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PRELIMINARY SITE INVESTIGATION REPORT

PROJECT: 2-8 Highgate Rd, Lindfield NSW 2070
CLIENT: CPDM
DATE: 11 April 2025
REPORT NO: NE1980 Rpt1V4



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EXECUTIVE SUMMARY

Geotesta Pty Ltd (“Geotesta”) was engaged by the CPDM (“Client”) to conduct a Preliminary Site Investigation (PSI) on the site referred to as 2-8 Highgate Road, Lindfield NSW 2070 (“Site”, Plan Number: 100-103/-/DP6608).

The proposal seeks consent for the demolition of existing site structures, tree removal and the construction of a nine-storey residential flat building development with in-fill affordable housing. The planning authority is obligated to consider the potential for contamination from previous land use and evaluate the associated risks to both human health and the environment. A PSI was required as part of the proposed State significant development application (DA) for the site.

The Scope of works included:

- Review of available documentation related to the site;
- Site walkover and visual assessment of the site and soil condition;
- Intrusive investigation including drilling of nine (9) boreholes across the site up to 0.5 metres into natural soils and collection of one soil sample per borehole;
- Laboratory analysis of potential soil contaminants based on the identified Chemicals of Potential Concern (CoPCs) including: heavy metals, total recoverable hydrocarbons (TRH), polycyclic aromatic hydrocarbons (PAHs), polychlorinated biphenyls (PCBs), Benzene, Toluene, Ethylbenzene, Xylene, Naphthalene (BTEXN), Organochlorine and Organophosphate Pesticides (OCP/OPP) and asbestos.
- Comparison of the laboratory results to the applicable guidelines to evaluate the suitability of the site for the proposed land use;
- Development of a conceptual site model (CSM); and
- Provision of a Preliminary Site Investigation report including conclusions and recommendations regarding the suitability of the site for the intended future use (residential).

A review of historical aerial photographs indicates that the site was used for residential purposes since at least 1943. The dwelling on Lot 2 was rebuilt between 1986 and 1991, while the dwellings on Lot 6 were rebuilt between 1996 and 2004. In Lot 4, the shed was demolished and replaced with a swimming pool between 1971 and 1986. Another swimming pool was added to Lot 2 between 2005 and 2009. Since then, the site has remained unchanged.

Land use surrounding the site has largely been residential since at least 1943. The density of the development has increased within the aerial review period.

Based on the Hydrologic Soil Groups (HSG) of NSW project (NSW Department of Climate Change, Energy, the Environment and Water 2012), the site is located in an area of Group C, with slow soil infiltration, with bedrock from approximately 1 m bgl to 2 m bgl. Migration of chemicals identified within the soil are unlikely to infiltrate through the soil/rocks impacting groundwater conditions. The likelihood of the site being a source of groundwater contamination is considered low.

However, high infiltration area (Group A of HSG, NSW) is observed in the adjacent area, and further groundwater investigation might be necessitated if a deep excavation is proposed.

A summary of laboratory results against the adopted criteria for the site identified the following pertinent information:

- The concentration of arsenic in sample S10 (borehole BH7) exceeded the adopted ASC NEPM 2013 Health Investigation Levels (HIL A) and Ecological Investigation Levels (EILs). The depth of the sample was 0.7m and consisted of a mottled silty clay. The recovered soil sample was considered an arsenic hotspot. One (1) exceedance of zinc was identified in the duplicate sample of S10 exceeding the Ecological Investigation Level (EIL) and was within the Health Investigation Level (HIL A). The reported concentration of zinc from the parental sample S10 was within the Ecological Investigation Level (EIL) and Health Investigation Level (HIL A).

Further investigation is necessary to investigate the vertical and horizontal range of impacted soil around sample S10. Further investigations will be done post demolition of the structures at the site. A remediation action plan may be required to remediate the arsenic impacted area following further investigation. Based on the PSI conducted at 2-8 Highgate Road, Lindfield NSW 2070, the following conclusions can be made:

- The site appears to have historically been used for residential purposes since at least 1943, the site has remained relatively unchanged since 2009;
- The natural soil profile encountered is consistent with the regional geology of the site;
- An arsenic hot spot was detected from sample S10 in borehole BH7. Also, exceedance of zinc was reported in BH7, exceeding the NEPM 2013 Ecological Investigation Levels for Urban and Public Open Space. The reported concentration of zinc at sample S10 from 0.7 m bgl of BH7 was below the NEPM HIL A criteria;
- It is uncertain if the elevated arsenic near borehole BH7 is naturally occurring or derived from anthropogenic sources.
- The preliminary categorisation of site soil at borehole BH7 for waste disposal is "Hazardous Waste", and General Solid Waste (no-putrescible) for the remaining

areas. Further sampling and analysis in line with the NSW EPA guidelines would be required prior to off-site disposal.

- There is a potential for contamination to be present on the site in a restricted area near the arsenic hotspot detected in sample S10 (borehole BH7);
- Further investigation of the presence of arsenic treated wood at a depth of 0.7m near borehole BH7 may be warranted;
- Further investigation post demolition of the site structures is recommended to investigate the vertical and horizontal range of arsenic impacted soil near borehole BH7. A remediation action plan may be required to remediate the arsenic impacted area following further investigation;
- The site can be made suitable for the proposed residential use upon further characterisation of arsenic near borehole BH7, completion of remediation of arsenic contaminated soil (and potentially arsenic contaminated wood), and assessment of potential contamination found in the data gap assessment of the footprint of the dwellings and sheds, if any is present.
- The data gap sampling in the footprint of the site structures, delineation around borehole BH7 and remediation near borehole BH7 should take place following demolition of the site structures.

1. INTRODUCTION

Geotesta Pty Ltd (“Geotesta”) was engaged by the CPDM (“Client”) to conduct a Preliminary Site Investigation (PSI) on the site referred to as 2-8 Highgate Road, Lindfield NSW 2070 (“Site”, Plan Number: 100-103/-/DP6608).

The proposal seeks consent for the demolition of existing site structures, tree removal and the construction of a nine-storey residential flat building development with in-fill affordable housing. The planning authority is obligated to consider the potential for contamination from previous land use and evaluate the associated risks to both human health and the environment. A PSI was required as part of the proposed development application (DA) for the site.

The PSI scope included a review of desktop information, a site walkover, systematic soil sampling and analysis program and provision of this report. This report will provide comment on the environmental condition of the site and its suitability of the site for the proposed future use.

This report is based on the information provided at the time of the investigation and may not be valid if changes are made to the site conditions and/or soil and groundwater.

2. OBJECTIVE AND SCOPE OF WORKS

The PSI was conducted in general accordance with *National Environmental Protection (Assessment of Site Contamination) Measure (ASC NEPM, 1999 amended 2013)*, as well as *State Environmental Planning Policy (Resilience and Hazards) 2021*. This report was compiled in general accordance with the Australian Standard AS 4482.1 (2005) *Guide to the investigation and sampling of sites with potentially contaminated soil, Part 1: Non-volatile and semi-volatile compounds*, the Australian Standard AS 4482.2-1999 *Guide to the sampling and investigation of potentially contaminated soil Part 2: Volatile substances*, NSW EPA Consultants reporting on *Contaminated Land Guidelines update May 2020* and other relevant New South Wales guidelines and legislations.

The Scope of works included:

- Review of available documentation related to the site;
- Site walkover and visual assessment of the site and soil condition;
- Intrusive investigation including drilling of nine (9) boreholes across the site up to 0.5 metres into natural soils and collection of one soil sample per borehole;
- Laboratory analysis of potential soil contaminants based on the identified Chemicals of Potential Concern (CoPCs) including: heavy metals, total recoverable hydrocarbons (TRH), polycyclic aromatic hydrocarbons (PAHs), polychlorinated biphenyls (PCBs), Benzene, Toluene, Ethylbenzene, Xylene, Naphthalene (BTEXN), Organochlorine and Organophosphate Pesticides (OCP/OPP) and asbestos among others.
- Comparison of the laboratory results to the applicable guidelines to evaluate the suitability of the site for the proposed use;
- Development of a conceptual site model (CSM); and
- Provision of a Preliminary Site Investigation report including conclusions and recommendations regarding the suitability of the site for the intended future use (residential).

3. SITE DESCRIPTION

3.1 Site Identification

The site identification detail is presented in Table 1. The site is located within the Ku-ring-gai Council and is approximately 300 m to the northeast of Lindfield Train Station, the site location is shown in Figure 1.

Table 1: Site Identification

Site Details	Site Observations
Address	2-8 Highgate Road, Lindfield NSW 2070
Lot/Section/Plan no:	100-103/-/DP6608
Local Government Area	Ku-Ring-Gai Council
Site Area (Approximate)	4,050 m ²
Zoning	R2 - Low Density Residential
Current Land Use	Residential
Surrounding Land Use	North: Reid Street, and residential style properties. South: Woodside Avenue, and residential style properties East: Highgate Road, and residential style properties. West: Residential style properties, and Lindfield Avenue



Figure 1. Site overview (Nearmap, imagery dated 22 July 2024)

3.2 Proposed Development

It is understood that the proposed future site use is for a standard residential development. The site lies within a Low-Density Residential zone (R2). The site and surrounding areas (Figure 2) include a mix of planning zones: Local Centre (E1), Low Density Residential (R2), Medium Density Residential (R3), High Density Residential (R4), Infrastructure (SP2) and Public Recreation (RE1).



Figure 2. Site Planning Zone

3.3 Site Details

The subject site consists of four lots. One (1) residential structure was located in the eastern section of each lot. Two (2) swimming pools were located in Lot 2 and Lot 4, respectively.

Small sheds/garages were identified in the western section of each lot. All the structures on site were in the good condition with healthy vegetation across the site.

3.4 Landscape

The landscape and local soil information was sourced from the Glenorie landscape Report from NSW Soil Profiles 2024, NSW Department of Climate Change, Energy, the Environment and Water.

Landscape— undulating to rolling low hills on Wianamatta Group shales. Local relief 50–80 m, slopes 5–20%. Narrow ridges, hillcrests and valleys. Extensively cleared tall open-forest (wet sclerophyll forests).

Soils— The onsite soil was classified as Dermosols - soils with structured B2 horizons and lacking a strong texture-contrast between the A and B horizons. Friable dark brown loam including loam, silt loam or silty clay loam with moderately to strongly pedal structure and porous rough-faced ped fabric is expected to occur as topsoil (A1 horizon). Hard setting brown clay loam is expected to occur in A2 horizon followed by whole-coloured, reddish-brown, strongly pedal clay and mottled grey plastic clay in B horizon.

Geology — This soil landscape is underlain by Wianamatta Group, Ashfield Shale and Bringelly Shale formations.

Topography — Low rolling and steep hills. Local relief 50–120 m, slopes 5–20%. Convex narrow (20–300 m) ridges and hillcrests grade into moderately inclined side slopes with narrow concave drainage lines. Moderately inclined slopes of 10–15% are the dominant landform elements.



Figure 3. Local Landscape Map (Soil Landscapes of Central and Eastern NSW)

3.5 Site Geology and Topography

Site Geology — The geological map of the area indicates that the site is underlain by Ashfield Shale (Twia, from Wianamatta Group) - sandstone, siltstone and shale; common bioturbation. (*NSW Seamless Geology, Department of Regional New South Wales, 2024*), refer to Figure 4.

Site Topography — Regional topographic maps, provided by Digital Terrain Models (DTM) from NearMap indicate that the site is approximately 88 – 94 m above sea level, referenced to Australian Height Datum (AHD) (see **Figure 1**). The site exhibits a gentle southward dip with an average gradient of approximately 5%, refer to Figure 3.

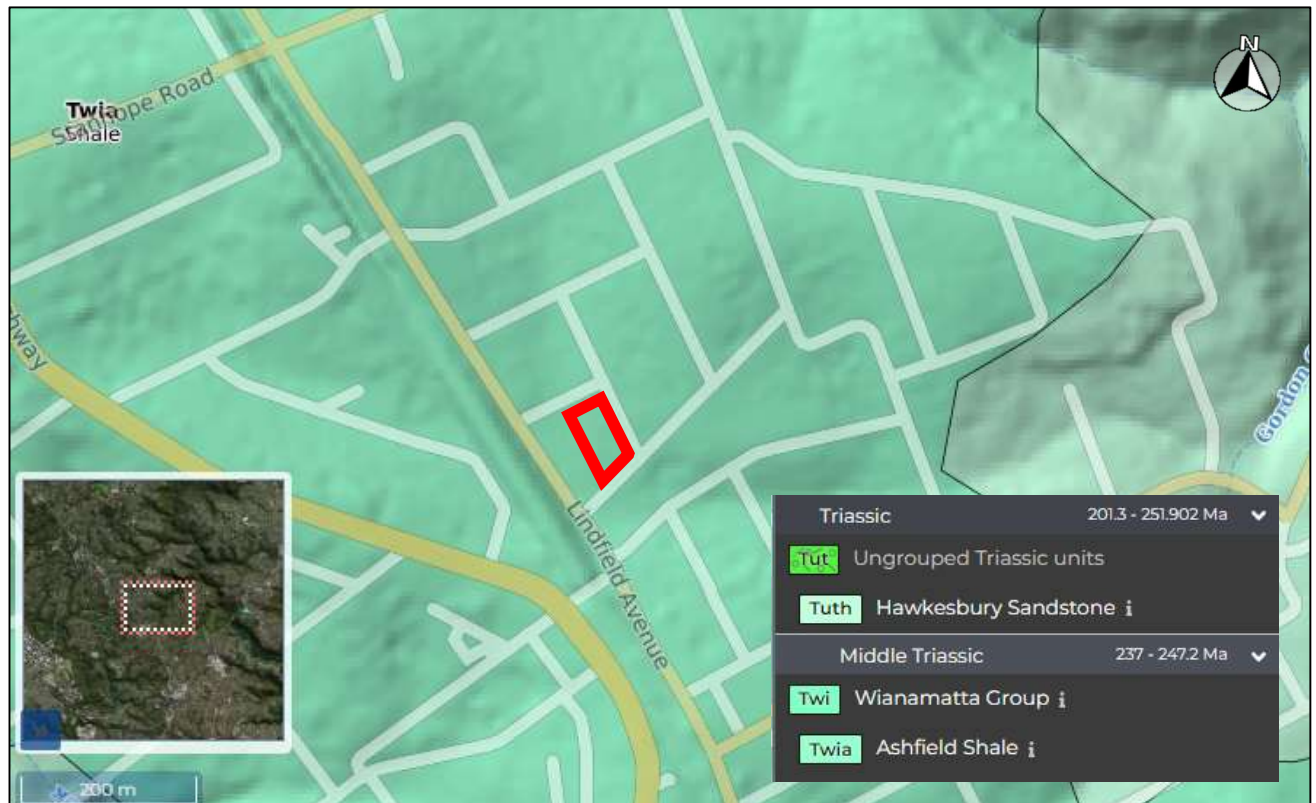


Figure 4. Local Geology Map (NSW Seamless Geology 2024)

3.6 Regional Meteorology

The following climate information from the Bureau of Meteorology records was obtained, based on the climate station located at Sydney (Observatory Hill) (Station Number: 66214, approximately 10.2 km away from the site):

- Annual mean maximum temperature for 2023 was 23.8 °C.
- Annual mean minimum temperature for 2023 was 14.6 °C.
- Annual rainfall was 995.0 mm in 2023.

3.7 Hydrogeology

A search of Department Primary Industries - Office of Water records identified seven (7) groundwater wells located within an approximate distance of 500 metre from the site. The closest borehole is GW023498 (~200 m to the northwest). The borehole was drill in 1966 and the log reported white sand materials up to a maximum depth of 8.22 m bgl (below ground level), and shell fragments occurred from 6.70 m bgl. No information was provided in the remaining wells including GW115587, GW115588, GW115589, GW115590, GW115591, GW115592.

A search of Hydrologic Soil Groups (HSG) of NSW (NSW Department of Climate Change, Energy, the Environment and Water 2012) indicates that the site is located in an area of Group

C, soils having slow infiltration rates when thoroughly wetted and consisting chiefly of soils with a layer that impedes downward movement of water, or soils with moderately fine to fine texture. These soils have a slow rate of water transmission.

The closest waterbody to the site is Gordon Creek, located approximately 650 m southeast of the site. Based on the surface topography of the site, the run off water likely flows over into the Gordon Creek.

3.8 Acid Sulphate Soils

A review of the Department for Infrastructure, Planning and Natural Resources (DIPNR) Acid Sulphate Soils Risk Mapping (1997) and the National Acid Sulphate Soil Mapping application was undertaken. The review indicated that the site is located in the areas of Class 5. Acid sulfate soils are not typically found in Class 5 areas.

The presence of acid sulfate soils was assigned “a low probability of occurrence” (see Figure 5).

