARING	CHORD	ARC	RADIUS
11.	128°37'00"	3	3	220
12.	129°24'00"	3	3	"
13.	130°18'10"	3·95	3·95	162·5
14.	291°37'50"	8·625	8·79	13
15.	294°22'00"	9·03	9·26	12.
16.	340°20'50"	9·715	10	"
17.	28°05'40"	9·715	10	"
18.	61°40'00"	4·045	4·065	"
19.	95°15'00"	9·715	10	"
20	144°25'50"	10·26	10·6	"
21.	150°22'00"	8·625	8·79	13
22	103°33'00"	5·71	5·755	"
23.	122°55'10"	3·03	3·039	"
24.	112°59'10"	6·865	6·965	12.
25.	351°00'40"	4·11	4·13	"

PERMANENT MARKS. DRILL HOLES & WINGS IN KERB.

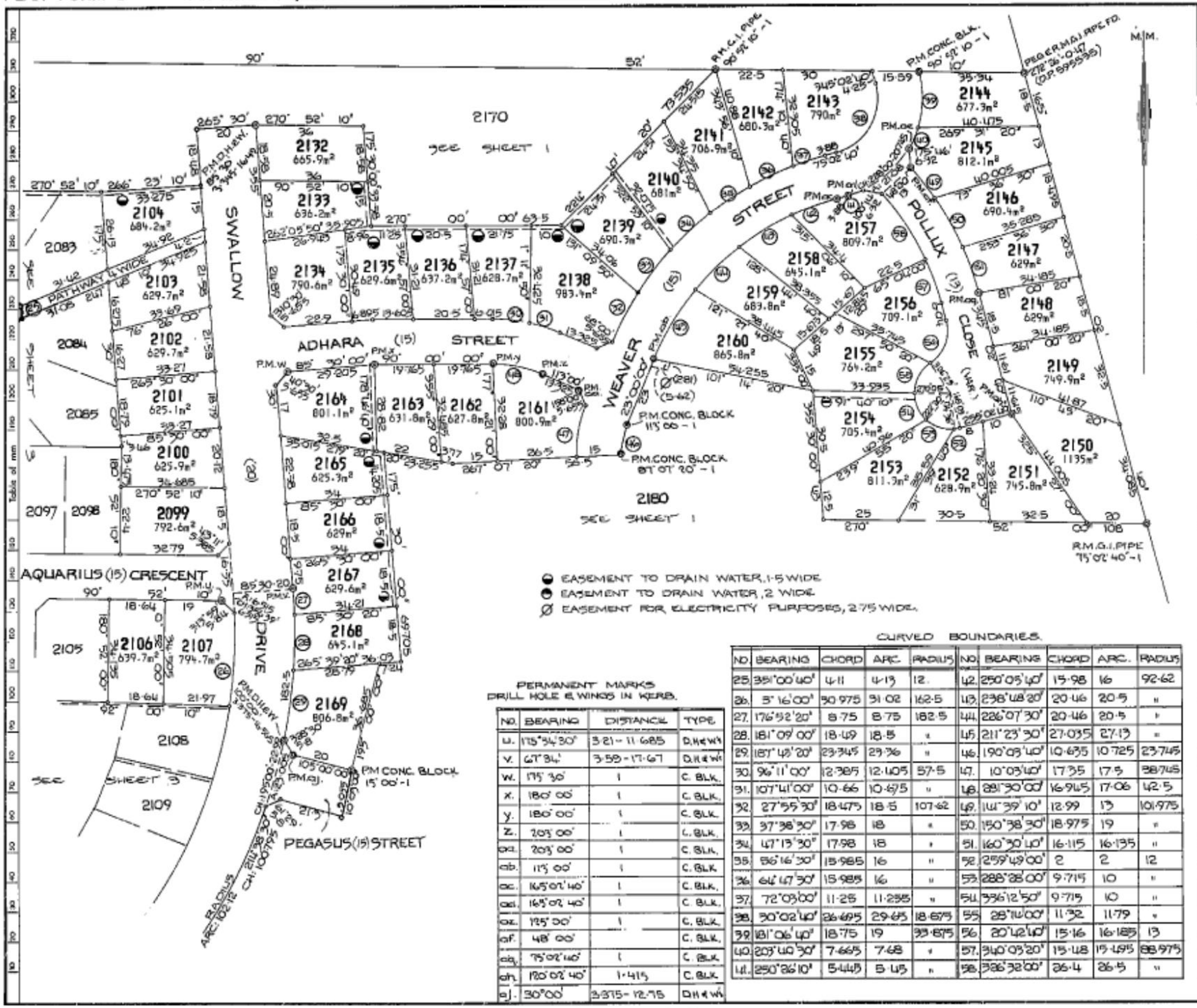
NO.	BEARING	DISTANCE
e.	301°32'30"	3·32 - 11·75
f.	311°00'	3·42 - 11·55
g.	352°30'	3·45 - 11·635
h.	352°30'	3·355 - 11·525
j.	306°30'	3·38 - 11·57
k.	306°30'	3·42 - 11·535
l.	270°52'	3·38 - 11·515
m.	270°52'	3·38 - 11·60
n.	66°40'30"	6·19 - 10·91
p.	41°00'	3·365 - 9·585
q.	79°44'20"	3·385 - 20·505
r.	180°52'10"	3·19 - 9·58
s.	180°52'10"	3·375 - 9·57
t.	219°36'	3·44 - 20·54

EASEMENT TO DRAIN WATER, 1·5 WIDE.
EASEMENT FOR UNDERGROUND MAINS, 1 WIDE.
EASEMENT FOR ELECTRICITY PURPOSES, 2·75 WIDE
RIGHT OF CARRIAGEWAY, 3 WIDE & VARIABLE.
RIGHT OF CARRIAGEWAY, 3 WIDE.

KRUGER (13) PLACE (VAR.)
AQUARIUS (15) CRESCENT
AQUARIUS (15) CRESCENT
VOLANS (13) PLACE
STREET (15)
SWALLOW (20 WIDE & VAR.) DRIVE
TAURUS
SWALLOW (20 WIDE & VAR.) DRIVE
PATHWAY 4 WIDE
SEE SHEET 1
SEE SHEET 4

Plan Drawing only to appear in this space

SURVEYOR'S REFERENCE 84/304



PERMANENT MARKS
DRILL HOLE & WINGS IN KERB.

NO.	BEARING	DISTANCE	TYPE
u.	175°34'30"	3·21 – 11·685	D.H.&W.
v.	67°34'	3·59 – 17·67	D.H.&W.
w.	175°30'	1	C. BLK.
x.	180°00'	1	C. BLK.
y.	180°00'	1	C. BLK.
z.	203°00'	1	C. BLK.
aa.	203°00'	1	C. BLK.
ab.	113°00'	1	C. BLK.
ac.	165°02'40"	1	C. BLK.
ad.	165°02'40"	1	C. BLK.
ae.	125°00'	1	C. BLK.
af.	48°00'		C. BLK.
ag.	75°02'40"	1	C. BLK.
ah.	120°02'40"	1·415	C. BLK.
aj.	30°00'	3·375 – 12·75	D.H.&W.

CURVED BOUNDARIES.

NO.	BEARING	CHORD	ARC.	RADIUS	NO.	BEARING	CHORD	ARC.	RADIUS
25.	351°00'40"	4·11	4·13	12.	42.	250°05'40"	15·98	16	92·62
26.	3°16'00"	30·975	31·02	162·5	43.	238°48'20"	20·46	20·5	"
27.	176°52'20"	8·75	8·75	182·5	44.	226°07'30"	20·46	20·5	"
28.	181°09'00"	18·49	18·5	"	45.	211°23'30"	27·035	27·13	"
29.	187°43'20"	29·345	29·36	"	46.	190°03'40"	10·635	10·725	23·745
30.	96°11'00"	12·385	12·405	57·5	47.	10°03'40"	17·35	17·5	38·745
31.	107°41'00"	10·66	10·675	"	48.	281°30'00"	16·945	17·06	42·5
32.	27°55'30"	18·475	18·5	107·62	49.	141°39'10"	12·99	13	101·975
33.	37°38'30"	17·98	18	"	50.	150°38'30"	18·975	19	"
34.	47°13'30"	17·98	18	"	51.	160°30'40"	16·115	16·135	"
35.	56°16'30"	15·985	16	"	52.	259°49'00"	2	2	12
36.	64°47'30"	15·985	16	"	53.	288°28'00"	9·715	10	"
37.	72°03'00"	11·25	11·255	"	54.	336°12'50"	9·715	10	"
38.	30°02'40"	26·695	29·65	18·675	55.	28°14'00"	11·32	11·79	"
39.	181°06'40"	18·75	19	33·875	56.	20°42'40"	15·16	16·185	13
40.	203°40'30"	7·665	7·68	"	57.	340°03'20"	15·48	15·495	88·975
41.	250°26'10"	5·445	5·45	"	58.	326°32'00"	26·4	26·5	"

← Plan Drawing only to appear in this space →

DP 776426

Registered: [redacted] 18·7·1988

This is sheet 4 of my plan in 4 sheets dated 20/6/88

[redacted]

Surveyor registered under Surveyors Act 1929.

This is sheet of the plan of Sheets covered by my Certificate No. of

Council Clerk

Signatures and seals only.

Reduction Ratio 1:1000

Lengths are in metres

SURVEYOR'S REFERENCE: 84/304.

NEW SOUTH WALES LAND REGISTRY SERVICES - HISTORICAL SEARCH

SEARCH DATE
9/3/2021 3:18PM

FOLIO: 2174/776426

First Title(s): OLD SYSTEM
Prior Title(s): 1115/709078

Recorded	Number	Type of Instrument	C.T. Issue
26/7/1988	DP776426	DEPOSITED PLAN	FOLIO CREATED EDITION 1
19/9/1996	2473613	DEPARTMENTAL DEALING	
5/2/2004	AA264027	APPLICATION	EDITION 2

*** END OF SEARCH ***

advlegs PRINTED ON 9/3/2021

NEW SOUTH WALES LAND REGISTRY SERVICES - TITLE SEARCH

FOLIO: 2174/776426

SEARCH DATE	TIME	EDITION NO	DATE
9/3/2021	3:07 PM	2	5/2/2004

LAND

LOT 2174 IN DEPOSITED PLAN 776426
AT ERSKINE PARK
LOCAL GOVERNMENT AREA PENRITH
PARISH OF MELVILLE COUNTY OF CUMBERLAND
TITLE DIAGRAM DP776426

FIRST SCHEDULE

PENRITH CITY COUNCIL (AP AA264027)

SECOND SCHEDULE (2 NOTIFICATIONS)

1 RESERVATIONS AND CONDITIONS IN THE CROWN GRANT(S)
2 THE LAND WITHIN DESCRIBED IS PUBLIC RESERVE

NOTATIONS

UNREGISTERED DEALINGS: NIL

*** END OF SEARCH ***

advlegs PRINTED ON 9/3/2021

APPENDIX VI

HAZARDOUS CHEMICALS SEARCH

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

Our Ref: D21/048802

30 April 2021

Mr Chris Chen
Getex Pty Ltd
Chris.chen@getex.com.au

Dear Mr Chen

RE SITE: 11a Canopus Close, Erskine Park NSW 2113

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

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

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

Yours sincerely

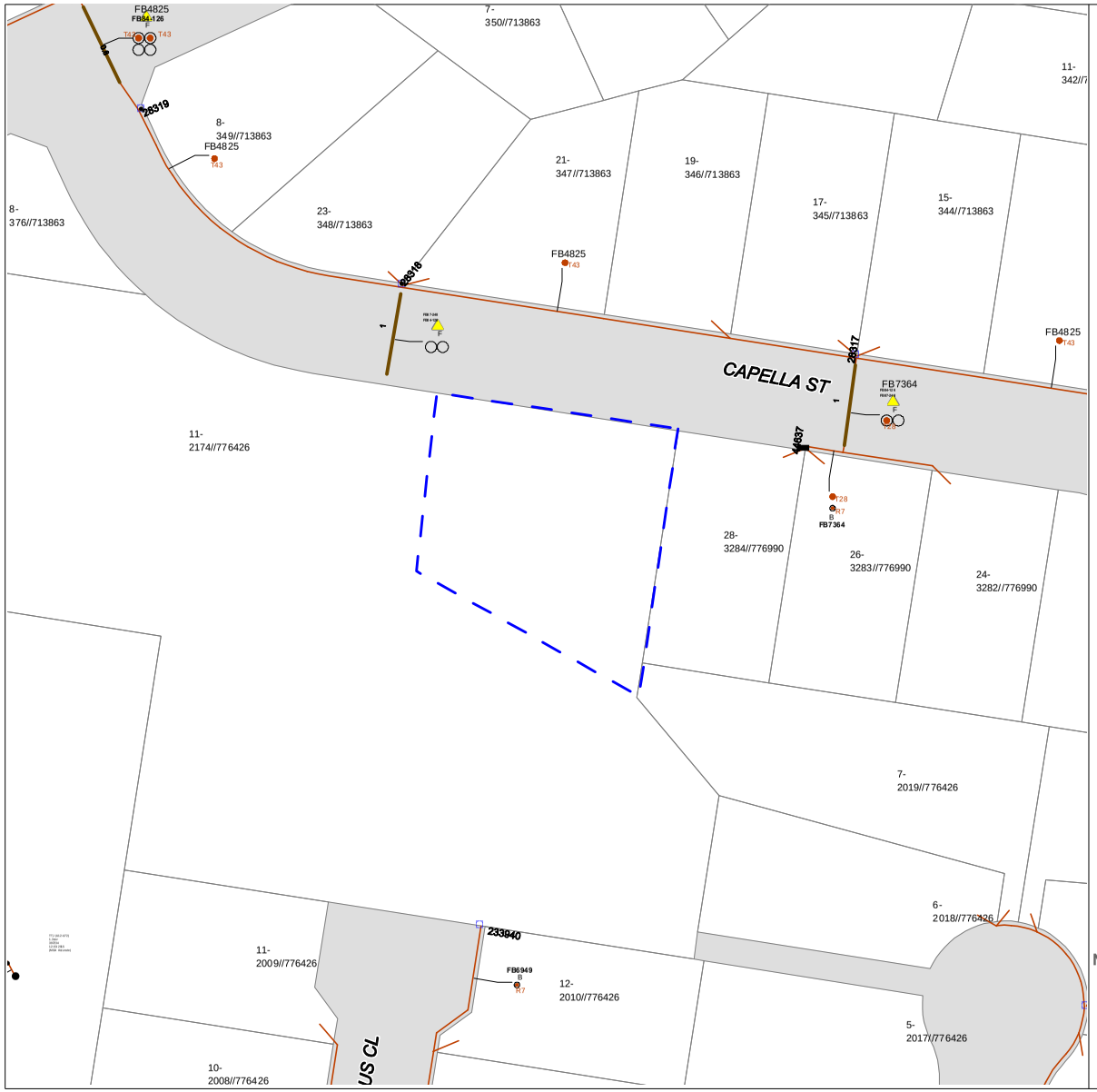
[redacted]

Gabriela Draper

Licensing Representative
Licensing and Funds, Better Regulation
SafeWork NSW

APPENDIX VII

BELOW GROUNDS UTILITIES SEARCH



Endeavour Energy

WARNING

- **All electrical apparatus shall be regarded as live until proved de-energised.** Contact with live electrical apparatus will cause severe injury or death.
- In accordance with the *Electricity Supply Act 1995*, you are obliged to report any damage to Endeavour Energy Assets immediately by calling **131 003**.
- The customer must obtain a new set of plans from Endeavour Energy if work has not been started or completed within twenty **(20)** working days of the original plan issue date.
- The customer must contact Endeavour Energy if any of the plans provided have blank pages, as some underground asset information may be incomplete.
- Endeavour Energy underground earth grids may exist and their location **may not** be shown on plans. Persons excavating are expected to exercise all due care, especially in the vicinity of padmount substations, pole mounted substations, pole mounted switches, transmission poles and towers.
- Endeavour Energy plans **do not** show any underground customer service mains or information relating to service mains within private property.
- Asbestos or asbestos-containing material may be present on or near Endeavour Energy's underground assets.
- Organo-Chloride Pesticides (OCP) may be present in some sub-transmission trenches.
- All plans must be printed and made available at the worksite where excavation is to be undertaken. Plans must be reviewed and understood by the crew on site prior to commencing excavation.

INFORMATION PROVIDED BY ENDEAVOUR ENERGY

- Any plans provided pursuant to this service are intended to show the approximate location of underground assets relative to road boundaries, property fences and other structures at the time of installation.
- Depth of underground assets may vary significantly from information provided on plans as a result of changes to road, footpath or surface levels subsequent to installation.
- Such plans have been prepared solely for use by Endeavour Energy staff for design, construction and maintenance purposes.
- All enquiry details and results are kept in a register.

DISCLAIMER

Whilst Endeavour Energy has taken all reasonable steps to ensure that the information contained in the plans is as accurate as possible it will accept no liability for inaccuracies in the information shown on such plans.

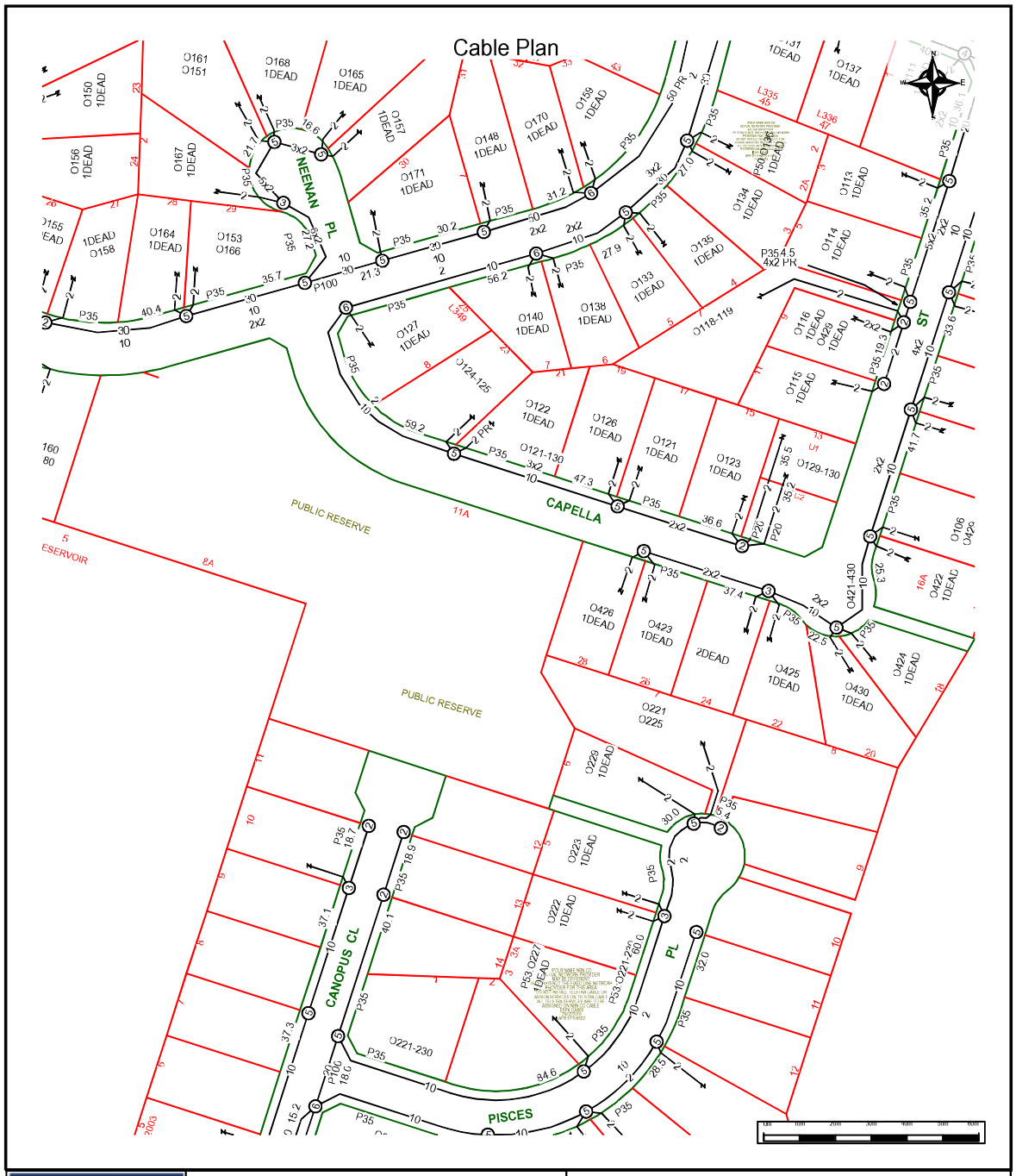
LEGEND

- Street light column
- Padmount substation
- Overground pillar (O.G.Box)
- Underground pit
- Duct run
- Cable run
- Typical duct section
- Asbestos warning

N

NOT TO SCALE

DBYD Sequence No.:	107297473
Issued Date:	05/03/2021



Telstra For all Telstra DBYD plan enquiries - email - Telstra.Plans@team.telstra.com For urgent onsite contact only - ph 1800 653 935 (bus hrs)	Sequence Number: 107297474
TELSTRA CORPORATION LIMITED A.C.N. 051 775 556	CAUTION: Fibre optic and/ or major network present in plot area. Please read the Duty of Care and contact Telstra Plan Services should you require any assistance.
Generated On 05/03/2021 15:02:23	

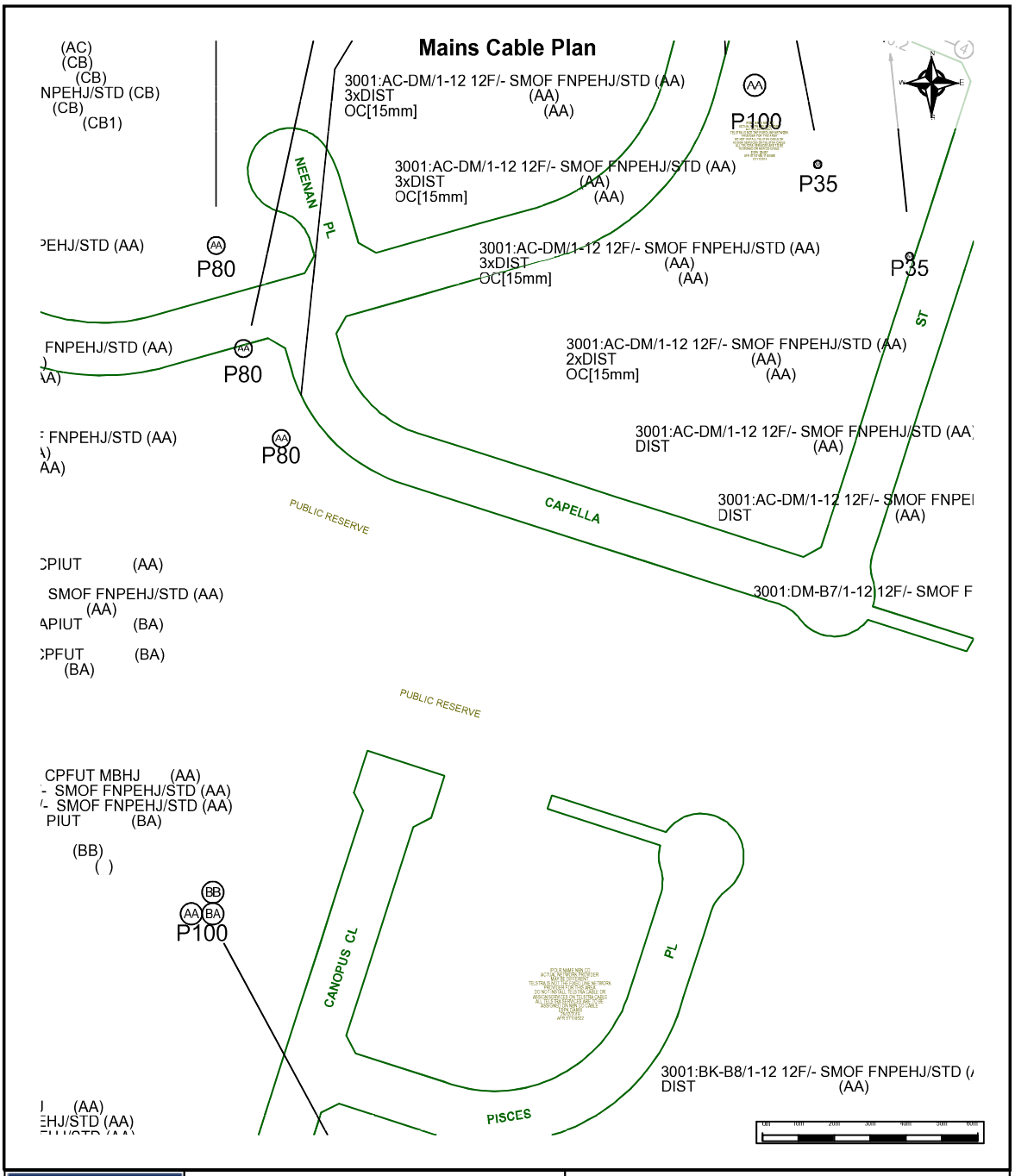
The above plan must be viewed in conjunction with the Mains Cable Plan on the following page

WARNING - Due to the nature of Telstra underground plant and the age of some cables and records, it is impossible to ascertain the precise location of all Telstra plant from Telstra's plans. The accuracy and/or completeness of the information supplied can not be guaranteed as property boundaries, depths and other natural landscape features may change over time, and accordingly the plans are indicative only. Telstra does not warrant or hold out that its plans are accurate and accepts no responsibility for any inaccuracy shown on the plans.

It is your responsibility to locate Telstra's underground plant by careful hand pot-holing prior to any excavation in the vicinity and to exercise due care during that excavation.

Please read and understand the information supplied in the duty of care statement attached with the Telstra plans. TELSTRA WILL SEEK COMPENSATION FOR LOSS CAUSED BY DAMAGE TO ITS PLANT.

Telstra plans and information supplied are valid for 60 days from the date of issue. If this timeframe has elapsed, please reapply for plans.



Telstra For all Telstra DBYD plan enquiries - email - Telstra.Plans@team.telstra.com For urgent onsite contact only - ph 1800 653 935 (bus hrs)	Sequence Number: 107297474
TELSTRA CORPORATION LIMITED A.C.N. 051 775 556	CAUTION: Fibre optic and/ or major network present in plot area. Please read the Duty of Care and contact Telstra Plan Services should you require any assistance.
Generated On 05/03/2021 15:02:24	

WARNING - Due to the nature of Telstra underground plant and the age of some cables and records, it is impossible to ascertain the precise location of all Telstra plant from Telstra's plans. The accuracy and/or completeness of the information supplied can not be guaranteed as property boundaries, depths and other natural landscape features may change over time, and accordingly the plans are indicative only. Telstra does not warrant or hold out that its plans are accurate and accepts no responsibility for any inaccuracy shown on the plans.

It is your responsibility to locate Telstra's underground plant by careful hand pot-holing prior to any excavation in the vicinity and to exercise due care during that excavation.