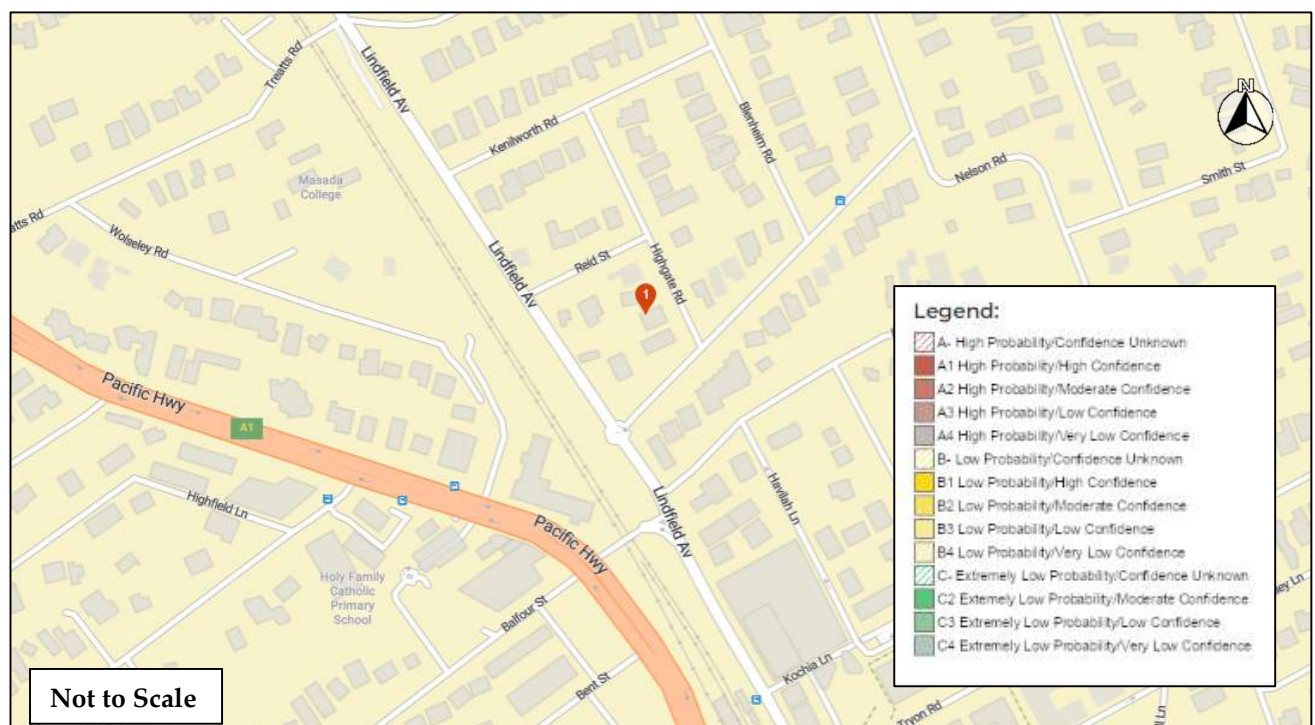


Figure 5. Acid Sulfate Soil Probability of the Site

3.9 Site History

3.9.1 Aerial Photograph Review

A aerial photograph and historical titles search was conducted on 16 September 2024. Findings from the historical aerial photograph review are presented in Table 2. Historical aerial photographs are attached in Appendix A.

Table 2: Aerial Photography Review

Year	Site Observations (Changes)	Surrounding Area
1943 Black and white photograph	- All four lots were used for residential purposes - Small sheds were observed in the western sections of each lot	- Residential usage in the surrounding areas - Roadways in the surrounding areas
1955 Black and white photograph	No changes from previous imagery	No changes from previous imagery
1965 Black and white photograph	No changes from previous imagery	No changes from previous imagery
1971 Black and white photograph (low resolution)	No changes from previous imagery	No changes from previous imagery
1986 Black and white photograph (low resolution)	The shed in Lot 4 was demolished and a swimming pool was constructed at the footprint	Increase in the swimming pools constructed in the surrounding areas
1991 Colour photograph	- Residential building in Lot 2 was rebuilt - One shed was constructed in the western section of the Lot 2 - The previous shed in Lot 2 was demolished - No significant changes occurred in the remaining areas	Increase in the residential development in the surrounding area
1994 Colour photograph	No changes from previous imagery	No changes from previous imagery
1996 Colour photograph	No changes from previous imagery	No changes from previous imagery
2004 Colour photograph	Residential building in Lot 6 was rebuilt	No changes from previous imagery

2005 Colour photograph	No changes from previous imagery	Increased residential development
2009 Colour photograph	A swimming pool was observed in Lot 2.	Increased residential development
2015 Colour photograph	No changes from previous imagery	Increased residential development
2019 Colour photograph	No changes from previous imagery	Increased residential development
2024 Colour photograph	No changes from previous imagery	Increased residential development

3.9.2 Historical Title Search

A historical title search was conducted on 16 September 2024. Based on the historical title search, the lands were registered under "Title Automation Project" in 1988. The land registry search records for Folios 103/6608(2 Highgate Road), 102/6608(4 Highgate Road), 101/6608(6 Highgate Road), and 100/6608 (8 Highgate Road) included a history of property dealings, including conversions to computer folios, numerous mortgages, ownership transfers, and departmental actions.

Folio 103/6608 was initially recorded in 1988 and underwent several ownership transfers. Folio 102/6608, converted to a computer folio in 1988, experienced multiple departmental dealings and saw a caveat lodged in 2024, indicating third-party interest. Folio 101/6608 transitioned from the "Old System" and was recorded as a Deposited Plan in 1999, later resulting in the creation of sub-folios in 2005. Folio 100/6608, also from the "Old System," involved the transfer of ownership and caveat activity, with the latest caveat recorded in 2024. Based on the historical records, the land remained being used for residential purposes.

3.9.3 Historical Background Summary

A review of historical aerial photographs indicates that the site remained being used for residential purposes since at least 1943. The dwelling on Lot 2 was rebuilt between 1986 and 1991, while the dwellings on Lot 6 were rebuilt between 1996 and 2004. In Lot 4, the shed was demolished and replaced with a swimming pool between 1971 and 1986. Another swimming pool was added to Lot 2 between 2005 and 2009. Since then, the site has remained unchanged.

Land use surrounding the site has largely been residential since at least 1943. The density of the development has increased within the aerial review period.

3.10 Site Walkover

Results of the site walkover inspection carried out on 17 October 2024 are presented below, a photographic log is provided in Appendix C.

No signs of Asbestos-containing materials (ACMs), contamination-associated odours were observed onsite at the time of the inspection.

2 Highgate Rd:

- This lot includes a residential structure (~350 m², in good condition) and a garage (~100 m², in good condition). All structures were located in the northern section. A paved road connected from the southwestern entrance to the garage.
- A swimming pool was located at the southwestern section of the lot, of approximately 40 m².
- The vegetation across the site was in good condition with healthy grass coverage.
- This section drained towards south with a slight slope < 5%.

4 Highgate Rd:

- This lot includes a residential structure (~350 m², in good condition) and a storage shed (~30 m², in good condition). The eastern section was fully covered by the structures. An undercover car park area was identified in the middle along the southern boundary.
- A swimming pool was located at the southwestern section of the lot, of approximately 40 m².
- The vegetation across the site was in good condition with healthy grass coverage.
- This section drained towards south with a slight slope < 5%.

6 Highgate Rd:

- This lot includes a residential structure (~300 m², in good condition). An undercover car park area was identified in the middle along the southern boundary. The central and central eastern section was covered by the residential structures and paved road.
- The vegetation across the site was in good condition with healthy grass coverage.
- This section drained towards south with a slight slope < 5%.

8 Highgate Rd:

- This lot includes a residential structure (~550 m², in good condition) and a garage (~60 m², in good condition). The central north and eastern section was fully covered by the structures.
- The vegetation across the site was in good condition with healthy grass coverage.
- This section drained towards south with a slight slope < 5%.

3.11 POEO Public Register

A search had been conducted on the POEO Public Register. One penalty notice was issued at a property as “National Asbestos Solutions Pty Ltd”, 500 m to the southwest of the site. The notice was issued on 29 August 2022.

Two (2) sites were identified within 1 km of the site were identified in the ‘List of NSW contaminated sites notified to EPA’, refer to Table 3.

Table 3: EPA List of notified sites (9 September 2024)

Suburb	Name	Address	Contamination Activity Type	Management Class	Latitude	Longitude	Distance to the site (Approximate, m)
Lindfield	Former BP Service Station Lindfield	478 Pacific Highway	Service Station	Contamination currently regulated CLM Act	- 33.771 9298	151.1613 874	650
Lindfield	7-Eleven (former Mobil) Service Station	238 Pacific Highway	Service Station	Regulation under CLM Act not required	- 33.778 8603	151.1689 594	500

3.12 Regional Salinity

No salinity potential map was available for the site. No salinity areas were identified within 500 m south from the site. The following observations/inspections were noted onsite:

- ✓ Vegetation growth appeared healthy across the site
- ✓ No water marks or salt crystals observed on the ground surface

4. CONCEPTUAL SITE MODEL

4.1 Areas of Environmental Concern

Based on the existing site information, including the review of existing assessment reports, hydrogeological setting, and the scope of work, the primary area of environmental concern for this assessment report was considered as the contaminants from the previous demolished structures on site. Also, an area of environmental concern was identified from the current dwellings with potentially hazardous materials used during construction.

4.2 Potential Receptors

Considering the significantly changed surface and soil structures over the earthwork, the primary potential receptors were considered as construction workers, site occupants (future residents) and visitors.

4.3 Potential for Exposure and Migration of Contaminants

During the site investigation, several potential receptors for off-site migration of potential contamination were identified. Site historical information, previous investigations and on-site inspection observations indicated a potential for contaminants to present a direct contact and inhalation exposure risk on site.

The dust accumulated from the aged hazardous materials used in previous structures could potentially become a risk to human health and the environment. Also, repeated usage of pesticides could potentially accumulate the chemicals in the shallow soil.

These contaminants may pose risks through direct contact with exposed soils or airborne dust for the site occupants. These risks are most likely to occur during earthworks phases on the site.

Considering the sources of potential contamination and onsite geological/hydrogeological information, the accumulated soil contaminants have a low potential to migrate vertically through infiltration into groundwater, and a low potential to migrate through stormwater runoff pathways during the proposed development.

4.4 Identified Areas of Environmental Concern

Based on the site history and walkthrough, the site is considered to have the following areas environmental concerns (AEC) of:

Table 4: Identified Areas of Environmental Concern (AEC) and Associated Impacts of Potential Contaminants

Identified AEC		
A. Previous/ Current Dwellings/ Structures	COPC	Heavy metals, BTEXN, OCP/OPP, TRH, PCBs, PAHs, and Asbestos
	Likelihood of Contamination	High near BH7; Low near the remainder of the site.
	Mechanism of Contamination	· Heavy metals from painting, and paint products · Pesticide use as part of residential activity including pest control · Hazardous materials as part of building materials · Petroleum previously applied or used inside the building · Demolition of previous structures
	Potentially Affected Media	· Vertical migration into underlying soil · Aesthetics
	Human & Ecological Receptors	· Future site workers and visitors · Site labourers/workers · Residents of adjacent properties · Future site occupants
	Potential Mechanisms of Exposure	· Direct dermal contact with contaminated soil · Ingestion of contaminated soil · Inhalation of hazardous fibres, or contaminated particles (via dust)

To address identified AECs, intrusive soil sampling regime was conducted to determine what, if any, remediation is required to render the site fit for the proposed use as for the proposed residential development. A soil sampling plan has been developed based on a judgemental sampling pattern and risk-based assessment.



Figure 6: Areas of Environmental Concerns (AEC)

AEC A	
Previous Structure	

5. ASSESSMENT CRITERIA

5.1 Health Investigation Levels (HILs) - Heavy metals, PAH, and OCP/OPP

Based on the proposed development (low-density residential), the appropriate Site Assessment Criteria (SAC) criteria was selected as NEPM (2013) Health Investigation Levels (HIL) Residential A, properties with soil access, including childcare centres, were adopted as the Soil Assessment Criteria (SACs) for metals, OCP, OPP, PCB and PAH for this investigation. Table 5 presents the summary of the SACs.

Table 5: Site Assessment Criteria for Soils (mg/kg)

Analytes	HILs-Residential A
Arsenic	100
Cadmium	20
Chromium (VI)	100
Copper	6,000
Lead	300
Mercury (inorganic)	40
Nickel	400
Zinc	7,400
Total PAHs	300
Benzo(a)pyrene TEQ	3
PCB	1
Pesticides:	
Aldrin/Dieldrin	6
Chlordane	50
DDT+DDE+DDD	240
Chlorpyrifos	160

5.2 Health screening levels (HSLs), Ecological screening levels (ESLs) and Management Limits - Total Recoverable Hydrocarbons (TRH), Benzene Toluene Ethylbenzene Xylene (BTEX), and Asbestos

The NEPM (2013) provides Health Screening Levels (HSLs), Ecological Screening Levels (ESLs) and Management Limits (MLs) for TRH fractions in soil based on concerns regarding ecological impacts, inhalation of vapours and direct contact with contaminant sources. The Fraction Number (i.e. hydrocarbon compound range) is identified and compared against the prescribed HSL, ESL and ML values. HSLs, ESLs and MLs take into consideration the followings:

- ✓ Carbon number range, indicated by a Fraction Number (F1, F2, F3 or F4);
- ✓ Type of soil (sand, silt or clay);
- ✓ Depth to the source of contamination;

✓ Intended land-use

For this Site, the intended land use is HSL A – Residential with garden/accessible soil and the soil type within a depth range of 0-1.0 m was “SAND”. And 1.0 - < 2.0 m was “CLAY”. The criteria are summarised in Table 7 below. They are obtained from Table 1A (3) (HSL A & HSL B), Table 1B(6) (fine soils) and Table 1B(7) (fine soils), ASC NEPM 2013.

For any identified potential ACM in soil, a HSL A criteria of 0.01% applies, obtained from Table 6, Health screening levels for asbestos contamination in soil, ASC NEPM 2013.

Health Screening Levels (HSLs) for asbestos in soils (NEPM 2013) of 0.01% for bonded ACM were adopted for the site, including the ‘presence/absence’ of asbestos in soil material has been adopted as the SAC.

Table 6: NEPM 2013 BTEX and TRH Criteria – HSL, ESL and ML Criteria

Analytes	HSL-A(Sand) 0 - < 1m	HSL-A (CLAY) 1 - < 2m	NEPM 2013 Amendment TRH Criteria (mg/kg dry wt.) ESL ³ (Coarse*)	NEPM 2013 Amendment TRH Criteria (mg/kg dry wt.) ML ⁴ (Coarse*)
Benzene	0.5	1.0	50	-
Toluene	160	NL	85	-
Ethylbenzene	55	NL	70	-
Xylene	40	310	105	-
F1: C6-C10	45	90	180	700
F2:C10-C16	110	NL	120	1,000
F3: C16-C34	N/A	N/A	300	2,500
F4: C34-C40	N/A	N/A	2,800	10,000

NL = Not Limiting (i.e. the soil vapour concentration for a petroleum mixture could not exceed a level that would result in the maximum allowable vapour risk for the given scenario).

N/A = Not applicable as F3 and F4 are non-volatile and hence are not of concern for vapour intrusion.

‘Fine’ refers to the soil texture grading as per NEPM 1999.

1 NEPM 2013 Amendment Table 1A(3) – Soil HSLs for vapour intrusion – 0-1.0m

2 NEPM 2013 Amendment Table 1A(3) – Soil HSLs for vapour intrusion – 1-<2.0m

3 NEPM 2013 Amendment Table 1B (6) – ESLs for TPH fractions, BTEX and benzo(a)pyrene in soil.

4 NEPM 2013 Amendment Table 1B (7) – Management Limits for TPH fractions F1-F4 in soil.

5.3 Ecological Investigation Levels

Ecological Investigation Levels (EILs) were utilised to assess the site suitability for the proposed residential land use.

The current version of the NEPM (2013) specifies default EILs for arsenic, lead, DDT and naphthalene. The recommended level of protection when a contaminant does not biomagnify, for urban residential/public open space is 80% of species.

NEPM (2013) specifies a methodology for the derivation of site-specific EILs for nickel, chromium III, copper and zinc. The derivation process requires determination of ambient

background concentrations (ABC) and added contaminant limits (ACLs) for these chemicals, and the EIL is then calculated as the ABC plus the ACL.

The soil properties, including pH, Cation Exchange Capacity (CEC); and % Clay were adopted from the *Digital Soil Maps (2024)*, Department of Climate Change, Energy, the Environment and Water 2024 (0 - 30 cm).

Table 7 below presents EILs derived from the measured soil properties for aged soils in Urban Residential/Public Open Space, utilising the ABC levels derived for sample# S3 from BH2 at 0.8 m bgl.

Table 7: NEPM (2013) EILs for Urban Residential and Public Open Spaces

Analyte	pH ¹	CEC ^{1,2}	Clay Content ²	ABC ^{1,2}	EIL ²
Arsenic	-	-	-	-	100
Chromium (III) ²	-	-	>30% - 40%	16 ³	416
Copper	>5.0-5.5	>10-15	-	5.8	136
Nickel	-	>10-15	-	< 5	170
Lead	-	-	-	15	1,115
Zinc	>5.0-5.5	>10-15	-	8.9	189
DDT	-	-	-	-	180
Naphthalene	-	-	-	-	170

Note(s):

1. Soil properties were adapted using the mean value of modelled soil properties (0-30 cm) from Digital Soil Maps and measured soil properties.
2. ABC = ambient background concentrations, EIL = ecological investigation level, CEC = cation exchange capacity.
3. Total Chromium utilized.

6. DATA QUALITY OBJECTIVES

A Data Quality Objective (DQO) process was applied throughout the investigation to ensure that the type, quantity, and quality of data necessary to support decisions regarding the assessment of contamination were met. The DQO process was prepared in general accordance with *AS4482.1-2005*, utilizing a seven-step approach to define project goals, decisions, constraints, and an assessment of project uncertainties, as well as strategies to address them as they arise.

The DQO for the PSI are as follows:

Step 1: State the Problem

The client is proposing to construct a multilevel residential apartment building. The planning authority is obligated to consider the potential for contamination from previous land use and evaluate the associated risks to both human health and the environment. A PSI is required to assess the suitability of the site for the proposed use as part of the development application (DA).

The aim of this investigation is to determine the sites suitability, with regards to contaminated land, for the proposed residential development, in general accordance with the requirements of *State Environmental Planning Policy (Resilience and Hazards) 2021*. This entails reviewing existing landscape information, conducting historical searches (such as land titles, land use records of the site and adjacent areas, and aerial photographs), identifying areas of environmental concern (AEC), determining the contaminants of potential concern (CoPC), assessing potential migration pathways (both to and from the site), evaluating potential exposures to human and environmental receptors, and addressing concerns related to remediation and proposed development of the site.

Step 2: Identify the Decision

The decisions regarding contamination and the collection of new environmental data must take into account the relevant site contamination criteria for each media (fill, natural soil, and groundwater). Concentrations of all CoPC must meet or be below the site criteria identified for soils designated for Residential A with garden/accessible soil.

Based on the objectives outlined in Section 2, it will be necessary to consider the following aspects:

- Define the nature, extent and source of soil impacts identified from the AEC

- Potential impacts of present contaminations on human health or the environment
- Sufficient information collected from this PSI to enable the selection and design of an appropriate remedial strategy, if necessary.

Step 3: Identify Inputs to the Decision

This step requires the identification of environmental variables or characteristics for the potential contamination, identification of affected media (fill, soil etc.) for the sampling collection, selection of the site specified assessment criteria and selection of appropriate analytical testing.

Key data required for the decision-making process in the assessment of site soil quality will include:

- Appraisal of site information in the desktop study;
- National and State guidelines under the *NSW Contaminated Land Management Act 1997*;
- Visual assessment of the site and material condition;
- Intrusive site investigation with sample collections;
- Identification of potential receptors, both on and off site;
- Recognition of exposure and migrate of the contaminants;
- Laboratory analysis of potential soil contaminants including:
 - Heavy Metals (As, Cd, Cr, Cu, Ni, Pb, Zn, Hg);
 - Total Recoverable Hydrocarbons (TRHs);
 - Polycyclic Aromatic Hydrocarbons (PAHs);
 - Benzene, Toluene, Ethylbenzene, Xylene, Naphthalene (BTEXN);
 - Organochlorine and Organophosphate Pesticides (OCP/OPP);
 - Polychlorinated Biphenyl (PCB); and
 - Asbestos Presence in soil.
- Evaluation of the laboratory results in comparison to the adopted site assessment criteria (SAC).

Step 4: Define the Study Boundaries

The spatial and temporal boundaries of the site need to be delineated to provide adequate information for the decision-making processes. Additionally, any potential restrictions that could impede the assessment process need to be identified.

The study boundaries are as follows:

- ✓ Lateral – Lateral boundary of the assessment is defined by the site boundary, as indicated in below section;
- ✓ Vertical – Vertical boundary will be governed by the maximum depth reached during field works (up to 2.2 m below ground level);
- ✓ Temporal – The date of site inspection and sampling works is impacted by site access, staff availability and the weather conditions. Validation sampling holding times depend on the specific chemicals.

Step 5: Develop a Decision Rule

To define the parameter(s) of interest, it is essential to specify the action level and provide a logical basis for selecting from alternative actions. The soils will not be deemed suitable for their intended land use if they do not meet the criteria outlined in NEPM 2013, Table 1a (1) Column A – Residential A with soil access.

This determination will be made based on the statistical analysis applied to the data, in general accordance with the Schedule B7 of ASC NEPM 2013:

- ✓ The reported concentrations are all below the site criteria; Or:
- ✓ individual concentrations are above the site criteria, and
 - The 95% upper confidence limit (UCL) of the arithmetic mean concentration of the contaminant is less than the adopted SAC.
 - No individual sample concentration exceeds 250% of the adopted SAC;
 - The standard deviation of the results must be less than 50% of the SAC
 - A sufficient number of samples has been collected using a spatially representative sampling design

The subject Site will be deemed not suitable or containing contamination “hotspots” if any of the above criteria are unfulfilled.

The decision rules for this investigation area are as follows:

- ✓ If the CoPCs in the soil data collected from the site do not exceed the validation criteria, then the area can be confirmed as validated.

- ✓ If the CoPCs in the soil data collected from the site exceeds the site assessment criteria then remediation strategy will be required for that soil portion.
- ✓ Any material nominated for offsite disposal shall be classified in accordance with *NSW EPA (2014) Waste Classification Guidelines*.

The following publications have been reviewed with respect to the assessment criteria and sampling methodology of soils at the Site:

- ✓ *New South Wales Legislation, Education and Care Services National Regulations 2011*
- ✓ *National Environment Protection (Assessment of Site Contamination) Measure (NEPM) 2013 amendment (NEPM 2013) Schedule B1 Guideline on Investigation Levels for Soil and Groundwater from the;*
- ✓ *New South Wales Environment Protection Authority (NSW EPA 2017), Contaminated Sites: Guidelines for the NSW Site Auditor Scheme, 3rd Ed, 2017*
- ✓ *New South Wales Environment Protection Authority (NSW EPA 2020) Contaminated Sites: Guidelines for Consultants Reporting on Contaminated Sites, 2020*
- ✓ *New South Wales Environment Protection Authority (NSW EPA 2022), Contaminated Land Guidelines, Sampling Design Part 1 - Application, 2022*
- ✓ *New South Wales Environment Protection Authority (NSW EPA 2022), Contaminated Land Guidelines, Sampling Design Part 2 - Interpretation, 2022*
- ✓ *Standards Australia AS 4482.1 - 2005: Guide to the Investigation and Sampling of Sites with Potentially Contaminated Soil – Part 1: Non-Volatile and Semi-Volatile Compounds, 2005, 2nd Edition;*
- ✓ *Standards Australia AS 4482.2 - 1999: Guide to the sampling and investigation of potentially contaminated soil Part 2: Volatile substances*
- ✓ *Western Australia Department of Health (WA DOH 2009) Guidelines for the Assessment, Remediation and Management of Asbestos-contaminated Sites in Western Australia, 2009.*

Step 6: Specify Limits on Decision Errors

Specify the decision-maker's acceptable limits on decision errors, which are used to establish performance goals for limiting uncertainties in the data. Data generated during this project must be appropriate to allow decisions to be made with confidence.

Two types of decision errors may occur due to uncertainties or limitations in the project data set:

- A site is deemed uncontaminated when, in fact, it is contaminated; and
- A site is deemed contaminated when, in fact, it is uncontaminated.

The consequences for incorrectly assessing a site as posing an unacceptable risk are considered less significant than the consequences for incorrectly assessing a site as posing acceptable risk.

Factors that may contribute to one of the above decision errors include:

- Sampling error – the sampling program does not adequately detect the variability of a contaminant from point to point across the site. That is, the samples collected are not representative of the site conditions; and
- Measurement error – may occur through the sample collection, handling, preparation, analysis, and data reduction processes.

The combination of the above errors is known as ‘total study error’ and is minimised through the correct choice of sampling design and measurement systems.

Geotesta will mitigate the risk of decision error by:

- Assignment of fieldwork tasks to suitably trained consulting staff, and experienced contractors;
- Assignment of laboratory analytical tasks to reputable NATA accredited laboratories; and,
- Assignment of data interpretation tasks to suitably trained Geotesta consulting staff and outsourcing to technical experts where required.

Step 7: Optimise the Design

In order to optimise the design, a sampling analysis and quality plan (SAQP) with the sampling methodology was developed in accordance with the *NSW EPA (2022) Contaminated Sites: Sampling Design Guidelines*. Proposed sampling locations provide even coverage across identified AEC on the site beneath previous sheds and existing structures. Quality assurance and quality control procedures were implemented as outlined within the following section.

7. SAMPLING ANALYSIS AND QUALITY PLAN

A Sampling Analysis and Quality Plan (SAQP) was developed to ensure that the data collected for the PSI accurately represents the site, supporting the assessment objectives outlined in the DQO.

The SAQP is prepared in general accordance with the *National Environment Protection (Assessment of Site Contamination) Measure (ASC NEPM 2013)* and *Australian Standard 4482.1-2005 (AS4482.1-2005): Guide to the Investigation and Sampling of Sites with Potentially Contaminated Soil – Part 1: Non-Volatile and Semi-Volatile Compounds* methodology.

7.1 SAMPLING PROGRAM

The soil sampling and analysis program was based on the historical background review of the site, operational requirements, areas of potential contamination of concern, and experience of the investigator to support the DQO mentioned in Section 4.

The historical review and site inspection supported the sampling approach undertaken. Given that this investigation is a PSI and aims to support the AEC identified, a detailed soil sampling program was determined following a systematic sampling pattern selection. A detailed soil sampling and analysis program encourages a greater accuracy in identifying contamination areas through a higher sampling density.

The following aspects are included in this sampling program:

- Field Screening and Sampling Program;
- Sampling QA/QC;
- Sample Handling, Preservation and Storage Procedures;
- Analytical Program and Investigation Data Assessment

7.1.1 Field Screening and Sampling Program

Fieldwork for this investigation was carried out on 17 September 2024 and included sampling from nine (9) boreholes (BH1 to BH9).

Boreholes were advanced via a hand auger and ute-mounted rig to a maximum depth of up to 2.2 m below ground level (bgl). All samples were collected directly from the recovered soils from the auger. A total of nine (9) samples were collected. The sampling borehole locations are shown in Figure 7 and Table 5.



Figure 7. Sampling borehole locations

7.1.2 Visual Inspection

During the sampling works, a visual inspection was conducted for suspected asbestos containing materials (ACM), signs of contamination and odours. The inspection for asbestos was undertaken in a systematic, back and forth fashion over the site to identify suspected ACMs. No suspected ACMs were observed on the ground surface during the walkover.

7.1.3 Soil Logging

Boreholes were logged by an experienced environmental consultant in accordance with AS1726:2017 Geotechnical Site Investigations. Refer to Appendix B Borehole Logs.

7.1.4 Soil Sampling Techniques

Standard procedures (undisturbed sampling recovered directly from the push tube sampler) were used for soil sampling was completed to meet data quality objectives and the procedures described in the following section.

All techniques used for soil sampling, are based on methods specified by the NSW EPA (2022) *Contaminated Sites: Sampling Design Guidelines* and AS4482.1-2005 *Guide to the Investigation and Sampling of Sites with Potentially Contaminated Soil – Part 1: Non-Volatile and Semi-Volatile Compounds*. Experienced personnel of Geotesta collected all the samples for delivery to NATA accredited laboratory (Eurofins MGT).

7.1.5 Analytical Program

Samples were analysed to provide information for the characterisation of the identified CoPC. This allowed the assessment of soils against the Site Assessment Criteria. The analyses were carried out by NATA certified laboratory (Eurofins MGT) in accordance with Chain of Custody (COC) instructions supplied by Geotesta.

A total of eight (8) soil samples were collected for analysis of the following:

- Heavy Metals (As, Cd, Cr, Cu, Ni, Pb, Zn, Hg);
- Total Recoverable Hydrocarbons (TRHs);
- Polycyclic Aromatic Hydrocarbons (PAHs);
- Benzene, Toluene, Ethylbenzene, Xylene, Naphthalene (BTEXN);
- Organochlorine and Organophosphate Pesticides (OCP/OPP);
- Polychlorinated Biphenyl (PCB); and
- Asbestos Presence in soil.

As part of the investigation, two (2) discrete sample was tested for the Phthalates, Acid Herb, 2,4-DNT, Nitrobenzene, VOC, Metals (As, Be, Cd, Pb, Hg, Mo, Ni, Se), Cr6+, CN (Total), CN (Free), F to provide a preliminary waste classification for the on-site materials. Two (2) discrete samples were tested for the PFAS presence on site.

The details of sample ID's, depths, and analysis are outlined in Table 8 below.

Table 8: Samples Depth and Requested Laboratory Tests

Sample ID	Borehole	Sampling Depth (m bgl)	Sample Texture	Chemical
S1	BH1	0.6	Silty CLAY	TRH, PAH, OCP, OPP, Phenols, Phthalates, Acid Herb, 2,4-DNT, Nitrobenzene, VOC, Metals (As, Be, Cd, Pb, Hg, Mo, Ni, Se), Cr6+, CN (Total), CN (Free), F
S3	BH2	0.8	Silty CLAY	TRH, BTEX, PAH, OCP/OPP, PCB,
S13	BH3	0.2	Sandy SILT	TRH, BTEX, PAH, OCP/OPP, PCB,
S6	BH4	0.7	Sandy Gravel	TRH, BTEX, PAH, OCP/OPP, PCB,
S7	BH5	0.3	Sandy SILT	TRH, PAH, OCP, OPP, Phenols, Phthalates, Acid Herb, 2,4-DNT, Nitrobenzene, VOC, Metals (As, Be, Cd, Pb, Hg, Mo, Ni, Se), Cr6+, CN (Total), CN (Free), F
S8	BH6	0.2	Silty SAND	TRH, BTEX, PAH, OCP/OPP, PCB,
S9	BH6	0.7	Silty CLAY	TRH, BTEX, PAH, OCP/OPP, PCB,
S10	BH7	0.7	Silty CLAY	TRH, BTEX, PAH, OCP/OPP, PCB,
S14	BH1	0.5	Silty Sandy CLAY	PFAS
S15	BH4	0.9	Gravelly CLAY	PFAS
ASB1	BH1	0.2	Silty Sandy CLAY	Asbestos in soil
ASB2	BH4	0.5	Clayey SILT	Asbestos in soil
ASB3	BH6	0.2	Silty SAND	Asbestos in soil
ASB4	BH9	0.2	Clayey SILT	Asbestos in soil

Notes:

TRH: Total Recoverable Hydrocarbons - 2013 NEPM Fractions

BTEX: Benzene, toluene, ethyl benzene, xylene

PAH: Polycyclic Aromatic Hydrocarbons,

OCP: Organochlorine Pesticides

OPP: Organophosphorus Pesticides

PCB: Polychlorinated Biphenyls

HM: Heavy Metals

7.2 Sampling Quality Assurance and Quality Control

The following measures have been utilised during the sampling to achieve the sampling quality controls.

7.2.1 Sampling Procedures

Equipment for soil sampling included a push tube sampler, stainless steel sampling shovel and a ute-mounted rig. All tools were decontaminated between sampling following the

decontamination procedure described in the following section. Soil samples were recovered from the samplers and placed on a plastic film and transferred into the sample container. Disposable nitrile gloves were constantly worn to prevent cross contamination between samples.

All containers were labelled and transferred into a chilled container before transporting to the laboratory.

7.2.2 Sample Containers

For each sample, a portion of the material was transferred into a sterilised 250 mL glass sampling jar provided by the laboratory, which was sealed with a Teflon lid. Asbestos-Testing samples (soil sample) were collected into air-tight bags for asbestos testing.

Standard identification labels were adhered to each individual container and labelled with project and sample ID, depth, date, sampling team and media collected.

7.2.3 Sample Tracking and Identification

All samples were identified with a unique sample number and sampling details were included on the sample label and were reproduced on the field sample log and chain of custody records.

7.2.4 Decontamination

All equipment used in the sampling program, which includes a push-tube auger, a stainless-steel bowl, a stainless-steel trowel, 7 mm sieve and a knife were decontaminated between sampling to prevent cross contamination. Decontamination of equipment involved the following procedures:

- Scrubbing equipment to remove all visible soil
- Cleaning equipment in potable water.
- Rinsing in clean demineralised water, then wiping with lint free clean cloths.

7.2.5 Sample Transport

All samples were placed into ice immediately upon collection and transported to the primary laboratory (Eurofins MGT).

During the project, the laboratory reported that all the samples arrived intact, with appropriate preservation medium and were analysed within their relative holding times for the respective analytes.

7.2.6 Quality Assurance and Quality Control

Quality assurance is attained by verifying field or anticipated results through comparing field observations with laboratory results. One (1) blind duplicate sample (BD) was taken for one-day sampling and was a duplicate sample of parent sample S10. One (1) pair of trip blanks and trip spikes supplied by Eurofins was incorporated into the QA/QC procedure.

Quality control is achieved by utilising NATA accredited laboratories, using standard methods supported by internal duplicates, the checking of high, abnormal, or otherwise anomalous results against background and other chemical results for the sample concerned. The laboratory undertakes additional duplicate analysis as part of internal quality assurance program. Evaluation of the intra duplications and quality control is provided in the following section.

Chain of Custody documentation was used to ensure that sample tracking and custody can be cross-checked at any point in the transfer of samples from the field to hand-over to the laboratory. Laboratory CoC is attached into Appendix D.

8. DATA QUALITY INDICATORS

8.1 Summary of the Data Quality Indicators

A range of data quality indicators (DQI) have been adopted to facilitate the assessment of the completeness, comparability, representativeness, precision and accuracy, shown in Table 9.

Table 9. Data Quality Indicators (DQI)

DQI	Consideration		Compliance
Completeness ¹	Field	All critical locations sampled	Soil samples were collected to meet the quantity and quality objective sets in the following section.
		All samples collected (from grid and at depth)	All samples were collected in accordance with the sampling plan
		SOPs appropriate and complied with	All samples were collected in accordance with relevant guidelines, industry practices, and Australian Standards
		Experienced sampler	Samples were recovered by a suitably qualified and experienced sampler
		Documentation correct	All required documentation was completed including written site records and photographic logs
	Laboratory	All critical samples analysed according to SAQP	All of the recovered samples were analysed by a NATA accredited laboratory
		All analytes analysed according to SAQP	Each recovered sample was analysed for the analytes required by the SAQP in accordance with the context for which the sample was recovered
		Appropriate methods and LORs	Eurofins is a suitably qualified NATA accredited laboratory, therefore the appropriate methods and LORs were adopted for the testing, as outlined within the analytical reports
		Sample documentation complete	Appropriate chain of custody documentation was adopted.
		Sample holding times complied with	All samples were analysed within the appropriate holding times as detailed in <i>ASC NEPM 2013</i>
Comparability	Field	Same SOPs used on each occasion	Each sample was recovered in accordance with the SOPs

DQI	Consideration		Compliance
		Experienced sampler	Samples were recovered by two suitably qualified and experienced samplers
		Climatic conditions	Samples stored in insulated containers with ice bricks. Climatic conditions were acceptable on the day of sampling
		Same types of samples collected	The type of samples collected was consistent (Soil). All samples were discrete samples.
	Laboratory	Sample analytical methods used	Eurofins is a suitably qualified NATA accredited laboratory, therefore the appropriate methods were adopted for the testing, as outlined within the analytical reports
		Sample LORs	Eurofins is a suitably qualified NATA accredited laboratory, therefore the appropriate LORs were adopted for the testing, as outlined within the analytical reports
		Same laboratories	Eurofins conducted all of the analytical testing of primary samples
		Same units	The same units were used for the respective analytes
	Representativeness ³	Field	Appropriate media sampled according to SAQP
All media identified in SAQP			The investigation was limited to the analysis of the soil
Laboratory		All samples analysed according to SAQP	Eurofins is a suitably qualified NATA accredited laboratory, therefore all samples were analysed in accordance with the appropriate requirements
Precision ⁴	Field	SOPs appropriate and complied with	All samples were recovered in accordance with the SOPs
	Laboratory	Intra-laboratory duplicates	Intra-laboratory duplicate are analysed as a component of the standard operating procedures of Eurofins in accordance with the conditions of their NATA accreditation
		Field duplicates	Field duplicate samples were to be recovered at least one (1) per twenty (20) samples and labelled with sample IDs not known to the laboratories and were analysed along with the primary samples by Eurofins as detailed in the following sections.