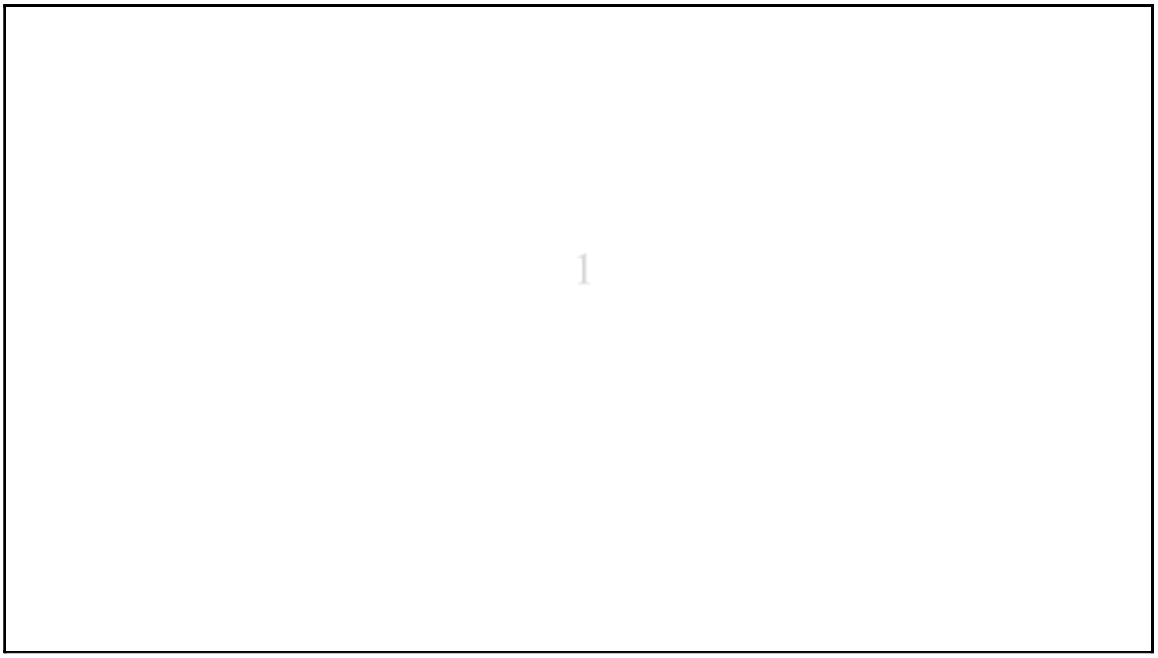
Please read and understand the information supplied in the duty of care statement attached with the Telstra plans. TELSTRA WILL SEEK COMPENSATION FOR LOSS CAUSED BY DAMAGE TO ITS PLANT.

Telstra plans and information supplied are valid for 60 days from the date of issue. If this timeframe has elapsed, please reapply for plans.

To:	Mr Justin Thompson-Laing
Phone:	Not Supplied
Fax:	0298892499
Email:	help@getex.com.au

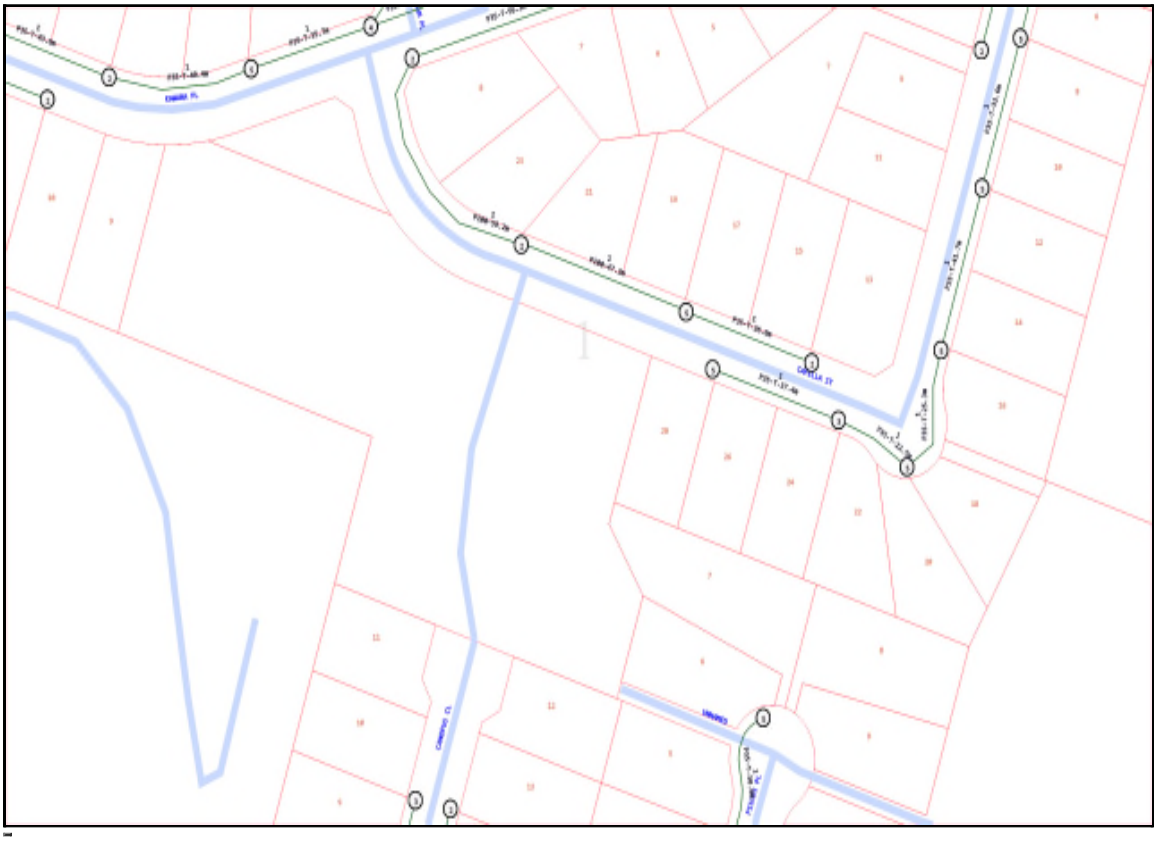
Dial before you dig Job #:	21204057
Sequence #	107297477
Issue Date:	05/03/2021
Location:	11a Canopus Close , Erskine Park , NSW , 2759

Indicative Plans



LEGEND

34	Parcel and the location
5	Pit with size "5"
2E	Power Pit with size "2E". Valid PIT Size: e.g. 2E, 5E, 6E, 8E, 9E, E, null.
	Manhole
	Pillar
2 PO – T- 25.0m P40 – 20.0m 5 9	Cable count of trench is 2. One "Other size" PVC conduit (PO) owned by Telstra (-T-), between pits of sizes, "5" and "9" are 25.0m apart. One 40mm PVC conduit (P40) owned by NBN, between pits of sizes, "5" and "9" are 20.0m apart.
2 10.0m 5 9	2 Direct buried cables between pits of sizes ,"5" and "9" are 10.0m apart.
5 9	Trench containing any INSERVICE/CONSTRUCTED (Copper/RF/Fibre) cables.
5 9	Trench containing only DESIGNED/PLANNED (Copper/RF/Fibre/Power) cables.
5 9	Trench containing any INSERVICE/CONSTRUCTED (Power) cables.
BROADWAY ST	Road and the street name "Broadway ST"
Scale	0 20 40 60 Meters 1:2000 1 cm equals 20 m



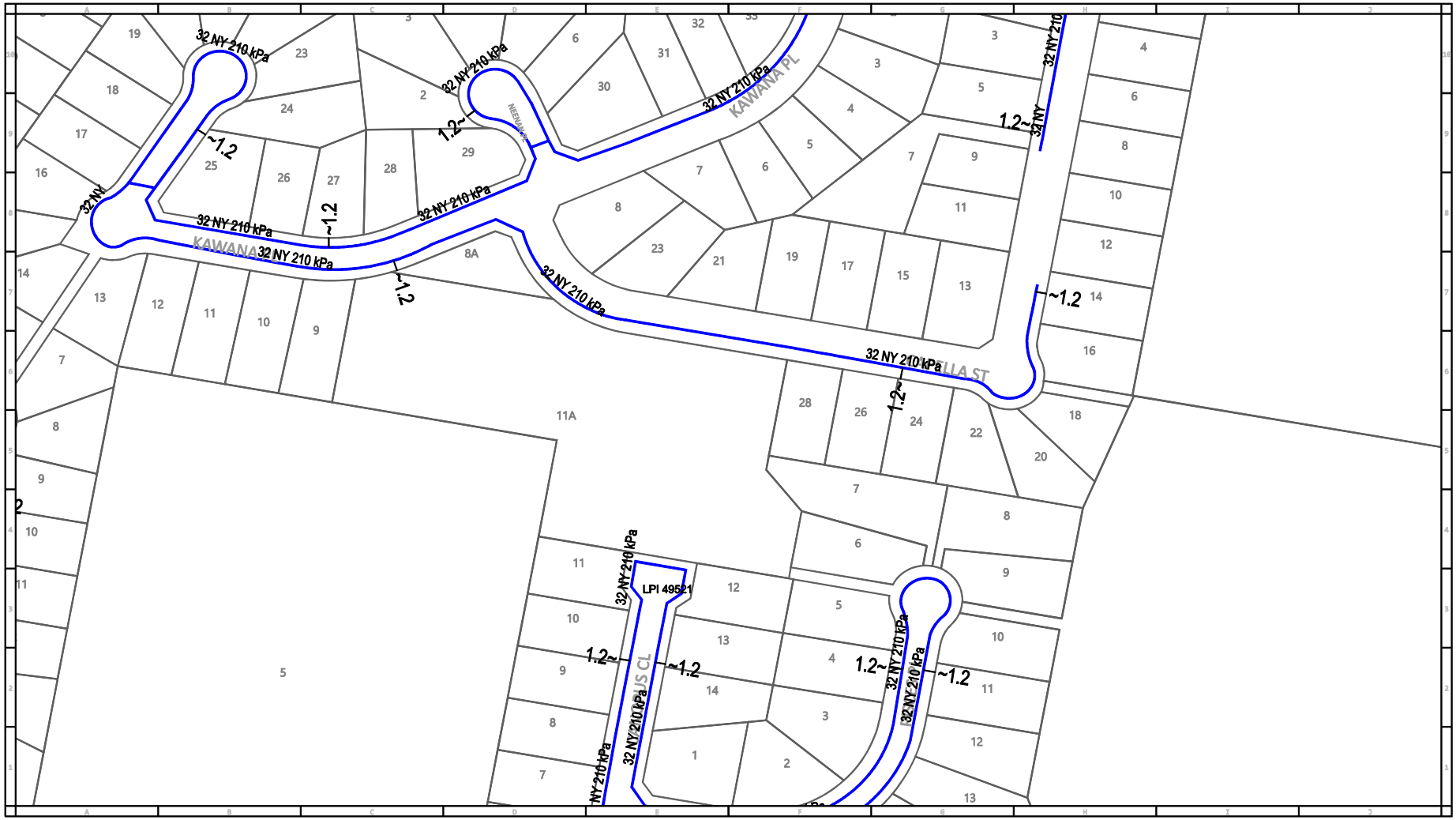
Emergency Contacts

You must immediately report any damage to the **nbn™** network that you are/become aware of. Notification may be by telephone - 1800 626 329.

Level 13, 100 Mount Street, North Sydney NSW 2060

Email dbyd@nbnco.com.au Web www.nbn.com.au

DBYD Authority: Jemena Gas Networks (NSW) **DBYD Location:** 11a Canopus Close Erskine Park NSW, 2759

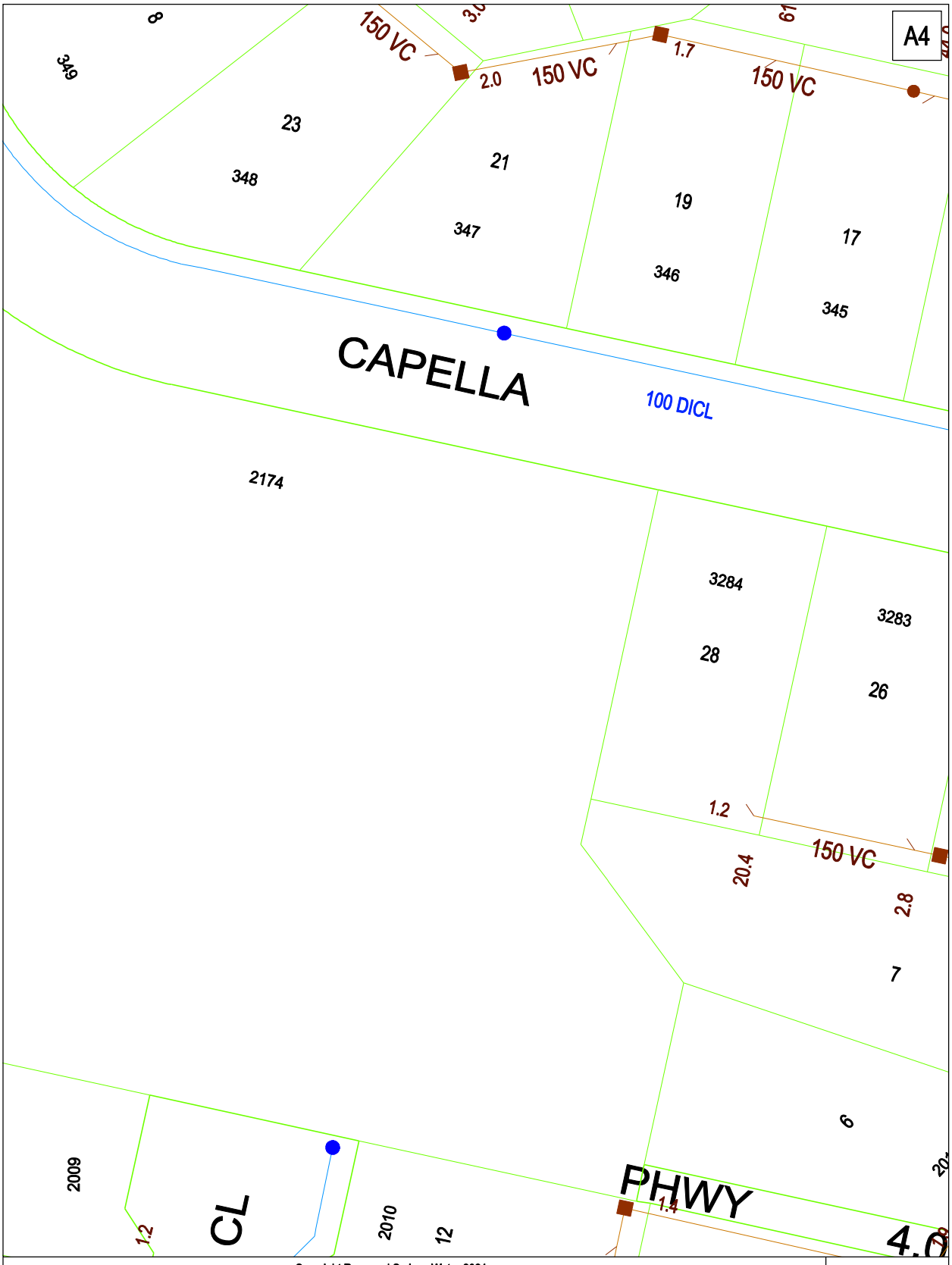


Jemena
ABN 87 003 004 322

For legend details, please refer to the Coversheet attachment provided as part of this DBYD response.

Issue Date: 05/03/2021
DBYD Seq No: 107297475
DBYD Job No: 21204057
Scale: 1:2000
0m 10m 20m 30m 40m 50m 60m 70m 80m

WARNING: This is a representation of Jemena Gas Networks underground assets only and may not indicate all assets in the area. It must not be used for the purpose of exact asset location in order to undertake any type of excavation. This plan is diagramatic only, and distances scaled from this plan may not be accurate. Please read all conditions and information on the attached information sheet. This extract is subject to those conditions. The information contained on this plan is only valid for 28 days from the date of issue.



APPENDIX VIII

ANALYSIS RESULTS

SOIL ANALYSIS RESULTS

METALS				Sample Number	11538/ST2/TP01/S1	11538/ST2/TP02/S1	11538/ST2/TP03/S1	11538/ST2/TP04/S1	11538/ST2/TP05/S1	11538/ST2/TP06/S1	11538/ST2/TP07/S1
	Residential Land Use	Residential		Sample Location	TP01	TP02	TP03	TP04	TP05	TP06	TP07
Sample Depth from Surface (m)	-	- -			0.15	0.2	0.25	0.3	0.1	0.3	0.25
ANALYTE	NEPM HIL	NEPM EIL	Units	PQL							
Arsenic	100	100	mg/kg	4	4	5	<4	5	6	8	7
Cadmium	20	-	mg/kg	0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4
Chromium	100	560	mg/kg	1	10	20	8	8	11	14	13
Copper	7000	90	mg/kg	1	10	10	8	10	8	10	9
Lead	300	1100	mg/kg	0.1	9	7	7	9	9	12	10
Mercury	200	-	mg/kg	1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Nickel	400	170	mg/kg	1	6	19	4	7	4	7	3
Zinc	8000	260	mg/kg	1	26	58	20	29	20	27	17

TRH/BTEX								Sample Number	11538/ST2/TP01/S1	11538/ST2/TP02/S1	11538/ST2/TP03/S1	11538/ST2/TP04/S1	11538/ST2/TP05/S1	11538/ST2/TP06/S1	11538/ST2/TP07/S1
	Urban Residential Land Use					Urban Residential		Sample Location	TP01	TP02	TP03	TP04	TP05	TP06	TP07
Sample Depth from Surface (m)	0 to <1	0 to <1		-	-	-			0.15	0.2	0.25	0.3	0.1	0.3	0.25
Soil Type	Sand	Clay		Fine	Course	Course/ Fine			Clay	Clay	Clay	Clay	Clay	Clay	Clay
ANALYTE	NEPM HSL	NEPM HSL	Supplementary Guideline Level	NEPM Management Limits	NEPM Management Limits	NEPM ESL	Units	PQL							
TRH C6 - C9	-	-	-	800	700	-	mg/kg	25	<25	<25	<25	<25	<25	<25	<25
TRH C6 - C10	-	-	-	-	-	-	mg/kg	25	<25	<25	<25	<25	<25	<25	<25
vTPH C6 - C10 less BTEX (F1)	NL	NL	-	-	-	180/180	mg/kg	25	<25	<25	<25	<25	<25	<25	<25
Benzene	NL	NL	-	-	-	50/65	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Toluene	NL	NL	-	-	-	85/105	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Ethylbenzene	NL	NL	-	-	-	70/125	mg/kg	1	<1	<1	<1	<1	<1	<1	<1
m+p-xylene	-	-	-	-	-	-	mg/kg	2	<2	<2	<2	<2	<2	<2	<2
o-Xylene	-	-	-	-	-	-	mg/kg	1	<1	<1	<1	<1	<1	<1	<1
naphthalene	NL	NL	-	-	-	-	mg/kg	1	<1	<1	<1	<1	<1	<1	<1
Total Xylenes	NL	NL	-	-	-	105/45	mg/kg	3	<3	<3	<3	<3	<3	<3	<3
TRH C10 - C14	-	-	-	-	-	-	mg/kg	50	<50	<50	<50	<50	<50	<50	<50
TRH C15 - C28	-	-	-	-	-	-	mg/kg	100	<100	<100	<100	<100	<100	<100	<100
TRH C29 - C36	-	-	-	-	-	-	mg/kg	100	<100	<100	<100	<100	<100	<100	<100
TRH >C10-C16	-	-	-	1000	1000	-	mg/kg	50	<50	<50	<50	<50	<50	<50	<50
TRH >C10 - C16 less Naphthalene (F2)	NL	NL	-	-	-	120/120	mg/kg	50	<50	<50	<50	<50	<50	<50	<50
TRH>C16-C34 (F3)	-	-	4500*	3500	2500	300/1300	mg/kg	100	<100	<100	<100	<100	<100	<100	<100
TRH>C34-C40 (F4)	-	-	6300*	10000	10000	2800/ 5600	mg/kg	100	<100	<100	<100	<100	<100	<100	<100
Total +ve TRH (>C10-C40)	-	-	-	-	-	-	mg/kg	50	<50	<50	<50	<50	<50	<50	<50

*Residential (Low Density) within Friebel, E & Nadebaum, P 2011a, HSLs for petroleum hydrocarbons in soil and groundwater, part 1: technical development document, Technical report no. 10, CRC for Contamination Assessment and Remediation of the Environment, Adelaide, Australia.

PAH						Sample Number	11538/ST2/TP01/S1	11538/ST2/TP02/S1	11538/ST2/TP03/S1	11538/ST2/TP04/S1	11538/ST2/TP05/S1	11538/ST2/TP06/S1	11538/ST2/TP07/S1
	Residential Land Use		Residential Land Use	Residential		Sample Location	TP01	TP02	TP03	TP04	TP05	TP06	TP07
Sample Depth from Surface (m)	0 to <1	0 to <1	-	-			0.15	0.2	0.25	0.3	0.1	0.3	0.25
Soil Type	Sand	Clay	-	-			Clay	Clay	Clay	Clay	Clay	Clay	Clay
ANALYTE	NEPM HSL	NEPM HSL	NEPM HIL	NEPM ESL/EIL	Units	PQL							
Naphthalene	NL	NL	-	170	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Acenaphthylene	-	-	-	-	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Acenaphthene	-	-	-	-	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Fluorene	-	-	-	-	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Phenanthrene	-	-	-	-	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Anthracene	-	-	-	-	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Fluoranthene	-	-	-	-	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Pyrene	-	-	-	-	mg/kg	0.1	<0.1	<0.1	<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	<0.1	<0.1	<0.1
Chrysene	-	-	-	-	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(b,j+k)fluoranthene	-	-	-	-	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Benzo(a)pyrene	-	-	-	0.7	mg/kg	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Indeno(1,2,3-c,d)pyrene	-	-	-	-	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Dibenzo(a,h)anthracene	-	-	-	-	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(g,h,i)perylene	-	-	-	-	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Total +ve PAH's	-	-	300	-	mg/kg	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Benzo(a)pyrene TEQ calc (zero)	-	-	3	-	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(a)pyrene TEQ calc(half)	-	-	3	-	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(a)pyrene TEQ calc(PQL)	-	-	3	-	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5

OCP/OPP				Sample Number	11538/ST2/TP01/S1	11538/ST2/TP03/S1	11538/ST2/TP05/S1	11538/ST2/TP07/S1
	Residential Land Use	Residential		Sample Location	TP01	TP03	TP05	TP07
Sample Depth from Surface (m)	-	-			0.15	0.25	0.1	0.25
ANALYTE	NEPM HIL	NEPM EIL	Units	PQL				
alpha-BHC	-	-	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
HCB	15	-	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
gamma-BHC	-	-	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Heptachlor	9	-	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
delta-BHC	-	-	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Aldrin	-	-	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Heptachlor Epoxide	-	-	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
gamma-Chlordane	-	-	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
alpha-chlordane	-	-	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Endosulfan I	-	-	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
pp-DDE	-	-	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Dieldrin	-	-	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Endrin	10	-	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Endosulfan II	-	-	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
pp-DDD	-	-	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
pp-DDT	-	180	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Endosulfan Sulphate	-	-	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Methoxychlor	400	-	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Dichlorvos	-	-	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Dimethoate	-	-	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Diazinon	-	-	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Chlorpyriphos-methyl	-	-	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Ronnel	-	-	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Fenitrothion	-	-	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Malathion	-	-	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Chlorpyriphos	170	-	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Parathion	-	-	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Ethion	-	-	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Azinphos-methyl (Guthion)	-	-	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
DDT+DDE+DDD	260	-	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Aldrin and Dieldrin	7	-	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2
Total Chlordane	50	-	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2

OCP/OPP				Sample Number	11538/ST2/TP01/S1	11538/ST2/TP03/S1	11538/ST2/TP05/S1	11538/ST2/TP07/S1
	Residential Land Use	Residential		Sample Location	TP01	TP03	TP05	TP07
Sample Depth from Surface (m)	-	-			0.15	0.25	0.1	0.25
ANALYTE	NEPM HIL	NEPM EIL	Units	PQL				
Total Endosulfan	300	-	mg/kg	0.3	<0.3	<0.3	<0.3	<0.3
Total Endrin	10	-	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2
Total Heptachlor	7	-	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2

PCBs			Sample Number	11538/ST2/TP01/S1	11538/ST2/TP03/S1	11538/ST2/TP05/S1	11538/ST2/TP07/S1
	Residential Land Use		Sample Location	TP01	TP03	TP05	TP07
Sample Depth from Surface (m)				0.15	0.25	0.1	0.25
ANALYTE	NEPM HIL	Units	PQL				
Total PCBs (1016-1260)	1	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1

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 (mg contaminant/kg dry soil)	
	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%)
20
Below needed to calculate fresh and aged ABCs
Measured background concentration (mg/kg). Leave blank if no measured value
or for fresh ABCs only
(values from 0 to 50%) to obtain estimate
6.2
or for aged ABCs only
Enter State (or closest State)
NSW
Enter traffic volume (high or low)
high

Outputs		
Land use	Cr III soil-specific EILs (mg contaminant/kg dry soil)	
	Fresh	Aged
National parks and areas of high conservation value	130	170
Urban residential and open public spaces	270	510
Commercial and industrial	400	850

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)
8.1
Enter soil pH (calcium chloride method) (values from 1 to 14)
4.7
Enter organic carbon content (%OC) (values from 0 to 50%)
2.2
Below needed to calculate fresh and aged ABCs
Measured background concentration (mg/kg). Leave blank if no measured value
or for fresh ABCs only
(values from 0 to 50%) to obtain estimate
6.2
or for aged ABCs only
Enter State (or closest State)
NSW
Enter traffic volume (high or low)
high

Outputs		
Land use	Cu soil-specific EILs (mg contaminant/kg dry soil)	
	Fresh	Aged
National parks and areas of high conservation value	35	50
Urban residential and open public spaces	55	95
Commercial and industrial	75	130

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 (mg contaminant/kg dry soil)	
	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)
8.1
Below needed to calculate fresh and aged ABCs
Measured background concentration (mg/kg). Leave blank if no measured value
or for fresh ABCs only
(values from 0 to 50%) to obtain estimate
6.2
or for aged ABCs only
Enter State (or closest State)
NSW
Enter traffic volume (high or low)
high

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	110
Commercial and industrial	90	180

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

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)
8.1
Enter soil pH (calcium chloride method) (values from 1 to 14)
4.7
Below needed to calculate fresh and aged ABCs
Measured background concentration (mg/kg). Leave blank if no measured value
or for fresh ABCs only
(values from 0 to 50%) to obtain estimate
6.2
or for aged ABCs only
Enter State (or closest State)
NSW
Enter traffic volume (high or low)
high

Outputs		
Land use	Zn soil-specific EILs (mg contaminant/kg dry soil)	
	Fresh	Aged
National parks and areas of high conservation value	45	150
Urban residential and open public spaces	85	270
Commercial and industrial	120	350

APPENDIX IX

LABORATORY ANALYSIS REPORTS

AUSTRALIAN SAFER ENVIRONMENT & TECHNOLOGY PTY LTD

ABN 36 088 095 112

Our ref : ASET92243 / 95423 / 1 - 29
Your ref : 11538
NATA Accreditation No: 14484

6 April 2021

Getex Pty Ltd
Unit 2 Building B 64 Talavera Road
Macquarie Park NSW 2113

Attn: Mr Chris Chen

Accredited for compliance with ISO/IEC 17025 - Testing.

Dear Chris

Asbestos Identification
This report presents the results of twenty nine samples, forwarded by Getex Pty Ltd on 31 March 2021, for analysis for asbestos.

1.Introduction: Twenty nine samples forwarded were examined and analysed for the presence of asbestos on 01 April 2021.

2. Methods : The samples were examined under a Stereo Microscope and selected fibres were analysed by Polarized Light Microscopy in conjunction with Dispersion Staining method **(Australian Standard AS 4964 - 2004 and Safer Environment Method 1 as the supplementary work instruction) (Qualitative Analysis only).**

The report also provides approximate weights and percentages, categories of asbestos forms appearing in the sample, such as **AF**(Asbestos Fines), **FA**(Friable Asbestos and **ACM** (Asbestos Containing Material), also satisfying the requirements of the WA/ NEPM Guidelines).

3. Results : **Sample No. 1. ASET92243 / 95423 / 1. 11538/ST1/TP02/AS01.**
Approx dimensions 10.0 cm x 10.0 cm x 5.1 cm
Approximate total dry weight of soil = 508.0g.
The sample consisted of a mixture of clayish sandy soil, stones, fragments of wood chips, char and plant matter.
No asbestos detected.

λ Sample No. 2. ASET92243 / 95423 / 2. 11538/ST2/TP04/AS02.
Approx dimensions 5.0 cm x 4.0 cm x 0.6 cm
The sample consisted of a fragment of a fibre cement material.
Chrysotile asbestos and Amosite asbestos detected.
Approximate total weight of fibre cement = 17.0g.

Ω Sample No. 3. ASET92243 / 95423 / 3. 11538/ST1/TP03/AS01.
Approx dimensions 10.0 cm x 10.0 cm x 4.6 cm
Approximate total dry weight of soil = 459.0g.
The sample consisted of a mixture of clayish sandy soil, stones, fragments of wood chips, char and plant matter.
No asbestos detected.