DQI	Consideration		Compliance
Accuracy ⁵	Field	SOPs appropriate and complied with	All samples were recovered in accordance with the SOPs
	Laboratory	Analysis of field blanks, rinsate blanks, reagent blanks, method blanks, matrix spikes, matrix spike duplicates, surrogate spikes, reference materials, laboratory control samples, and laboratory-prepared spikes	Field blank, matrix spike, duplicate, and ambient background concentration sample were adopted in this study. Laboratory quality assurance and quality control samples were analysed by Eurofins as summarised in the following sections.

Notes: SOP = Standard Operating Procedures; SAQP = Sampling, Analysis and Quality Plan; LOR = Limit of Reporting

1. A measure of the amount of useable data (expressed as %) from a data collection activity.
2. The confidence (expressed qualitatively) that data may be considered to be equivalent for each sampling and analytical event.
3. The confidence (expressed qualitatively) that data are representative of each media present on the site.
4. A quantitative measure of the variability (or reproducibility) of data.

A quantitative measure of the closeness of reported data to the true value.

9. RESULTS

9.1 Subsurface Conditions

A summary of sub-surface soil conditions encountered during soil sampling is as follows:

- The site contained approximately 0.5 m thick Topsoil/Fill layer comprising of sandy silty soil, brown, with rootlets, trace gravels, observed in most boreholes.
- The material below the topsoil/fill horizon was mostly clayey soil with a variable depth from approximately 1.0 m bgl to 1.9 m bgl, in most boreholes.
- Refusal was encountered with a variable depth from 0.6 m to 2.0 m, followed by weathered bedrock horizon in most boreholes.

Groundwater was not encountered in the soil horizons during field work. The observation was consistent with the soil landscape information and limited disturbance occurred to the underground soil.

9.2 Laboratory Analytical Results

Selected soil samples were analysed for the CoPC. A summary of analytical results have been outlined in the following subsections. The laboratory documentation is presented in Appendix D and comparison with site assessment criteria provided in Appendix E.

9.2.1 Heavy Metals

A total of eight (8) soil samples were analysed for heavy metals. The concentration of Arsenic was reported as 1,100 mg/kg in the sample S10 and 2,400 mg/kg in the blind duplicate (of parent sample S10), exceeding both the HIL A and EIL criteria of 100 mg/kg and was considered a hotspot of Arsenic. The concentration of zinc from the blind duplicate (duplicate of S10), had a concentration of 220 mg/kg which exceeded the EIL criteria of 189 mg/kg, however, the sample was within the HIL A criteria of 7,400 mg/kg.

The sampling depth of sample S10 was 0.7 m bgl and was followed by refusal on a hard matrix. That matrix could potentially be a piece of timber treated with chromated copper arsenate (CCA). A further investigation is necessary to investigate this arsenic hotspot.

Following further characterisation of arsenic around borehole BH7, a remediation action plan may be required to remediate the arsenic impacted area.

The reported concentrations of arsenic and zinc from the remaining samples were within the adopted Site Assessment Criteria for both Health Investigation Levels (HIL A) and Ecological Investigation Levels (EIL).

All of the reported concentrations of chromium, copper, lead, mercury, and nickel were within the adopted Site Assessment Criteria for both Health Investigation Levels (HIL A) and Ecological Investigation Levels (EIL).

No concentrations of beryllium, cadmium, molybdenum, selenium, and silver were detected above the Limit of Reporting (LOR) and were therefore within the adopted Site Assessment Criteria (HIL A and EIL).

9.2.2 Organochlorine Pesticides / Organophosphorus Pesticides (OCP/OPP)

A total of seven (7) samples were analysed for a range of organochlorine and organophosphorus pesticides.

Concentration of DDE was reported in sample S7 from BH4 at 0.14 mg/kg. The reported concentration was within the Site Assessment Criteria (HIL A).

No concentrations of organochlorine and organophosphorus pesticides exceeded the Laboratory Limit of Reporting (LOR) in the remaining samples and were therefore within the Site Assessment Criteria (HIL A).

9.2.1 Polychlorinated Biphenyls

A total of six (6) samples were analysed for PCB. No concentrations of PCB exceeded the Laboratory Limit of Reporting (LOR) and were therefore within the Site Assessment Criteria (HIL A).

9.2.2 Polycyclic Aromatic Hydrocarbons (PAH)

A total of eight (8) samples were analysed for PAHs. Concentrations of chrysene and fluorene were detected at the S13 from BH2 at 0.2 m bgl. The reported concentration of Total PAH was within the HIL A criteria. Naphthalene was not reported at S13 and was therefore within the EIL criteria.

No concentrations of polycyclic aromatic hydrocarbons exceeded the Laboratory Limit of Reporting (LOR) in the remaining samples and were therefore within the Site Assessment Criteria (HIL A and EIL).

9.2.3 Total Recoverable Hydrocarbons (TRH) - 2013 NEPM Fractions

A total of eight (8) samples were analysed for TRH. No concentrations of TRH NEPM Fractions exceeded the Laboratory Limit of Reporting (LOR) and were therefore within the Site Assessment Criteria (HSL A, ESL and ML).

9.2.4 Benzene, Toluene, Ethyl Benzene and Xylene (BTEX)

A total of six (6) samples were analysed for BTEXN. No concentrations of BTEXN exceeded the Laboratory Limit of Reporting (LOR) and were therefore within the Site Assessment Criteria (HSL A and ESL).

9.2.5 Asbestos

No asbestos was detected at the reporting limit of 0.01% within the four (4) soil samples and was therefore within the Site Assessment Criteria (HSL A).

9.2.6 Other SVOC and VOC

A total of two (2) samples were analysed for Acid Herbicides, Phenols, Phthalate Esters, Semi Volatile Organics, Volatile Organics, and PFAS, and were within the Site Assessment Criteria (HIL A).

9.3 Evaluation Analytical Quality Assurance

9.3.1 Duplicate Sample

The laboratory quality control measures are assessed based on a duplicate sample which were collected during the field works. The Relative Percentage Difference (RPD) values between parent samples and the duplicate samples were calculated to assess the results. A zero (0) RPD indicates perfect agreement of results between the primary and duplicate sample whilst an RPD above 200 % indicates total disagreement in results. Any value > 50 % RPD will be noted and discussed, as per Standards Australia requirements, with respect to its acceptability for inclusion in the dataset.

An acceptable RPD of 50 % was adopted for this assessment, however, in circumstances where one or both of the detected concentrations within the duplicate pair were within five (5) times the LOR, an RPD of 100 % was considered acceptable.

The following Table 10 presents the RPD results for the duplicate collected and pairs of results obtained above the laboratory detection limits.

Table 10: Relative Percentage Difference against EBH9 and BD1

Chemical	LOR	EBH9	BD1	RPD%
Arsenic	2	1100	2400	74.3
Cadmium	0.4	< 0.4	< 0.4	-
Chromium	5	15	31	69.6

Chemical	LOR	EBH9	BD1	RPD%
Copper	5	8.8	14	45.6
Lead	5	62	41	40.8
Mercury	0.1	< 0.1	< 0.1	-
Nickel	5	< 5	7.4	-
Zinc	5	44	220	133.3

A total of eight (8) pairs of analytes were available for relative percent difference (RPD) assessment. The RPD for the duplicate samples analysed by the primary laboratory (Eurofins MGT) were largely below 50%, except for arsenic, chromium, and zinc, with RPD results of 74.3%, 69.6%, and 133.3% respectively. The augur met a hard refusal at 0.7m, and that could have potentially generated arsenic treated timber wood fragments in the soil sample. This may have been caused sample heterogeneity where variations in the sample composition leads to high RPDs. If the samples are not homogenous, different portions might contain varying concentrations of metals.

Reference made to the laboratory QA/QC analysis indicates RPD results of 5.0%, 6.0%, and 8.0% for arsenic, chromium and zinc, respectively, which were acceptable. Based on the laboratory QA/QC and the duplicate results, the data is considered suitable for use in this environmental assessment of the site.

9.3.2 Trip Spikes and Blanks

One (1) pair of trip spike and trip blank was utilised during the QA/QC. Trip Spike samples assess the loss of volatile compounds during field handling and transportation. The trip blank sample assesses the potential for the primary sample to be affected by external and environmental factors during transport between the site and laboratory. The trip spikes were sand samples spiked with a known concentration of BTEX by the analytical laboratory. The sample is transported to and from the site with the primary samples and is analysed to determine the percentage of BTEX recovered. The trip blank samples consist of blank sand which is transported to and from the site and laboratory with the primary samples. Table 11 below presents the summary of the test results.

Table 11. Summary of the test results on Trip Spike Recovery (%) and Trip Blank

Sample	Benzene	Toluene	Ethylbenzene	Xylene - Total
TS2	75	75	76	76
Assessment Criteria	70 – 130	70 – 130	70 – 130	70 – 130
TB2	< 0.1	< 0.1	< 0.1	< 0.3

Upon analysis, the trip spike recovery rates were between 75 % and 76 % of the known concentration. Concentrations of BTEX were below the limit of detection. Therefore, the field and transport procedures were considered satisfactory.

10. DISCUSSION

10.1 Historical Background Summary

A review of historical aerial photographs indicates that the site was used for residential purposes since at least 1943. The dwelling on Lot 2 was rebuilt between 1986 and 1991, while the dwellings on Lot 6 were rebuilt between 1996 and 2004. In Lot 4, the shed was demolished and replaced with a swimming pool between 1971 and 1986. Another swimming pool was added to Lot 2 between 2005 and 2009. Since then, the site has remained unchanged.

Land use surrounding the site has largely been residential since at least 1943. The density of the development has increased within the aerial review period.

10.2 Site Inspection Summary

- No signs of visual contamination or associated odours were observed on-site;
- No vegetation die-back was observed on-site; and
- No ACMs were observed on the site soil on-site.

10.3 Hydrogeological Review

Based on the Hydrologic Soil Groups (HSG) of NSW project (NSW Department of Climate Change, Energy, the Environment and Water 2012), the site is located in an area of Group C, slow soil infiltration, and bedrock occurred from approximately 1 m bgl to 2 m bgl. Migration of chemicals identified within the soil are unlikely to infiltrate through the soil/rocks impacting groundwater conditions. The likelihood of the site being a source of groundwater contamination is considered low.

However, high infiltration area (Group A of HSG, NSW) is observed in the adjacent area, and further groundwater investigation might be necessitated if the deep excavation is proposed.

10.4 Soil Contamination Summary

A soil sampling and analysis program was conducted as part of the preliminary site investigation (PSI). The analysis focused on the Chemicals of Potential Concern derived from the Areas of Environmental Concern (AECs) onsite. CoPC were determined based on past uses of the site including use of hazardous materials during construction, importation of fill material, use of pesticides and potential leaks from vehicle fluids.

A summary of laboratory results against the adopted criteria for the site identified the following pertinent information:

- Concentrations of arsenic in sample S10 (borehole BH7) exceeded the adopted ASC NEPM 2013 Health Investigation Levels (HIL A) and Ecological Investigation Levels (EILs). This sample consisted of silty clay and was sampled at a depth of 0.7mbgl. The recovered soil sample was considered as an arsenic hotspot. One (1) exceedance of zinc was identified in the duplicate sample of S10 exceeding the Ecological Investigation Level (EIL) but was within the Health Investigation Level (HIL A). The reported concentration of zinc from the parental sample as S10 was within the Ecological Investigation Level (EIL) and Health Investigation Level (HIL A).
- Further investigation is necessary to investigate the vertical and horizontal range of arsenic impacted soil surrounding borehole BH7 which will be done post demolition of the structures at the site. A remediation action plan may be necessary to remediate the arsenic impacted area upon the further investigation.
- No reported concentrations from the remaining heavy metals exceeded the adopted Site Assessment Criteria.
- Concentrations of DDE and total PAHs were reported by the laboratory and the reported concentrations were within the Site Assessment Criteria.
- Concentrations of PAHs, BTEXN, TRH, asbestos, OCPs, OPPs, Acid Herbicides, Phenols, Phthalate Esters, other Semi Volatile Organics/Volatile Organics, and PFAS, from the remaining samples were below the limit of reporting and therefore below the Site Assessment Criteria.

10.5 Updated Conceptual Site Model

Based on the results of the Preliminary Site Investigation, including soil sampling and analysis results, the Conceptual Site Model (CSM) has been updated and presented in Table 12.

Table 12: Updated Conceptual Site Model (CSM).

Identified AEC		
A. Previous/ Current Dwellings/ Structures	COPC	Heavy metals, BTEXN, OCP/OPP, TRH, PCBs, PAHs, and Asbestos
	Likelihood of Contamination	Moderate
	Mechanism of Contamination	· Heavy metals from painting, and paint products · Pesticide use as part of residential activity including pest control · Hazardous materials as part of building materials · Petroleum previously applied or used inside the building · Demolition of previous structures
	Potentially Affected Media	· Vertical migration into underlying soil · Aesthetics
	Human & Ecological Receptors	· Future site workers and visitors · Site labourers/workers · Residents of adjacent properties · Future site occupants
	Potential Mechanisms of Exposure	· Direct dermal contact with contaminated soil · Ingestion of contaminated soil · Inhalation of hazardous fibres, or contaminated particles (via dust)
	Sampling Completed	Ten (10) jar samples including S1, S3, S6, S7, S8, S9, S10, S13, S14, S15 and four bag samples including ASB1-ASB4.
	Potential & Complete Exposure Pathways	Arsenic hotspot was detected in silty clay at a depth of 0.7m in BH7. The same sample had a zinc EIL exceedance. No contaminants were reported above the SAC in the remaining samples. Borehole BH7 is considered to have a hotspot of arsenic contamination, and the soil could impact the health of future workers and future occupants. Further characterisation near borehole BH7 is partially blocked by the existing structures including one residential house, one shed, and one swimming pool. Further data gap investigation is necessary to delineate the vertical and horizontal range of the arsenic contamination. It is also noted that the elevated arsenic concentrations could potentially be naturally occurring. A remediation action plan may need to be prepared based upon the finding of further arsenic characterisation.

10.6 Future Data Gap Assessment

The horizontal range of the arsenic hotspot cannot currently be characterised due to the presence of site structures. The current footprints of the structures on site also need to be assessed following demolition.

The data gap is to be addressed in a data gap assessment.

10.7 Preliminary Waste Classification

The Waste Classification Guidelines Part 1: Classifying Waste (2014) for off-site disposal, classify wastes into groups that pose similar risk to the environment and human health.

The following classes of waste are defined in clause 49 of Schedule 1 of the Protection of the Environment Operations Act 1997 (POEO Act):

- Special waste.
- Liquid waste.
- Hazardous waste.
- Restricted solid waste.
- General solid waste (putrescible); and
- General solid waste (non-putrescible).

During the site inspection, no ACM was observed within the inspected materials on the site.

Laboratory results have been compared to contaminant threshold 1 (CT1) concentrations listed in Table 1 of the NSW EPA's Waste Classification Guidelines Part 1: Classifying Waste (Nov 2014) (waste classification guidelines). The area with arsenic hotspot exceeded the CT2 and SCC2 criteria and therefore should be preliminarily considered as **Hazardous Waste**. The remaining areas meet the CT1 Threshold for waste classification without TCLP as **General Solid Waste (no-putrescible)**. Further investigation near the arsenic hotspot is necessary to confirm the classification for future site work if disposal is needed.

11. CONCLUSIONS AND RECOMMENDATIONS

Based on the PSI conducted at 2-8 Highgate Road, Lindfield NSW 2070, the following conclusions can be made:

- The site appears to have been historically used for residential purposes since at least 1943, the site has remained relatively unchanged since 2009;
- The natural soil profile encountered is consistent with the regional geology of the site;
- A hotspot of arsenic was detected in sample S10 from BH7. Also, zinc in sample S13 from borehole BH7 exceeded the NEPM 2013 Ecological Investigation Levels for Urban and Public Open Space. The reported concentration of zinc at S13 from 0.7 mbgl of BH7 was below the NEPM HIL A criteria; The EIL exceedance does not require additional assessment as there no ecological receptors are likely to be exposed at the site following construction of the new residential apartment building.
- The preliminary assessment of site soils for waste disposal near the arsenic hotspot (Sample S10 in borehole BH7) is "Hazardous Waste", and General Solid Waste (non-putrescible) in the remaining areas. Further sampling and analysis post demolition of the structures near the arsenic hotspot would be required prior to off-site disposal.
- There is a **High** likelihood of contamination to be present near borehole BH7, as a result of the arsenic hotspot that was detected;
- Given that borehole 7 encountered refusal at the same depth that the arsenic was detected (0.7m), there is a possibility that the borehole terminated in a piece of arsenic treated wood.
- Further investigation is necessary to investigate the vertical and horizontal range of arsenic impacted soil near borehole BH7 post demolition of the structures at the site. A remediation action plan may be required to remediate the arsenic impacted area following further investigation;
- Further investigation of the presence of arsenic treated wood at a depth of 0.7m near borehole BH7 may be warranted;
- Further data gap sampling is recommended in the footprints of the demolished structures and sheds and the area around borehole BH7.
- The site can be made suitable for the proposed residential use upon the completion of remediation work around BH7 or any other contamination found during the data gap assessment in the footprints of the sheds and dwellings, if any.
- The data gap sampling in the footprint of the site structures, delineation around borehole BH7 and remediation near borehole BH7 should take place following demolition of the site structures.