Ω Sample No. 4. ASET92243 / 95423 / 4. 11538/ST1/TP04/AS01.
Approx dimensions 10.0 cm x 10.0 cm x 4.1 cm
Approximate total dry weight of soil = 414.0g.
The sample consisted of a mixture of clayish sandy soil, stones, fragments of wood chips, char and plant matter.
No asbestos detected.

Ω Sample No. 5. ASET92243 / 95423 / 5. 11538/ST1/TP05/AS01.
Approx dimensions 10.0 cm x 10.0 cm x 4.7 cm
Approximate total dry weight of soil = 465.0g.
The sample consisted of a mixture of clayish sandy soil, stones, fragments of plastic, wood chips, char and plant matter.
No asbestos detected.

Ω Sample No. 6. ASET92243 / 95423 / 6. 11538/ST1/TP06/AS01.
Approx dimensions 10.0 cm x 10.0 cm x 4.5 cm
Approximate total dry weight of soil = 446.0g.
The sample consisted of a mixture of clayish sandy soil, stones, fragments of corroded metal, plastic, wood chips, char and plant matter.
No asbestos detected.

Sample No. 7. ASET92243 / 95423 / 7. 11538/ST2/TP02/AS01.
Approx dimensions 10.0 cm x 10.0 cm x 5.0 cm
Approximate total dry weight of soil = 497.0g.
The sample consisted of a mixture of clayish sandy soil, organic fibres, stones, fragments of mica like material, wood chips, char and plant matter.
No asbestos detected.

Ω Sample No. 8. ASET92243 / 95423 / 8. 11538/ST2/TP03/AS01.
Approx dimensions 10.0 cm x 10.0 cm x 4.1 cm
Approximate total dry weight of soil = 414.0g.
The sample consisted of a mixture of clayish sandy soil, stones and plant matter.
No asbestos detected.

Ω Sample No. 9. ASET92243 / 95423 / 9. 11538/ST2/TP04/AS01.
Approx dimensions 10.0 cm x 10.0 cm x 4.4 cm
Approximate total dry weight of soil = 440.0g.
The sample consisted of a mixture of clayish sandy soil, stones, fragments of wood chips, char and plant matter.
No asbestos detected.

Sample No. 10. ASET92243 / 95423 / 10. 11538/ST2/TP05/AS01.
Approx dimensions 10.0 cm x 10.0 cm x 5.0 cm
Approximate total dry weight of soil = 501.0g.
The sample consisted of a mixture of clayish sandy soil, stones, fragments of wood chips, char and plant matter.
No asbestos detected.

Ω Sample No. 11. ASET92243 / 95423 / 11. 11538/ST2/TP06/AS01.
Approx dimensions 10.0 cm x 10.0 cm x 4.5 cm
Approximate total dry weight of soil = 448.0g.
The sample consisted of a mixture of clayish sandy soil, organic fibres, stones, fragments of wood chips and plant matter.
No asbestos detected.

Sample No. 12. ASET92243 / 95423 / 12. 11538/ST4/TP02/AS01.
Approx dimensions 10.0 cm x 10.0 cm x 5.4 cm
Approximate total dry weight of soil = 536.0g.
The sample consisted of a mixture of clayish sandy soil, stones, fragments of sandstone, slag and plant matter.
No asbestos detected.

Sample No. 13. ASET92243 / 95423 / 13. 11538/ST4/TP03/AS01.
Approx dimensions 10.0 cm x 10.0 cm x 5.6 cm
Approximate total dry weight of soil = 562.0g.
The sample consisted of a mixture of clayish sandy soil, stones, fragments of sandstone, slag, wood chips, char and plant matter.
No asbestos detected.

Ω Sample No. 14. ASET92243 / 95423 / 14. 11538/ST4/TP04/AS01.
Approx dimensions 10.0 cm x 10.0 cm x 4.7 cm
Approximate total dry weight of soil = 463.0g.
The sample consisted of a mixture of clayish sandy soil, stones, fragments of char and plant matter.
No asbestos detected.

Ω Sample No. 15. ASET92243 / 95423 / 15. 11538/ST4/TP05/AS01.
Approx dimensions 10.0 cm x 10.0 cm x 4.8 cm
Approximate total dry weight of soil = 480.0g.
The sample consisted of a mixture of clayish sandy soil, stones and plant matter.
No asbestos detected.

Sample No. 16. ASET92243 / 95423 / 16. 11538/ST4/TP06/AS01.
Approx dimensions 10.0 cm x 10.0 cm x 5.1 cm
Approximate total dry weight of soil = 513.0g.
The sample consisted of a mixture of clayish sandy soil, organic fibres, stones, fragments of wood chips, char and plant matter.
No asbestos detected.

Ω Sample No. 17. ASET92243 / 95423 / 17. 11538/ST5/TP02/AS01.
Approx dimensions 10.0 cm x 10.0 cm x 3.3 cm
Approximate total dry weight of soil = 334.0g.
The sample consisted of a mixture of clayish sandy soil, organic fibres, stones, fragments of wood chips and plant matter.
No asbestos detected.

Sample No. 18. ASET92243 / 95423 / 18. 11538/ST5/TP03/AS01.
Approx dimensions 10.0 cm x 10.0 cm x 5.1 cm
Approximate total dry weight of soil = 510.0g.
The sample consisted of a mixture of clayish sandy soil, stones and plant matter.
No asbestos detected.

Sample No. 19. ASET92243 / 95423 / 19. 11538/ST5/TP04/AS01.
Approx dimensions 10.0 cm x 10.0 cm x 4.9 cm
Approximate total dry weight of soil = 492.0g.
The sample consisted of a mixture of clayish sandy soil, stones, fragments of cement, wood chips and plant matter.
No asbestos detected.

Sample No. 20. ASET92243 / 95423 / 20. 11538/ST5/TP05/AS01.
Approx dimensions 10.0 cm x 10.0 cm x 4.9 cm
Approximate total dry weight of soil = 488.0g.
The sample consisted of a mixture of clayish sandy soil, stones, fragments of cement, wood chips and plant matter.
No asbestos detected.

Sample No. 21. ASET92243 / 95423 / 21. 11538/ST5/TP06/AS01.
Approx dimensions 10.0 cm x 10.0 cm x 4.9 cm
Approximate total dry weight of soil = 494.0g.
The sample consisted of a mixture of clayish sandy soil, stones and plant matter.
No asbestos detected.

Sample No. 22. ASET92243 / 95423 / 22. 11538/ST6/TP02/AS01.
Approx dimensions 10.0 cm x 10.0 cm x 5.1 cm
Approximate total dry weight of soil = 508.0g.
The sample consisted of a mixture of clayish sandy soil, organic fibres, stones, fragments of wood chips and plant matter.
No asbestos detected.

λ Sample No. 23. ASET92243 / 95423 / 23. 11538/ST6/TP02/AS02.
Approx dimensions 3.3 cm x 3.1 cm x 0.5 cm
The sample consisted of a fragment of a fibre cement material.
Chrysotile asbestos and Amosite asbestos detected.
Approximate total weight of fibre cement = 10.0g.

Ω Sample No. 24. ASET92243 / 95423 / 24. 11538/ST6/TP03/AS01.
Approx dimensions 10.0 cm x 10.0 cm x 4.8 cm
Approximate total dry weight of soil = 478.0g.
The sample consisted of a mixture of clayish sandy soil, organic fibres, stones, fragments of wood chips, char and plant matter.
No asbestos detected.

λ Sample No. 25. ASET92243 / 95423 / 25. 11538/ST6/TP03/AS02.
Approx dimensions 6.0 cm x 3.0 cm x 0.6 cm
The sample consisted of fragments of a fibre cement material.
Chrysotile asbestos and Amosite asbestos detected.
Approximate total weight of fibre cement = 18.0g.

Sample No. 26. ASET92243 / 95423 / 26. 11538/ST6/TP04/AS01.
Approx dimensions 10.0 cm x 10.0 cm x 4.9 cm
Approximate total dry weight of soil = 489.0g.
The sample consisted of a mixture of clayish sandy soil, organic fibres, stones, fragments of char and plant matter.
No asbestos detected.

Ω Sample No. 27. ASET92243 / 95423 / 27. 11538/ST6/TP05/AS01.
Approx dimensions 10.0 cm x 10.0 cm x 4.7 cm
Approximate total dry weight of soil = 473.0g.
The sample consisted of a mixture of clayish sandy soil, stones, fragments of wood chips, char and plant matter.
No asbestos detected.

Ω Sample No. 28. ASET92243 / 95423 / 28. 11538/ST6/TP06/AS01.
Approx dimensions 10.0 cm x 10.0 cm x 4.5 cm
Approximate total dry weight of soil = 448.0g.
The sample consisted of a mixture of clayish sandy soil, organic fibres, stones, fragments of wood chips, char and plant matter.
No asbestos detected.

Ω Sample No. 29. ASET92243 / 95423 / 29. 11538/ST6/TP08/AS01.
Approx dimensions 10.0 cm x 10.0 cm x 4.4 cm
Approximate total dry weight of soil = 443.0g.
The sample consisted of a mixture of clayish sandy soil, organic fibres, stones, fragments of wood chips, char and plant matter.
No asbestos detected.

Reported by,

[redacted]

Mahen De Silva. BSc, MSc, Grad Dip (Occ Hyg)
Occupational Hygienist / Approved Identifier.
Approved Signatory

WORLD RECOGNISED ACCREDITATION

Accredited for compliance with ISO/IEC 17025 - Testing.

This report is consistent with the analytical procedures and reporting recommendations in the Western Australia Guidelines for the Assessment Remediation and Management of Asbestos contaminated sites in Western Australia and it also satisfies the requirements of the current NEPM Guidelines. NATA Accreditation does not cover the performance of this service.

Disclaimers;

The approx; weights given above can be used only as a guide. They do not represent absolute weights of each kind of asbestos, as it is impossible to extract all loose fibres from soil and other asbestos containing building material samples using this method. However above figures may be used as closest approximations to the exact values in each case. Estimation and/ or reporting of asbestos fibre weights in asbestos containing materials and soil is out of the Scope of the NATA Accreditation. NATA Accreditation only covers the qualitative part of the results reported. This weight disclaimer also covers weight / weight percentages if given.

ACM - Asbestos Containing Material - Products or materials that contain asbestos in an inert bound matrix such as cement or resin. Here taken to be sound material, even as fragments and not fitting through a 7mm X 7 mm sieve.

AF -Includes asbestos free fibres, small fibre bundles and also ACM fragments that pass through a 7mm X 7 mm sieve.

FA -Friable asbestos material such as severely weathered ACM, and asbestos in the form of loose fibrous material such as insulation products.

^ denotes loose fibres of relevant asbestos types detected in soil/dust.
*** denotes asbestos detected in ACM in bonded form.**

 # denotes friable asbestos as soft fibro plaster and/ or highly weathered ACM that will easily crumble.
λ denotes samples that have been analysed only in accordance to AS 4964 – 2004.
Ω Sample volume criteria of 500mL have not been satisfied.

The results contained in this report relate only to the sample/s submitted for testing. Australian Safer Environment & Technology accepts no responsibility for whether or not the submitted sample/s is/are representative. Results indicating "No asbestos detected" indicates a reporting limit specified in AS4964 -2004 which is 0.1g/ Kg (0.01%). Any amounts detected at assumed lower level than that would be reported, however those assumed lower levels may be treated as "No asbestos detected" as specified and recommended by A4964-2004. Trace / respirable level asbestos will be reported only when detected and trace analysis have been performed on each sample as required by AS4964-2004. When loose asbestos fibres/ fibre bundles are detected and reported that means they are larger handpicked fibres/ fibre bundles, and they do not represent respirable fibres. Dust/soil samples are always subjected to trace analysis except where the amounts involved are extremely minute and trace analysis is not possible to be carried out. When trace analysis is not performed on dust samples it will be indicated in the report that trace analysis has not been carried out due to the volume of the sample being extremely minute.

Estimation of asbestos weights involves the use of following assumptions;
Volume of each kind of Asbestos present in broken edges have been visually estimated and its been assumed that volumes remain similar throughout the binding matrix and those volumes are only approximate and not exact. Material densities have been assumed to be similar to commonly found similar materials and may not be exact.

All samples indicating "No asbestos detected" are assumed to be less than 0.001% for friable AF and FA portions detected and 0.01 % for ACM detected unless the approximate weight is given.

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CERTIFICATE OF ANALYSIS 265582

Client Details

Client	Getex Pty Ltd
Attention	Chris Chen
Address	Unit 2, Building B, 64 Talavera Road, MACQUARIE PARK, NSW, 2113

Sample Details

Your Reference	**11538**
Number of Samples	42 Soil, 5 Water
Date samples received	31/03/2021
Date completed instructions received	31/03/2021

Analysis Details

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

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

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

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

Report Details

Date results requested by	09/04/2021
Date of Issue	09/04/2021

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

Results Approved By
Dragana Tomas, Senior Chemist
Giovanni Agosti, Group Technical Manager
Nancy Zhang, Laboratory Manager, Sydney
Nick Sarlamis, Inorganics Supervisor
Steven Luong, Organics Supervisor

Authorised By

[redacted]

Nancy Zhang, Laboratory Manager

vTRH(C6-C10)/BTEXN in Soil						
Our Reference		265582-1	265582-2	265582-3	265582-4	265582-5
Your Reference	UNITS	11538/ST1/TP01/S1	11538/ST1/TP01/S1a	11538/ST1/TP02/S1	11538/ST1/TP03/S1	11538/ST1/TP04/S1
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	01/04/2021	01/04/2021	01/04/2021	01/04/2021	01/04/2021
Date analysed	-	06/04/2021	06/04/2021	06/04/2021	06/04/2021	06/04/2021
TRH C_6 - C_9	mg/kg	<25	<25	<25	<25	<25
TRH C_6 - C_{10}	mg/kg	<25	<25	<25	<25	<25
vTPH C_6 - C_{10} less BTEX (F1)	mg/kg	<25	<25	<25	<25	<25
Benzene	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Toluene	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Ethylbenzene	mg/kg	<1	<1	<1	<1	<1
m+p-xylene	mg/kg	<2	<2	<2	<2	<2
o-Xylene	mg/kg	<1	<1	<1	<1	<1
naphthalene	mg/kg	<1	<1	<1	<1	<1
Total +ve Xylenes	mg/kg	<3	<3	<3	<3	<3
Surrogate aaa-Trifluorotoluene	%	127	123	121	127	124

vTRH(C6-C10)/BTEXN in Soil						
Our Reference		265582-6	265582-7	265582-8	265582-9	265582-10
Your Reference	UNITS	11538/ST1/TP05/S1	11538/ST1/TP06/S1	11538/ST2/TP01/S1	11538/ST2/TP02/S1	11538/ST2/TP03/S1
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	01/04/2021	01/04/2021	01/04/2021	01/04/2021	01/04/2021
Date analysed	-	06/04/2021	06/04/2021	06/04/2021	06/04/2021	06/04/2021
TRH C_6 - C_9	mg/kg	<25	<25	<25	<25	<25
TRH C_6 - C_{10}	mg/kg	<25	<25	<25	<25	<25
vTPH C_6 - C_{10} less BTEX (F1)	mg/kg	<25	<25	<25	<25	<25
Benzene	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Toluene	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Ethylbenzene	mg/kg	<1	<1	<1	<1	<1
m+p-xylene	mg/kg	<2	<2	<2	<2	<2
o-Xylene	mg/kg	<1	<1	<1	<1	<1
naphthalene	mg/kg	<1	<1	<1	<1	<1
Total +ve Xylenes	mg/kg	<3	<3	<3	<3	<3
Surrogate aaa-Trifluorotoluene	%	124	127	122	126	125

vTRH(C6-C10)/BTEXN in Soil						
Our Reference		265582-11	265582-12	265582-13	265582-14	265582-15
Your Reference	UNITS	11538/ST2/TP04/S1	11538/ST2/TP05/S1	11538/ST2/TP06/S1	11538/ST2/TP07/S1	11538/ST4/TP01/S1
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	01/04/2021	01/04/2021	01/04/2021	01/04/2021	01/04/2021
Date analysed	-	06/04/2021	06/04/2021	06/04/2021	06/04/2021	06/04/2021
TRH C_6 - C_9	mg/kg	<25	<25	<25	<25	<25
TRH C_6 - C_{10}	mg/kg	<25	<25	<25	<25	<25
vTPH C_6 - C_{10} less BTEX (F1)	mg/kg	<25	<25	<25	<25	<25
Benzene	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Toluene	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Ethylbenzene	mg/kg	<1	<1	<1	<1	<1
m+p-xylene	mg/kg	<2	<2	<2	<2	<2
o-Xylene	mg/kg	<1	<1	<1	<1	<1
naphthalene	mg/kg	<1	<1	<1	<1	<1
Total +ve Xylenes	mg/kg	<3	<3	<3	<3	<3
Surrogate aaa-Trifluorotoluene	%	125	130	128	120	128

vTRH(C6-C10)/BTEXN in Soil						
Our Reference		265582-16	265582-17	265582-18	265582-19	265582-20
Your Reference	UNITS	11538/ST4/TP02/S1	11538/ST4/TP03/S1	11538/ST4/TP04/S1	11538/ST4/TP05/S1	11538/ST4/TP06/S1
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	01/04/2021	01/04/2021	01/04/2021	01/04/2021	01/04/2021
Date analysed	-	06/04/2021	06/04/2021	06/04/2021	06/04/2021	06/04/2021
TRH C_6 - C_9	mg/kg	<25	<25	<25	<25	<25
TRH C_6 - C_{10}	mg/kg	<25	<25	<25	<25	<25
vTPH C_6 - C_{10} less BTEX (F1)	mg/kg	<25	<25	<25	<25	<25
Benzene	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Toluene	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Ethylbenzene	mg/kg	<1	<1	<1	<1	<1
m+p-xylene	mg/kg	<2	<2	<2	<2	<2
o-Xylene	mg/kg	<1	<1	<1	<1	<1
naphthalene	mg/kg	<1	<1	<1	<1	<1
Total +ve Xylenes	mg/kg	<3	<3	<3	<3	<3
Surrogate aaa-Trifluorotoluene	%	128	122	126	125	119

vTRH(C6-C10)/BTEXN in Soil						
Our Reference		265582-21	265582-22	265582-23	265582-24	265582-25
Your Reference	UNITS	11538/ST4/TP07/S1	11538/ST5/TP01/S1	11538/ST5/TP01/S1a	11538/ST5/TP02/S1	11538/ST5/TP03/S1
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	01/04/2021	01/04/2021	01/04/2021	01/04/2021	01/04/2021
Date analysed	-	06/04/2021	06/04/2021	06/04/2021	06/04/2021	06/04/2021
TRH C_6 - C_9	mg/kg	<25	<25	<25	<25	<25
TRH C_6 - C_{10}	mg/kg	<25	<25	<25	<25	<25
vTPH C_6 - C_{10} less BTEX (F1)	mg/kg	<25	<25	<25	<25	<25
Benzene	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Toluene	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Ethylbenzene	mg/kg	<1	<1	<1	<1	<1
m+p-xylene	mg/kg	<2	<2	<2	<2	<2
o-Xylene	mg/kg	<1	<1	<1	<1	<1
naphthalene	mg/kg	<1	<1	<1	<1	<1
Total +ve Xylenes	mg/kg	<3	<3	<3	<3	<3
Surrogate aaa-Trifluorotoluene	%	122	122	121	116	124

vTRH(C6-C10)/BTEXN in Soil						
Our Reference		265582-26	265582-27	265582-28	265582-29	265582-30
Your Reference	UNITS	11538/ST5/TP04/S1	11538/ST5/TP05/S1	11538/ST5/TP06/S1	11538/ST5/TP07/S1	11538/ST5/TP08/S1
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	01/04/2021	01/04/2021	01/04/2021	01/04/2021	01/04/2021
Date analysed	-	06/04/2021	06/04/2021	06/04/2021	06/04/2021	06/04/2021
TRH C_6 - C_9	mg/kg	<25	<25	<25	<25	<25
TRH C_6 - C_{10}	mg/kg	<25	<25	<25	<25	<25
vTPH C_6 - C_{10} less BTEX (F1)	mg/kg	<25	<25	<25	<25	<25
Benzene	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Toluene	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Ethylbenzene	mg/kg	<1	<1	<1	<1	<1
m+p-xylene	mg/kg	<2	<2	<2	<2	<2
o-Xylene	mg/kg	<1	<1	<1	<1	<1
naphthalene	mg/kg	<1	<1	<1	<1	<1
Total +ve Xylenes	mg/kg	<3	<3	<3	<3	<3
Surrogate aaa-Trifluorotoluene	%	119	126	119	126	127

vTRH(C6-C10)/BTEXN in Soil						
Our Reference		265582-31	265582-32	265582-33	265582-34	265582-35
Your Reference	UNITS	11538/ST6/TP01/S1	11538/ST6/TP02/S1	11538/ST6/TP03/S1	11538/ST6/TP04/S1	11538/ST6/TP05/S1
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	01/04/2021	01/04/2021	01/04/2021	01/04/2021	01/04/2021
Date analysed	-	06/04/2021	06/04/2021	06/04/2021	06/04/2021	06/04/2021
TRH C_6 - C_9	mg/kg	<25	<25	<25	<25	<25
TRH C_6 - C_{10}	mg/kg	<25	<25	<25	<25	<25
vTPH C_6 - C_{10} less BTEX (F1)	mg/kg	<25	<25	<25	<25	<25
Benzene	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Toluene	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Ethylbenzene	mg/kg	<1	<1	<1	<1	<1
m+p-xylene	mg/kg	<2	<2	<2	<2	<2
o-Xylene	mg/kg	<1	<1	<1	<1	<1
naphthalene	mg/kg	<1	<1	<1	<1	<1
Total +ve Xylenes	mg/kg	<3	<3	<3	<3	<3
Surrogate aaa-Trifluorotoluene	%	130	122	125	122	128

vTRH(C6-C10)/BTEXN in Soil						
Our Reference		265582-36	265582-37	265582-39	265582-41	265582-43
Your Reference	UNITS	11538/ST6/TP06/S1	11538/ST6/TP07/S1	11538/ST1/TB01	11538/ST2/TB01	11538/ST4/TB01
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	01/04/2021	01/04/2021	01/04/2021	01/04/2021	01/04/2021
Date analysed	-	06/04/2021	06/04/2021	06/04/2021	06/04/2021	06/04/2021
TRH C_6 - C_9	mg/kg	<25	<25	[NA]	[NA]	[NA]
TRH C_6 - C_{10}	mg/kg	<25	<25	[NA]	[NA]	[NA]
vTPH C_6 - C_{10} less BTEX (F1)	mg/kg	<25	<25	[NA]	[NA]	[NA]
Benzene	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Toluene	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Ethylbenzene	mg/kg	<1	<1	<1	<1	<1
m+p-xylene	mg/kg	<2	<2	<2	<2	<2
o-Xylene	mg/kg	<1	<1	<1	<1	<1
naphthalene	mg/kg	<1	<1	[NA]	[NA]	[NA]
Total +ve Xylenes	mg/kg	<3	<3	[NA]	[NA]	[NA]
Surrogate aaa-Trifluorotoluene	%	123	128	110	106	107

vTRH(C6-C10)/BTEXN in Soil			
Our Reference		265582-45	265582-47
Your Reference	UNITS	11538/ST5/TB01	11538/ST6/TB01
Type of sample		Soil	Soil
Date extracted	-	01/04/2021	01/04/2021
Date analysed	-	06/04/2021	06/04/2021
Benzene	mg/kg	<0.2	<0.2
Toluene	mg/kg	<0.5	<0.5
Ethylbenzene	mg/kg	<1	<1
m+p-xylene	mg/kg	<2	<2
o-Xylene	mg/kg	<1	<1
Surrogate aaa-Trifluorotoluene	%	103	106

svTRH (C10-C40) in Soil						
Our Reference		265582-1	265582-2	265582-3	265582-4	265582-5
Your Reference	UNITS	11538/ST1/TP01/S1	11538/ST1/TP01/S1a	11538/ST1/TP02/S1	11538/ST1/TP03/S1	11538/ST1/TP04/S1
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	01/04/2021	01/04/2021	01/04/2021	01/04/2021	01/04/2021
Date analysed	-	06/04/2021	06/04/2021	06/04/2021	06/04/2021	06/04/2021
TRH C_{10} - C_{14}	mg/kg	<50	<50	<50	<50	<50
TRH C_{15} - C_{28}	mg/kg	<100	<100	<100	<100	<100
TRH C_{29} - C_{36}	mg/kg	<100	<100	<100	<100	<100
TRH >C_{10} -C_{16}	mg/kg	<50	<50	<50	<50	<50
TRH >C_{10} - C_{16} less Naphthalene (F2)	mg/kg	<50	<50	<50	<50	<50
TRH >C_{16} -C_{34}	mg/kg	<100	<100	<100	<100	<100
TRH >C_{34} -C_{40}	mg/kg	<100	<100	<100	<100	<100
Total +ve TRH (>C10-C40)	mg/kg	<50	<50	<50	<50	<50
Surrogate o-Terphenyl	%	97	78	69	86	92

svTRH (C10-C40) in Soil						
Our Reference		265582-6	265582-7	265582-8	265582-9	265582-10
Your Reference	UNITS	11538/ST1/TP05/S1	11538/ST1/TP06/S1	11538/ST2/TP01/S1	11538/ST2/TP02/S1	11538/ST2/TP03/S1
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	01/04/2021	01/04/2021	01/04/2021	01/04/2021	01/04/2021
Date analysed	-	06/04/2021	06/04/2021	06/04/2021	06/04/2021	06/04/2021
TRH C_{10} - C_{14}	mg/kg	<50	<50	<50	<50	<50
TRH C_{15} - C_{28}	mg/kg	<100	<100	<100	<100	<100
TRH C_{29} - C_{36}	mg/kg	<100	<100	<100	<100	<100
TRH >C_{10} -C_{16}	mg/kg	<50	<50	<50	<50	<50
TRH >C_{10} - C_{16} less Naphthalene (F2)	mg/kg	<50	<50	<50	<50	<50
TRH >C_{16} -C_{34}	mg/kg	<100	<100	<100	<100	<100
TRH >C_{34} -C_{40}	mg/kg	<100	<100	<100	<100	<100
Total +ve TRH (>C10-C40)	mg/kg	<50	<50	<50	<50	<50
Surrogate o-Terphenyl	%	83	84	77	77	80

svTRH (C10-C40) in Soil						
Our Reference		265582-11	265582-12	265582-13	265582-14	265582-15
Your Reference	UNITS	11538/ST2/TP04/S1	11538/ST2/TP05/S1	11538/ST2/TP06/S1	11538/ST2/TP07/S1	11538/ST4/TP01/S1
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	01/04/2021	01/04/2021	01/04/2021	01/04/2021	01/04/2021
Date analysed	-	06/04/2021	06/04/2021	06/04/2021	07/04/2021	07/04/2021
TRH C_{10} - C_{14}	mg/kg	<50	<50	<50	<50	<50
TRH C_{15} - C_{28}	mg/kg	<100	<100	<100	<100	<100
TRH C_{29} - C_{36}	mg/kg	<100	<100	<100	<100	<100
TRH >C_{10} -C_{16}	mg/kg	<50	<50	<50	<50	<50
TRH >C_{10} - C_{16} less Naphthalene (F2)	mg/kg	<50	<50	<50	<50	<50
TRH >C_{16} -C_{34}	mg/kg	<100	<100	<100	<100	<100
TRH >C_{34} -C_{40}	mg/kg	<100	<100	<100	<100	<100
Total +ve TRH (>C10-C40)	mg/kg	<50	<50	<50	<50	<50
Surrogate o-Terphenyl	%	79	79	83	78	80

svTRH (C10-C40) in Soil						
Our Reference		265582-16	265582-17	265582-18	265582-19	265582-20
Your Reference	UNITS	11538/ST4/TP02/S1	11538/ST4/TP03/S1	11538/ST4/TP04/S1	11538/ST4/TP05/S1	11538/ST4/TP06/S1
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	01/04/2021	01/04/2021	01/04/2021	01/04/2021	01/04/2021
Date analysed	-	07/04/2021	07/04/2021	07/04/2021	07/04/2021	07/04/2021
TRH C_{10} - C_{14}	mg/kg	<50	<50	<50	<50	<50
TRH C_{15} - C_{28}	mg/kg	<100	<100	<100	<100	<100
TRH C_{29} - C_{36}	mg/kg	<100	<100	<100	<100	<100
TRH >C_{10} -C_{16}	mg/kg	<50	<50	<50	<50	<50
TRH >C_{10} - C_{16} less Naphthalene (F2)	mg/kg	<50	<50	<50	<50	<50
TRH >C_{16} -C_{34}	mg/kg	<100	<100	<100	<100	<100
TRH >C_{34} -C_{40}	mg/kg	<100	<100	<100	<100	<100
Total +ve TRH (>C10-C40)	mg/kg	<50	<50	<50	<50	<50
Surrogate o-Terphenyl	%	77	78	89	83	79