DOCUMENT CONTROL

Role	Name/Title	Date	Report No/Version
Author	Fang Bian  Environmental Scientist	02/10/2024	Rpt1V1
Reviewer	Mark Laidlaw  Senior Environmental Scientist	10/10/2024	Rpt1V1
Reviewer	Mark Laidlaw  Senior Environmental Scientist	12/12/2024	Rpt1V2
Reviewer	Mark Laidlaw  Senior Environmental Scientist	24/02/2025	Rpt1V3
Author	Fang Bian  Environmental Scientist	11/04/2025	Rpt1V4

12. REFERENCES

Bureau of Meteorology (2024), www.bom.gov.au.

NEPC (1999, amended 2013) National Environmental Protection (Assessment of Site Contamination) Measure (ASC NEPM, 1999 amended 2013).

NSW Department of Mineral Resources, (1991) Penrith 1:100,000 Geological Sheet 9030.

NSW Department of Environment & Heritage (NSW soil and land information), www.environment.nsw.gov.au.

NSW EPA, <http://www.epa.nsw.gov.au/prclmapp/aboutregister.aspx>.

NSW EPA, Contaminated Land Guidelines, Sampling Design – Application (2022)

NSW EPA (1997), Environmental Guidelines – Use and Disposal of Biosolids Products

NSW EPA (2014a), Waste Classification Guidelines,

NSW EPA (2014b), Resource Recovery Order

NSW EPA (2017), 3rd Ed. Contaminated Land Management: Guidelines for the NSW Site Auditor Scheme

NSW EPA (2020), Contaminated Sites: Guidelines for Consultants Reporting on Contaminated Land.

NSW Office of Environment and Heritage (eSPADE v2.2)

Standards Australia AS 4482.1 - 2005: Guide to the Investigation and Sampling of Sites with Potentially Contaminated Soil – Part 1: Non-Volatile and Semi-Volatile Compounds, 2005, 2nd Edition

Standards Australia AS 4482.2 - 1999: Guide to the sampling and investigation of potentially contaminated soil Part 2: Volatile substances

State Environmental Planning Policy No 55 (1979), Environmental Planning and Assessment Act 1979.

Western Australia Department of Health (WA DOH 2009) Guidelines for the Assessment, Remediation and Management of Asbestos-contaminated Sites in Western Australia, 2009.

Eurofins Environment Testing, Reported Date 01 October 2024, Certificate of Analysis 1140701-AID, prepared for GEOTESTA

Eurofins Environment Testing, Reported Date 01 October 2024, Certificate of Analysis 1140701-S, prepared for GEOTESTA

Information about this report

The report contains the results of a contamination investigation conducted for a specific purpose and client. The results should not be used by other parties, or for other purposes, as they may contain neither adequate nor appropriate information. In particular, the investigation does not cover contamination issues unless specifically required to do so by the client.

Test Hole Logging

The information on the test hole logs (boreholes, test pits, exposures etc.) is based on a visual and tactile assessment, except at the discrete locations where test information is available (field and/or laboratory results). The test hole logs include both factual data and inferred information.

Groundwater

Unless otherwise indicated, the water levels presented on the test hole logs are the levels of free water or seepage in the test hole recorded at the given time of measuring. The actual groundwater level may differ from this recorded level depending on material permeability (i.e. depending on response time of the measuring instrument). Further, variations of this level could occur with time due to such effects as seasonal, environmental and tidal fluctuations or construction activities. Confirmation of groundwater levels, phreatic surfaces or piezometric pressures can only be made by appropriate instrumentation techniques and monitoring programmes.

Interpretation of Results

The discussion or recommendations contained within this report normally are based on a site evaluation from discrete test hole data. Generalized, idealized or inferred subsurface conditions (including any geotechnical cross-sections) have been assumed or prepared by interpolation and/or extrapolation of these data. As such these conditions are an interpretation and must be considered as a guide only.

Change in Conditions

Local variations or anomalies in the generalized ground conditions do occur in the natural environment, particularly between discrete test hole locations. Additionally, certain design or construction procedures may have been assumed in assessing the soil-structure interaction behaviour of the site. Furthermore, conditions may change at the site from those encountered at the time of the geotechnical investigation through construction activities and constantly changing natural forces.

Any change in design, in construction methods, or in ground conditions as noted during construction, from those assumed or reported should be referred to GEOTESTA for appropriate assessment and comment.

Environmental Verification

Verification of the environmental/contamination assumptions and/or model is an integral part of the design process-investigation, construction verification, and performance monitoring. Variability is a feature of the natural environment and, in many instances, verification of soil or rock quality, or foundation levels, is required. There may be a requirement to extend foundation depths, to modify a foundation system or to conduct monitoring as a result of this natural variability. Allowance for verification by geotechnical personnel accordingly should be recognized and programmed during construction.

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Appendix A

Historical Imagery and Title Search

2024



2019



2015



2009



2005



2004



1996



1994



1991



1986



1971



1970



1965



1955



1943





NEW SOUTH WALES LAND REGISTRY SERVICES - HISTORICAL SEARCH

SEARCH DATE

16/9/2024 9:41AM

FOLIO: 102/6608

First Title(s): SEE PRIOR TITLE(S)
Prior Title(s): VOL 15084 FOL 113

Recorded	Number	Type of Instrument	C.T. Issue
21/8/1988		TITLE AUTOMATION PROJECT	LOT RECORDED FOLIO NOT CREATED
12/12/1988		CONVERTED TO COMPUTER FOLIO	FOLIO CREATED CT NOT ISSUED
15/7/1993	I487854	DISCHARGE OF MORTGAGE	
15/7/1993	I487855	DISCHARGE OF MORTGAGE	
15/7/1993	I487856	MORTGAGE	EDITION 1
7/11/2013	AI146844	DEPARTMENTAL DEALING	
2/9/2018	AN678864	DEPARTMENTAL DEALING	EDITION 2 CORD ISSUED
11/6/2024	AU136078	CAVEAT	EDITION 3

*** END OF SEARCH ***

PRINTED ON 16/9/2024

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NEW SOUTH WALES LAND REGISTRY SERVICES - TITLE SEARCH

FOLIO: 102/6608

SEARCH DATE	TIME	EDITION NO	DATE
16/9/2024	9:41 AM	3	11/6/2024

LAND

LOT 102 IN DEPOSITED PLAN 6608
AT LINDFIELD
LOCAL GOVERNMENT AREA KU-RING-GAI
PARISH OF GORDON COUNTY OF CUMBERLAND
TITLE DIAGRAM DP6608

FIRST SCHEDULE

RICHARD RONALD ULRICK
WENDY JOAN ULRICK
AS JOINT TENANTS

(T W289831)

SECOND SCHEDULE (3 NOTIFICATIONS)

- 1 RESERVATIONS AND CONDITIONS IN THE CROWN GRANT(S)
- 2 I487856 MORTGAGE TO COMMONWEALTH BANK OF AUSTRALIA
- * 3 AU136078 CAVEAT BY HIGHGATE RESIDENCE HOLDING PTY LTD

NOTATIONS

UNREGISTERED DEALINGS: NIL

*** END OF SEARCH ***

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NEW SOUTH WALES LAND REGISTRY SERVICES - HISTORICAL SEARCH

SEARCH DATE

16/9/2024 9:41AM

FOLIO: 101/6608

First Title(s): OLD SYSTEM
Prior Title(s): VOL 7070 FOLS 231-232

Recorded	Number	Type of Instrument	C.T. Issue
21/4/1999	DP6608	DEPOSITED PLAN	LOT RECORDED FOLIO NOT CREATED
4/11/2005	AB886259	DEPARTMENTAL DEALING	FOLIO CREATED CT NOT ISSUED
4/11/2005	AB886259	SUB FOLIOS CREATED: 101/6608A-B.	

*** END OF SEARCH ***

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NEW SOUTH WALES LAND REGISTRY SERVICES - HISTORICAL SEARCH

SEARCH DATE

16/9/2024 9:41AM

FOLIO: 100/6608

First Title(s): OLD SYSTEM
Prior Title(s): VOL 2931 FOL 162

Recorded	Number	Type of Instrument	C.T. Issue
17/6/1988	X559735	MORTGAGE	FOLIO CREATED EDITION 1
27/7/1989	Y466270	TRANSFER OF MORTGAGE	
27/7/1989	Y466271	CAVEAT	
24/1/1990	Y821542	WITHDRAWAL OF CAVEAT	
10/8/1990	Z139897	TRANSFER OF MORTGAGE	
15/2/1991		AMENDMENT: VOL FOL INDEX	
30/10/2009	AF83848	DISCHARGE OF MORTGAGE	EDITION 2
11/6/2024	AU134096	CAVEAT	EDITION 3

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NEW SOUTH WALES LAND REGISTRY SERVICES - TITLE SEARCH

FOLIO: 100/6608

SEARCH DATE	TIME	EDITION NO	DATE
16/9/2024	9:41 AM	3	11/6/2024

LAND

LOT 100 IN DEPOSITED PLAN 6608
AT LINDFIELD
LOCAL GOVERNMENT AREA KU-RING-GAI
PARISH OF GORDON COUNTY OF CUMBERLAND
TITLE DIAGRAM DP6608

FIRST SCHEDULE

DON ALEXANDER MCLEAN
LYNNE MAREE MCLEAN
AS JOINT TENANTS

SECOND SCHEDULE (2 NOTIFICATIONS)

- 1 RESERVATIONS AND CONDITIONS IN THE CROWN GRANT(S)
- * 2 AU134096 CAVEAT BY HIGHGATE RESIDENCE HOLDING PTY LTD

NOTATIONS

UNREGISTERED DEALINGS: NIL

*** END OF SEARCH ***

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NEW SOUTH WALES LAND REGISTRY SERVICES - HISTORICAL SEARCH

SEARCH DATE

16/9/2024 9:41AM

FOLIO: 103/6608

First Title(s): SEE PRIOR TITLE(S)
Prior Title(s): VOL 13596 FOL 90

Recorded	Number	Type of Instrument	C.T. Issue
21/8/1988		TITLE AUTOMATION PROJECT	LOT RECORDED FOLIO NOT CREATED
24/11/1988		CONVERTED TO COMPUTER FOLIO	FOLIO CREATED CT NOT ISSUED
4/8/1997	3289176	DISCHARGE OF MORTGAGE	
4/8/1997	3289177	DISCHARGE OF MORTGAGE	
4/8/1997	3289178	MORTGAGE	EDITION 1
26/5/2005	AB507331	DISCHARGE OF MORTGAGE	
26/5/2005	AB507332	TRANSFER	
26/5/2005	AB507333	MORTGAGE	EDITION 2
14/11/2014	AJ36366	DISCHARGE OF MORTGAGE	
14/11/2014	AJ36367	TRANSFER	
14/11/2014	AJ36368	MORTGAGE	EDITION 3
1/9/2018	AN678863	DEPARTMENTAL DEALING	EDITION 4 CORD ISSUED
22/1/2019	AP13805	DISCHARGE OF MORTGAGE	
22/1/2019	AP13806	TRANSFER	EDITION 5
21/11/2023	AT620175	MORTGAGE	EDITION 6
30/8/2024	AU371006	DISCHARGE OF MORTGAGE	
30/8/2024	AU371007	TRANSFER	
30/8/2024	AU371008	MORTGAGE	EDITION 7

*** END OF SEARCH ***

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NEW SOUTH WALES LAND REGISTRY SERVICES - TITLE SEARCH

FOLIO: 103/6608

SEARCH DATE	TIME	EDITION NO	DATE
16/9/2024	9:41 AM	7	30/8/2024

LAND

LOT 103 IN DEPOSITED PLAN 6608
AT LINDFIELD
LOCAL GOVERNMENT AREA KU-RING-GAI
PARISH OF GORDON COUNTY OF CUMBERLAND
TITLE DIAGRAM DP6608

FIRST SCHEDULE

A UNITED HOLDING CORPORATION PTY LTD (T AU371007)

SECOND SCHEDULE (2 NOTIFICATIONS)

- 1 RESERVATIONS AND CONDITIONS IN THE CROWN GRANT(S)
- 2 AU371008 MORTGAGE TO KONGWELL MANAGEMENT LIMITED

NOTATIONS

UNREGISTERED DEALINGS: NIL

*** END OF SEARCH ***

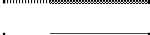
PRINTED ON 16/9/2024

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Appendix B

Borehole Logs

SOIL GRAPHICS

SILT	
CLAY	
SAND	
LAMINITE/SHALE	
SHALE	
FILL	
SILTSTONE	
COMBINATION	
Silty CLAY	
Clayey SILT	
Silty SAND	
Clayey SAND	
Sandy CLAY	
Sandy SILT	
Silty GRAVEL	
Organic CLAY	



BOREHOLE LOG

BOREHOLE No: BH1

Page: 1 of 1

Client: CPDM Drilling Co: Geotesta Pty Ltd Easting: ---
Project: Geotechnical Site Investigation Driller: M.A. Northing: ---
Job No: NE1980 Rig Type: Ute Mounted Grid Ref: See Plan
Location: 2-8 Highgate Road, Lindfield NSW Inclination: Vertical Collar RL: ---
Date Drilled: 17/09/2024 Bearing: Vertical Logged by: H.K Checked by: A.W.

Test Method: AS 1289.6.3.2-1997 & AS 1726-2017

Depth (m)	Drilling Method	Graphic Log	Group Symbol	MATERIAL DESCRIPTION Type, colour, particle size and shape, structure	Moisture	Consistency / Strength	DCP blows/100mm	FIELD TESTS & NOTES	Sampling / Runs	Water Levels	Depth (m)
0.00											0.00
				TOPSOIL: Silty/Sandy CLAY, dark brown, trace rootlets and fragments	M	ST	2 3 5 3 2	ASB1, collected from 0.2 m S14, collected from 0.5 m	S		
0.50			CI	Silty CLAY: medium plasticity, yellow brown, with sand Grades: becoming grey, mottled brown	M	F	1 1 1 1 2 2 1 4	S1, collected from 0.6 m S2, collected from 1.3 m	S		0.50
1.00											1.00
1.50			CI	Sandy CLAY: medium plasticity, grey-brown, with clayey sand interbeds (30%) Grades: becoming grey	M	ST	4 5 6 9		S		1.50
2.00				Borehole terminated at 1.8m due to refusal			HB				2.00
2.50											2.50
3.00											3.00
3.50											3.50
4.00											4.00
4.50											4.50
5.00											5.00

consistency:
VS very soft
S soft
F firm
ST stiff
VST very stiff
H hard
WC well compacted

relative density:
VL very loose
L loose
MD medium dense
D dense
VD very dense
EL: extremely low strength

moisture:
D Dry
M Moist
W Wet
S Saturated

water:
water level
level risen to
water inflow

soil classification:
soil is classified in accordance with AS1726 unless otherwise noted

Notes:

sampling / testing:

intact sample from core

intact tube sample



Standard Penetration Test

B Bulk sample
Supp Su from Pocket Penetrometer
Suv Su from Field Vane Shear test



BOREHOLE LOG

BOREHOLE No: BH2

Page: 1 of 1

Client: CPDM Drilling Co: Geotesta Pty Ltd Easting: ---
Project: Geotechnical Site Investigation Driller: F.B. Northing: ---
Job No: NE1980 Rig Type: Hand Auger Grid Ref: See Figure 1
Location: 2-8 Highgate Road, Lindfield NSW Inclination: Vertical Collar RL: ---
Date Drilled: 17/09/2024 Bearing: Vertical Logged by: H.K Checked by: A.W.

Test Method: AS 1289.6.3.2-1997 & AS 1726-2017

Depth (m)	Drilling Method	Graphic Log	Group Symbol	MATERIAL DESCRIPTION Type, colour, particle size and shape, structure	Moisture	Consistency / Strength	DCP blows/100mm	FIELD TESTS & NOTES	Sampling / Runs	Water Levels	Depth (m)
0.00											0.00
				TOPSOIL: Clayey SILT, dark brown	M	ST	3 3 4 4 5				
0.50			CI	Silty CLAY: medium plasticity, brown	M	VST	8 8 9 8	S3, collected from 0.8 m	S		
1.00			CI	Sandy CLAY: medium plasticity, grey, mottled red-brown	M	VST	8 7				1.00
				Borehole terminated @1.1m depth		ST	3 5 4 HB				
1.50											1.50
2.00											2.00
2.50											2.50
3.00											3.00
3.50											3.50
4.00											4.00
4.50											4.50
5.00											5.00

consistency:
VS very soft
S soft
F firm
ST stiff
VST very stiff
H hard
WC well compacted

relative density:
VL very loose
L loose
MD medium dense
D dense
VD very dense

moisture:
D Dry
M Moist
W Wet
S Saturated

soil classification:
soil is classified in accordance with AS1726
unless otherwise noted

water:
water level
level risen to
water inflow

Notes:

sampling / testing:
intact sample from core
intact tube sample

Standard Penetration Test
B Bulk sample
Supp Su from Pocket Penetrometer
Suv Su from Field Vane Shear test



BOREHOLE LOG

BOREHOLE No: BH3

Page: 1 of 1

Client: CPDM Drilling Co: Geotesta Pty Ltd Easting: ---
Project: Geotechnical Site Investigation Driller: M.A. Northing: ---
Job No: NE1980 Rig Type: Ute Mounted Grid Ref: See Figure 1
Location: 2-8 Highgate Road, Lindfield NSW Inclinaton: Vertical Collar RL: ---
Date Drilled: 17/09/2024 Bearing: Vertical Logged by: H.K Checked by: A.W.