svTRH (C10-C40) in Soil						
Our Reference		265582-21	265582-22	265582-23	265582-24	265582-25
Your Reference	UNITS	11538/ST4/TP07/S1	11538/ST5/TP01/S1	11538/ST5/TP01/S1a	11538/ST5/TP02/S1	11538/ST5/TP03/S1
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	01/04/2021	01/04/2021	01/04/2021	01/04/2021	01/04/2021
Date analysed	-	07/04/2021	07/04/2021	07/04/2021	07/04/2021	07/04/2021
TRH C_{10} - C_{14}	mg/kg	<50	<50	<50	<50	<50
TRH C_{15} - C_{28}	mg/kg	<100	<100	<100	140	<100
TRH C_{29} - C_{36}	mg/kg	<100	<100	<100	260	<100
TRH >C_{10} -C_{16}	mg/kg	<50	<50	<50	<50	<50
TRH >C_{10} - C_{16} less Naphthalene (F2)	mg/kg	<50	<50	<50	<50	<50
TRH >C_{16} -C_{34}	mg/kg	110	<100	<100	320	<100
TRH >C_{34} -C_{40}	mg/kg	<100	<100	<100	140	<100
Total +ve TRH (>C10-C40)	mg/kg	110	<50	<50	460	<50
Surrogate o-Terphenyl	%	81	83	75	85	78

svTRH (C10-C40) in Soil						
Our Reference		265582-26	265582-27	265582-28	265582-29	265582-30
Your Reference	UNITS	11538/ST5/TP04/S1	11538/ST5/TP05/S1	11538/ST5/TP06/S1	11538/ST5/TP07/S1	11538/ST5/TP08/S1
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	01/04/2021	01/04/2021	01/04/2021	01/04/2021	01/04/2021
Date analysed	-	07/04/2021	07/04/2021	07/04/2021	07/04/2021	07/04/2021
TRH C_{10} - C_{14}	mg/kg	<50	<50	<50	<50	<50
TRH C_{15} - C_{28}	mg/kg	<100	<100	<100	<100	<100
TRH C_{29} - C_{36}	mg/kg	<100	<100	<100	<100	<100
TRH >C_{10} -C_{16}	mg/kg	<50	<50	<50	<50	<50
TRH >C_{10} - C_{16} less Naphthalene (F2)	mg/kg	<50	<50	<50	<50	<50
TRH >C_{16} -C_{34}	mg/kg	<100	<100	<100	<100	<100
TRH >C_{34} -C_{40}	mg/kg	<100	<100	<100	<100	<100
Total +ve TRH (>C10-C40)	mg/kg	<50	<50	<50	<50	<50
Surrogate o-Terphenyl	%	76	83	81	79	80

svTRH (C10-C40) in Soil						
Our Reference		265582-31	265582-32	265582-33	265582-34	265582-35
Your Reference	UNITS	11538/ST6/TP01/S1	11538/ST6/TP02/S1	11538/ST6/TP03/S1	11538/ST6/TP04/S1	11538/ST6/TP05/S1
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	01/04/2021	01/04/2021	01/04/2021	01/04/2021	01/04/2021
Date analysed	-	07/04/2021	07/04/2021	07/04/2021	07/04/2021	07/04/2021
TRH C_{10} - C_{14}	mg/kg	<50	<50	<50	<50	<50
TRH C_{15} - C_{28}	mg/kg	<100	<100	<100	<100	<100
TRH C_{29} - C_{36}	mg/kg	<100	<100	<100	<100	<100
TRH >C_{10} -C_{16}	mg/kg	<50	<50	<50	<50	<50
TRH >C_{10} - C_{16} less Naphthalene (F2)	mg/kg	<50	<50	<50	<50	<50
TRH >C_{16} -C_{34}	mg/kg	<100	<100	<100	<100	<100
TRH >C_{34} -C_{40}	mg/kg	<100	<100	<100	<100	<100
Total +ve TRH (>C10-C40)	mg/kg	<50	<50	<50	<50	<50
Surrogate o-Terphenyl	%	73	76	75	87	74

svTRH (C10-C40) in Soil			
Our Reference		265582-36	265582-37
Your Reference	UNITS	11538/ST6/TP06/S1	11538/ST6/TP07/S1
Type of sample		Soil	Soil
Date extracted	-	01/04/2021	01/04/2021
Date analysed	-	07/04/2021	07/04/2021
TRH C_{10} - C_{14}	mg/kg	<50	<50
TRH C_{15} - C_{28}	mg/kg	<100	<100
TRH C_{29} - C_{36}	mg/kg	<100	<100
TRH >C_{10} -C_{16}	mg/kg	<50	<50
TRH >C_{10} - C_{16} less Naphthalene (F2)	mg/kg	<50	<50
TRH >C_{16} -C_{34}	mg/kg	<100	<100
TRH >C_{34} -C_{40}	mg/kg	<100	<100
Total +ve TRH (>C10-C40)	mg/kg	<50	<50
Surrogate o-Terphenyl	%	74	72

PAHs in Soil						
Our Reference		265582-1	265582-2	265582-3	265582-4	265582-5
Your Reference	UNITS	11538/ST1/TP01/S1	11538/ST1/TP01/S1a	11538/ST1/TP02/S1	11538/ST1/TP03/S1	11538/ST1/TP04/S1
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	01/04/2021	01/04/2021	01/04/2021	01/04/2021	01/04/2021
Date analysed	-	01/04/2021	01/04/2021	01/04/2021	01/04/2021	01/04/2021
Naphthalene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Acenaphthylene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Acenaphthene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Fluorene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Phenanthrene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Anthracene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Fluoranthene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Pyrene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(a)anthracene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Chrysene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(b,j+k)fluoranthene	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Benzo(a)pyrene	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Indeno(1,2,3-c,d)pyrene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Dibenzo(a,h)anthracene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(g,h,i)perylene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Total +ve PAH's	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Benzo(a)pyrene TEQ calc (zero)	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(a)pyrene TEQ calc(half)	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(a)pyrene TEQ calc(PQL)	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Surrogate p-Terphenyl-d14	%	81	93	100	86	95

PAHs in Soil						
Our Reference		265582-6	265582-7	265582-8	265582-9	265582-10
Your Reference	UNITS	11538/ST1/TP05/S1	11538/ST1/TP06/S1	11538/ST2/TP01/S1	11538/ST2/TP02/S1	11538/ST2/TP03/S1
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	01/04/2021	01/04/2021	01/04/2021	01/04/2021	01/04/2021
Date analysed	-	01/04/2021	01/04/2021	01/04/2021	01/04/2021	01/04/2021
Naphthalene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Acenaphthylene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Acenaphthene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Fluorene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Phenanthrene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Anthracene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Fluoranthene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Pyrene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(a)anthracene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Chrysene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(b,j+k)fluoranthene	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Benzo(a)pyrene	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Indeno(1,2,3-c,d)pyrene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Dibenzo(a,h)anthracene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(g,h,i)perylene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Total +ve PAH's	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Benzo(a)pyrene TEQ calc (zero)	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(a)pyrene TEQ calc(half)	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(a)pyrene TEQ calc(PQL)	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Surrogate p-Terphenyl-d14	%	73	117	95	95	94

PAHs in Soil						
Our Reference		265582-11	265582-12	265582-13	265582-14	265582-15
Your Reference	UNITS	11538/ST2/TP04/S1	11538/ST2/TP05/S1	11538/ST2/TP06/S1	11538/ST2/TP07/S1	11538/ST4/TP01/S1
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	01/04/2021	01/04/2021	01/04/2021	01/04/2021	01/04/2021
Date analysed	-	01/04/2021	01/04/2021	01/04/2021	01/04/2021	01/04/2021
Naphthalene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Acenaphthylene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Acenaphthene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Fluorene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Phenanthrene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Anthracene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Fluoranthene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Pyrene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(a)anthracene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Chrysene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(b,j+k)fluoranthene	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Benzo(a)pyrene	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Indeno(1,2,3-c,d)pyrene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Dibenzo(a,h)anthracene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(g,h,i)perylene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Total +ve PAH's	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Benzo(a)pyrene TEQ calc (zero)	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(a)pyrene TEQ calc(half)	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(a)pyrene TEQ calc(PQL)	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Surrogate p-Terphenyl-d14	%	95	97	94	90	92

PAHs in Soil						
Our Reference		265582-16	265582-17	265582-18	265582-19	265582-20
Your Reference	UNITS	11538/ST4/TP02/S1	11538/ST4/TP03/S1	11538/ST4/TP04/S1	11538/ST4/TP05/S1	11538/ST4/TP06/S1
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	01/04/2021	01/04/2021	01/04/2021	01/04/2021	01/04/2021
Date analysed	-	01/04/2021	01/04/2021	01/04/2021	01/04/2021	01/04/2021
Naphthalene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Acenaphthylene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Acenaphthene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Fluorene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Phenanthrene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Anthracene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Fluoranthene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Pyrene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(a)anthracene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Chrysene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(b,j+k)fluoranthene	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Benzo(a)pyrene	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Indeno(1,2,3-c,d)pyrene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Dibenzo(a,h)anthracene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(g,h,i)perylene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Total +ve PAH's	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Benzo(a)pyrene TEQ calc (zero)	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(a)pyrene TEQ calc(half)	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(a)pyrene TEQ calc(PQL)	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Surrogate p-Terphenyl-d14	%	89	98	89	90	89

PAHs in Soil						
Our Reference		265582-21	265582-22	265582-23	265582-24	265582-25
Your Reference	UNITS	11538/ST4/TP07/S1	11538/ST5/TP01/S1	11538/ST5/TP01/S1a	11538/ST5/TP02/S1	11538/ST5/TP03/S1
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	01/04/2021	01/04/2021	01/04/2021	01/04/2021	01/04/2021
Date analysed	-	01/04/2021	01/04/2021	01/04/2021	01/04/2021	01/04/2021
Naphthalene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Acenaphthylene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Acenaphthene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Fluorene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Phenanthrene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Anthracene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Fluoranthene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Pyrene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(a)anthracene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Chrysene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(b,j+k)fluoranthene	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Benzo(a)pyrene	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Indeno(1,2,3-c,d)pyrene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Dibenzo(a,h)anthracene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(g,h,i)perylene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Total +ve PAH's	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Benzo(a)pyrene TEQ calc (zero)	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(a)pyrene TEQ calc(half)	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(a)pyrene TEQ calc(PQL)	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Surrogate p-Terphenyl-d14	%	94	98	89	87	96

PAHs in Soil						
Our Reference		265582-26	265582-27	265582-28	265582-29	265582-30
Your Reference	UNITS	11538/ST5/TP04/S1	11538/ST5/TP05/S1	11538/ST5/TP06/S1	11538/ST5/TP07/S1	11538/ST5/TP08/S1
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	01/04/2021	01/04/2021	01/04/2021	01/04/2021	01/04/2021
Date analysed	-	01/04/2021	01/04/2021	01/04/2021	01/04/2021	01/04/2021
Naphthalene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Acenaphthylene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Acenaphthene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Fluorene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Phenanthrene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Anthracene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Fluoranthene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Pyrene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(a)anthracene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Chrysene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(b,j+k)fluoranthene	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Benzo(a)pyrene	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Indeno(1,2,3-c,d)pyrene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Dibenzo(a,h)anthracene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(g,h,i)perylene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Total +ve PAH's	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Benzo(a)pyrene TEQ calc (zero)	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(a)pyrene TEQ calc(half)	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(a)pyrene TEQ calc(PQL)	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Surrogate p-Terphenyl-d14	%	86	93	87	93	91

PAHs in Soil						
Our Reference		265582-31	265582-32	265582-33	265582-34	265582-35
Your Reference	UNITS	11538/ST6/TP01/S1	11538/ST6/TP02/S1	11538/ST6/TP03/S1	11538/ST6/TP04/S1	11538/ST6/TP05/S1
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	01/04/2021	01/04/2021	01/04/2021	01/04/2021	01/04/2021
Date analysed	-	08/04/2021	01/04/2021	01/04/2021	01/04/2021	01/04/2021
Naphthalene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Acenaphthylene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Acenaphthene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Fluorene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Phenanthrene	mg/kg	0.2	<0.1	<0.1	<0.1	<0.1
Anthracene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Fluoranthene	mg/kg	0.5	0.3	<0.1	<0.1	<0.1
Pyrene	mg/kg	0.4	0.3	<0.1	<0.1	<0.1
Benzo(a)anthracene	mg/kg	0.2	0.1	<0.1	<0.1	<0.1
Chrysene	mg/kg	0.1	0.1	<0.1	<0.1	<0.1
Benzo(b,j+k)fluoranthene	mg/kg	0.2	0.2	<0.2	<0.2	<0.2
Benzo(a)pyrene	mg/kg	0.2	0.2	<0.05	<0.05	<0.05
Indeno(1,2,3-c,d)pyrene	mg/kg	0.1	0.1	<0.1	<0.1	<0.1
Dibenzo(a,h)anthracene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(g,h,i)perylene	mg/kg	0.2	0.2	<0.1	<0.1	<0.1
Total +ve PAH's	mg/kg	2.0	1.5	<0.05	<0.05	<0.05
Benzo(a)pyrene TEQ calc (zero)	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(a)pyrene TEQ calc(half)	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(a)pyrene TEQ calc(PQL)	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Surrogate p-Terphenyl-d14	%	95	85	89	84	94

PAHs in Soil			
Our Reference		265582-36	265582-37
Your Reference	UNITS	11538/ST6/TP06/S1	11538/ST6/TP07/S1
Type of sample		Soil	Soil
Date extracted	-	01/04/2021	01/04/2021
Date analysed	-	01/04/2021	01/04/2021
Naphthalene	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	0.2	0.1
Pyrene	mg/kg	0.2	0.1
Benzo(a)anthracene	mg/kg	<0.1	<0.1
Chrysene	mg/kg	<0.1	<0.1
Benzo(b,j+k)fluoranthene	mg/kg	<0.2	<0.2
Benzo(a)pyrene	mg/kg	0.08	0.1
Indeno(1,2,3-c,d)pyrene	mg/kg	<0.1	<0.1
Dibenzo(a,h)anthracene	mg/kg	<0.1	<0.1
Benzo(g,h,i)perylene	mg/kg	<0.1	<0.1
Total +ve PAH's	mg/kg	0.4	0.4
Benzo(a)pyrene TEQ calc (zero)	mg/kg	<0.5	<0.5
Benzo(a)pyrene TEQ calc(half)	mg/kg	<0.5	<0.5
Benzo(a)pyrene TEQ calc(PQL)	mg/kg	<0.5	<0.5
Surrogate p-Terphenyl-d14	%	86	94

Organochlorine Pesticides in soil						
Our Reference		265582-1	265582-4	265582-6	265582-8	265582-10
Your Reference	UNITS	11538/ST1/TP01/S1	11538/ST1/TP03/S1	11538/ST1/TP05/S1	11538/ST2/TP01/S1	11538/ST2/TP03/S1
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	01/04/2021	01/04/2021	01/04/2021	01/04/2021	01/04/2021
Date analysed	-	01/04/2021	01/04/2021	01/04/2021	01/04/2021	01/04/2021
alpha-BHC	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
HCB	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
gamma-BHC	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Heptachlor	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
delta-BHC	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Aldrin	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Heptachlor Epoxide	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
gamma-Chlordane	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
alpha-chlordane	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Endosulfan I	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
pp-DDE	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Dieldrin	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Endrin	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Endosulfan II	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
pp-DDD	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Endrin Aldehyde	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
pp-DDT	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Endosulfan Sulphate	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Methoxychlor	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Total +ve DDT+DDD+DDE	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Surrogate TCMX	%	82	90	77	92	92

Organochlorine Pesticides in soil						
Our Reference		265582-12	265582-14	265582-15	265582-17	265582-19
Your Reference	UNITS	11538/ST2/TP05/S1	11538/ST2/TP07/S1	11538/ST4/TP01/S1	11538/ST4/TP03/S1	11538/ST4/TP05/S1
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	01/04/2021	01/04/2021	01/04/2021	01/04/2021	01/04/2021
Date analysed	-	01/04/2021	01/04/2021	01/04/2021	01/04/2021	01/04/2021
alpha-BHC	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
HCB	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
gamma-BHC	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Heptachlor	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
delta-BHC	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Aldrin	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Heptachlor Epoxide	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
gamma-Chlordane	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
alpha-chlordane	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Endosulfan I	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
pp-DDE	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Dieldrin	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Endrin	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Endosulfan II	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
pp-DDD	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Endrin Aldehyde	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
pp-DDT	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Endosulfan Sulphate	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Methoxychlor	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Total +ve DDT+DDD+DDE	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Surrogate TCMX	%	92	84	92	93	93

Organochlorine Pesticides in soil						
Our Reference		265582-21	265582-22	265582-25	265582-27	265582-29
Your Reference	UNITS	11538/ST4/TP07/S1	11538/ST5/TP01/S1	11538/ST5/TP03/S1	11538/ST5/TP05/S1	11538/ST5/TP07/S1
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	01/04/2021	01/04/2021	01/04/2021	01/04/2021	01/04/2021
Date analysed	-	01/04/2021	01/04/2021	01/04/2021	01/04/2021	01/04/2021
alpha-BHC	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
HCB	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
gamma-BHC	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Heptachlor	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
delta-BHC	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Aldrin	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Heptachlor Epoxide	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
gamma-Chlordane	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
alpha-chlordane	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Endosulfan I	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
pp-DDE	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Dieldrin	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Endrin	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Endosulfan II	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
pp-DDD	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Endrin Aldehyde	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
pp-DDT	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Endosulfan Sulphate	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Methoxychlor	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Total +ve DDT+DDD+DDE	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Surrogate TCMX	%	88	93	85	89	89

Organochlorine Pesticides in soil					
Our Reference		265582-31	265582-33	265582-35	265582-37
Your Reference	UNITS	11538/ST6/TP01/S1	11538/ST6/TP03/S1	11538/ST6/TP05/S1	11538/ST6/TP07/S1
Type of sample		Soil	Soil	Soil	Soil
Date extracted	-	01/04/2021	01/04/2021	01/04/2021	01/04/2021
Date analysed	-	01/04/2021	01/04/2021	01/04/2021	01/04/2021
alpha-BHC	mg/kg	<0.1	<0.1	<0.1	<0.1
HCB	mg/kg	<0.1	<0.1	<0.1	<0.1
beta-BHC	mg/kg	<0.1	<0.1	<0.1	<0.1
gamma-BHC	mg/kg	<0.1	<0.1	<0.1	<0.1
Heptachlor	mg/kg	<0.1	<0.1	<0.1	<0.1
delta-BHC	mg/kg	<0.1	<0.1	<0.1	<0.1
Aldrin	mg/kg	<0.1	<0.1	<0.1	<0.1
Heptachlor Epoxide	mg/kg	<0.1	<0.1	<0.1	<0.1
gamma-Chlordane	mg/kg	<0.1	<0.1	<0.1	<0.1
alpha-chlordane	mg/kg	<0.1	<0.1	<0.1	<0.1
Endosulfan I	mg/kg	<0.1	<0.1	<0.1	<0.1
pp-DDE	mg/kg	<0.1	<0.1	<0.1	<0.1
Dieldrin	mg/kg	<0.1	<0.1	<0.1	<0.1
Endrin	mg/kg	<0.1	<0.1	<0.1	<0.1
Endosulfan II	mg/kg	<0.1	<0.1	<0.1	<0.1
pp-DDD	mg/kg	<0.1	<0.1	<0.1	<0.1
Endrin Aldehyde	mg/kg	<0.1	<0.1	<0.1	<0.1
pp-DDT	mg/kg	<0.1	<0.1	<0.1	<0.1
Endosulfan Sulphate	mg/kg	<0.1	<0.1	<0.1	<0.1
Methoxychlor	mg/kg	<0.1	<0.1	<0.1	<0.1
Total +ve DDT+DDD+DDE	mg/kg	<0.1	<0.1	<0.1	<0.1
Surrogate TCMX	%	88	84	91	86

Organophosphorus Pesticides in Soil						
Our Reference		265582-1	265582-4	265582-6	265582-8	265582-10
Your Reference	UNITS	11538/ST1/TP01/S1	11538/ST1/TP03/S1	11538/ST1/TP05/S1	11538/ST2/TP01/S1	11538/ST2/TP03/S1
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	01/04/2021	01/04/2021	01/04/2021	01/04/2021	01/04/2021
Date analysed	-	01/04/2021	01/04/2021	01/04/2021	01/04/2021	01/04/2021
Dichlorvos	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Dimethoate	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Diazinon	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Chlorpyriphos-methyl	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Ronnel	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Fenitrothion	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Malathion	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Chlorpyriphos	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Parathion	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Bromophos-ethyl	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Ethion	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Azinphos-methyl (Guthion)	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Surrogate TCMX	%	82	90	77	92	92

Organophosphorus Pesticides in Soil						
Our Reference		265582-12	265582-14	265582-15	265582-17	265582-19
Your Reference	UNITS	11538/ST2/TP05/S1	11538/ST2/TP07/S1	11538/ST4/TP01/S1	11538/ST4/TP03/S1	11538/ST4/TP05/S1
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	01/04/2021	01/04/2021	01/04/2021	01/04/2021	01/04/2021
Date analysed	-	01/04/2021	01/04/2021	01/04/2021	01/04/2021	01/04/2021
Dichlorvos	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Dimethoate	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Diazinon	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Chlorpyriphos-methyl	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Ronnel	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Fenitrothion	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Malathion	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Chlorpyriphos	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Parathion	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Bromophos-ethyl	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Ethion	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Azinphos-methyl (Guthion)	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Surrogate TCMX	%	92	84	92	93	93

Organophosphorus Pesticides in Soil						
Our Reference		265582-21	265582-22	265582-25	265582-27	265582-29
Your Reference	UNITS	11538/ST4/TP07/S1	11538/ST5/TP01/S1	11538/ST5/TP03/S1	11538/ST5/TP05/S1	11538/ST5/TP07/S1
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	01/04/2021	01/04/2021	01/04/2021	01/04/2021	01/04/2021
Date analysed	-	01/04/2021	01/04/2021	01/04/2021	01/04/2021	01/04/2021
Dichlorvos	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Dimethoate	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Diazinon	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Chlorpyriphos-methyl	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Ronnel	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Fenitrothion	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Malathion	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Chlorpyriphos	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Parathion	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Bromophos-ethyl	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Ethion	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Azinphos-methyl (Guthion)	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Surrogate TCMX	%	88	93	85	89	89

Organophosphorus Pesticides in Soil					
Our Reference		265582-31	265582-33	265582-35	265582-37
Your Reference	UNITS	11538/ST6/TP01/S1	11538/ST6/TP03/S1	11538/ST6/TP05/S1	11538/ST6/TP07/S1
Type of sample		Soil	Soil	Soil	Soil
Date extracted	-	01/04/2021	01/04/2021	01/04/2021	01/04/2021
Date analysed	-	01/04/2021	01/04/2021	01/04/2021	01/04/2021
Dichlorvos	mg/kg	<0.1	<0.1	<0.1	<0.1
Dimethoate	mg/kg	<0.1	<0.1	<0.1	<0.1
Diazinon	mg/kg	<0.1	<0.1	<0.1	<0.1
Chlorpyriphos-methyl	mg/kg	<0.1	<0.1	<0.1	<0.1
Ronnel	mg/kg	<0.1	<0.1	<0.1	<0.1
Fenitrothion	mg/kg	<0.1	<0.1	<0.1	<0.1
Malathion	mg/kg	<0.1	<0.1	<0.1	<0.1
Chlorpyriphos	mg/kg	<0.1	<0.1	<0.1	<0.1
Parathion	mg/kg	<0.1	<0.1	<0.1	<0.1
Bromophos-ethyl	mg/kg	<0.1	<0.1	<0.1	<0.1
Ethion	mg/kg	<0.1	<0.1	<0.1	<0.1
Azinphos-methyl (Guthion)	mg/kg	<0.1	<0.1	<0.1	<0.1
Surrogate TCMX	%	88	84	91	86

PCBs in Soil						
Our Reference		265582-1	265582-4	265582-6	265582-8	265582-10
Your Reference	UNITS	11538/ST1/TP01/S1	11538/ST1/TP03/S1	11538/ST1/TP05/S1	11538/ST2/TP01/S1	11538/ST2/TP03/S1
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	01/04/2021	01/04/2021	01/04/2021	01/04/2021	01/04/2021
Date analysed	-	01/04/2021	01/04/2021	01/04/2021	01/04/2021	01/04/2021
Aroclor 1016	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Aroclor 1221	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Aroclor 1232	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Aroclor 1242	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Aroclor 1248	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Aroclor 1254	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Aroclor 1260	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Total +ve PCBs (1016-1260)	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Surrogate TCMX	%	82	90	77	92	92

PCBs in Soil						
Our Reference		265582-12	265582-14	265582-15	265582-17	265582-19
Your Reference	UNITS	11538/ST2/TP05/S1	11538/ST2/TP07/S1	11538/ST4/TP01/S1	11538/ST4/TP03/S1	11538/ST4/TP05/S1
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	01/04/2021	01/04/2021	01/04/2021	01/04/2021	01/04/2021
Date analysed	-	01/04/2021	01/04/2021	01/04/2021	01/04/2021	01/04/2021
Aroclor 1016	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Aroclor 1221	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Aroclor 1232	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Aroclor 1242	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Aroclor 1248	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Aroclor 1254	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Aroclor 1260	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Total +ve PCBs (1016-1260)	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Surrogate TCMX	%	92	84	92	93	93

PCBs in Soil						
Our Reference		265582-21	265582-22	265582-25	265582-27	265582-29
Your Reference	UNITS	11538/ST4/TP07/S1	11538/ST5/TP01/S1	11538/ST5/TP03/S1	11538/ST5/TP05/S1	11538/ST5/TP07/S1
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	01/04/2021	01/04/2021	01/04/2021	01/04/2021	01/04/2021
Date analysed	-	01/04/2021	01/04/2021	01/04/2021	01/04/2021	01/04/2021
Aroclor 1016	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Aroclor 1221	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Aroclor 1232	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Aroclor 1242	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Aroclor 1248	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Aroclor 1254	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Aroclor 1260	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Total +ve PCBs (1016-1260)	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Surrogate TCMX	%	88	93	85	89	89

PCBs in Soil					
Our Reference		265582-31	265582-33	265582-35	265582-37
Your Reference	UNITS	11538/ST6/TP01/S1	11538/ST6/TP03/S1	11538/ST6/TP05/S1	11538/ST6/TP07/S1
Type of sample		Soil	Soil	Soil	Soil
Date extracted	-	01/04/2021	01/04/2021	01/04/2021	01/04/2021
Date analysed	-	01/04/2021	01/04/2021	01/04/2021	01/04/2021
Aroclor 1016	mg/kg	<0.1	<0.1	<0.1	<0.1
Aroclor 1221	mg/kg	<0.1	<0.1	<0.1	<0.1
Aroclor 1232	mg/kg	<0.1	<0.1	<0.1	<0.1
Aroclor 1242	mg/kg	<0.1	<0.1	<0.1	<0.1
Aroclor 1248	mg/kg	<0.1	<0.1	<0.1	<0.1
Aroclor 1254	mg/kg	<0.1	<0.1	<0.1	<0.1
Aroclor 1260	mg/kg	<0.1	<0.1	<0.1	<0.1
Total +ve PCBs (1016-1260)	mg/kg	<0.1	<0.1	<0.1	<0.1
Surrogate TCMX	%	88	84	91	86