Test Method: AS 1289.6.3.2-1997 & AS 1726-2017

Depth (m)	Drilling Method	Graphic Log	Group Symbol	MATERIAL DESCRIPTION Type, colour, particle size and shape, structure	Moisture	Consistency / Strength	DCP blows/100mm	FIELD TESTS & NOTES	Sampling / Runs	Water Levels	Depth (m)
0.00											0.00
				TOPSOIL: Sandy SILT, dark brown, with clay and rootlets	M	VS	0 1 1	S13, collected from 0.2 m	S		
0.50			CI	Silty CLAY: medium plasticity, brown, trace sand	M	F ST	2 4 4 5	S4, collected from 0.6 m	S		0.50
1.00			CH	Sandy CLAY: high plasticity, orange brown Grades: becoming grey Grades: with clayey Sand interbeds (30%), trace sandstone fragments	M	ST VST H	4 4 3 3 5 5 8 HB	S5, collected from 1.2 m	S		1.00 1.50
1.50											
2.00				SANDSTONE: medium-grained, pale grey to brown, very low strength, extremely weathered							2.00
2.50	Hand auger			Borehole terminated @2.2m depth due to refusal							2.50
3.00											3.00
3.50											3.50
4.00											4.00
4.50											4.50
5.00											5.00

consistency: VS very soft S soft F firm ST stiff VST very stiff H hard WC well compacted	relative density: VL very loose L loose MD medium dense D dense VD very dense EL: extremely low strength	moisture: D Dry M Moist W Wet S Saturated water: level risen to water inflow	Notes:
soil classification: soil is classified in accordance with AS1726 unless otherwise noted		sampling / testing: intact sample from core intact tube sample	Standard Penetration Test B Bulk sample Supp Su from Pocket Penetrometer Suv Su from Field Vane Shear test



BOREHOLE LOG

BOREHOLE No: BH4

Page: 1 of 1

Client: CPDM Drilling Co: Geotesta Pty Ltd Easting: ---
Project: Geotechnical Site Investigation Driller: F.B. Northing: ---
Job No: NE1980 Rig Type: Hand Auger Grid Ref: See Figure 1
Location: 2-8 Highgate Road, Lindfield NSW Inclinaton: Vertical Collar RL: ---
Date Drilled: 17/09/2024 Bearing: Vertical Logged by: H.K Checked by: A.W.

Test Method: AS 1289.6.3.2-1997 & AS 1726-2017

Depth (m)	Drilling Method	Graphic Log	Group Symbol	MATERIAL DESCRIPTION Type, colour, particle size and shape, structure	Moisture	Consistency / Strength	DCP blows/100mm	FIELD TESTS & NOTES	Sampling / Runs	Water Levels	Depth (m)
0.00											0.00
				TOPSOIL: Clayey SILT, brown, trace gravel	M	F	2				
							1				
					M-W		2				
0.50							1	ASB2, collected from 0.5 m	S		0.50
				FILL: Sandy GRAVEL, black brown, wet	W	F	1				
							2	S6, collected from 0.7 m	S		
				Gravelly CLAY: brown yellow, trace sand	M-W	F	2				
1.00							1	S15, collected from 0.9 m	S		1.00
							HB				
				Borehole terminated @1m depth							
1.50											1.50
2.00											2.00
2.50											2.50
3.00											3.00
3.50											3.50
4.00											4.00
4.50											4.50
5.00											5.00

consistency: VS very soft S soft F firm ST stiff VST very stiff H hard WC well compacted
relative density: VL very loose L loose MD medium dense D dense VD very dense EL: extremely low strength
moisture: D Dry M Moist W Wet S Saturated
water: water level level risen to water inflow
soil classification: soil is classified in accordance with AS1726 unless otherwise noted
Notes:
sampling / testing: intact sample from core intact tube sample
Standard Penetration Test
B Bulk sample
Supp Su from Pocket Penetrometer
Suv Su from Field Vane Shear test



BOREHOLE LOG

BOREHOLE No: BH5

Page: 1 of 1

Client: CPDM Drilling Co: Geotesta Pty Ltd Easting: ---
Project: Geotechnical Site Investigation Driller: F.B. Northing: ---
Job No: NE1980 Rig Type: Hand Auger Grid Ref: See Figure 1
Location: 2-8 Highgate Road, Lindfield NSW Inclinaton: Vertical Collar RL: ---
Date Drilled: 17/09/2024 Bearing: Vertical Logged by: H.K Checked by: A.W.

Test Method: AS 1289.6.3.2-1997 & AS 1726-2017

Depth (m)	Drilling Method	Graphic Log	Group Symbol	MATERIAL DESCRIPTION Type, colour, particle size and shape, structure	Moisture	Consistency / Strength	DCP blows/100mm	FIELD TESTS & NOTES	Sampling / Runs	Water Levels	Depth (m)
0.00											0.00
				TOPSOIL: Sandy SILT , brown	M	F	1				
				Grades: becoming wet (irrigation water)	W		1				
							2	S7, collected from 0.3 m	S		
0.50			CI	Silty CLAY : medium plasticity, brown	M	F	0				0.50
				Borehole terminated at 0.5m depth, hard drilling conditions		VS	1				
						F	3				
							2				
1.00						ST	4				1.00
							4				
							4				
						VST	6				
1.50							6				1.50
							8				
							9				
						H	6				
2.00							HB				2.00
2.50											2.50
3.00											3.00
3.50											3.50
4.00											4.00
4.50											4.50
5.00											5.00

consistency:
VS very soft
S soft
F firm
ST stiff
VST very stiff
H hard
WC well compacted

relative density:
VL very loose
L loose
MD medium dense
D dense
VD very dense

moisture:
D Dry
M Moist
W Wet
S Saturated

water:
water level
level risen to
water inflow

Notes:**sampling / testing:**

intact sample from core

intact tube sample



Standard Penetration Test

B Bulk sample
Supp Su from Pocket Penetrometer
Suv Su from Field Vane Shear test



BOREHOLE LOG

BOREHOLE No: BH6

Page: 1 of 1

Client: CPDM Drilling Co: Geotesta Pty Ltd Easting: ---
Project: Geotechnical Site Investigation Driller: F.B. Northing: ---
Job No: NE1980 Rig Type: Hand Auger Grid Ref: See Figure 1
Location: 2-8 Highgate Road, Lindfield NSW Inclinaton: Vertical Collar RL: ---
Date Drilled: 17/09/2024 Bearing: Vertical Logged by: H.K Checked by: A.W.

Test Method: AS 1289.6.3.2-1997 & AS 1726-2017

Depth (m)	Drilling Method	Graphic Log	Group Symbol	MATERIAL DESCRIPTION Type, colour, particle size and shape, structure	Moisture	Consistency / Strength	DCP blows/100mm	FIELD TESTS & NOTES	Sampling / Runs	Water Levels	Depth (m)
0.00											0.00
				TOPSOIL: Silty SAND, brown, trace gravel	M	F	2				
							3	ASB3, collected from 0.2 m	S		
							2	S8, collected from 0.2 m			
0.50			CH	Silty CLAY: high plasticity, brown	M	ST	4				0.50
							4				
							4	S9, collected from 0.7 m	S		
				Grades: becoming yellow brown			5				
1.00				Borehole terminated @0.8m depth		ST	5				1.00
							4				
							4				
							5				
1.50						VST	5				1.50
							10				
							8				
2.00						H	6				2.00
							HB				
2.50											2.50
3.00											3.00
3.50											3.50
4.00											4.00
4.50											4.50
5.00											5.00

consistency:
VS very soft
S soft
F firm
ST stiff
VST very stiff
H hard
WC well compacted

relative density:
VL very loose
L loose
MD medium dense
D dense
VD very dense

moisture:
D Dry
M Moist
W Wet
S Saturated

soil classification:
soil is classified in accordance with AS1726
unless otherwise noted

water:
water level
level risen to
water inflow

Notes:

sampling / testing:
intact sample from core
intact tube sample

Standard Penetration Test
B Bulk sample
Supp Su from Pocket Penetrometer
Suv Su from Field Vane Shear test



BOREHOLE LOG

BOREHOLE No: BH7

Page: 1 of 1

Client: CPDM Drilling Co: Geotesta Pty Ltd Easting: ---
Project: Geotechnical Site Investigation Driller: F.B. Northing: ---
Job No: NE1980 Rig Type: Hand Auger Grid Ref: See Figure 1
Location: 2-8 Highgate Road, Lindfield NSW Inclination: Vertical Collar RL: ---
Date Drilled: 17/09/2024 Bearing: Vertical Logged by: H.K Checked by: A.W.

Test Method: AS 1289.6.3.2-1997 & AS 1726-2017

Depth (m)	Drilling Method	Graphic Log	Group Symbol	MATERIAL DESCRIPTION Type, colour, particle size and shape, structure	Moisture	Consistency / Strength	DCP blows/100mm	FIELD TESTS & NOTES	Sampling / Runs	Water Levels	Depth (m)
0.00											0.00
				TOPSOIL: Sandy SILT, brown	M	F	1 3 2 2 2				
0.50			CI	Silty CLAY: medium plasticity, yellow brown, trace silt	M	ST VST	4 7	S10, collected from 0.7 m	S		0.50
				Borehole terminated @0.7m depth due to refusal			HB				
1.00											1.00
1.50											1.50
2.00											2.00
2.50											2.50
3.00											3.00
3.50											3.50
4.00											4.00
4.50											4.50
5.00											5.00

consistency:
VS very soft
S soft
F firm
ST stiff
VST very stiff
H hard
WC well compacted

relative density:
VL very loose
L loose
MD medium dense
D dense
VD very dense

moisture:
D Dry
M Moist
W Wet
S Saturated

soil classification:
soil is classified in accordance with AS1726
unless otherwise noted

water:
water level
level risen to
water inflow

Notes:

sampling / testing:
intact sample from core
intact tube sample

Standard Penetration Test
B Bulk sample
Supp Su from Pocket Penetrometer
Suv Su from Field Vane Shear test



BOREHOLE LOG

BOREHOLE No: BH8 (next to BH6)

Page: 1 of 1

Client: CPDM Drilling Co: Geotesta Pty Ltd Easting: ---
Project: Geotechnical Site Investigation Driller: F.B. Northing: ---
Job No: NE1980 Rig Type: Hand Auger Grid Ref: See Plan
Location: 2-8 Highgate Road, Lindfield NSW Inclination: Vertical Collar RL: ---
Date Drilled: 17/09/2024 Bearing: Vertical Logged by: H.K Checked by: A.W.

Test Method: AS 1289.6.3.2-1997 & AS 1726-2017

Depth (m)	Drilling Method	Graphic Log	Group Symbol	MATERIAL DESCRIPTION Type, colour, particle size and shape, structure	Moisture	Consistency / Strength	DCP blows/100mm	FIELD TESTS & NOTES	Sampling / Runs	Water Levels	Depth (m)
0.00											0.00
				TOPSOIL: Clayey SILT, brown	M						
0.50			CI	Silty CLAY: medium plasticity, yellow brown, trace silt Borehole terminated @0.5m depth due to refusal	M	ST		S11, collected from 0.5 m	S		0.50
1.00											1.00
1.50											1.50
2.00											2.00
2.50											2.50
3.00											3.00
3.50											3.50
4.00											4.00
4.50											4.50
5.00											5.00

consistency:
VS very soft
S soft
F firm
ST stiff
VST very stiff
H hard
WC well compacted

relative density:
VL very loose
L loose
MD medium dense
D dense
VD very dense
EL: extremely low strength

moisture:
D Dry
M Moist
W Wet
S Saturated

water:
water level
level risen to
water inflow

soil classification:
soil is classified in accordance with AS1726
unless otherwise noted

Notes:

sampling / testing:

intact sample from core

intact tube sample



Standard Penetration Test

B Bulk sample
Supp Su from Pocket Penetrometer
Suv Su from Field Vane Shear test



BOREHOLE LOG

BOREHOLE No: BH9 (frontyard
of BH7)

Page: 1 of 1

Client: CPDM Drilling Co: Geotesta Pty Ltd Easting: ---
Project: Geotechnical Site Investigation Driller: F.B. Northing: ---
Job No: NE1980 Rig Type: Hand Auger Grid Ref: See Plan
Location: 2-8 Highgate Road, Lindfield NSW Inclination: Vertical Collar RL: ---
Date Drilled: 17/09/2024 Bearing: Vertical Logged by: H.K Checked by: A.W.

Test Method: AS 1289.6.3.2-1997 & AS 1726-2017

Depth (m)	Drilling Method	Graphic Log	Group Symbol	MATERIAL DESCRIPTION Type, colour, particle size and shape, structure	Moisture	Consistency / Strength	DCP blows/100mm	FIELD TESTS & NOTES	Sampling / Runs	Water Levels	Depth (m)
0.00											0.00
				TOPSOIL: Clayey Silt/Silty Clay, brown	M			ASB4, collected from 0.2 m	S		
0.50											0.50
			CI	Silty CLAY: medium plasticity, yellow brown, trace silt	M	ST					
1.00				Borehole terminated @0.9m depth due to refusal				S12, collected from 0.9 m	S		1.00
1.50											1.50
2.00											2.00
2.50											2.50
3.00											3.00
3.50											3.50
4.00											4.00
4.50											4.50
5.00											5.00

consistency:
VS very soft
S soft
F firm
ST stiff
VST very stiff
H hard
WC well compacted

relative density:
VL very loose
L loose
MD medium dense
D dense
VD very dense

moisture:
D Dry
M Moist
W Wet
S Saturated

water:
water level
level risen to
water inflow

soil classification:
soil is classified in accordance with AS1726
unless otherwise noted

Notes:

sampling / testing:

intact sample from core

intact tube sample



Standard Penetration Test

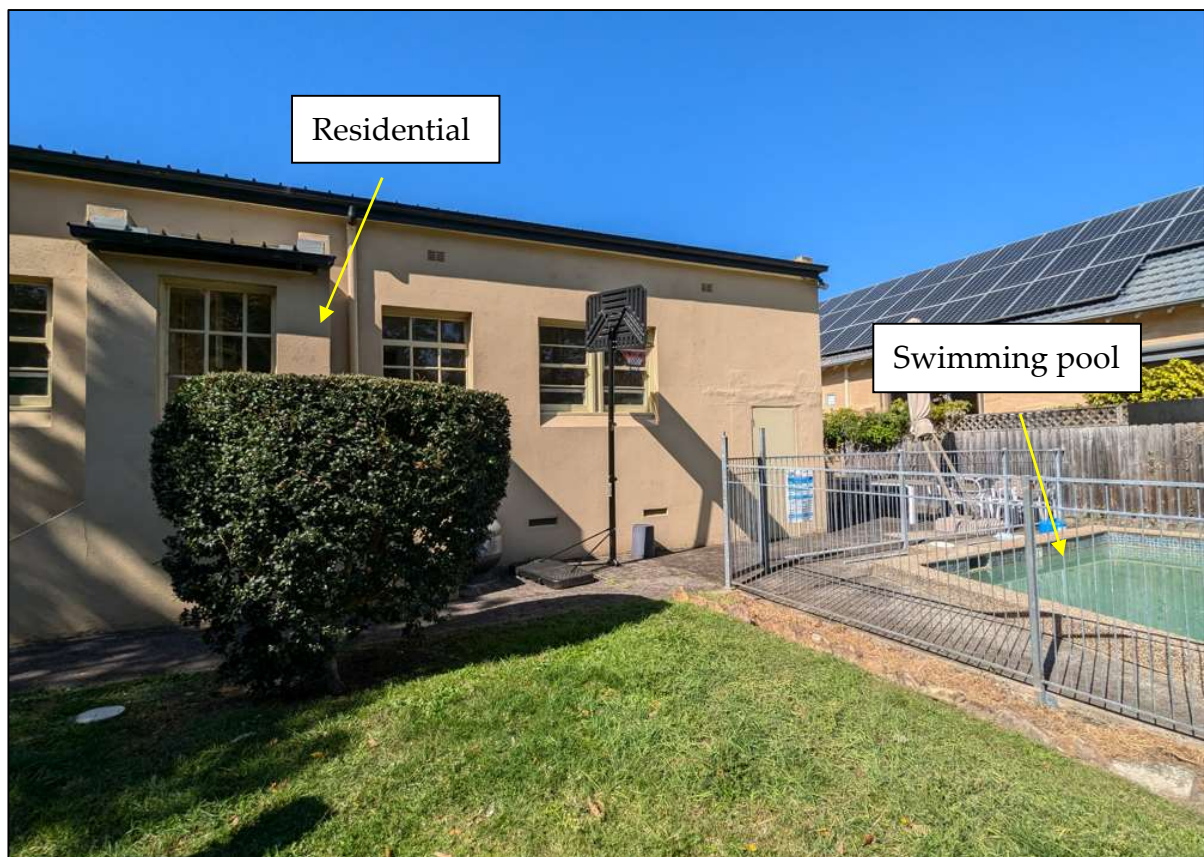
B Bulk sample
Supp Su from Pocket Penetrometer
Suv Su from Field Vane Shear test

Appendix C

Photographic Logs



Photograph C1: 2 Highgate Road , Lindfield, NSW 2070 – View of the front yard



Photograph C2: 4 Highgate Road , Lindfield, NSW 2070 – View of the back yard



Photograph C3: 6 Highgate Road , Lindfield, NSW 2070 – View of the front yard



Photograph C4: 8 Highgate Road , Lindfield, NSW 2070 – View of the back yard



Photograph C5: 8 Highgate Road , Lindfield, NSW 2070 – View of the back yard



Photograph C6: Image of the S10 from 0.7 mbgl of BH7.
Yellow-Brown Sandy Clayey Soil with trace rootlets observed inside.

Appendix D

Laboratory Documentation

Geotesta Pty Ltd (NSW)
Unit 6, 20/22 Foundry Road
Seven Hills
NSW 2147



NATA Accredited
Accreditation Number 1261
Site Number 18217

Accredited for compliance with ISO/IEC 17025 – Testing
 NATA is a signatory to the ILAC Mutual Recognition
 Arrangement for the mutual recognition of the
 equivalence of testing, medical testing, calibration,
 inspection, proficiency testing scheme providers and
 reference materials producers reports and certificates.