Acid Extractable metals in soil						
Our Reference		265582-1	265582-2	265582-3	265582-4	265582-5
Your Reference	UNITS	11538/ST1/TP01/S1	11538/ST1/TP01/S1a	11538/ST1/TP02/S1	11538/ST1/TP03/S1	11538/ST1/TP04/S1
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	06/04/2021	06/04/2021	06/04/2021	06/04/2021	06/04/2021
Date analysed	-	06/04/2021	06/04/2021	06/04/2021	06/04/2021	06/04/2021
Arsenic	mg/kg	<4	6	5	<4	8
Cadmium	mg/kg	<0.4	<0.4	<0.4	<0.4	<0.4
Chromium	mg/kg	15	24	16	11	23
Copper	mg/kg	<1	1	3	6	3
Lead	mg/kg	7	12	10	14	13
Mercury	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Nickel	mg/kg	1	2	2	4	2
Zinc	mg/kg	4	9	8	25	8

Acid Extractable metals in soil						
Our Reference		265582-6	265582-7	265582-8	265582-9	265582-10
Your Reference	UNITS	11538/ST1/TP05/S1	11538/ST1/TP06/S1	11538/ST2/TP01/S1	11538/ST2/TP02/S1	11538/ST2/TP03/S1
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	06/04/2021	06/04/2021	06/04/2021	06/04/2021	06/04/2021
Date analysed	-	06/04/2021	06/04/2021	06/04/2021	06/04/2021	06/04/2021
Arsenic	mg/kg	4	5	4	5	<4
Cadmium	mg/kg	<0.4	<0.4	<0.4	<0.4	<0.4
Chromium	mg/kg	13	14	10	20	8
Copper	mg/kg	3	3	10	10	8
Lead	mg/kg	7	10	9	7	7
Mercury	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Nickel	mg/kg	2	2	6	19	4
Zinc	mg/kg	9	10	26	58	20
Iron	mg/kg	33,000	[NA]	[NA]	[NA]	[NA]

Acid Extractable metals in soil						
Our Reference		265582-11	265582-12	265582-13	265582-14	265582-15
Your Reference	UNITS	11538/ST2/TP04/S1	11538/ST2/TP05/S1	11538/ST2/TP06/S1	11538/ST2/TP07/S1	11538/ST4/TP01/S1
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	06/04/2021	06/04/2021	06/04/2021	06/04/2021	06/04/2021
Date analysed	-	06/04/2021	06/04/2021	06/04/2021	06/04/2021	06/04/2021
Arsenic	mg/kg	5	6	8	7	9
Cadmium	mg/kg	<0.4	<0.4	<0.4	<0.4	<0.4
Chromium	mg/kg	8	11	14	13	30
Copper	mg/kg	10	8	10	9	9
Lead	mg/kg	9	9	12	10	17
Mercury	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Nickel	mg/kg	7	4	7	3	6
Zinc	mg/kg	29	20	27	17	16
Iron	mg/kg	[NA]	40,000	[NA]	[NA]	[NA]

Acid Extractable metals in soil						
Our Reference		265582-16	265582-17	265582-18	265582-19	265582-20
Your Reference	UNITS	11538/ST4/TP02/S1	11538/ST4/TP03/S1	11538/ST4/TP04/S1	11538/ST4/TP05/S1	11538/ST4/TP06/S1
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	06/04/2021	06/04/2021	06/04/2021	06/04/2021	06/04/2021
Date analysed	-	06/04/2021	06/04/2021	06/04/2021	06/04/2021	06/04/2021
Arsenic	mg/kg	5	7	6	8	6
Cadmium	mg/kg	<0.4	<0.4	<0.4	<0.4	<0.4
Chromium	mg/kg	18	43	12	27	37
Copper	mg/kg	4	3	10	7	2
Lead	mg/kg	10	13	12	14	12
Mercury	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Nickel	mg/kg	4	3	5	5	3
Zinc	mg/kg	13	6	19	15	7
Iron	mg/kg	[NA]	[NA]	[NA]	62,000	[NA]

Acid Extractable metals in soil						
Our Reference		265582-21	265582-22	265582-23	265582-24	265582-25
Your Reference	UNITS	11538/ST4/TP07/S1	11538/ST5/TP01/S1	11538/ST5/TP01/S1a	11538/ST5/TP02/S1	11538/ST5/TP03/S1
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	06/04/2021	06/04/2021	06/04/2021	06/04/2021	06/04/2021
Date analysed	-	06/04/2021	06/04/2021	06/04/2021	06/04/2021	06/04/2021
Arsenic	mg/kg	7	7	8	7	7
Cadmium	mg/kg	<0.4	<0.4	<0.4	<0.4	<0.4
Chromium	mg/kg	37	20	17	15	17
Copper	mg/kg	4	19	20	16	20
Lead	mg/kg	17	20	21	18	19
Mercury	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Nickel	mg/kg	5	13	10	9	10
Zinc	mg/kg	9	47	41	69	39

Acid Extractable metals in soil						
Our Reference		265582-26	265582-27	265582-28	265582-29	265582-30
Your Reference	UNITS	11538/ST5/TP04/S1	11538/ST5/TP05/S1	11538/ST5/TP06/S1	11538/ST5/TP07/S1	11538/ST5/TP08/S1
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	06/04/2021	06/04/2021	06/04/2021	06/04/2021	06/04/2021
Date analysed	-	06/04/2021	06/04/2021	06/04/2021	06/04/2021	06/04/2021
Arsenic	mg/kg	4	7	6	8	6
Cadmium	mg/kg	<0.4	<0.4	<0.4	<0.4	<0.4
Chromium	mg/kg	9	15	13	16	14
Copper	mg/kg	13	20	15	12	14
Lead	mg/kg	10	20	15	13	16
Mercury	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Nickel	mg/kg	5	9	7	7	8
Zinc	mg/kg	21	51	27	23	33
Iron	mg/kg	[NA]	43,000	[NA]	[NA]	[NA]

Acid Extractable metals in soil						
Our Reference		265582-31	265582-32	265582-33	265582-34	265582-35
Your Reference	UNITS	11538/ST6/TP01/S1	11538/ST6/TP02/S1	11538/ST6/TP03/S1	11538/ST6/TP04/S1	11538/ST6/TP05/S1
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	06/04/2021	06/04/2021	06/04/2021	06/04/2021	06/04/2021
Date analysed	-	06/04/2021	06/04/2021	06/04/2021	06/04/2021	06/04/2021
Arsenic	mg/kg	6	4	6	8	7
Cadmium	mg/kg	<0.4	<0.4	<0.4	<0.4	<0.4
Chromium	mg/kg	34	18	33	19	12
Copper	mg/kg	21	26	6	14	18
Lead	mg/kg	15	22	16	15	16
Mercury	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Nickel	mg/kg	26	21	7	13	10
Zinc	mg/kg	45	70	11	43	69
Iron	mg/kg	[NA]	[NA]	[NA]	[NA]	50,000

Acid Extractable metals in soil					
Our Reference		265582-36	265582-37	265582-48	265582-49
Your Reference	UNITS	11538/ST6/TP06/S1	11538/ST6/TP07/S1	11538/ST1/TP01/S1 - [TRIPLICATE]	11538/ST6/TP01/S1 - [TRIPLICATE]
Type of sample		Soil	Soil	Soil	Soil
Date prepared	-	06/04/2021	06/04/2021	06/04/2021	06/04/2021
Date analysed	-	06/04/2021	06/04/2021	06/04/2021	06/04/2021
Arsenic	mg/kg	8	6	9	6
Cadmium	mg/kg	<0.4	<0.4	<0.4	<0.4
Chromium	mg/kg	52	28	25	36
Copper	mg/kg	18	12	1	21
Lead	mg/kg	13	16	10	15
Mercury	mg/kg	<0.1	<0.1	<0.1	<0.1
Nickel	mg/kg	19	15	2	25
Zinc	mg/kg	35	26	14	37

Moisture						
Our Reference		265582-1	265582-2	265582-3	265582-4	265582-5
Your Reference	UNITS	11538/ST1/TP01/S1	11538/ST1/TP01/S1a	11538/ST1/TP02/S1	11538/ST1/TP03/S1	11538/ST1/TP04/S1
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	01/04/2021	01/04/2021	01/04/2021	01/04/2021	01/04/2021
Date analysed	-	06/04/2021	06/04/2021	06/04/2021	06/04/2021	06/04/2021
Moisture	%	11	10	19	15	13

Moisture						
Our Reference		265582-6	265582-7	265582-8	265582-9	265582-10
Your Reference	UNITS	11538/ST1/TP05/S1	11538/ST1/TP06/S1	11538/ST2/TP01/S1	11538/ST2/TP02/S1	11538/ST2/TP03/S1
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	01/04/2021	01/04/2021	01/04/2021	01/04/2021	01/04/2021
Date analysed	-	06/04/2021	06/04/2021	06/04/2021	06/04/2021	06/04/2021
Moisture	%	10	14	15	9.5	14

Moisture						
Our Reference		265582-11	265582-12	265582-13	265582-14	265582-15
Your Reference	UNITS	11538/ST2/TP04/S1	11538/ST2/TP05/S1	11538/ST2/TP06/S1	11538/ST2/TP07/S1	11538/ST4/TP01/S1
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	01/04/2021	01/04/2021	01/04/2021	01/04/2021	01/04/2021
Date analysed	-	06/04/2021	06/04/2021	06/04/2021	06/04/2021	06/04/2021
Moisture	%	14	15	11	14	19

Moisture						
Our Reference		265582-16	265582-17	265582-18	265582-19	265582-20
Your Reference	UNITS	11538/ST4/TP02/S1	11538/ST4/TP03/S1	11538/ST4/TP04/S1	11538/ST4/TP05/S1	11538/ST4/TP06/S1
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	01/04/2021	01/04/2021	01/04/2021	01/04/2021	01/04/2021
Date analysed	-	06/04/2021	06/04/2021	06/04/2021	06/04/2021	06/04/2021
Moisture	%	8.7	8.2	13	12	10

Moisture						
Our Reference		265582-21	265582-22	265582-23	265582-24	265582-25
Your Reference	UNITS	11538/ST4/TP07/S1	11538/ST5/TP01/S1	11538/ST5/TP01/S1a	11538/ST5/TP02/S1	11538/ST5/TP03/S1
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	01/04/2021	01/04/2021	01/04/2021	01/04/2021	01/04/2021
Date analysed	-	06/04/2021	06/04/2021	06/04/2021	06/04/2021	06/04/2021
Moisture	%	15	13	14	14	7.1

Moisture						
Our Reference		265582-26	265582-27	265582-28	265582-29	265582-30
Your Reference	UNITS	11538/ST5/TP04/S1	11538/ST5/TP05/S1	11538/ST5/TP06/S1	11538/ST5/TP07/S1	11538/ST5/TP08/S1
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	01/04/2021	01/04/2021	01/04/2021	01/04/2021	01/04/2021
Date analysed	-	06/04/2021	06/04/2021	06/04/2021	06/04/2021	06/04/2021
Moisture	%	13	14	7.3	14	13

Moisture						
Our Reference		265582-31	265582-32	265582-33	265582-34	265582-35
Your Reference	UNITS	11538/ST6/TP01/S1	11538/ST6/TP02/S1	11538/ST6/TP03/S1	11538/ST6/TP04/S1	11538/ST6/TP05/S1
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	01/04/2021	01/04/2021	01/04/2021	01/04/2021	01/04/2021
Date analysed	-	06/04/2021	06/04/2021	06/04/2021	06/04/2021	06/04/2021
Moisture	%	13	11	8.5	12	11

Moisture			
Our Reference		265582-36	265582-37
Your Reference	UNITS	11538/ST6/TP06/S1	11538/ST6/TP07/S1
Type of sample		Soil	Soil
Date prepared	-	01/04/2021	01/04/2021
Date analysed	-	06/04/2021	06/04/2021
Moisture	%	9.7	11

CEC						
Our Reference		265582-6	265582-12	265582-19	265582-27	265582-35
Your Reference	UNITS	11538/ST1/TP05/S1	11538/ST2/TP05/S1	11538/ST4/TP05/S1	11538/ST5/TP05/S1	11538/ST6/TP05/S1
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	09/04/2021	09/04/2021	09/04/2021	09/04/2021	09/04/2021
Date analysed	-	09/04/2021	09/04/2021	09/04/2021	09/04/2021	09/04/2021
Exchangeable Ca	meq/100g	4.1	3.5	3.7	7.3	5.5
Exchangeable K	meq/100g	0.4	0.4	0.8	0.5	0.4
Exchangeable Mg	meq/100g	4.2	6.3	3.6	5.3	5.8
Exchangeable Na	meq/100g	<0.1	0.30	0.10	0.16	0.12
Cation Exchange Capacity	meq/100g	8.8	10	8.1	13	12

Misc Inorg - Soil						
Our Reference		265582-6	265582-12	265582-19	265582-27	265582-35
Your Reference	UNITS	11538/ST1/TP05/S1	11538/ST2/TP05/S1	11538/ST4/TP05/S1	11538/ST5/TP05/S1	11538/ST6/TP05/S1
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	06/04/2021	06/04/2021	06/04/2021	06/04/2021	06/04/2021
Date analysed	-	06/04/2021	06/04/2021	06/04/2021	06/04/2021	06/04/2021
Total Organic Carbon (Walkley Black)	mg/kg	17,000	17,000	22,000	16,000	18,000
pH 1:5 soil:$CaCl_2$	pH Units	5.2	4.6	4.7	6.2	6.2

Clay 50-120g						
Our Reference		265582-6	265582-12	265582-19	265582-27	265582-35
Your Reference	UNITS	11538/ST1/TP05/S1	11538/ST2/TP05/S1	11538/ST4/TP05/S1	11538/ST5/TP05/S1	11538/ST6/TP05/S1
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	08/04/2021	08/04/2021	08/04/2021	08/04/2021	08/04/2021
Date analysed	-	08/04/2021	08/04/2021	08/04/2021	08/04/2021	08/04/2021
Clay in soils <2µm	% (w/w)	20	26	20	28	27

BTEX in Water						
Our Reference		265582-38	265582-40	265582-42	265582-44	265582-46
Your Reference	UNITS	11538/ST1/RB01	11538/ST2/RB01	11538/ST4/RB01	11538/ST5/RB01	11538/ST6/RB01
Type of sample		Water	Water	Water	Water	Water
Date extracted	-	01/04/2021	01/04/2021	01/04/2021	01/04/2021	01/04/2021
Date analysed	-	06/04/2021	06/04/2021	06/04/2021	06/04/2021	06/04/2021
Benzene	µg/L	<1	<1	<1	<1	<1
Toluene	µg/L	<1	<1	<1	<1	<1
Ethylbenzene	µg/L	<1	<1	<1	<1	<1
m+p-xylene	µg/L	<2	<2	<2	<2	<2
o-xylene	µg/L	<1	<1	<1	<1	<1
Surrogate Dibromofluoromethane	%	98	98	96	99	99
Surrogate toluene-d8	%	102	101	98	100	103
Surrogate 4-BFB	%	99	103	101	100	100

Method ID	Methodology Summary
AS1289.3.6.3	Determination Particle Size Analysis using AS1289.3.6.3 and AS1289.3.6.1 and in house method INORG-107. Clay fraction at <2µm reported.
Inorg-001	pH - Measured using pH meter and electrode in accordance with APHA latest edition, 4500-H+. Please note that the results for water analyses are indicative only, as analysis outside of the APHA storage times.
Inorg-008	Moisture content determined by heating at 105+/-5 °C for a minimum of 12 hours.
Inorg-036	Total Organic Carbon or Matter - A titrimetric method that measures the oxidisable organic content of soils.
Metals-020	Determination of various metals by ICP-AES.
Metals-020	Determination of exchangeable cations and cation exchange capacity in soils using 1M Ammonium Chloride exchange and ICP-AES analytical finish.
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-021	Soil samples are extracted with dichloromethane/acetone and waters with dichloromethane and analysed by GC-ECD.
Org-021	Soil samples are extracted with dichloromethane/acetone and waters with dichloromethane and analysed by GC-ECD. Note, the Total +ve PCBs PQL is reflective of the lowest individual PQL and is therefore" Total +ve PCBs" is simply a sum of the positive individual PCBs.
Org-022	Determination of VOCs sampled onto coconut shell charcoal sorbent tubes, that can be desorbed using carbon disulphide, and analysed by GC-MS.
Org-022/025	Soil samples are extracted with Dichloromethane/Acetone and waters with Dichloromethane and analysed by GC-MS/GC-MSMS.
Org-022/025	Soil samples are extracted with dichloromethane/acetone and waters with dichloromethane and analysed by GC-MS/GC-MSMS. Note, the Total +ve reported DDD+DDE+DDT PQL is reflective of the lowest individual PQL and is therefore simply a sum of the positive individually report DDD+DDE+DDT.

Method ID	Methodology Summary
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.
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.

QUALITY CONTROL: vTRH(C6-C10)/BTEXN in Soil						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-4	265582-4
Date extracted	-			01/04/2021	1	01/04/2021	01/04/2021		01/04/2021	01/04/2021
Date analysed	-			06/04/2021	1	06/04/2021	06/04/2021		06/04/2021	06/04/2021
TRH C_6 - C_9	mg/kg	25	Org-023	<25	1	<25	<25	0	122	106
TRH C_6 - C_{10}	mg/kg	25	Org-023	<25	1	<25	<25	0	122	106
Benzene	mg/kg	0.2	Org-023	<0.2	1	<0.2	<0.2	0	105	87
Toluene	mg/kg	0.5	Org-023	<0.5	1	<0.5	<0.5	0	124	106
Ethylbenzene	mg/kg	1	Org-023	<1	1	<1	<1	0	121	110
m+p-xylene	mg/kg	2	Org-023	<2	1	<2	<2	0	130	114
o-Xylene	mg/kg	1	Org-023	<1	1	<1	<1	0	126	119
naphthalene	mg/kg	1	Org-023	<1	1	<1	<1	0	[NT]	[NT]
Surrogate aaa-Trifluorotoluene	%		Org-023	126	1	127	123	3	119	121

QUALITY CONTROL: vTRH(C6-C10)/BTEXN in Soil						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-5	265582-22
Date extracted	-			[NT]	12	01/04/2021	01/04/2021		01/04/2021	01/04/2021
Date analysed	-			[NT]	12	06/04/2021	06/04/2021		06/04/2021	06/04/2021
TRH C_6 - C_9	mg/kg	25	Org-023	[NT]	12	<25	<25	0	114	113
TRH C_6 - C_{10}	mg/kg	25	Org-023	[NT]	12	<25	<25	0	114	113
Benzene	mg/kg	0.2	Org-023	[NT]	12	<0.2	<0.2	0	98	93
Toluene	mg/kg	0.5	Org-023	[NT]	12	<0.5	<0.5	0	110	113
Ethylbenzene	mg/kg	1	Org-023	[NT]	12	<1	<1	0	118	117
m+p-xylene	mg/kg	2	Org-023	[NT]	12	<2	<2	0	122	121
o-Xylene	mg/kg	1	Org-023	[NT]	12	<1	<1	0	126	127
naphthalene	mg/kg	1	Org-023	[NT]	12	<1	<1	0	[NT]	[NT]
Surrogate aaa-Trifluorotoluene	%		Org-023	[NT]	12	130	118	10	114	118

QUALITY CONTROL: vTRH(C6-C10)/BTEXN in Soil						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	[NT]	[NT]
Date extracted	-			[NT]	21	01/04/2021	01/04/2021		[NT]	[NT]
Date analysed	-			[NT]	21	06/04/2021	06/04/2021		[NT]	[NT]
TRH C_6 - C_9	mg/kg	25	Org-023	[NT]	21	<25	<25	0	[NT]	[NT]
TRH C_6 - C_{10}	mg/kg	25	Org-023	[NT]	21	<25	<25	0	[NT]	[NT]
Benzene	mg/kg	0.2	Org-023	[NT]	21	<0.2	<0.2	0	[NT]	[NT]
Toluene	mg/kg	0.5	Org-023	[NT]	21	<0.5	<0.5	0	[NT]	[NT]
Ethylbenzene	mg/kg	1	Org-023	[NT]	21	<1	<1	0	[NT]	[NT]
m+p-xylene	mg/kg	2	Org-023	[NT]	21	<2	<2	0	[NT]	[NT]
o-Xylene	mg/kg	1	Org-023	[NT]	21	<1	<1	0	[NT]	[NT]
naphthalene	mg/kg	1	Org-023	[NT]	21	<1	<1	0	[NT]	[NT]
Surrogate aaa-Trifluorotoluene	%		Org-023	[NT]	21	122	130	6	[NT]	[NT]

QUALITY CONTROL: vTRH(C6-C10)/BTEXN in Soil						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	[NT]	[NT]
Date extracted	-			[NT]	31	01/04/2021	01/04/2021		[NT]	[NT]
Date analysed	-			[NT]	31	06/04/2021	06/04/2021		[NT]	[NT]
TRH C_6 - C_9	mg/kg	25	Org-023	[NT]	31	<25	<25	0	[NT]	[NT]
TRH C_6 - C_{10}	mg/kg	25	Org-023	[NT]	31	<25	<25	0	[NT]	[NT]
Benzene	mg/kg	0.2	Org-023	[NT]	31	<0.2	<0.2	0	[NT]	[NT]
Toluene	mg/kg	0.5	Org-023	[NT]	31	<0.5	<0.5	0	[NT]	[NT]
Ethylbenzene	mg/kg	1	Org-023	[NT]	31	<1	<1	0	[NT]	[NT]
m+p-xylene	mg/kg	2	Org-023	[NT]	31	<2	<2	0	[NT]	[NT]
o-Xylene	mg/kg	1	Org-023	[NT]	31	<1	<1	0	[NT]	[NT]
naphthalene	mg/kg	1	Org-023	[NT]	31	<1	<1	0	[NT]	[NT]
Surrogate aaa-Trifluorotoluene	%		Org-023	[NT]	31	130	123	6	[NT]	[NT]

QUALITY CONTROL: svTRH (C10-C40) in Soil						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-4	265582-4
Date extracted	-			01/04/2021	1	01/04/2021	01/04/2021		01/04/2021	01/04/2021
Date analysed	-			06/04/2021	1	06/04/2021	06/04/2021		06/04/2021	06/04/2021
TRH C_{10} - C_{14}	mg/kg	50	Org-020	<50	1	<50	<50	0	122	127
TRH C_{15} - C_{28}	mg/kg	100	Org-020	<100	1	<100	<100	0	89	101
TRH C_{29} - C_{36}	mg/kg	100	Org-020	<100	1	<100	<100	0	92	94
TRH >C_{10} -C_{16}	mg/kg	50	Org-020	<50	1	<50	<50	0	122	127
TRH >C_{16} -C_{34}	mg/kg	100	Org-020	<100	1	<100	<100	0	89	101
TRH >C_{34} -C_{40}	mg/kg	100	Org-020	<100	1	<100	<100	0	92	94
Surrogate o-Terphenyl	%		Org-020	84	1	97	85	13	124	86

QUALITY CONTROL: svTRH (C10-C40) in Soil						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-5	265582-22
Date extracted	-			[NT]	12	01/04/2021	01/04/2021		01/04/2021	01/04/2021
Date analysed	-			[NT]	12	06/04/2021	06/04/2021		06/04/2021	08/04/2021
TRH C_{10} - C_{14}	mg/kg	50	Org-020	[NT]	12	<50	<50	0	110	86
TRH C_{15} - C_{28}	mg/kg	100	Org-020	[NT]	12	<100	<100	0	69	77
TRH C_{29} - C_{36}	mg/kg	100	Org-020	[NT]	12	<100	<100	0	92	71
TRH >C_{10} -C_{16}	mg/kg	50	Org-020	[NT]	12	<50	<50	0	110	86
TRH >C_{16} -C_{34}	mg/kg	100	Org-020	[NT]	12	<100	<100	0	69	77
TRH >C_{34} -C_{40}	mg/kg	100	Org-020	[NT]	12	<100	<100	0	92	71
Surrogate o-Terphenyl	%		Org-020	[NT]	12	79	86	8	121	98

QUALITY CONTROL: svTRH (C10-C40) in Soil						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	[NT]	[NT]
Date extracted	-			[NT]	21	01/04/2021	01/04/2021		[NT]	[NT]
Date analysed	-			[NT]	21	07/04/2021	07/04/2021		[NT]	[NT]
TRH C_{10} - C_{14}	mg/kg	50	Org-020	[NT]	21	<50	<50	0	[NT]	[NT]
TRH C_{15} - C_{28}	mg/kg	100	Org-020	[NT]	21	<100	<100	0	[NT]	[NT]
TRH C_{29} - C_{36}	mg/kg	100	Org-020	[NT]	21	<100	150	40	[NT]	[NT]
TRH >C_{10} -C_{16}	mg/kg	50	Org-020	[NT]	21	<50	<50	0	[NT]	[NT]
TRH >C_{16} -C_{34}	mg/kg	100	Org-020	[NT]	21	110	160	37	[NT]	[NT]
TRH >C_{34} -C_{40}	mg/kg	100	Org-020	[NT]	21	<100	120	18	[NT]	[NT]
Surrogate o-Terphenyl	%		Org-020	[NT]	21	81	77	5	[NT]	[NT]

QUALITY CONTROL: svTRH (C10-C40) in Soil					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	[NT]	[NT]
Date extracted	-			[NT]	31	01/04/2021	01/04/2021		[NT]	[NT]
Date analysed	-			[NT]	31	07/04/2021	07/04/2021		[NT]	[NT]
TRH C_{10} - C_{14}	mg/kg	50	Org-020	[NT]	31	<50	<50	0	[NT]	[NT]
TRH C_{15} - C_{28}	mg/kg	100	Org-020	[NT]	31	<100	<100	0	[NT]	[NT]
TRH C_{29} - C_{36}	mg/kg	100	Org-020	[NT]	31	<100	<100	0	[NT]	[NT]
TRH >C_{10} -C_{16}	mg/kg	50	Org-020	[NT]	31	<50	<50	0	[NT]	[NT]
TRH >C_{16} -C_{34}	mg/kg	100	Org-020	[NT]	31	<100	<100	0	[NT]	[NT]
TRH >C_{34} -C_{40}	mg/kg	100	Org-020	[NT]	31	<100	<100	0	[NT]	[NT]
Surrogate o-Terphenyl	%		Org-020	[NT]	31	73	78	7	[NT]	[NT]

QUALITY CONTROL: PAHs in Soil						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-4	265582-4
Date extracted	-			01/04/2021	1	01/04/2021	01/04/2021		01/04/2021	01/04/2021
Date analysed	-			01/04/2021	1	01/04/2021	01/04/2021		01/04/2021	01/04/2021
Naphthalene	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	97	106
Acenaphthylene	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	[NT]	[NT]
Acenaphthene	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	89	103
Fluorene	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	114	112
Phenanthrene	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	71	70
Anthracene	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	[NT]	[NT]
Fluoranthene	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	104	107
Pyrene	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	116	107
Benzo(a)anthracene	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	[NT]	[NT]
Chrysene	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	96	106
Benzo(b,j+k)fluoranthene	mg/kg	0.2	Org-022/025	<0.2	1	<0.2	<0.2	0	[NT]	[NT]
Benzo(a)pyrene	mg/kg	0.05	Org-022/025	<0.05	1	<0.05	<0.05	0	108	110
Indeno(1,2,3-c,d)pyrene	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	[NT]	[NT]
Dibenzo(a,h)anthracene	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	[NT]	[NT]
Benzo(g,h,i)perylene	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	[NT]	[NT]
Surrogate p-Terphenyl-d14	%		Org-022/025	99	1	81	113	33	81	71

QUALITY CONTROL: PAHs in Soil						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-5	265582-22
Date extracted	-			[NT]	12	01/04/2021	01/04/2021		01/04/2021	01/04/2021
Date analysed	-			[NT]	12	01/04/2021	01/04/2021		01/04/2021	01/04/2021
Naphthalene	mg/kg	0.1	Org-022/025	[NT]	12	<0.1	<0.1	0	106	110
Acenaphthylene	mg/kg	0.1	Org-022/025	[NT]	12	<0.1	<0.1	0	[NT]	[NT]
Acenaphthene	mg/kg	0.1	Org-022/025	[NT]	12	<0.1	<0.1	0	96	103
Fluorene	mg/kg	0.1	Org-022/025	[NT]	12	<0.1	<0.1	0	88	118
Phenanthrene	mg/kg	0.1	Org-022/025	[NT]	12	<0.1	<0.1	0	119	70
Anthracene	mg/kg	0.1	Org-022/025	[NT]	12	<0.1	<0.1	0	[NT]	[NT]
Fluoranthene	mg/kg	0.1	Org-022/025	[NT]	12	<0.1	<0.1	0	104	111
Pyrene	mg/kg	0.1	Org-022/025	[NT]	12	<0.1	<0.1	0	102	118
Benzo(a)anthracene	mg/kg	0.1	Org-022/025	[NT]	12	<0.1	<0.1	0	[NT]	[NT]
Chrysene	mg/kg	0.1	Org-022/025	[NT]	12	<0.1	<0.1	0	112	102
Benzo(b,j+k)fluoranthene	mg/kg	0.2	Org-022/025	[NT]	12	<0.2	<0.2	0	[NT]	[NT]
Benzo(a)pyrene	mg/kg	0.05	Org-022/025	[NT]	12	<0.05	<0.05	0	100	117
Indeno(1,2,3-c,d)pyrene	mg/kg	0.1	Org-022/025	[NT]	12	<0.1	<0.1	0	[NT]	[NT]
Dibenzo(a,h)anthracene	mg/kg	0.1	Org-022/025	[NT]	12	<0.1	<0.1	0	[NT]	[NT]
Benzo(g,h,i)perylene	mg/kg	0.1	Org-022/025	[NT]	12	<0.1	<0.1	0	[NT]	[NT]
Surrogate p-Terphenyl-d14	%		Org-022/025	[NT]	12	97	98	1	84	76

QUALITY CONTROL: PAHs in Soil						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	[NT]	[NT]
Date extracted	-			[NT]	21	01/04/2021	01/04/2021		[NT]	[NT]
Date analysed	-			[NT]	21	01/04/2021	01/04/2021		[NT]	[NT]
Naphthalene	mg/kg	0.1	Org-022/025	[NT]	21	<0.1	<0.1	0	[NT]	[NT]
Acenaphthylene	mg/kg	0.1	Org-022/025	[NT]	21	<0.1	<0.1	0	[NT]	[NT]
Acenaphthene	mg/kg	0.1	Org-022/025	[NT]	21	<0.1	<0.1	0	[NT]	[NT]
Fluorene	mg/kg	0.1	Org-022/025	[NT]	21	<0.1	<0.1	0	[NT]	[NT]
Phenanthrene	mg/kg	0.1	Org-022/025	[NT]	21	<0.1	<0.1	0	[NT]	[NT]
Anthracene	mg/kg	0.1	Org-022/025	[NT]	21	<0.1	<0.1	0	[NT]	[NT]
Fluoranthene	mg/kg	0.1	Org-022/025	[NT]	21	<0.1	<0.1	0	[NT]	[NT]
Pyrene	mg/kg	0.1	Org-022/025	[NT]	21	<0.1	<0.1	0	[NT]	[NT]
Benzo(a)anthracene	mg/kg	0.1	Org-022/025	[NT]	21	<0.1	<0.1	0	[NT]	[NT]
Chrysene	mg/kg	0.1	Org-022/025	[NT]	21	<0.1	<0.1	0	[NT]	[NT]
Benzo(b,j+k)fluoranthene	mg/kg	0.2	Org-022/025	[NT]	21	<0.2	<0.2	0	[NT]	[NT]
Benzo(a)pyrene	mg/kg	0.05	Org-022/025	[NT]	21	<0.05	<0.05	0	[NT]	[NT]
Indeno(1,2,3-c,d)pyrene	mg/kg	0.1	Org-022/025	[NT]	21	<0.1	<0.1	0	[NT]	[NT]
Dibenzo(a,h)anthracene	mg/kg	0.1	Org-022/025	[NT]	21	<0.1	<0.1	0	[NT]	[NT]
Benzo(g,h,i)perylene	mg/kg	0.1	Org-022/025	[NT]	21	<0.1	<0.1	0	[NT]	[NT]
Surrogate p-Terphenyl-d14	%		Org-022/025	[NT]	21	94	94	0	[NT]	[NT]

QUALITY CONTROL: PAHs in Soil						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	[NT]	[NT]
Date extracted	-			[NT]	31	01/04/2021	01/04/2021		[NT]	[NT]
Date analysed	-			[NT]	31	08/04/2021	08/04/2021		[NT]	[NT]
Naphthalene	mg/kg	0.1	Org-022/025	[NT]	31	<0.1	<0.1	0	[NT]	[NT]
Acenaphthylene	mg/kg	0.1	Org-022/025	[NT]	31	<0.1	<0.1	0	[NT]	[NT]
Acenaphthene	mg/kg	0.1	Org-022/025	[NT]	31	<0.1	<0.1	0	[NT]	[NT]
Fluorene	mg/kg	0.1	Org-022/025	[NT]	31	<0.1	<0.1	0	[NT]	[NT]
Phenanthrene	mg/kg	0.1	Org-022/025	[NT]	31	0.2	0.1	67	[NT]	[NT]
Anthracene	mg/kg	0.1	Org-022/025	[NT]	31	<0.1	<0.1	0	[NT]	[NT]
Fluoranthene	mg/kg	0.1	Org-022/025	[NT]	31	0.5	0.2	86	[NT]	[NT]
Pyrene	mg/kg	0.1	Org-022/025	[NT]	31	0.4	0.2	67	[NT]	[NT]
Benzo(a)anthracene	mg/kg	0.1	Org-022/025	[NT]	31	0.2	0.1	67	[NT]	[NT]
Chrysene	mg/kg	0.1	Org-022/025	[NT]	31	0.1	<0.1	0	[NT]	[NT]
Benzo(b,j+k)fluoranthene	mg/kg	0.2	Org-022/025	[NT]	31	0.2	<0.2	0	[NT]	[NT]
Benzo(a)pyrene	mg/kg	0.05	Org-022/025	[NT]	31	0.2	0.09	76	[NT]	[NT]
Indeno(1,2,3-c,d)pyrene	mg/kg	0.1	Org-022/025	[NT]	31	0.1	<0.1	0	[NT]	[NT]
Dibenzo(a,h)anthracene	mg/kg	0.1	Org-022/025	[NT]	31	<0.1	<0.1	0	[NT]	[NT]
Benzo(g,h,i)perylene	mg/kg	0.1	Org-022/025	[NT]	31	0.2	<0.1	67	[NT]	[NT]
Surrogate p-Terphenyl-d14	%		Org-022/025	[NT]	31	95	123	26	[NT]	[NT]

QUALITY CONTROL: Organochlorine Pesticides in soil						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-4	265582-4
Date extracted	-			01/04/2021	1	01/04/2021	01/04/2021		01/04/2021	01/04/2021
Date analysed	-			01/04/2021	1	01/04/2021	01/04/2021		01/04/2021	01/04/2021
alpha-BHC	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	110	103
HCB	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	[NT]	[NT]
beta-BHC	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	113	106
gamma-BHC	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	[NT]	[NT]
Heptachlor	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	117	107
delta-BHC	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	[NT]	[NT]
Aldrin	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	105	108
Heptachlor Epoxide	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	110	109
gamma-Chlordane	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	[NT]	[NT]
alpha-chlordane	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	[NT]	[NT]
Endosulfan I	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	[NT]	[NT]
pp-DDE	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	111	113
Dieldrin	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	113	107
Endrin	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	96	102
Endosulfan II	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	[NT]	[NT]
pp-DDD	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	94	94
Endrin Aldehyde	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	[NT]	[NT]
pp-DDT	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	[NT]	[NT]
Endosulfan Sulphate	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	107	112
Methoxychlor	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	[NT]	[NT]
Surrogate TCMX	%		Org-022/025	99	1	82	107	26	85	79

QUALITY CONTROL: Organochlorine Pesticides in soil					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-5	265582-22
Date extracted	-			[NT]	12	01/04/2021	01/04/2021		01/04/2021	01/04/2021
Date analysed	-			[NT]	12	01/04/2021	01/04/2021		01/04/2021	01/04/2021
alpha-BHC	mg/kg	0.1	Org-022/025	[NT]	12	<0.1	<0.1	0	96	106
HCB	mg/kg	0.1	Org-022/025	[NT]	12	<0.1	<0.1	0	[NT]	[NT]
beta-BHC	mg/kg	0.1	Org-022/025	[NT]	12	<0.1	<0.1	0	104	106
gamma-BHC	mg/kg	0.1	Org-022/025	[NT]	12	<0.1	<0.1	0	[NT]	[NT]
Heptachlor	mg/kg	0.1	Org-022/025	[NT]	12	<0.1	<0.1	0	105	107
delta-BHC	mg/kg	0.1	Org-022/025	[NT]	12	<0.1	<0.1	0	[NT]	[NT]
Aldrin	mg/kg	0.1	Org-022/025	[NT]	12	<0.1	<0.1	0	92	108
Heptachlor Epoxide	mg/kg	0.1	Org-022/025	[NT]	12	<0.1	<0.1	0	95	114
gamma-Chlordane	mg/kg	0.1	Org-022/025	[NT]	12	<0.1	<0.1	0	[NT]	[NT]
alpha-chlordane	mg/kg	0.1	Org-022/025	[NT]	12	<0.1	<0.1	0	[NT]	[NT]
Endosulfan I	mg/kg	0.1	Org-022/025	[NT]	12	<0.1	<0.1	0	[NT]	[NT]
pp-DDE	mg/kg	0.1	Org-022/025	[NT]	12	<0.1	<0.1	0	99	115
Dieldrin	mg/kg	0.1	Org-022/025	[NT]	12	<0.1	<0.1	0	99	113
Endrin	mg/kg	0.1	Org-022/025	[NT]	12	<0.1	<0.1	0	82	105
Endosulfan II	mg/kg	0.1	Org-022/025	[NT]	12	<0.1	<0.1	0	[NT]	[NT]
pp-DDD	mg/kg	0.1	Org-022/025	[NT]	12	<0.1	<0.1	0	88	108
Endrin Aldehyde	mg/kg	0.1	Org-022/025	[NT]	12	<0.1	<0.1	0	[NT]	[NT]
pp-DDT	mg/kg	0.1	Org-022/025	[NT]	12	<0.1	<0.1	0	[NT]	[NT]
Endosulfan Sulphate	mg/kg	0.1	Org-022/025	[NT]	12	<0.1	<0.1	0	86	109
Methoxychlor	mg/kg	0.1	Org-022/025	[NT]	12	<0.1	<0.1	0	[NT]	[NT]
Surrogate TCMX	%		Org-022/025	[NT]	12	92	93	1	100	75

QUALITY CONTROL: Organochlorine Pesticides in soil						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	[NT]	[NT]
Date extracted	-			[NT]	21	01/04/2021	01/04/2021		[NT]	[NT]
Date analysed	-			[NT]	21	01/04/2021	01/04/2021		[NT]	[NT]
alpha-BHC	mg/kg	0.1	Org-022/025	[NT]	21	<0.1	<0.1	0	[NT]	[NT]
HCB	mg/kg	0.1	Org-022/025	[NT]	21	<0.1	<0.1	0	[NT]	[NT]
beta-BHC	mg/kg	0.1	Org-022/025	[NT]	21	<0.1	<0.1	0	[NT]	[NT]
gamma-BHC	mg/kg	0.1	Org-022/025	[NT]	21	<0.1	<0.1	0	[NT]	[NT]
Heptachlor	mg/kg	0.1	Org-022/025	[NT]	21	<0.1	<0.1	0	[NT]	[NT]
delta-BHC	mg/kg	0.1	Org-022/025	[NT]	21	<0.1	<0.1	0	[NT]	[NT]
Aldrin	mg/kg	0.1	Org-022/025	[NT]	21	<0.1	<0.1	0	[NT]	[NT]
Heptachlor Epoxide	mg/kg	0.1	Org-022/025	[NT]	21	<0.1	<0.1	0	[NT]	[NT]
gamma-Chlordane	mg/kg	0.1	Org-022/025	[NT]	21	<0.1	<0.1	0	[NT]	[NT]
alpha-chlordane	mg/kg	0.1	Org-022/025	[NT]	21	<0.1	<0.1	0	[NT]	[NT]
Endosulfan I	mg/kg	0.1	Org-022/025	[NT]	21	<0.1	<0.1	0	[NT]	[NT]
pp-DDE	mg/kg	0.1	Org-022/025	[NT]	21	<0.1	<0.1	0	[NT]	[NT]
Dieldrin	mg/kg	0.1	Org-022/025	[NT]	21	<0.1	<0.1	0	[NT]	[NT]
Endrin	mg/kg	0.1	Org-022/025	[NT]	21	<0.1	<0.1	0	[NT]	[NT]
Endosulfan II	mg/kg	0.1	Org-022/025	[NT]	21	<0.1	<0.1	0	[NT]	[NT]
pp-DDD	mg/kg	0.1	Org-022/025	[NT]	21	<0.1	<0.1	0	[NT]	[NT]
Endrin Aldehyde	mg/kg	0.1	Org-022/025	[NT]	21	<0.1	<0.1	0	[NT]	[NT]
pp-DDT	mg/kg	0.1	Org-022/025	[NT]	21	<0.1	<0.1	0	[NT]	[NT]
Endosulfan Sulphate	mg/kg	0.1	Org-022/025	[NT]	21	<0.1	<0.1	0	[NT]	[NT]
Methoxychlor	mg/kg	0.1	Org-022/025	[NT]	21	<0.1	<0.1	0	[NT]	[NT]
Surrogate TCMX	%		Org-022/025	[NT]	21	88	88	0	[NT]	[NT]

QUALITY CONTROL: Organochlorine Pesticides in soil					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	[NT]	[NT]
Date extracted	-			[NT]	31	01/04/2021	01/04/2021		[NT]	[NT]
Date analysed	-			[NT]	31	01/04/2021	01/04/2021		[NT]	[NT]
alpha-BHC	mg/kg	0.1	Org-022/025	[NT]	31	<0.1	<0.1	0	[NT]	[NT]
HCB	mg/kg	0.1	Org-022/025	[NT]	31	<0.1	<0.1	0	[NT]	[NT]
beta-BHC	mg/kg	0.1	Org-022/025	[NT]	31	<0.1	<0.1	0	[NT]	[NT]
gamma-BHC	mg/kg	0.1	Org-022/025	[NT]	31	<0.1	<0.1	0	[NT]	[NT]
Heptachlor	mg/kg	0.1	Org-022/025	[NT]	31	<0.1	<0.1	0	[NT]	[NT]
delta-BHC	mg/kg	0.1	Org-022/025	[NT]	31	<0.1	<0.1	0	[NT]	[NT]
Aldrin	mg/kg	0.1	Org-022/025	[NT]	31	<0.1	<0.1	0	[NT]	[NT]
Heptachlor Epoxide	mg/kg	0.1	Org-022/025	[NT]	31	<0.1	<0.1	0	[NT]	[NT]
gamma-Chlordane	mg/kg	0.1	Org-022/025	[NT]	31	<0.1	<0.1	0	[NT]	[NT]
alpha-chlordane	mg/kg	0.1	Org-022/025	[NT]	31	<0.1	<0.1	0	[NT]	[NT]
Endosulfan I	mg/kg	0.1	Org-022/025	[NT]	31	<0.1	<0.1	0	[NT]	[NT]
pp-DDE	mg/kg	0.1	Org-022/025	[NT]	31	<0.1	<0.1	0	[NT]	[NT]
Dieldrin	mg/kg	0.1	Org-022/025	[NT]	31	<0.1	<0.1	0	[NT]	[NT]
Endrin	mg/kg	0.1	Org-022/025	[NT]	31	<0.1	<0.1	0	[NT]	[NT]
Endosulfan II	mg/kg	0.1	Org-022/025	[NT]	31	<0.1	<0.1	0	[NT]	[NT]
pp-DDD	mg/kg	0.1	Org-022/025	[NT]	31	<0.1	<0.1	0	[NT]	[NT]
Endrin Aldehyde	mg/kg	0.1	Org-022/025	[NT]	31	<0.1	<0.1	0	[NT]	[NT]
pp-DDT	mg/kg	0.1	Org-022/025	[NT]	31	<0.1	<0.1	0	[NT]	[NT]
Endosulfan Sulphate	mg/kg	0.1	Org-022/025	[NT]	31	<0.1	<0.1	0	[NT]	[NT]
Methoxychlor	mg/kg	0.1	Org-022/025	[NT]	31	<0.1	<0.1	0	[NT]	[NT]
Surrogate TCMX	%		Org-022/025	[NT]	31	88	83	6	[NT]	[NT]

QUALITY CONTROL: Organophosphorus Pesticides in Soil					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-4	265582-4
Date extracted	-			01/04/2021	1	01/04/2021	01/04/2021		01/04/2021	01/04/2021
Date analysed	-			01/04/2021	1	01/04/2021	01/04/2021		01/04/2021	01/04/2021
Dichlorvos	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	112	120
Dimethoate	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	[NT]	[NT]
Diazinon	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	[NT]	[NT]
Chlorpyriphos-methyl	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	[NT]	[NT]
Ronnel	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	102	114
Fenitrothion	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	97	105
Malathion	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	73	76
Chlorpyriphos	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	113	111
Parathion	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	107	108
Bromophos-ethyl	mg/kg	0.1	Org-022	<0.1	1	<0.1	<0.1	0	[NT]	[NT]
Ethion	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	130	119
Azinphos-methyl (Guthion)	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	[NT]	[NT]
Surrogate TCMX	%		Org-022/025	99	1	82	107	26	85	79

QUALITY CONTROL: Organophosphorus Pesticides in Soil					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-5	265582-22
Date extracted	-			[NT]	12	01/04/2021	01/04/2021		01/04/2021	01/04/2021
Date analysed	-			[NT]	12	01/04/2021	01/04/2021		01/04/2021	01/04/2021
Dichlorvos	mg/kg	0.1	Org-022/025	[NT]	12	<0.1	<0.1	0	100	127
Dimethoate	mg/kg	0.1	Org-022/025	[NT]	12	<0.1	<0.1	0	[NT]	[NT]
Diazinon	mg/kg	0.1	Org-022/025	[NT]	12	<0.1	<0.1	0	[NT]	[NT]
Chlorpyriphos-methyl	mg/kg	0.1	Org-022/025	[NT]	12	<0.1	<0.1	0	[NT]	[NT]
Ronnel	mg/kg	0.1	Org-022/025	[NT]	12	<0.1	<0.1	0	89	119
Fenitrothion	mg/kg	0.1	Org-022/025	[NT]	12	<0.1	<0.1	0	131	121
Malathion	mg/kg	0.1	Org-022/025	[NT]	12	<0.1	<0.1	0	135	83
Chlorpyriphos	mg/kg	0.1	Org-022/025	[NT]	12	<0.1	<0.1	0	101	126
Parathion	mg/kg	0.1	Org-022/025	[NT]	12	<0.1	<0.1	0	118	125
Bromophos-ethyl	mg/kg	0.1	Org-022	[NT]	12	<0.1	<0.1	0	[NT]	[NT]
Ethion	mg/kg	0.1	Org-022/025	[NT]	12	<0.1	<0.1	0	118	130
Azinphos-methyl (Guthion)	mg/kg	0.1	Org-022/025	[NT]	12	<0.1	<0.1	0	[NT]	[NT]
Surrogate TCMX	%		Org-022/025	[NT]	12	92	93	1	100	75

QUALITY CONTROL: Organophosphorus Pesticides in Soil					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	[NT]	[NT]
Date extracted	-			[NT]	21	01/04/2021	01/04/2021		[NT]	[NT]
Date analysed	-			[NT]	21	01/04/2021	01/04/2021		[NT]	[NT]
Dichlorvos	mg/kg	0.1	Org-022/025	[NT]	21	<0.1	<0.1	0	[NT]	[NT]
Dimethoate	mg/kg	0.1	Org-022/025	[NT]	21	<0.1	<0.1	0	[NT]	[NT]
Diazinon	mg/kg	0.1	Org-022/025	[NT]	21	<0.1	<0.1	0	[NT]	[NT]
Chlorpyriphos-methyl	mg/kg	0.1	Org-022/025	[NT]	21	<0.1	<0.1	0	[NT]	[NT]
Ronnel	mg/kg	0.1	Org-022/025	[NT]	21	<0.1	<0.1	0	[NT]	[NT]
Fenitrothion	mg/kg	0.1	Org-022/025	[NT]	21	<0.1	<0.1	0	[NT]	[NT]
Malathion	mg/kg	0.1	Org-022/025	[NT]	21	<0.1	<0.1	0	[NT]	[NT]
Chlorpyriphos	mg/kg	0.1	Org-022/025	[NT]	21	<0.1	<0.1	0	[NT]	[NT]
Parathion	mg/kg	0.1	Org-022/025	[NT]	21	<0.1	<0.1	0	[NT]	[NT]
Bromophos-ethyl	mg/kg	0.1	Org-022	[NT]	21	<0.1	<0.1	0	[NT]	[NT]
Ethion	mg/kg	0.1	Org-022/025	[NT]	21	<0.1	<0.1	0	[NT]	[NT]
Azinphos-methyl (Guthion)	mg/kg	0.1	Org-022/025	[NT]	21	<0.1	<0.1	0	[NT]	[NT]
Surrogate TCMX	%		Org-022/025	[NT]	21	88	88	0	[NT]	[NT]

QUALITY CONTROL: Organophosphorus Pesticides in Soil					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	[NT]	[NT]
Date extracted	-			[NT]	31	01/04/2021	01/04/2021		[NT]	[NT]
Date analysed	-			[NT]	31	01/04/2021	01/04/2021		[NT]	[NT]
Dichlorvos	mg/kg	0.1	Org-022/025	[NT]	31	<0.1	<0.1	0	[NT]	[NT]
Dimethoate	mg/kg	0.1	Org-022/025	[NT]	31	<0.1	<0.1	0	[NT]	[NT]
Diazinon	mg/kg	0.1	Org-022/025	[NT]	31	<0.1	<0.1	0	[NT]	[NT]
Chlorpyriphos-methyl	mg/kg	0.1	Org-022/025	[NT]	31	<0.1	<0.1	0	[NT]	[NT]
Ronnel	mg/kg	0.1	Org-022/025	[NT]	31	<0.1	<0.1	0	[NT]	[NT]
Fenitrothion	mg/kg	0.1	Org-022/025	[NT]	31	<0.1	<0.1	0	[NT]	[NT]
Malathion	mg/kg	0.1	Org-022/025	[NT]	31	<0.1	<0.1	0	[NT]	[NT]
Chlorpyriphos	mg/kg	0.1	Org-022/025	[NT]	31	<0.1	<0.1	0	[NT]	[NT]
Parathion	mg/kg	0.1	Org-022/025	[NT]	31	<0.1	<0.1	0	[NT]	[NT]
Bromophos-ethyl	mg/kg	0.1	Org-022	[NT]	31	<0.1	<0.1	0	[NT]	[NT]
Ethion	mg/kg	0.1	Org-022/025	[NT]	31	<0.1	<0.1	0	[NT]	[NT]
Azinphos-methyl (Guthion)	mg/kg	0.1	Org-022/025	[NT]	31	<0.1	<0.1	0	[NT]	[NT]
Surrogate TCMX	%		Org-022/025	[NT]	31	88	83	6	[NT]	[NT]

QUALITY CONTROL: PCBs in Soil						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-4	265582-4
Date extracted	-			01/04/2021	1	01/04/2021	01/04/2021		01/04/2021	01/04/2021
Date analysed	-			01/04/2021	1	01/04/2021	01/04/2021		01/04/2021	01/04/2021
Aroclor 1016	mg/kg	0.1	Org-021	<0.1	1	<0.1	<0.1	0	[NT]	[NT]
Aroclor 1221	mg/kg	0.1	Org-021	<0.1	1	<0.1	<0.1	0	[NT]	[NT]
Aroclor 1232	mg/kg	0.1	Org-021	<0.1	1	<0.1	<0.1	0	[NT]	[NT]
Aroclor 1242	mg/kg	0.1	Org-021	<0.1	1	<0.1	<0.1	0	[NT]	[NT]
Aroclor 1248	mg/kg	0.1	Org-021	<0.1	1	<0.1	<0.1	0	[NT]	[NT]
Aroclor 1254	mg/kg	0.1	Org-021	<0.1	1	<0.1	<0.1	0	100	96
Aroclor 1260	mg/kg	0.1	Org-021	<0.1	1	<0.1	<0.1	0	[NT]	[NT]
Surrogate TCMX	%		Org-021	99	1	82	107	26	85	79

QUALITY CONTROL: PCBs in Soil						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-5	265582-22
Date extracted	-			[NT]	12	01/04/2021	01/04/2021		01/04/2021	01/04/2021
Date analysed	-			[NT]	12	01/04/2021	01/04/2021		01/04/2021	01/04/2021
Aroclor 1016	mg/kg	0.1	Org-021	[NT]	12	<0.1	<0.1	0	[NT]	[NT]
Aroclor 1221	mg/kg	0.1	Org-021	[NT]	12	<0.1	<0.1	0	[NT]	[NT]
Aroclor 1232	mg/kg	0.1	Org-021	[NT]	12	<0.1	<0.1	0	[NT]	[NT]
Aroclor 1242	mg/kg	0.1	Org-021	[NT]	12	<0.1	<0.1	0	[NT]	[NT]
Aroclor 1248	mg/kg	0.1	Org-021	[NT]	12	<0.1	<0.1	0	[NT]	[NT]
Aroclor 1254	mg/kg	0.1	Org-021	[NT]	12	<0.1	<0.1	0	100	90
Aroclor 1260	mg/kg	0.1	Org-021	[NT]	12	<0.1	<0.1	0	[NT]	[NT]
Surrogate TCMX	%		Org-021	[NT]	12	92	93	1	100	75

QUALITY CONTROL: PCBs in Soil						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	[NT]	[NT]
Date extracted	-			[NT]	21	01/04/2021	01/04/2021		[NT]	[NT]
Date analysed	-			[NT]	21	01/04/2021	01/04/2021		[NT]	[NT]
Aroclor 1016	mg/kg	0.1	Org-021	[NT]	21	<0.1	<0.1	0	[NT]	[NT]
Aroclor 1221	mg/kg	0.1	Org-021	[NT]	21	<0.1	<0.1	0	[NT]	[NT]
Aroclor 1232	mg/kg	0.1	Org-021	[NT]	21	<0.1	<0.1	0	[NT]	[NT]
Aroclor 1242	mg/kg	0.1	Org-021	[NT]	21	<0.1	<0.1	0	[NT]	[NT]
Aroclor 1248	mg/kg	0.1	Org-021	[NT]	21	<0.1	<0.1	0	[NT]	[NT]
Aroclor 1254	mg/kg	0.1	Org-021	[NT]	21	<0.1	<0.1	0	[NT]	[NT]
Aroclor 1260	mg/kg	0.1	Org-021	[NT]	21	<0.1	<0.1	0	[NT]	[NT]
Surrogate TCMX	%		Org-021	[NT]	21	88	88	0	[NT]	[NT]

QUALITY CONTROL: PCBs in Soil						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	[NT]	[NT]
Date extracted	-			[NT]	31	01/04/2021	01/04/2021		[NT]	[NT]
Date analysed	-			[NT]	31	01/04/2021	01/04/2021		[NT]	[NT]
Aroclor 1016	mg/kg	0.1	Org-021	[NT]	31	<0.1	<0.1	0	[NT]	[NT]
Aroclor 1221	mg/kg	0.1	Org-021	[NT]	31	<0.1	<0.1	0	[NT]	[NT]
Aroclor 1232	mg/kg	0.1	Org-021	[NT]	31	<0.1	<0.1	0	[NT]	[NT]
Aroclor 1242	mg/kg	0.1	Org-021	[NT]	31	<0.1	<0.1	0	[NT]	[NT]
Aroclor 1248	mg/kg	0.1	Org-021	[NT]	31	<0.1	<0.1	0	[NT]	[NT]
Aroclor 1254	mg/kg	0.1	Org-021	[NT]	31	<0.1	<0.1	0	[NT]	[NT]
Aroclor 1260	mg/kg	0.1	Org-021	[NT]	31	<0.1	<0.1	0	[NT]	[NT]
Surrogate TCMX	%		Org-021	[NT]	31	88	83	6	[NT]	[NT]