Attention: **Mark Laidlaw (GEOTESTA)**

Report **1140701-S**
Project name **2-8 HIGHGATE RD LINDFIELD**
Project ID **NE1980**
Received Date **Sep 18, 2024**

Client Sample ID			S1	S2	S3	S4
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			S24-Se0047866	S24-Se0047867	S24-Se0047868	S24-Se0047869
Date Sampled			Sep 17, 2024	Sep 17, 2024	Sep 17, 2024	Sep 17, 2024
Test/Reference	LOR	Unit				
Total Recoverable Hydrocarbons						
TRH C6-C9	20	mg/kg	< 20	-	< 20	-
TRH C10-C14	20	mg/kg	< 20	-	< 20	-
TRH C15-C28	50	mg/kg	< 50	-	< 50	-
TRH C29-C36	50	mg/kg	< 50	-	< 50	-
TRH C10-C36 (Total)	50	mg/kg	< 50	-	< 50	-
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	-
Volatile Organics						
1.1-Dichloroethane	0.5	mg/kg	< 0.5	-	-	-
1.1-Dichloroethene	0.5	mg/kg	< 0.5	-	-	-
1.1.1-Trichloroethane	0.5	mg/kg	< 0.5	-	-	-
1.1.1.2-Tetrachloroethane	0.5	mg/kg	< 0.5	-	-	-
1.1.2-Trichloroethane	0.5	mg/kg	< 0.5	-	-	-
1.1.2.2-Tetrachloroethane	0.5	mg/kg	< 0.5	-	-	-
1.2-Dibromoethane	0.5	mg/kg	< 0.5	-	-	-
1.2-Dichlorobenzene	0.5	mg/kg	< 0.5	-	-	-
1.2-Dichloroethane	0.5	mg/kg	< 0.5	-	-	-
1.2-Dichloropropane	0.5	mg/kg	< 0.5	-	-	-
1.2.3-Trichloropropane	0.5	mg/kg	< 0.5	-	-	-
1.2.4-Trimethylbenzene	0.5	mg/kg	< 0.5	-	-	-
1.3-Dichlorobenzene	0.5	mg/kg	< 0.5	-	-	-
1.3-Dichloropropane	0.5	mg/kg	< 0.5	-	-	-
1.3.5-Trimethylbenzene	0.5	mg/kg	< 0.5	-	-	-
1.4-Dichlorobenzene	0.5	mg/kg	< 0.5	-	-	-
2-Butanone (MEK)	0.5	mg/kg	< 0.5	-	-	-
2-Propanone (Acetone)	0.5	mg/kg	< 0.5	-	-	-
4-Chlorotoluene	0.5	mg/kg	< 0.5	-	-	-
4-Methyl-2-pentanone (MIBK)	0.5	mg/kg	< 0.5	-	-	-
Allyl chloride	0.5	mg/kg	< 0.5	-	-	-
Benzene	0.1	mg/kg	< 0.1	-	-	-

Client Sample ID			S1	S2	S3	S4
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			S24-Se0047866	S24-Se0047867	S24-Se0047868	S24-Se0047869
Date Sampled			Sep 17, 2024	Sep 17, 2024	Sep 17, 2024	Sep 17, 2024
Test/Reference	LOR	Unit				
Volatile Organics						
Bromobenzene	0.5	mg/kg	< 0.5	-	-	-
Bromochloromethane	0.5	mg/kg	< 0.5	-	-	-
Bromodichloromethane	0.5	mg/kg	< 0.5	-	-	-
Bromoform	0.5	mg/kg	< 0.5	-	-	-
Bromomethane	0.5	mg/kg	< 0.5	-	-	-
Carbon disulfide	0.5	mg/kg	< 0.5	-	-	-
Carbon Tetrachloride	0.5	mg/kg	< 0.5	-	-	-
Chlorobenzene	0.5	mg/kg	< 0.5	-	-	-
Chloroethane	0.5	mg/kg	< 0.5	-	-	-
Chloroform	0.5	mg/kg	< 0.5	-	-	-
Chloromethane	0.5	mg/kg	< 0.5	-	-	-
cis-1.2-Dichloroethene	0.5	mg/kg	< 0.5	-	-	-
cis-1.3-Dichloropropene	0.5	mg/kg	< 0.5	-	-	-
Dibromochloromethane	0.5	mg/kg	< 0.5	-	-	-
Dibromomethane	0.5	mg/kg	< 0.5	-	-	-
Dichlorodifluoromethane	0.5	mg/kg	< 0.5	-	-	-
Ethylbenzene	0.1	mg/kg	< 0.1	-	-	-
Iodomethane	0.5	mg/kg	< 0.5	-	-	-
Isopropyl benzene (Cumene)	0.5	mg/kg	< 0.5	-	-	-
m&p-Xylenes	0.2	mg/kg	< 0.2	-	-	-
Methylene Chloride	0.5	mg/kg	< 0.5	-	-	-
o-Xylene	0.1	mg/kg	< 0.1	-	-	-
Styrene	0.5	mg/kg	< 0.5	-	-	-
Tetrachloroethene	0.5	mg/kg	< 0.5	-	-	-
Toluene	0.1	mg/kg	< 0.1	-	-	-
trans-1.2-Dichloroethene	0.5	mg/kg	< 0.5	-	-	-
trans-1.3-Dichloropropene	0.5	mg/kg	< 0.5	-	-	-
Trichloroethene	0.5	mg/kg	< 0.5	-	-	-
Trichlorofluoromethane	0.5	mg/kg	< 0.5	-	-	-
Vinyl chloride	0.5	mg/kg	< 0.5	-	-	-
Xylenes - Total*	0.3	mg/kg	< 0.3	-	-	-
Total MAH*	0.5	mg/kg	< 0.5	-	-	-
Vic EPA IWRG 621 CHC (Total)*	0.5	mg/kg	< 0.5	-	-	-
Vic EPA IWRG 621 Other CHC (Total)*	0.5	mg/kg	< 0.5	-	-	-
4-Bromofluorobenzene (surr.)	1	%	INT	-	-	-
Toluene-d8 (surr.)	1	%	INT	-	-	-
Total Recoverable Hydrocarbons - 2013 NEPM Fractions						
Naphthalene ^{N02}	0.5	mg/kg	< 0.5	-	< 0.5	-
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	-

Client Sample ID			S1	S2	S3	S4
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			S24-Se0047866	S24-Se0047867	S24-Se0047868	S24-Se0047869
Date Sampled			Sep 17, 2024	Sep 17, 2024	Sep 17, 2024	Sep 17, 2024
Test/Reference	LOR	Unit				
Polycyclic Aromatic Hydrocarbons						
Benzo(k)fluoranthene	0.5	mg/kg	< 0.5	-	< 0.5	-
Chrysene	0.5	mg/kg	< 0.5	-	< 0.5	-
Dibenz(a,h)anthracene	0.5	mg/kg	< 0.5	-	< 0.5	-
Fluoranthene	0.5	mg/kg	< 0.5	-	< 0.5	-
Fluorene	0.5	mg/kg	< 0.5	-	< 0.5	-
Indeno(1.2.3-cd)pyrene	0.5	mg/kg	< 0.5	-	< 0.5	-
Naphthalene	0.5	mg/kg	< 0.5	-	< 0.5	-
Phenanthrene	0.5	mg/kg	< 0.5	-	< 0.5	-
Pyrene	0.5	mg/kg	< 0.5	-	< 0.5	-
Total PAH*	0.5	mg/kg	< 0.5	-	< 0.5	-
2-Fluorobiphenyl (surr.)	1	%	85	-	84	-
p-Terphenyl-d14 (surr.)	1	%	82	-	78	-
Organochlorine Pesticides						
Chlordanes - Total	0.1	mg/kg	< 0.1	-	< 0.1	-
4,4'-DDD	0.05	mg/kg	< 0.05	-	< 0.05	-
4,4'-DDE	0.05	mg/kg	< 0.05	-	< 0.05	-
4,4'-DDT	0.05	mg/kg	< 0.05	-	< 0.05	-
α-HCH	0.05	mg/kg	< 0.05	-	< 0.05	-
Aldrin	0.05	mg/kg	< 0.05	-	< 0.05	-
β-HCH	0.05	mg/kg	< 0.05	-	< 0.05	-
δ-HCH	0.05	mg/kg	< 0.05	-	< 0.05	-
Dieldrin	0.05	mg/kg	< 0.05	-	< 0.05	-
Endosulfan I	0.05	mg/kg	< 0.05	-	< 0.05	-
Endosulfan II	0.05	mg/kg	< 0.05	-	< 0.05	-
Endosulfan sulphate	0.05	mg/kg	< 0.05	-	< 0.05	-
Endrin	0.05	mg/kg	< 0.05	-	< 0.05	-
Endrin aldehyde	0.05	mg/kg	< 0.05	-	< 0.05	-
Endrin ketone	0.05	mg/kg	< 0.05	-	< 0.05	-
γ-HCH (Lindane)	0.05	mg/kg	< 0.05	-	< 0.05	-
Heptachlor	0.05	mg/kg	< 0.05	-	< 0.05	-
Heptachlor epoxide	0.05	mg/kg	< 0.05	-	< 0.05	-
Hexachlorobenzene	0.05	mg/kg	< 0.05	-	< 0.05	-
Methoxychlor	0.05	mg/kg	< 0.05	-	< 0.05	-
Toxaphene	0.5	mg/kg	< 0.5	-	< 0.5	-
Aldrin and Dieldrin (Total)*	0.05	mg/kg	< 0.05	-	< 0.05	-
DDT + DDE + DDD (Total)*	0.05	mg/kg	< 0.05	-	< 0.05	-
Vic EPA IWRG 621 OCP (Total)*	0.1	mg/kg	< 0.1	-	< 0.1	-
Vic EPA IWRG 621 Other OCP (Total)*	0.1	mg/kg	< 0.1	-	< 0.1	-
Dibutylchloroendate (surr.)	1	%	97	-	88	-
Tetrachloro-m-xylene (surr.)	1	%	88	-	83	-
Organophosphorus Pesticides						
Azinphos-methyl	0.2	mg/kg	< 0.2	-	< 0.2	-
Bolstar	0.2	mg/kg	< 0.2	-	< 0.2	-
Chlorfenvinphos	0.2	mg/kg	< 0.2	-	< 0.2	-
Chlorpyrifos	0.2	mg/kg	< 0.2	-	< 0.2	-
Chlorpyrifos-methyl	0.2	mg/kg	< 0.2	-	< 0.2	-
Coumaphos	2	mg/kg	< 2	-	< 2	-
Demeton-S	0.2	mg/kg	< 0.2	-	< 0.2	-
Demeton-O	0.2	mg/kg	< 0.2	-	< 0.2	-

Client Sample ID			S1	S2	S3	S4
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			S24-Se0047866	S24-Se0047867	S24-Se0047868	S24-Se0047869
Date Sampled			Sep 17, 2024	Sep 17, 2024	Sep 17, 2024	Sep 17, 2024
Test/Reference	LOR	Unit				
Organophosphorus Pesticides						
Diazinon	0.2	mg/kg	< 0.2	-	< 0.2	-
Dichlorvos	0.2	mg/kg	< 0.2	-	< 0.2	-
Dimethoate	0.2	mg/kg	< 0.2	-	< 0.2	-
Disulfoton	0.2	mg/kg	< 0.2	-	< 0.2	-
EPN	0.2	mg/kg	< 0.2	-	< 0.2	-
Ethion	0.2	mg/kg	< 0.2	-	< 0.2	-
Ethoprop	0.2	mg/kg	< 0.2	-	< 0.2	-
Ethyl parathion	0.2	mg/kg	< 0.2	-	< 0.2	-
Fenitrothion	0.2	mg/kg	< 0.2	-	< 0.2	-
Fensulfothion	0.2	mg/kg	< 0.2	-	< 0.2	-
Fenthion	0.2	mg/kg	< 0.2	-	< 0.2	-
Malathion	0.2	mg/kg	< 0.2	-	< 0.2	-
Merphos	0.2	mg/kg	< 0.2	-	< 0.2	-
Methyl parathion	0.2	mg/kg	< 0.2	-	< 0.2	-
Mevinphos	0.2	mg/kg	< 0.2	-	< 0.2	-
Monocrotophos	2	mg/kg	< 2	-	< 2	-
Naled	0.2	mg/kg	< 0.2	-	< 0.2	-
Omethoate	2	mg/kg	< 2	-	< 2	-
Phorate	0.2	mg/kg	< 0.2	-	< 0.2	-
Pirimiphos-methyl	0.2	mg/kg	< 0.2	-	< 0.2	-
Pyrazophos	0.2	mg/kg	< 0.2	-	< 0.2	-
Ronnel	0.2	mg/kg	< 0.2	-	< 0.2	-
Terbufos	0.2	mg/kg	< 0.2	-	< 0.2	-
Tetrachlorvinphos	0.2	mg/kg	< 0.2	-	< 0.2	-
Tokuthion	0.2	mg/kg	< 0.2	-	< 0.2	-
Trichloronate	0.2	mg/kg	< 0.2	-	< 0.2	-
Triphenylphosphate (surr.)	1	%	87	-	88	-
Phthalate Esters						
Bis(2-ethylhexyl)phthalate	5	mg/kg	< 5	-	-	-
Butyl benzyl phthalate	0.5	mg/kg	< 0.5	-	-	-
Di-n-butyl phthalate	0.5	mg/kg	< 0.5	-	-	-
Di-n-octyl phthalate	0.5	mg/kg	< 0.5	-	-	-
Diethyl phthalate	0.5	mg/kg	< 0.5	-	-	-
Dimethyl phthalate	0.5	mg/kg	< 0.5	-	-	-
Acid Herbicides						
2,4-D	0.5	mg/kg	< 0.5	-	-	-
2,4-DB	0.5	mg/kg	< 0.5	-	-	-
2,4,5-T	0.5	mg/kg	< 0.5	-	-	-
2,4,5-TP	0.5	mg/kg	< 0.5	-	-	-
Actril (loxynil)	0.5	mg/kg	< 0.5	-	-	-
Dicamba	0.5	mg/kg	< 0.5	-	-	-
Dichlorprop	0.5	mg/kg	< 0.5	-	-	-
Dinitro-o-cresol	0.5	mg/kg	< 0.5	-	-	-
Dinoseb	0.5	mg/kg	< 0.5	-	-	-
MCPA	0.5	mg/kg	< 0.5	-	-	-
MCPB	0.5	mg/kg	< 0.5	-	-	-
Mecoprop	0.5	mg/kg	< 0.5	-	-	-
Warfarin (surr.)	1	%	146	-	-	-

Client Sample ID			S1	S2	S3	S4
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			S24-Se0047866	S24-Se0047867	S24-Se0047868	S24-Se0047869
Date Sampled			Sep 17, 2024	Sep 17, 2024	Sep 17, 2024	Sep 17, 2024
Test/Reference	LOR	Unit				
Phenols (Halogenated)						
2-Chlorophenol	0.5	mg/kg	< 0.5	-	-	-
2,4-Dichlorophenol	0.5	mg/kg	< 0.5	-	-	-
2,4,5-Trichlorophenol	1	mg/kg	< 1	-	-	-
2,4,6-Trichlorophenol	1	mg/kg	< 1	-	-	-
2,6-Dichlorophenol	0.5	mg/kg	< 0.5	-	-	-
4-Chloro-3-methylphenol	1	mg/kg	< 1	-	-	-
Pentachlorophenol	1	mg/kg	< 1	-	-	-
Tetrachlorophenols - Total	10	mg/kg	< 10	-	-	-
Total Halogenated Phenol*	1	mg/kg	< 1	-	-	-
Phenols (non-Halogenated)						
2-Cyclohexyl-4,6-dinitrophenol	20	mg/kg	< 20	-	-	-
2-Methyl-4,6-dinitrophenol	5	mg/kg	< 5	-	-	-
2-Nitrophenol	1	mg/kg	< 1	-	-	-
2,4-Dimethylphenol	0.5	mg/kg	< 0.5	-	-	-
2,4-Dinitrophenol	5	mg/kg	< 5	-	-	-
2-Methylphenol (o-Cresol)	0.2	mg/kg	< 0.2	-	-	-
3&4-Methylphenol (m&p-Cresol)	0.4	mg/kg	< 0.4	-	-	-
Total cresols*	0.5	mg/kg	< 0.5	-	-	-
4-Nitrophenol	5	mg/kg	< 5	-	-	-
Dinoseb	20	mg/kg	< 20	-	-	-
Phenol	0.5	mg/kg	< 0.5	-	-	-
Phenol-d6 (surr.)	1	%	83	-	-	-
Total Non-Halogenated Phenol*	20	mg/kg	< 20	-	-	-
Semivolatile Organics						
2,4-Dinitrotoluene	0.5	mg/kg	< 0.5	-	-	-
Nitrobenzene	0.5	mg/kg	< 0.5	-	-	-
Chloride	10	mg/kg	< 10	< 10	12	< 10
Chromium (hexavalent)	1	mg/kg	< 1	-	-	-
Conductivity (1:5 aqueous extract at 25 °C as rec.)	10	uS/cm	89	17	22	12
Cyanide (free)	1	mg/kg	< 1	-	-	-
Cyanide (total)	1	mg/kg	< 1	-	-	-
Fluoride	100	mg/kg	120	-	-	-
pH (1:5 Aqueous extract at 25 °C as rec.)	0.1	pH Units	5.9	6.6	5.9	6.0
Resistivity*	0.5	ohm.m	110	580	460	870
Sulphate (as SO4)	10	mg/kg	< 10	< 10	30	15
Heavy Metals						
Arsenic	2	mg/kg	5.1	-	9.8	-
Beryllium	2	mg/kg	< 2	-	< 2	-
Cadmium	0.4	mg/kg	< 0.4	-	< 0.4	-
Chromium	5	mg/kg	-	-	16	-
Copper	5	mg/kg	-	-	5.8	-
Lead	5	mg/kg	23	-	15	-
Mercury	0.1	mg/kg	< 0.1	-	< 0.1	-
Molybdenum	5	mg/kg	< 5	-	< 5	-
Nickel	5	mg/kg	< 5	-	< 5	-
Selenium	2	mg/kg	< 2	-	< 2	-
Silver	2	mg/kg	< 2	-	-	-
Zinc	5	mg/kg	-	-	8.9	-