QUALITY CONTROL: Acid Extractable metals in soil						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-4	265582-4
Date prepared	-			06/04/2021	1	06/04/2021	06/04/2021		06/04/2021	06/04/2021
Date analysed	-			06/04/2021	1	06/04/2021	06/04/2021		06/04/2021	06/04/2021
Arsenic	mg/kg	4	Metals-020	<4	1	<4	5	22	88	77
Cadmium	mg/kg	0.4	Metals-020	<0.4	1	<0.4	<0.4	0	89	71
Chromium	mg/kg	1	Metals-020	<1	1	15	19	24	87	105
Copper	mg/kg	1	Metals-020	<1	1	<1	1	0	86	88
Lead	mg/kg	1	Metals-020	<1	1	7	9	25	88	85
Mercury	mg/kg	0.1	Metals-021	<0.1	1	<0.1	<0.1	0	97	99
Nickel	mg/kg	1	Metals-020	<1	1	1	2	67	87	71
Zinc	mg/kg	1	Metals-020	<1	1	4	28	150	97	82
Iron	mg/kg	10	Metals-020	<10	12	40000	29000	32	105	##

QUALITY CONTROL: Acid Extractable metals in soil						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-5	265582-22
Date prepared	-			[NT]	12	06/04/2021	06/04/2021		06/04/2021	06/04/2021
Date analysed	-			[NT]	12	06/04/2021	06/04/2021		06/04/2021	06/04/2021
Arsenic	mg/kg	4	Metals-020	[NT]	12	6	5	18	87	71
Cadmium	mg/kg	0.4	Metals-020	[NT]	12	<0.4	<0.4	0	89	71
Chromium	mg/kg	1	Metals-020	[NT]	12	11	9	20	87	#
Copper	mg/kg	1	Metals-020	[NT]	12	8	8	0	87	80
Lead	mg/kg	1	Metals-020	[NT]	12	9	8	12	89	#
Mercury	mg/kg	0.1	Metals-021	[NT]	12	<0.1	<0.1	0	103	80
Nickel	mg/kg	1	Metals-020	[NT]	12	4	4	0	86	#
Zinc	mg/kg	1	Metals-020	[NT]	12	20	18	11	105	#
Iron	mg/kg	10	Metals-020	[NT]	[NT]	[NT]	[NT]	[NT]	118	##

QUALITY CONTROL: Acid Extractable metals in soil						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	[NT]	[NT]
Date prepared	-			[NT]	21	06/04/2021	06/04/2021		[NT]	[NT]
Date analysed	-			[NT]	21	06/04/2021	06/04/2021		[NT]	[NT]
Arsenic	mg/kg	4	Metals-020	[NT]	21	7	5	33	[NT]	[NT]
Cadmium	mg/kg	0.4	Metals-020	[NT]	21	<0.4	<0.4	0	[NT]	[NT]
Chromium	mg/kg	1	Metals-020	[NT]	21	37	32	14	[NT]	[NT]
Copper	mg/kg	1	Metals-020	[NT]	21	4	3	29	[NT]	[NT]
Lead	mg/kg	1	Metals-020	[NT]	21	17	14	19	[NT]	[NT]
Mercury	mg/kg	0.1	Metals-021	[NT]	21	<0.1	<0.1	0	[NT]	[NT]
Nickel	mg/kg	1	Metals-020	[NT]	21	5	4	22	[NT]	[NT]
Zinc	mg/kg	1	Metals-020	[NT]	21	9	8	12	[NT]	[NT]

QUALITY CONTROL: Acid Extractable metals in soil					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	[NT]	[NT]
Date prepared	-			[NT]	31	06/04/2021	06/04/2021		[NT]	[NT]
Date analysed	-			[NT]	31	06/04/2021	06/04/2021		[NT]	[NT]
Arsenic	mg/kg	4	Metals-020	[NT]	31	6	5	18	[NT]	[NT]
Cadmium	mg/kg	0.4	Metals-020	[NT]	31	<0.4	<0.4	0	[NT]	[NT]
Chromium	mg/kg	1	Metals-020	[NT]	31	34	23	39	[NT]	[NT]
Copper	mg/kg	1	Metals-020	[NT]	31	21	11	62	[NT]	[NT]
Lead	mg/kg	1	Metals-020	[NT]	31	15	11	31	[NT]	[NT]
Mercury	mg/kg	0.1	Metals-021	[NT]	31	<0.1	<0.1	0	[NT]	[NT]
Nickel	mg/kg	1	Metals-020	[NT]	31	26	11	81	[NT]	[NT]
Zinc	mg/kg	1	Metals-020	[NT]	31	45	21	73	[NT]	[NT]

QUALITY CONTROL: CEC						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-4	265582-19
Date prepared	-			09/04/2021	6	09/04/2021	09/04/2021		09/04/2021	09/04/2021
Date analysed	-			09/04/2021	6	09/04/2021	09/04/2021		09/04/2021	09/04/2021
Exchangeable Ca	meq/100g	0.1	Metals-020	<0.1	6	4.1	4.0	2	127	114
Exchangeable K	meq/100g	0.1	Metals-020	<0.1	6	0.4	0.4	0	122	102
Exchangeable Mg	meq/100g	0.1	Metals-020	<0.1	6	4.2	4.1	2	125	108
Exchangeable Na	meq/100g	0.1	Metals-020	<0.1	6	<0.1	<0.1	0	114	101

QUALITY CONTROL: Misc Inorg - Soil						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-5	[NT]
Date prepared	-			06/04/2021	6	06/04/2021	06/04/2021		06/04/2021	[NT]
Date analysed	-			06/04/2021	6	06/04/2021	06/04/2021		06/04/2021	[NT]
Total Organic Carbon (Walkley Black)	mg/kg	1000	Inorg-036	<1000	6	17000	16000	6	95	[NT]
pH 1:5 soil:$CaCl_2$	pH Units		Inorg-001	[NT]	6	5.2	[NT]		102	[NT]

QUALITY CONTROL: BTEX in Water					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W3	[NT]
Date extracted	-			01/04/2021	[NT]	[NT]	[NT]	[NT]	01/04/2021	[NT]
Date analysed	-			06/04/2021	[NT]	[NT]	[NT]	[NT]	06/04/2021	[NT]
Benzene	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	116	[NT]
Toluene	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	113	[NT]
Ethylbenzene	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	112	[NT]
m+p-xylene	µg/L	2	Org-023	<2	[NT]	[NT]	[NT]	[NT]	111	[NT]
o-xylene	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	111	[NT]
Surrogate Dibromofluoromethane	%		Org-023	99	[NT]	[NT]	[NT]	[NT]	101	[NT]
Surrogate toluene-d8	%		Org-023	101	[NT]	[NT]	[NT]	[NT]	103	[NT]
Surrogate 4-BFB	%		Org-023	101	[NT]	[NT]	[NT]	[NT]	102	[NT]

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

Quality Control Definitions

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

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

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

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

Laboratory Acceptance Criteria

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

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

Spikes for Physical and Aggregate Tests are not applicable.

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

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

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

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

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

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

Measurement Uncertainty estimates are available for most tests upon request.

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

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

Report Comments

Acid Extractable Metals in Soil:
- The laboratory RPD acceptance criteria has been exceeded for 265582-1 for Zn. Therefore a triplicate result has been issued as laboratory sample number 265582-48.
- The laboratory RPD acceptance criteria has been exceeded for 265582-31 for Cu, Ni & Zn. Therefore a triplicate result has been issued as laboratory sample number 265582-49.
- # Percent recovery is not possible to report due to the inhomogeneous nature of the element/s in the sample/s. However an acceptable recovery was obtained for the LCS.
- # Percent recovery is not possible to report due to the high concentration of the element/s in the sample/s. However an acceptable recovery was obtained for the LCS.

PAH_S:
The RPD for duplicate results is accepted due to the non homogenous nature of sample/s 265582-31,31d.

GETEX

Chain of Custody

From: Getex Pty Ltd
Address: Building B, Unit 2
64 Talavera Road
MACQUARIE PARK NSW 2113
Phone: (02) 9889 2488
Facsimile: (02) 9889 2499
Email: help@getex.com.au
Attention: **Chris Chen**

To: Envirolab Services Pty Ltd
Address: 12 Ashley Street
CHATSWOOD NSW 2067
Phone: (02) 9910 6200
Facsimile: (02) 9910 6299

Date: 31/03/2021
Order Number: 7616
Project Number: 11538

TAT: **5 Day TAT**

☐ Samples Received at Ambient Temp. ☑ Samples Recieved Chilled Received By: [redacted] Date: 31/3/21 1550

Notes: Metals to be Analysed: As, Cd, Cr, Cu, Hg, Pb, Ni & Zn

Envirolab Barcode Number	Getex Sample Number	Container (Plastic Tube – PT, Bag – B, Petri Dish – PD, Plastic Bottle – PB, Glass Jar – GJ, Glass Bottle – GB, Glass Vial - GV)	Soil – Single Analytes: TRH/BTEX	PAH Routine	PAH Low	OCP	OPP	PCB	Lead	4-17 Metals	Phenolics	Cyanide	Asbestos	TCLP Prep	Leachable PAH	6 Leachable Metals	BTEX	Soil – Combos and Non-Standard Analytes: NEPM Soil Char Suite	Combination 3	Combination 6
1	11538/ST1/TP01/S1	GJ																		1
2	11538/ST1/TP01/S1a	GJ																	1	
3	11538/ST1/TP02/S1	GJ																	1	
4	11538/ST1/TP03/S1	GJ																		1
5	11538/ST1/TP04/S1	GJ																	1	
6	11538/ST1/TP05/S1	GJ																1		1
7	11538/ST1/TP06/S1	GJ																	1	
8	11538/ST2/TP01/S1	GJ																		1
9	11538/ST2/TP02/S1	GJ																	1	
10	11538/ST2/TP03/S1	GJ																		1
11	11538/ST2/TP04/S1	GJ																	1	
12	11538/ST2/TP05/S1	GJ																1		1
13	11538/ST2/TP06/S1	GJ																	1	
14	11538/ST2/TP07/S1	GJ																		1
15	11538/ST4/TP01/S1	GJ																		1
		Total																2	7	8

ENVIROLAB Envirolab Services
Ph: (02) 9910 6200
Job No: 265582
Date Received: 31/3/2021
Time Received: 1550
Received By:
Temp: Cool/Ambient
Cooling: Ice/Icepack 4°C
Security: Intact/Broken/None

GETEX

Chain of Custody

From: Getex Pty Ltd
Address: Building B, Unit 2
64 Talavera Road
MACQUARIE PARK NSW 2113
Phone: (02) 9889 2488
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Email: help@getex.com.au
Attention: **Chris Chen**

To: Envirolab Services Pty Ltd
Address: 12 Ashley Street
CHATSWOOD NSW 2067
Phone: (02) 9910 6200
Facsimile: (02) 9910 6299

Date: 31/03/2021
Order Number: 7616
Project Number: 11538

TAT: **5 Day TAT**

☐ Samples Received at Ambient Temp. ☐ ✓ Samples Recieved Chilled Received By: [redacted] Date: 31/3/2021

265582

Notes: Metals to be Analysed: As, Cd, Cr, Cu, Hg, Pb, Ni & Zn

Envirolab Barcode Number	Getex Sample Number	Container (Plastic Tube – PT, Bag – B, Petri Dish – PD, Plastic Bottle – PB, Glass Jar – GJ, Glass Bottle – GB, Glass Vial - GV)	Soil – Single Analytes: TRH/BTEX	PAH Routine	PAH Low	OCP	OPP	PCB	Lead	4-17 Metals	Phenolics	Cyanide	Asbestos	TCLP Prep	Leachable PAH	6 Leachable Metals	BTEX	Soil – Combos and Non-Standard Analytes: NEPM Soil Char Suite	Combination 3	Combination 6
16	11538/ST4/TP02/S1	GJ																	1	
17	11538/ST4/TP03/S1	GJ																		1
18	11538/ST4/TP04/S1	GJ																	1	
19	11538/ST4/TP05/S1	GJ																1		1
20	11538/ST4/TP06/S1	GJ																	1	
21	11538/ST4/TP07/S1	GJ																		1
22	11538/ST5/TP01/S1	GJ																		1
23	11538/ST5/TP01/S1a	GJ																	1	
24	11538/ST5/TP02/S1	GJ																	1	
25	11538/ST5/TP03/S1	GJ																		1
26	11538/ST5/TP04/S1	GJ																	1	
27	11538/ST5/TP05/S1	GJ																1		1
28	11538/ST5/TP06/S1	GJ																	1	
29	11538/ST5/TP07/S1	GJ																		1
30	11538/ST5/TP08/S1	GJ																	1	
		Total																2	8	7

GETEX

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Phone: (02) 9910 6200
Facsimile: (02) 9910 6299

Date: 31/03/2021
Order Number: 7616
Project Number: 11538

TAT: **5 Day TAT**

☐ Samples Received at Ambient Temp. ☑ Samples Recieved Chilled Received By: [redacted] Date: 31/3/2021

Notes: Metals to be Analysed: As, Cd, Cr, Cu, Hg, Pb, Ni & Zn 265582

Envirolab Barcode Number	Getex Sample Number	Container (Plastic Tube – PT, Bag – B, Petri Dish – PD, Plastic Bottle – PB, Glass Jar – GJ, Glass Bottle – GB, Glass Vial - GV)	Soil – Single Analytes: TRH/BTEX	PAH Routine	PAH Low	OCP	OPP	PCB	Lead	4-17 Metals	Phenolics	Cyanide	Asbestos	TCLP Prep	Leachable PAH	6 Leachable Metals	BTEX	Soil – Combos and Non-Standard Analytes: NEPM Soil Char Suite	Combination 3	Combination 6
31	11538/ST6/TP01/S1	GJ																		1
32	11538/ST6/TP02/S1	GJ																	1	
33	11538/ST6/TP03/S1	GJ																		1
34	11538/ST6/TP04/S1	GJ																	1	
35	11538/ST6/TP05/S1	GJ																1		1
36	11538/ST6/TP06/S1	GJ																	1	
37	11538/ST6/TP07/S1	GJ																		1
38	11538/ST1/RB01	GV															1			
39	11538/ST1/TB01	GV															1			
40	11538/ST2/RB01	GV															1			
41	11538/ST2/TB01	GV															1			
42	11538/ST4/RB01	GV															1			
43	11538/ST4/TB01	GV															1			
44	11538/ST5/RB01	GV															1			
45	11538/ST5/TB01	GV															1			
		Total															8	1	3	4

GETEX

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Email: help@getex.com.au
Attention: **Chris Chen**

To: Envirolab Services Pty Ltd
Address: 12 Ashley Street
CHATSWOOD NSW 2067
Phone: (02) 9910 6200
Facsimile: (02) 9910 6299

Date: 31/03/2021
Order Number: 7616
Project Number: 11538

TAT: **5 Day TAT**

☐ Samples Received at Ambient Temp. ☑ Samples Recieved Chilled Received By: [redacted] Date: 31/3/2021

Notes: Metals to be Analysed: As, Cd, Cr, Cu, Hg, Pb, Ni & Zn 265582

Envirolab Barcode Number	Getex Sample Number	Container (Plastic Tube – PT, Bag – B, Petri Dish – PD, Plastic Bottle – PB, Glass Jar – GJ, Glass Bottle – GB, Glass Vial - GV)	Soil – Single Analytes: TRH/BTEX	PAH Routine	PAH Low	OCP	OPP	PCB	Lead	4-17 Metals	Phenolics	Cyanide	Asbestos	TCLP Prep	Leachable PAH	6 Leachable Metals	BTEX	Soil – Combos and Non-Standard Analytes: NEPM Soil Char Suite	Combination 3	Combination 6
46	11538/ST6/RB01	GV															1			
47	11538/ST6/TB01	GV															1			
		Total															2			

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

SAMPLE RECEIPT ADVICE

Client Details	
Client	Getex Pty Ltd
Attention	Chris Chen

Sample Login Details	
Your reference	11538
Envirolab Reference	265582
Date Sample Received	31/03/2021
Date Instructions Received	31/03/2021
Date Results Expected to be Reported	09/04/2021

Sample Condition	
Samples received in appropriate condition for analysis	Yes
No. of Samples Provided	42 Soil, 5 Water
Turnaround Time Requested	Standard
Temperature on Receipt (°C)	4
Cooling Method	Ice
Sampling Date Provided	YES

Comments
Nil

Please direct any queries to:

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

Analysis Underway, details on the following page:

Envirolab Services Pty Ltd
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customerservice@envirolab.com.au
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Sample ID	vTRH(C6-C10)/BTEXN in Soil	svTRH (C10-C40) in Soil	PAHs in Soil	Organochlorine Pesticides in soil	Organophosphorus Pesticides in Soil	PCBsin Soil	Acid Extractable metalsin soil	CEC	Misc Inorg - Soil	Clay 50-120g	BTEX in Water
11538/ST1/TP01/S1	✓	✓	✓	✓	✓	✓	✓				
11538/ST1/TP01/S1a	✓	✓	✓				✓				
11538/ST1/TP02/S1	✓	✓	✓				✓				
11538/ST1/TP03/S1	✓	✓	✓	✓	✓	✓	✓				
11538/ST1/TP04/S1	✓	✓	✓				✓				
11538/ST1/TP05/S1	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
11538/ST1/TP06/S1	✓	✓	✓				✓				
11538/ST2/TP01/S1	✓	✓	✓	✓	✓	✓	✓				
11538/ST2/TP02/S1	✓	✓	✓				✓				
11538/ST2/TP03/S1	✓	✓	✓	✓	✓	✓	✓				
11538/ST2/TP04/S1	✓	✓	✓				✓				
11538/ST2/TP05/S1	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
11538/ST2/TP06/S1	✓	✓	✓				✓				
11538/ST2/TP07/S1	✓	✓	✓	✓	✓	✓	✓				
11538/ST4/TP01/S1	✓	✓	✓	✓	✓	✓	✓				
11538/ST4/TP02/S1	✓	✓	✓				✓				
11538/ST4/TP03/S1	✓	✓	✓	✓	✓	✓	✓				
11538/ST4/TP04/S1	✓	✓	✓				✓				
11538/ST4/TP05/S1	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
11538/ST4/TP06/S1	✓	✓	✓				✓				
11538/ST4/TP07/S1	✓	✓	✓	✓	✓	✓	✓				
11538/ST5/TP01/S1	✓	✓	✓	✓	✓	✓	✓				
11538/ST5/TP01/S1a	✓	✓	✓				✓				
11538/ST5/TP02/S1	✓	✓	✓				✓				
11538/ST5/TP03/S1	✓	✓	✓	✓	✓	✓	✓				
11538/ST5/TP04/S1	✓	✓	✓				✓				
11538/ST5/TP05/S1	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
11538/ST5/TP06/S1	✓	✓	✓				✓				
11538/ST5/TP07/S1	✓	✓	✓	✓	✓	✓	✓				
11538/ST5/TP08/S1	✓	✓	✓				✓				
11538/ST6/TP01/S1	✓	✓	✓	✓	✓	✓	✓				
11538/ST6/TP02/S1	✓	✓	✓				✓				

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

Sample ID	vTRH(C6-C10)/BTEXN in Soil	svTRH (C10-C40) in Soil	PAHs in Soil	Organochlorine Pesticides in soil	Organophosphorus Pesticides in Soil	PCBsin Soil	Acid Extractable metalsin soil	CEC	Misc Inorg - Soil	Clay 50-120g	BTEX in Water
11538/ST6/TP03/S1	✓	✓	✓	✓	✓	✓	✓				
11538/ST6/TP04/S1	✓	✓	✓				✓				
11538/ST6/TP05/S1	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
11538/ST6/TP06/S1	✓	✓	✓				✓				
11538/ST6/TP07/S1	✓	✓	✓	✓	✓	✓	✓				
11538/ST1/RB01											✓
11538/ST1/TB01	✓										
11538/ST2/RB01											✓
11538/ST2/TB01	✓										
11538/ST4/RB01											✓
11538/ST4/TB01	✓										
11538/ST5/RB01											✓
11538/ST5/TB01	✓										
11538/ST6/RB01											✓
11538/ST6/TB01	✓										

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

Additional Info

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

GETEX

Chain of Custody

From: Getex Pty Ltd
Address: Building B, Unit 2
64 Talavera Road
MACQUARIE PARK NSW 2113
Phone: (02) 9889 2488
Facsimile: (02) 9889 2499
Email: help@getex.com.au
Attention: **Chris Chen**

To: Eurofins | mgt
Address: Unit F3, Building F
16 Mars Road
LANE COVE WEST NSW 2066
Phone: (02) 9900 8400
Email: EnviroSampleNSW@eurofins.com.au

Date: 31/03/2021
Order Number: 7617
Project Number: 11538

TAT: **5 Day TAT**

☐ Samples Received at Ambient Temp.

☑ Sample Temp: 9.73 Samples Received Chilled

Received By: Grace
Signature: [redacted] Date: 31/3

Notes: Metals to be Analysed: As, Cd, Cr, Cu, Hg, Pb, Ni & Zn

Eurofins Sample Number	Getex Sample Number	Container (Plastic Tube – PT, Bag – B, Petri Dish – PD, Plastic Bottle – PB, Glass Jar – GJ, Glass Bottle – GB, Glass Vial - GV)	Analytes: Single Analytes: TRH	BTEXN	PAHs	MAHs	OCP	OPP	PCB	Lead	7 Metals	8+ Metals	Phenols-Speciated	VOCs	Combos and Non-Standard Analytes: B7
	11538/ST1/TP01/S1b	GJ													1
	11538/ST5/TP01/S1b	GJ													1
		Total													2

7844137

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NATA # 1261 Site # 18217

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NATA # 1261 Site # 20794

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NATA # 1261
Site # 23736

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Phone : +61 2 4968 8448

New Zealand

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Penrose, Auckland 1061
Phone : +64 9 526 45 51
IANZ # 1327

Christchurch
43 Detroit Drive
Rolleston, Christchurch 7675
Phone : 0800 856 450
IANZ # 1290

Sample Receipt Advice

Company name:	Getex Pty Ltd
Contact name:	Chris Chen
Project name:	Not provided
Project ID:	11537
Turnaround time:	5 Day
Date/Time received	Mar 31, 2021 3:00 PM
Eurofins reference	784437

Sample Information

✓	A detailed list of analytes logged into our LIMS, is included in the attached summary table.
✓	All samples have been received as described on the above COC.
✓	COC has been completed correctly.
✓	Attempt to chill was evident.
✓	Appropriately preserved sample containers have been used.
✓	All samples were received in good condition.
✓	Samples have been provided with adequate time to commence analysis in accordance with the relevant holding times.
✓	Appropriate sample containers have been used.
✓	Sample containers for volatile analysis received with zero headspace.
×	Split sample sent to requested external lab.
×	Some samples have been subcontracted.
N/A	Custody Seals intact (if used).

Notes

Contact

If you have any questions with respect to these samples, please contact your Analytical Services Manager:

Asim Khan on phone : or by email: AsimKhan@eurofins.com

Results will be delivered electronically via email to Chris Chen - chris.chen@getex.com.au.

Note: A copy of these results will also be delivered to the general Getex Pty Ltd email address.

Global Leader - Results you can trust

Getex Pty Ltd
Unit 2, Building B, 64 Talavera Road
Macquarie Park
NSW 2113

Attention: **Chris Chen**

Report **784437-S**
Project name
Project ID 11537
Received Date Mar 31, 2021

Client Sample ID			**11538/ST1/TP01/S1B**	**11538/ST5/TP01/S1B**
Sample Matrix			**Soil**	**Soil**
Eurofins Sample No.			**S21-Ma58558**	**S21-Ma58559**
Date Sampled			**Mar 29, 2021**	**Mar 30, 2021**
Test/Reference	LOR	Unit		
Total Recoverable Hydrocarbons - 1999 NEPM Fractions				
TRH C6-C9	20	mg/kg	< 20	< 20
TRH C10-C14	20	mg/kg	< 20	< 20
TRH C15-C28	50	mg/kg	< 50	67
TRH C29-C36	50	mg/kg	< 50	54
TRH C10-C36 (Total)	50	mg/kg	< 50	121
BTEX				
Benzene	0.1	mg/kg	< 0.1	< 0.1
Toluene	0.1	mg/kg	< 0.1	< 0.1
Ethylbenzene	0.1	mg/kg	< 0.1	< 0.1
m&p-Xylenes	0.2	mg/kg	< 0.2	< 0.2
o-Xylene	0.1	mg/kg	< 0.1	< 0.1
Xylenes - Total*	0.3	mg/kg	< 0.3	< 0.3
4-Bromofluorobenzene (surr.)	1	%	134	111
Total Recoverable Hydrocarbons - 2013 NEPM Fractions				
Naphthalene[N02]	0.5	mg/kg	< 0.5	< 0.5
TRH C6-C10	20	mg/kg	< 20	< 20
TRH C6-C10 less BTEX (F1)[N04]	20	mg/kg	< 20	< 20
TRH >C10-C16	50	mg/kg	< 50	< 50
TRH >C10-C16 less Naphthalene (F2)[N01]	50	mg/kg	< 50	< 50
TRH >C16-C34	100	mg/kg	< 100	< 100
TRH >C34-C40	100	mg/kg	< 100	< 100
TRH >C10-C40 (total)*	100	mg/kg	< 100	< 100
Polycyclic Aromatic Hydrocarbons				
Benzo(a)pyrene TEQ (lower bound) *	0.5	mg/kg	< 0.5	< 0.5
Benzo(a)pyrene TEQ (medium bound) *	0.5	mg/kg	0.6	0.6
Benzo(a)pyrene TEQ (upper bound) *	0.5	mg/kg	1.2	1.2
Acenaphthene	0.5	mg/kg	< 0.5	< 0.5
Acenaphthylene	0.5	mg/kg	< 0.5	< 0.5
Anthracene	0.5	mg/kg	< 0.5	< 0.5
Benz(a)anthracene	0.5	mg/kg	< 0.5	< 0.5
Benzo(a)pyrene	0.5	mg/kg	< 0.5	< 0.5
Benzo(b&j)fluoranthene[N07]	0.5	mg/kg	< 0.5	< 0.5
Benzo(g.h.i)perylene	0.5	mg/kg	< 0.5	< 0.5
Benzo(k)fluoranthene	0.5	mg/kg	< 0.5	< 0.5
Chrysene	0.5	mg/kg	< 0.5	< 0.5

Client Sample ID			11538/ST1/TP01/S1B	11538/ST5/TP01/S1B
Sample Matrix			Soil	Soil
Eurofins Sample No.			S21-Ma58558	S21-Ma58559
Date Sampled			Mar 29, 2021	Mar 30, 2021
Test/Reference	LOR	Unit		
Polycyclic Aromatic Hydrocarbons				
Dibenz(a.h)anthracene	0.5	mg/kg	< 0.5	< 0.5
Fluoranthene	0.5	mg/kg	< 0.5	< 0.5
Fluorene	0.5	mg/kg	< 0.5	< 0.5
Indeno(1.2.3-cd)pyrene	0.5	mg/kg	< 0.5	< 0.5
Naphthalene	0.5	mg/kg	< 0.5	< 0.5
Phenanthrene	0.5	mg/kg	< 0.5	< 0.5
Pyrene	0.5	mg/kg	< 0.5	< 0.5
Total PAH*	0.5	mg/kg	< 0.5	< 0.5
2-Fluorobiphenyl (surr.)	1	%	98	95
p-Terphenyl-d14 (surr.)	1	%	99	102
Heavy Metals				
Arsenic	2	mg/kg	14	7.5
Cadmium	0.4	mg/kg	< 0.4	< 0.4
Chromium	5	mg/kg	47	18
Copper	5	mg/kg	< 5	19
Lead	5	mg/kg	18	20
Mercury	0.1	mg/kg	< 0.1	< 0.1
Nickel	5	mg/kg	< 5	13
Zinc	5	mg/kg	6.4	51
% Moisture	1	%	12	17

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Sample History

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

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

Description	Testing Site	Extracted	Holding Time
Total Recoverable Hydrocarbons - 1999 NEPM Fractions	Sydney	Apr 07, 2021	14 Days
- Method: LTM-ORG-2010 TRH C6-C40			
BTEX	Sydney	Apr 07, 2021	14 Days
- Method: LTM-ORG-2010 TRH C6-C40			
Total Recoverable Hydrocarbons - 2013 NEPM Fractions	Sydney	Apr 07, 2021	14 Days
- Method: LTM-ORG-2010 TRH C6-C40			
Total Recoverable Hydrocarbons - 2013 NEPM Fractions	Sydney	Apr 07, 2021	14 Days
- Method: LTM-ORG-2010 TRH C6-C40			
Polycyclic Aromatic Hydrocarbons	Sydney	Apr 07, 2021	14 Days
- Method: LTM-ORG-2130 PAH and Phenols in Soil and Water			
Metals M8	Sydney	Apr 07, 2021	180 Days
- Method: LTM-MET-3040 Metals in Waters, Soils & Sediments by ICP-MS			
% Moisture	Sydney	Mar 31, 2021	14 Days
- Method: LTM-GEN-7080 Moisture			

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Phone : 0800 856 450
IANZ # 1290

Company Name: Getex Pty Ltd
Address: Unit 2, Building B, 64 Talavera Road
Macquarie Park
NSW 2113

Project Name:
Project ID: 11537

Order No.: 7617
Report #: 784437
Phone: 02 9889 2488
Fax: 02 9889 2499

Received: Mar 31, 2021 3:00 PM
Due: Apr 9, 2021
Priority: 5 Day
Contact Name: Chris Chen

Eurofins Analytical Services Manager : Asim Khan

Sample Detail						Moisture Set	Eurofins Suite B7
Melbourne Laboratory - NATA Site # 1254 & 14271							
Sydney Laboratory - NATA Site # 18217						X	X
Brisbane Laboratory - NATA Site # 20794							
Perth Laboratory - NATA Site # 23736							
Mayfield Laboratory							
External Laboratory							
No	**Sample ID**	**Sample Date**	**Sampling Time**	**Matrix**	**LAB ID**		
1	11538/ST1/TP 01/S1B	Mar 29, 2021		Soil	S21-Ma58558	X	X
2	11538/ST5/TP 01/S1B	Mar 30, 2021		Soil	S21-Ma58559	X	X
Test Counts						2	2

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Internal Quality Control Review and Glossary

General

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

Holding Times

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

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

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

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

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

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

Units

mg/kg: milligrams per kilogram	**mg/L:** milligrams per litre	**ug/L:** micrograms per litre
ppm: Parts per million	**ppb:** Parts per billion	**%:** Percentage
org/100mL: Organisms per 100 millilitres	**NTU:** Nephelometric Turbidity Units	**MPN/100mL:** Most Probable Number of organisms per 100 millilitres

Terms

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

QC - Acceptance Criteria

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

Results <10 times the LOR : No Limit

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

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

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

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

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

QC Data General Comments

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

Quality Control Results

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Method Blank							
Total Recoverable Hydrocarbons - 1999 NEPM Fractions							
TRH C6-C9	mg/kg	< 20			20	Pass	
TRH C10-C14	mg/kg	< 20			20	Pass	
TRH C15-C28	mg/kg	< 50			50	Pass	
TRH C29-C36	mg/kg	< 50			50	Pass	
Method Blank							
BTEX							
Benzene	mg/kg	< 0.1			0.1	Pass	
Toluene	mg/kg	< 0.1			0.1	Pass	
Ethylbenzene	mg/kg	< 0.1			0.1	Pass	
m&p-Xylenes	mg/kg	< 0.2			0.2	Pass	
o-Xylene	mg/kg	< 0.1			0.1	Pass	
Xylenes - Total*	mg/kg	< 0.3			0.3	Pass	
Method Blank							
Total Recoverable Hydrocarbons - 2013 NEPM Fractions							
Naphthalene	mg/kg	< 0.5			0.5	Pass	
TRH C6-C10	mg/kg	< 20			20	Pass	
TRH >C10-C16	mg/kg	< 50			50	Pass	
TRH >C16-C34	mg/kg	< 100			100	Pass	
TRH >C34-C40	mg/kg	< 100			100	Pass	
Method Blank							
Polycyclic Aromatic Hydrocarbons							
Acenaphthene	mg/kg	< 0.5			0.5	Pass	
Acenaphthylene	mg/kg	< 0.5			0.5	Pass	
Anthracene	mg/kg	< 0.5			0.5	Pass	
Benz(a)anthracene	mg/kg	< 0.5			0.5	Pass	
Benzo(a)pyrene	mg/kg	< 0.5			0.5	Pass	
Benzo(b&j)fluoranthene	mg/kg	< 0.5			0.5	Pass	
Benzo(g.h.i)perylene	mg/kg	< 0.5			0.5	Pass	
Benzo(k)fluoranthene	mg/kg	< 0.5			0.5	Pass	
Chrysene	mg/kg	< 0.5			0.5	Pass	
Dibenz(a.h)anthracene	mg/kg	< 0.5			0.5	Pass	
Fluoranthene	mg/kg	< 0.5			0.5	Pass	
Fluorene	mg/kg	< 0.5			0.5	Pass	
Indeno(1.2.3-cd)pyrene	mg/kg	< 0.5			0.5	Pass	
Naphthalene	mg/kg	< 0.5			0.5	Pass	
Phenanthrene	mg/kg	< 0.5			0.5	Pass	
Pyrene	mg/kg	< 0.5			0.5	Pass	
Method Blank							
Heavy Metals							
Arsenic	mg/kg	< 2			2	Pass	
Cadmium	mg/kg	< 0.4			0.4	Pass	
Chromium	mg/kg	< 5			5	Pass	
Copper	mg/kg	< 5			5	Pass	
Lead	mg/kg	< 5			5	Pass	
Mercury	mg/kg	< 0.1			0.1	Pass	
Nickel	mg/kg	< 5			5	Pass	
Zinc	mg/kg	< 5			5	Pass	
LCS - % Recovery							
Total Recoverable Hydrocarbons - 1999 NEPM Fractions							
TRH C6-C9	%	92			70-130	Pass	

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
TRH C10-C14	%	119			70-130	Pass	
LCS - % Recovery							
BTEX							
Benzene	%	95			70-130	Pass	
Toluene	%	100			70-130	Pass	
Ethylbenzene	%	94			70-130	Pass	
m&p-Xylenes	%	93			70-130	Pass	
o-Xylene	%	93			70-130	Pass	
Xylenes - Total*	%	93			70-130	Pass	
LCS - % Recovery							
Total Recoverable Hydrocarbons - 2013 NEPM Fractions							
Naphthalene	%	119			70-130	Pass	
TRH C6-C10	%	88			70-130	Pass	
TRH >C10-C16	%	118			70-130	Pass	
LCS - % Recovery							
Polycyclic Aromatic Hydrocarbons							
Acenaphthene	%	100			70-130	Pass	
Acenaphthylene	%	110			70-130	Pass	
Anthracene	%	110			70-130	Pass	
Benz(a)anthracene	%	103			70-130	Pass	
Benzo(a)pyrene	%	87			70-130	Pass	
Benzo(b&j)fluoranthene	%	83			70-130	Pass	
Benzo(g.h.i)perylene	%	95			70-130	Pass	
Benzo(k)fluoranthene	%	98			70-130	Pass	
Chrysene	%	100			70-130	Pass	
Dibenz(a.h)anthracene	%	102			70-130	Pass	
Fluoranthene	%	108			70-130	Pass	
Fluorene	%	105			70-130	Pass	
Indeno(1.2.3-cd)pyrene	%	104			70-130	Pass	
Naphthalene	%	98			70-130	Pass	
Phenanthrene	%	103			70-130	Pass	
Pyrene	%	102			70-130	Pass	
LCS - % Recovery							
Heavy Metals							
Arsenic	%	97			80-120	Pass	
Cadmium	%	98			80-120	Pass	
Chromium	%	100			80-120	Pass	
Copper	%	97			80-120	Pass	
Lead	%	96			80-120	Pass	
Mercury	%	107			80-120	Pass	
Nickel	%	101			80-120	Pass	
Zinc	%	105			80-120	Pass	

Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Spike - % Recovery									
Total Recoverable Hydrocarbons - 1999 NEPM Fractions				Result 1					
TRH C6-C9	S21-Ma55258	NCP	%	85			70-130	Pass	
TRH C10-C14	S21-Ap03122	NCP	%	71			70-130	Pass	
Spike - % Recovery									
BTEX				Result 1					
Benzene	S21-Ma55258	NCP	%	82			70-130	Pass	
Toluene	S21-Ma55258	NCP	%	94			70-130	Pass	
Ethylbenzene	S21-Ma55258	NCP	%	87			70-130	Pass	
m&p-Xylenes	S21-Ma55258	NCP	%	84			70-130	Pass	
o-Xylene	S21-Ma55258	NCP	%	85			70-130	Pass	

Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Xylenes - Total*	S21-Ma55258	NCP	%	85			70-130	Pass	
Spike - % Recovery									
Total Recoverable Hydrocarbons - 2013 NEPM Fractions				Result 1					
Naphthalene	S21-Ma55258	NCP	%	109			70-130	Pass	
TRH C6-C10	S21-Ma55258	NCP	%	85			70-130	Pass	
TRH >C10-C16	S21-Ap03122	NCP	%	71			70-130	Pass	
Spike - % Recovery									
Polycyclic Aromatic Hydrocarbons				Result 1					
Acenaphthene	S21-Ma58417	NCP	%	91			70-130	Pass	
Acenaphthylene	S21-Ma58417	NCP	%	96			70-130	Pass	
Anthracene	S21-Ma58417	NCP	%	93			70-130	Pass	
Benz(a)anthracene	S21-Ma58417	NCP	%	94			70-130	Pass	
Benzo(a)pyrene	S21-Ma58417	NCP	%	71			70-130	Pass	
Benzo(b&j)fluoranthene	S21-Ma53567	NCP	%	118			70-130	Pass	
Benzo(g.h.i)perylene	S21-Ma58417	NCP	%	73			70-130	Pass	
Benzo(k)fluoranthene	S21-Ma58417	NCP	%	90			70-130	Pass	
Chrysene	S21-Ma58417	NCP	%	76			70-130	Pass	
Fluoranthene	S21-Ma58417	NCP	%	105			70-130	Pass	
Fluorene	S21-Ma58417	NCP	%	95			70-130	Pass	
Indeno(1.2.3-cd)pyrene	S21-Ma58417	NCP	%	82			70-130	Pass	
Naphthalene	S21-Ma58417	NCP	%	96			70-130	Pass	
Phenanthrene	S21-Ma58417	NCP	%	95			70-130	Pass	
Pyrene	S21-Ma58417	NCP	%	96			70-130	Pass	
Spike - % Recovery									
Heavy Metals				Result 1					
Arsenic	S21-Ma58439	NCP	%	103			75-125	Pass	
Cadmium	S21-Ma58439	NCP	%	99			75-125	Pass	
Chromium	S21-Ma58439	NCP	%	101			75-125	Pass	
Copper	S21-Ma58439	NCP	%	97			75-125	Pass	
Lead	S21-Ma58439	NCP	%	100			75-125	Pass	
Mercury	S21-Ma58439	NCP	%	112			75-125	Pass	
Nickel	S21-Ma58439	NCP	%	101			75-125	Pass	
Zinc	S21-Ma58439	NCP	%	92			75-125	Pass	
Spike - % Recovery									
Polycyclic Aromatic Hydrocarbons				Result 1					
Dibenz(a.h)anthracene	S21-Ap04863	NCP	%	101			70-130	Pass	
Test	**Lab Sample ID**	**QA Source**	**Units**	**Result 1**			**Acceptance Limits**	**Pass Limits**	**Qualifying Code**
Duplicate									
Total Recoverable Hydrocarbons - 1999 NEPM Fractions				Result 1	Result 2	RPD			
TRH C6-C9	S21-Ma57747	NCP	mg/kg	< 20	< 20	<1	30%	Pass	
TRH C10-C14	S21-Ap03424	NCP	mg/kg	< 20	< 20	<1	30%	Pass	
TRH C15-C28	S21-Ap03424	NCP	mg/kg	< 50	< 50	<1	30%	Pass	
TRH C29-C36	S21-Ap03424	NCP	mg/kg	< 50	< 50	<1	30%	Pass	
Duplicate									
BTEX				Result 1	Result 2	RPD			
Benzene	S21-Ma57747	NCP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Toluene	S21-Ma57747	NCP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Ethylbenzene	S21-Ma57747	NCP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
m&p-Xylenes	S21-Ma57747	NCP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
o-Xylene	S21-Ma57747	NCP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Xylenes - Total*	S21-Ma57747	NCP	mg/kg	< 0.3	< 0.3	<1	30%	Pass	

Duplicate									
Total Recoverable Hydrocarbons - 2013 NEPM Fractions				Result 1	Result 2	RPD			
Naphthalene	S21-Ma57747	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
TRH C6-C10	S21-Ma57747	NCP	mg/kg	< 20	< 20	<1	30%	Pass	
TRH >C10-C16	S21-Ap03424	NCP	mg/kg	< 50	< 50	<1	30%	Pass	
TRH >C16-C34	S21-Ap03424	NCP	mg/kg	< 100	< 100	<1	30%	Pass	
TRH >C34-C40	S21-Ap03424	NCP	mg/kg	< 100	< 100	<1	30%	Pass	
Duplicate									
Polycyclic Aromatic Hydrocarbons				Result 1	Result 2	RPD			
Acenaphthene	S21-Ap09504	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Acenaphthylene	S21-Ap09504	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Anthracene	S21-Ap09504	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benz(a)anthracene	S21-Ap09504	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benzo(a)pyrene	S21-Ap09504	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benzo(b&j)fluoranthene	S21-Ap09504	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benzo(g.h.i)perylene	S21-Ap09504	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benzo(k)fluoranthene	S21-Ap09504	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Chrysene	S21-Ap09504	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Dibenz(a.h)anthracene	S21-Ap09504	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Fluoranthene	S21-Ap09504	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Fluorene	S21-Ap09504	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Indeno(1.2.3-cd)pyrene	S21-Ap09504	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Naphthalene	S21-Ap09504	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Phenanthrene	S21-Ap09504	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Pyrene	S21-Ap09504	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Duplicate									
				Result 1	Result 2	RPD			
% Moisture	S21-Ma58564	NCP	%	16	16	1.0	30%	Pass	
Duplicate									
Heavy Metals				Result 1	Result 2	RPD			
Arsenic	S21-Ma58559	CP	mg/kg	7.5	7.7	3.0	30%	Pass	
Cadmium	S21-Ma58559	CP	mg/kg	< 0.4	< 0.4	<1	30%	Pass	
Chromium	S21-Ma58559	CP	mg/kg	18	17	2.0	30%	Pass	
Copper	S21-Ma58559	CP	mg/kg	19	20	3.0	30%	Pass	
Lead	S21-Ma58559	CP	mg/kg	20	23	13	30%	Pass	
Mercury	S21-Ma58559	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Nickel	S21-Ma58559	CP	mg/kg	13	12	8.0	30%	Pass	
Zinc	S21-Ma58559	CP	mg/kg	51	54	5.0	30%	Pass	

eurofins | Environment Testing

Comments

Sample Integrity

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

Qualifier Codes/Comments

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

Authorised by:

Asim Khan	Analytical Services Manager
Andrew Sullivan	Senior Analyst-Organic (NSW)
John Nguyen	Senior Analyst-Metal (NSW)

[redacted]

Glenn Jackson
General Manager

Final Report – this report replaces any previously issued Report

- Indicates Not Requested

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

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

CHAIN OF CUSTODY FORM

GETEX

From:	Getex Pty Ltd	To:	Australian Safer Environment & Technology Pty Ltd	Date:	31/03/2021
Address:	Building B, Unit 2 64 Talavera Road Macquarie Park NSW 2113	Address:	Unit 10 Level 7, 90 George Street Hornsby NSW 2077	Order No.:	7618
Phone:	(02) 9889 2488	Phone:	(02) 99872183	Project No.:	**11538**
Facsimile:	(02) 9889 2499	Facsimile:	(02) 99872151	TAT Required:	**5 Day TAT**
Email:	**help@getex.com.au**				
Attention:	Chris Chen				

1/3

ASET92243/95423/1-29

☐ Samples received at ambient temperature ☐ Samples received chilled Received by (signature) [redacted] Date: 31/3/21

ASET Reference Number	GETEX Sample Number	Container Plastic Tube – PT Bag – B Petri Dish – PD Plastic Bottle – PB Glass Jar – GJ Glass Bottle – GB Glass Vial - GV	Analysis Required																			
			Asbestos in Soil (NEPM)	Asbestos in Dust	Asbestos in Material	Asbestos Fibre Counting	Asbestos in Vinyl	Weight of ACM	Asbestos in Materials (presence/absence)													
1	11538/ST1/TP02/AS01	B	X																			
2	11538/ST2/TP02/AS02	B			X			X														
3	11538/ST1/TP03/AS01	B	X																			
4	11538/ST1/TP04/AS01	B	X																			
5	11538/ST1/TP05/AS01	B	X																			
6	11538/ST1/TP06/AS01	B	X																			
7	11538/ST2/TP02/AS01	B	X																			
8	11538/ST2/TP03/AS01	B	X																			
9	11538/ST2/TP04/AS01	B	X																			
10	11538/ST2/TP05/AS01	B	X																			
11	11538/ST2/TP06/AS01	B	X																			
12	11538/ST4/TP02/AS01	B	X																			
		Total	11		1			1														

RECEIVED
31 MAR 2021
BY: [redacted]

GETEX

CHAIN OF CUSTODY FORM

From: Getex Pty Ltd
Address: Building B, Unit 2
64 Talavera Road
Macquarie Park NSW 2113
Phone: (02) 9889 2488
Facsimile: (02) 9889 2499
Email: **help@getex.com.au**
Attention: Chris Chen

To: Australian Safer Environment & Technology Pty Ltd
Address: Unit 10 Level 7, 90 George Street Hornsby NSW 2077
Phone: (02) 99872183
Facsimile: (02) 99872151

Date: 26/03/2021
Order No.: 2608
Project No.: **11539**
TAT Required: **5 Day TAT**

☐ Samples received at ambient temperature ☐ Samples received chilled Received by (signature) [redacted] Date: 31/3/21

ASET Reference Number	GETEX Sample Number	Container (Plastic Tube – PT, Bag – B, Petri Dish – PD, Plastic Bottle – PB, Glass Jar – GJ, Glass Bottle – GB, Glass Vial - GV)	Analysis Required: Asbestos in Soil (NEPM)	Asbestos in Dust	Asbestos in Material	Asbestos Fibre Counting	Asbestos in Vinyl	Weight of ACM	Asbestos in Materials (presence/absence)
13	11538/ST4/TP03/AS01	B	X						
14	11538/ST4/TP04/AS01	B	X						
15	11538/ST4/TP05/AS01	B	X						
16	11538/ST4/TP06/AS01	B	X						
17	11538/ST5/TP02/AS01	B	X						
18	11538/ST5/TP03/AS01	B	X						
19	11538/ST5/TP04/AS01	B	X						
20	11538/ST5/TP05/AS01	B	X						
21	11538/ST5/TP06/AS01	B	X						
22	11538/ST6/TP02/AS01	B	X						
23	11538/ST6/TP02/AS02	B			X			X	
24	11538/ST6/TP03/AS01	B	X						
		Total	11		1			1	

RECEIVED
31 MAR 2021
BY: [redacted]

CHAIN OF CUSTODY FORM

From: Getex Pty Ltd
Address: Building B, Unit 2
64 Talavera Road
Macquarie Park NSW 2113
Phone: (02) 9889 2488
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Date: 26/03/2021
Order No.: 2608
Project No.: **11539**

TAT Required: **5 Day TAT**

☐ Samples received at ambient temperature ☐ Samples received chilled Received by (signature) [redacted] Date: 31/3/21

ASET Reference Number	GETEX Sample Number	Container (Plastic Tube – PT, Bag – B, Petri Dish – PD, Plastic Bottle – PB, Glass Jar – GJ, Glass Bottle – GB, Glass Vial - GV)	Analysis Required: Asbestos in Soil (NEPM)	Asbestos in Dust	Asbestos in Material	Asbestos Fibre Counting	Asbestos in Vinyl	Weight of ACM	Asbestos in Materials (presence/absence)
25	11538/ST6/TP03/AS02	B			X			X	
26	11538/ST6/TP04/AS01	B	X						
27	11538/ST6/TP05/AS01	B	X						
28	11538/ST6/TP06/AS01	B	X						
29	11538/ST6/TP08/AS01	B	X						
		Total	4		1			1	

RECEIVED 31 MAR 2021 BY: [redacted]

APPENDIX X

QA/QC

QUALITY ASSURANCE/QUALITY CONTROL

The sampling and analysis program included, for Quality Assurance / Quality Control (QA/QC) purposes, the analysis of blind and split replicate samples. For soil sampling one blind and one split replicate were taken for TRH, BTEX, PAHs and Metals. The primary and blind replicate samples were sent to the same laboratory (Envirolab Services Pty Ltd) and the split replicate was sent to independent laboratories (Eurofins | mgt).

The data quality objective was defined as an acceptable relative percentage difference (RPD) between the primary and blind or split sample of 30% - 50%. This variation can be expected to be higher for organic analysis than for inorganics, and for low concentration of analytes. However a higher RPD was considered to be acceptable in cases where the analytical result was less than three times the laboratory's lower limit of reporting, or where the analytical result was less than 10% of the acceptance criteria. In these situations a large RPD value that has little significance.

The RPD is a measure of precision that was calculated by dividing the difference of two laboratory reported values by the average of those values, multiplied by 100.

I.e. RPD = $(X_1 – X_2) / X_{ave} \times 100$

Where:

X_1 = concentration observed with the first detector or equipment;

X_2 = concentration observed with the second detector, equipment, or absolute value; and

X_{ave} = average concentration = [(X1 + X2) / 2]

The Laboratory QA/QC procedure must comply with the following minimum requirements:

- At least one blank every 20 samples
- At least one Laboratory control sample every 20 samples
- At least one duplicate every 10 samples
- At least one matrix spike every 20 samples

The assessment of the laboratory analytical data also included the following conditions:

- Maximum sample holding times for organics were 14 days. Metals and 1etalloids holding times were 6 months. Mercury (Hg) holding times was 28 days;
- Sample preservation and handling were conducted in accordance with industry accepted standards;
- All sample analyses were conducted by NATA accredited laboratories;
- Laboratory blank analysis to be below PQLs; and
- The relative percentage difference (RPD) of duplicates/replicates and percent recoveries of control spikes to be calculated and compared to the following criteria:
    - Less than 30% for field replicates;
    - Less than 40% for internal duplicate samples and less than 44% on duplicates with 10 times the limit of reporting; and
    - 75-125% recovery for internal recovery samples.

Soil QA/QC

Analyte	Analyte Concentration Totals (mg/kg)			Relative Percentage Difference of Blind Replicate	Relative Percentage Difference of Split Replicate
Sample Number	11538/ST5/TP01/S1	11538/ST5/TP01/S1a	11538/ST5/TP01/S1b	%	%
Laboratory	Envirolab Services Pty Ltd	Envirolab Services Pty Ltd	Eurofins | mgt	-	-
Replicate Description	Primary Sample	Blind Replicate of 11538/ST5/TP01/S1	Split Replicate of 11538/ST5/TP01/S1	-	-
TRH C6 - C9	<25	<25	<20	0%	22%
TRH C6 - C10	<25	<25	<20	0%	22%
vTPH C6 - C10 less BTEX (F1)	<25	<25	<20	0%	22%
Benzene	<0.2	<0.2	<0.1	0%	67%*
Toluene	<0.5	<0.5	<0.1	0%	133%*
Ethylbenzene	<1	<1	<0.1	0%	164%*
m+p-xylene	<2	<2	<0.2	0%	164%*
o-Xylene	<1	<1	<0.1	0%	164%*
naphthalene	<1	<1	<0.5	0%	67%*
Total +ve Xylenes	<3	<3	<0.3	0%	164%*
TRH C10 - C14	<50	<50	<20	0%	86%*
TRH C15 - C28	<100	<100	67	0%	40%
TRH C29 - C36	<100	<100	54	0%	60%*
TRH >C10-C16	<50	<50	<50	0%	0%
TRH >C10 - C16 less Naphthalene (F2)	<50	<50	<50	0%	0%
TRH >C16-C34	<100	<100	<100	0%	0%
TRH >C34-C40	<100	<100	<100	0%	0%
Total +ve TRH (>C10-C40)	<50	<50	<100	0%	67%*
Naphthalene	<0.1	<0.1	< 0.5	0%	133%*
Acenaphthylene	<0.1	<0.1	< 0.5	0%	133%*
Acenaphthene	<0.1	<0.1	< 0.5	0%	133%*
Fluorene	<0.1	<0.1	< 0.5	0%	133%*
Phenanthrene	<0.1	<0.1	< 0.5	0%	133%*
Anthracene	<0.1	<0.1	< 0.5	0%	133%*
Fluoranthene	<0.1	<0.1	< 0.5	0%	133%*
Pyrene	<0.1	<0.1	< 0.5	0%	133%*
Benzo(a)anthracene	<0.1	<0.1	< 0.5	0%	133%*
Chrysene	<0.1	<0.1	< 0.5	0%	133%*
Benzo(b,j+k)fluoranthene	<0.2	<0.2	< 0.5	0%	86%*
Benzo(a)pyrene	<0.05	<0.05	< 0.5	0%	164%*
Indeno(1,2,3-c,d)pyrene	<0.1	<0.1	< 0.5	0%	133%*
Dibenzo(a,h)anthracene	<0.1	<0.1	< 0.5	0%	133%*

Analyte	Analyte Concentration Totals (mg/kg)			Relative Percentage Difference of Blind Replicate	Relative Percentage Difference of Split Replicate
Sample Number	11538/ST5/TP01/S1	11538/ST5/TP01/S1a	11538/ST5/TP01/S1b	%	%
Laboratory	Envirolab Services Pty Ltd	Envirolab Services Pty Ltd	Eurofins | mgt	-	-
Replicate Description	Primary Sample	Blind Replicate of 11538/ST5/TP01/S1	Split Replicate of 11538/ST5/TP01/S1	-	-
Benzo(g,h,i)perylene	<0.1	<0.1	< 0.5	0%	133%*
Total +ve PAH's	<0.05	<0.05	< 0.5	0%	164%*
Benzo(a)pyrene TEQ calc (zero)	<0.5	<0.5	< 0.5	0%	0%
Benzo(a)pyrene TEQ calc(half)	<0.5	<0.5	0.6	0%	18%
Benzo(a)pyrene TEQ calc(PQL)	<0.5	<0.5	1.2	0%	82%*
Arsenic	7	8	7.5	13%	7%
Cadmium	<0.4	<0.4	<0.4	0%	0%
Chromium	20	17	18	16%	11%
Copper	19	20	19	5%	0%
Lead	20	21	20	5%	0%
Mercury	<0.1	<0.1	<0.1	0%	0%
Nickel	13	10	13	26%	0%
Zinc	47	41	51	14%	8%

*Results less than three times the laboratory detection limits

Trip Blank and Rinsate Blank

To ensure accuracy of the sampling techniques, one trip blank was carried during soil sampling and one rinsate sample was collected during soil sampling.

Results for the rinsate sample is considered acceptable as results are below laboratory PQLs.

Rinsate Blank		Sample Number	11538/ST2/RB01
ANALYTE	Units	PQL	
Benzene	µg/L	1	<1
Toluene	µg/L	1	<1
Ethylbenzene	µg/L	1	<1
m+p-xylene	µg/L	2	<2
o-Xylene	µg/L	1	<1

Results for the trip blank is considered acceptable as results are below laboratory PQLs.

Trip Blank		Sample Number	11539/ST2/TB01
ANALYTE	Units	PQL	
Benzene	mg/kg	0.2	<0.2
Toluene	mg/kg	0.5	<0.5
Ethylbenzene	mg/kg	1	<1
m+p-xylene	mg/kg	2	<2
o-Xylene	mg/kg	1	<1
naphthalene	mg/kg	1	<1

Laboratory QA/QC

Envirolab Services Pty Ltd and Eurofins | mgt all comply with the minimum Laboratory QA/QC requirements, which include performing the following:

- At least one blank every 20 samples;
- At least one Laboratory control sample every 20 samples;
- At least one duplicate every 10 samples; and
- At least one matrix spike every 20 samples.

The laboratories have met the previously determined QA/QC requirements. The QA/QC data is considered satisfactory and the quality of the analytical results considered suitable for the purposes of the soil sampling.

Field Replicates QA/QC

All QA/QC data is either within the RPD or the result was less than three times the laboratories limit of reporting. Based on the overall results of the QA/QC, the data is considered satisfactory to meet the predetermined data quality objective.