Client Sample ID			S1	S2	S3	S4
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			S24-Se0047866	S24-Se0047867	S24-Se0047868	S24-Se0047869
Date Sampled			Sep 17, 2024	Sep 17, 2024	Sep 17, 2024	Sep 17, 2024
Test/Reference	LOR	Unit				
Sample Properties						
% Moisture	1	%	17	13	16	20
BTEX						
Benzene	0.1	mg/kg	-	-	< 0.1	-
Toluene	0.1	mg/kg	-	-	< 0.1	-
Ethylbenzene	0.1	mg/kg	-	-	< 0.1	-
m&p-Xylenes	0.2	mg/kg	-	-	< 0.2	-
o-Xylene	0.1	mg/kg	-	-	< 0.1	-
Xylenes - Total*	0.3	mg/kg	-	-	< 0.3	-
4-Bromofluorobenzene (surr.)	1	%	-	-	120	-
Polychlorinated Biphenyls						
Aroclor-1016	0.1	mg/kg	-	-	< 0.1	-
Aroclor-1221	0.1	mg/kg	-	-	< 0.1	-
Aroclor-1232	0.1	mg/kg	-	-	< 0.1	-
Aroclor-1242	0.1	mg/kg	-	-	< 0.1	-
Aroclor-1248	0.1	mg/kg	-	-	< 0.1	-
Aroclor-1254	0.1	mg/kg	-	-	< 0.1	-
Aroclor-1260	0.1	mg/kg	-	-	< 0.1	-
Total PCB*	0.1	mg/kg	-	-	< 0.1	-
Dibutylchloroendate (surr.)	1	%	-	-	88	-
Tetrachloro-m-xylene (surr.)	1	%	-	-	83	-

Client Sample ID			S5	S6	S7	S8
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			S24-Se0047870	S24-Se0047871	S24-Se0047872	S24-Se0047873
Date Sampled			Sep 17, 2024	Sep 17, 2024	Sep 17, 2024	Sep 17, 2024
Test/Reference	LOR	Unit				
Total Recoverable Hydrocarbons						
TRH C6-C9	20	mg/kg	-	< 20	< 20	< 20
TRH C10-C14	20	mg/kg	-	< 20	< 20	< 20
TRH C15-C28	50	mg/kg	-	< 50	< 50	< 50
TRH C29-C36	50	mg/kg	-	< 50	< 50	< 50
TRH C10-C36 (Total)	50	mg/kg	-	< 50	< 50	< 50
TRH C6-C10	20	mg/kg	-	< 20	< 20	< 20
TRH C6-C10 less BTEX (F1) ^{N04}	20	mg/kg	-	< 20	< 20	< 20
TRH >C10-C16	50	mg/kg	-	< 50	< 50	< 50
TRH >C10-C16 less Naphthalene (F2) ^{*N01}	50	mg/kg	-	< 50	< 50	< 50
TRH >C16-C34	100	mg/kg	-	< 100	< 100	< 100
TRH >C34-C40	100	mg/kg	-	< 100	< 100	< 100
TRH >C10-C40 (total)*	100	mg/kg	-	< 100	< 100	< 100
Volatile Organics						
1.1-Dichloroethane	0.5	mg/kg	-	-	< 0.5	-
1.1-Dichloroethene	0.5	mg/kg	-	-	< 0.5	-
1.1.1-Trichloroethane	0.5	mg/kg	-	-	< 0.5	-
1.1.1.2-Tetrachloroethane	0.5	mg/kg	-	-	< 0.5	-
1.1.2-Trichloroethane	0.5	mg/kg	-	-	< 0.5	-
1.1.2.2-Tetrachloroethane	0.5	mg/kg	-	-	< 0.5	-
1.2-Dibromoethane	0.5	mg/kg	-	-	< 0.5	-
1.2-Dichlorobenzene	0.5	mg/kg	-	-	< 0.5	-

Client Sample ID			S5	S6	S7	S8
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			S24-Se0047870	S24-Se0047871	S24-Se0047872	S24-Se0047873
Date Sampled			Sep 17, 2024	Sep 17, 2024	Sep 17, 2024	Sep 17, 2024
Test/Reference	LOR	Unit				
Volatile Organics						
1,2-Dichloroethane	0.5	mg/kg	-	-	< 0.5	-
1,2-Dichloropropane	0.5	mg/kg	-	-	< 0.5	-
1,2,3-Trichloropropane	0.5	mg/kg	-	-	< 0.5	-
1,2,4-Trimethylbenzene	0.5	mg/kg	-	-	< 0.5	-
1,3-Dichlorobenzene	0.5	mg/kg	-	-	< 0.5	-
1,3-Dichloropropane	0.5	mg/kg	-	-	< 0.5	-
1,3,5-Trimethylbenzene	0.5	mg/kg	-	-	< 0.5	-
1,4-Dichlorobenzene	0.5	mg/kg	-	-	< 0.5	-
2-Butanone (MEK)	0.5	mg/kg	-	-	< 0.5	-
2-Propanone (Acetone)	0.5	mg/kg	-	-	< 0.5	-
4-Chlorotoluene	0.5	mg/kg	-	-	< 0.5	-
4-Methyl-2-pentanone (MIBK)	0.5	mg/kg	-	-	< 0.5	-
Allyl chloride	0.5	mg/kg	-	-	< 0.5	-
Benzene	0.1	mg/kg	-	-	< 0.1	-
Bromobenzene	0.5	mg/kg	-	-	< 0.5	-
Bromochloromethane	0.5	mg/kg	-	-	< 0.5	-
Bromodichloromethane	0.5	mg/kg	-	-	< 0.5	-
Bromoform	0.5	mg/kg	-	-	< 0.5	-
Bromomethane	0.5	mg/kg	-	-	< 0.5	-
Carbon disulfide	0.5	mg/kg	-	-	< 0.5	-
Carbon Tetrachloride	0.5	mg/kg	-	-	< 0.5	-
Chlorobenzene	0.5	mg/kg	-	-	< 0.5	-
Chloroethane	0.5	mg/kg	-	-	< 0.5	-
Chloroform	0.5	mg/kg	-	-	< 0.5	-
Chloromethane	0.5	mg/kg	-	-	< 0.5	-
cis-1,2-Dichloroethene	0.5	mg/kg	-	-	< 0.5	-
cis-1,3-Dichloropropene	0.5	mg/kg	-	-	< 0.5	-
Dibromochloromethane	0.5	mg/kg	-	-	< 0.5	-
Dibromomethane	0.5	mg/kg	-	-	< 0.5	-
Dichlorodifluoromethane	0.5	mg/kg	-	-	< 0.5	-
Ethylbenzene	0.1	mg/kg	-	-	< 0.1	-
Iodomethane	0.5	mg/kg	-	-	< 0.5	-
Isopropyl benzene (Cumene)	0.5	mg/kg	-	-	< 0.5	-
m&p-Xylenes	0.2	mg/kg	-	-	< 0.2	-
Methylene Chloride	0.5	mg/kg	-	-	< 0.5	-
o-Xylene	0.1	mg/kg	-	-	< 0.1	-
Styrene	0.5	mg/kg	-	-	< 0.5	-
Tetrachloroethene	0.5	mg/kg	-	-	< 0.5	-
Toluene	0.1	mg/kg	-	-	< 0.1	-
trans-1,2-Dichloroethene	0.5	mg/kg	-	-	< 0.5	-
trans-1,3-Dichloropropene	0.5	mg/kg	-	-	< 0.5	-
Trichloroethene	0.5	mg/kg	-	-	< 0.5	-
Trichlorofluoromethane	0.5	mg/kg	-	-	< 0.5	-
Vinyl chloride	0.5	mg/kg	-	-	< 0.5	-
Xylenes - Total*	0.3	mg/kg	-	-	< 0.3	-
Total MAH*	0.5	mg/kg	-	-	< 0.5	-
Vic EPA IWRG 621 CHC (Total)*	0.5	mg/kg	-	-	< 0.5	-
Vic EPA IWRG 621 Other CHC (Total)*	0.5	mg/kg	-	-	< 0.5	-
4-Bromofluorobenzene (surr.)	1	%	-	-	124	-
Toluene-d8 (surr.)	1	%	-	-	126	-

Client Sample ID			S5	S6	S7	S8
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			S24-Se0047870	S24-Se0047871	S24-Se0047872	S24-Se0047873
Date Sampled			Sep 17, 2024	Sep 17, 2024	Sep 17, 2024	Sep 17, 2024
Test/Reference	LOR	Unit				
Total Recoverable Hydrocarbons - 2013 NEPM Fractions						
Naphthalene ^{NO2}	0.5	mg/kg	-	< 0.5	< 0.5	< 0.5
Polycyclic Aromatic Hydrocarbons						
Benzo(a)pyrene TEQ (lower bound) *	0.5	mg/kg	-	< 0.5	< 0.5	< 0.5
Benzo(a)pyrene TEQ (medium bound) *	0.5	mg/kg	-	0.6	0.6	0.6
Benzo(a)pyrene TEQ (upper bound) *	0.5	mg/kg	-	1.2	1.2	1.2
Acenaphthene	0.5	mg/kg	-	< 0.5	< 0.5	< 0.5
Acenaphthylene	0.5	mg/kg	-	< 0.5	< 0.5	< 0.5
Anthracene	0.5	mg/kg	-	< 0.5	< 0.5	< 0.5
Benz(a)anthracene	0.5	mg/kg	-	< 0.5	< 0.5	< 0.5
Benzo(a)pyrene	0.5	mg/kg	-	< 0.5	< 0.5	< 0.5
Benzo(b&j)fluoranthene ^{NO7}	0.5	mg/kg	-	< 0.5	< 0.5	< 0.5
Benzo(g,h,i)perylene	0.5	mg/kg	-	< 0.5	< 0.5	< 0.5
Benzo(k)fluoranthene	0.5	mg/kg	-	< 0.5	< 0.5	< 0.5
Chrysene	0.5	mg/kg	-	< 0.5	< 0.5	< 0.5
Dibenz(a,h)anthracene	0.5	mg/kg	-	< 0.5	< 0.5	< 0.5
Fluoranthene	0.5	mg/kg	-	< 0.5	< 0.5	< 0.5
Fluorene	0.5	mg/kg	-	< 0.5	< 0.5	< 0.5
Indeno(1,2,3-cd)pyrene	0.5	mg/kg	-	< 0.5	< 0.5	< 0.5
Naphthalene	0.5	mg/kg	-	< 0.5	< 0.5	< 0.5
Phenanthrene	0.5	mg/kg	-	< 0.5	< 0.5	< 0.5
Pyrene	0.5	mg/kg	-	< 0.5	< 0.5	< 0.5
Total PAH*	0.5	mg/kg	-	< 0.5	< 0.5	< 0.5
2-Fluorobiphenyl (surr.)	1	%	-	69	91	92
p-Terphenyl-d14 (surr.)	1	%	-	65	78	80
Organochlorine Pesticides						
Chlordanes - Total	0.1	mg/kg	-	< 0.1	< 0.1	< 0.1
4,4'-DDD	0.05	mg/kg	-	< 0.05	< 0.05	< 0.05
4,4'-DDE	0.05	mg/kg	-	< 0.05	< 0.05	0.14
4,4'-DDT	0.05	mg/kg	-	< 0.05	< 0.05	< 0.05
α-HCH	0.05	mg/kg	-	< 0.05	< 0.05	< 0.05
Aldrin	0.05	mg/kg	-	< 0.05	< 0.05	< 0.05
β-HCH	0.05	mg/kg	-	< 0.05	< 0.05	< 0.05
δ-HCH	0.05	mg/kg	-	< 0.05	< 0.05	< 0.05
Dieldrin	0.05	mg/kg	-	< 0.05	< 0.05	< 0.05
Endosulfan I	0.05	mg/kg	-	< 0.05	< 0.05	< 0.05
Endosulfan II	0.05	mg/kg	-	< 0.05	< 0.05	< 0.05
Endosulfan sulphate	0.05	mg/kg	-	< 0.05	< 0.05	< 0.05
Endrin	0.05	mg/kg	-	< 0.05	< 0.05	< 0.05
Endrin aldehyde	0.05	mg/kg	-	< 0.05	< 0.05	< 0.05
Endrin ketone	0.05	mg/kg	-	< 0.05	< 0.05	< 0.05
γ-HCH (Lindane)	0.05	mg/kg	-	< 0.05	< 0.05	< 0.05
Heptachlor	0.05	mg/kg	-	< 0.05	< 0.05	< 0.05
Heptachlor epoxide	0.05	mg/kg	-	< 0.05	< 0.05	< 0.05
Hexachlorobenzene	0.05	mg/kg	-	< 0.05	< 0.05	< 0.05
Methoxychlor	0.05	mg/kg	-	< 0.05	< 0.05	< 0.05
Toxaphene	0.5	mg/kg	-	< 0.5	< 0.5	< 0.5
Aldrin and Dieldrin (Total)*	0.05	mg/kg	-	< 0.05	< 0.05	< 0.05
DDT + DDE + DDD (Total)*	0.05	mg/kg	-	< 0.05	< 0.05	0.14
Vic EPA IWRG 621 OCP (Total)*	0.1	mg/kg	-	< 0.1	< 0.1	0.14

Client Sample ID			S5	S6	S7	S8
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			S24-Se0047870	S24-Se0047871	S24-Se0047872	S24-Se0047873
Date Sampled			Sep 17, 2024	Sep 17, 2024	Sep 17, 2024	Sep 17, 2024
Test/Reference	LOR	Unit				
Organochlorine Pesticides						
Vic EPA IWRG 621 Other OCP (Total)*	0.1	mg/kg	-	< 0.1	< 0.1	< 0.1
Dibutylchlorendate (surr.)	1	%	-	63	76	74
Tetrachloro-m-xylene (surr.)	1	%	-	73	84	96
Organophosphorus Pesticides						
Azinphos-methyl	0.2	mg/kg	-	< 0.2	< 0.2	< 0.2
Bolstar	0.2	mg/kg	-	< 0.2	< 0.2	< 0.2
Chlorfenvinphos	0.2	mg/kg	-	< 0.2	< 0.2	< 0.2
Chlorpyrifos	0.2	mg/kg	-	< 0.2	< 0.2	< 0.2
Chlorpyrifos-methyl	0.2	mg/kg	-	< 0.2	< 0.2	< 0.2
Coumaphos	2	mg/kg	-	< 2	< 2	< 2
Demeton-S	0.2	mg/kg	-	< 0.2	< 0.2	< 0.2
Demeton-O	0.2	mg/kg	-	< 0.2	< 0.2	< 0.2
Diazinon	0.2	mg/kg	-	< 0.2	< 0.2	< 0.2
Dichlorvos	0.2	mg/kg	-	< 0.2	< 0.2	< 0.2
Dimethoate	0.2	mg/kg	-	< 0.2	< 0.2	< 0.2
Disulfoton	0.2	mg/kg	-	< 0.2	< 0.2	< 0.2
EPN	0.2	mg/kg	-	< 0.2	< 0.2	< 0.2
Ethion	0.2	mg/kg	-	< 0.2	< 0.2	< 0.2
Ethoprop	0.2	mg/kg	-	< 0.2	< 0.2	< 0.2
Ethyl parathion	0.2	mg/kg	-	< 0.2	< 0.2	< 0.2
Fenitrothion	0.2	mg/kg	-	< 0.2	< 0.2	< 0.2
Fensulfothion	0.2	mg/kg	-	< 0.2	< 0.2	< 0.2
Fenthion	0.2	mg/kg	-	< 0.2	< 0.2	< 0.2
Malathion	0.2	mg/kg	-	< 0.2	< 0.2	< 0.2
Merphos	0.2	mg/kg	-	< 0.2	< 0.2	< 0.2
Methyl parathion	0.2	mg/kg	-	< 0.2	< 0.2	< 0.2
Mevinphos	0.2	mg/kg	-	< 0.2	< 0.2	< 0.2
Monocrotophos	2	mg/kg	-	< 2	< 2	< 2
Naled	0.2	mg/kg	-	< 0.2	< 0.2	< 0.2
Omethoate	2	mg/kg	-	< 2	< 2	< 2
Phorate	0.2	mg/kg	-	< 0.2	< 0.2	< 0.2
Pirimiphos-methyl	0.2	mg/kg	-	< 0.2	< 0.2	< 0.2
Pyrazophos	0.2	mg/kg	-	< 0.2	< 0.2	< 0.2
Ronnel	0.2	mg/kg	-	< 0.2	< 0.2	< 0.2
Terbufos	0.2	mg/kg	-	< 0.2	< 0.2	< 0.2
Tetrachlorvinphos	0.2	mg/kg	-	< 0.2	< 0.2	< 0.2
Tokuthion	0.2	mg/kg	-	< 0.2	< 0.2	< 0.2
Trichloronate	0.2	mg/kg	-	< 0.2	< 0.2	< 0.2
Triphenylphosphate (surr.)	1	%	-	71	71	80
Phthalate Esters						
Bis(2-ethylhexyl)phthalate	5	mg/kg	-	-	< 5	-
Butyl benzyl phthalate	0.5	mg/kg	-	-	< 0.5	-
Di-n-butyl phthalate	0.5	mg/kg	-	-	< 0.5	-
Di-n-octyl phthalate	0.5	mg/kg	-	-	< 0.5	-
Diethyl phthalate	0.5	mg/kg	-	-	< 0.5	-
Dimethyl phthalate	0.5	mg/kg	-	-	< 0.5	-

Client Sample ID			S5	S6	S7	S8
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			S24-Se0047870	S24-Se0047871	S24-Se0047872	S24-Se0047873
Date Sampled			Sep 17, 2024	Sep 17, 2024	Sep 17, 2024	Sep 17, 2024
Test/Reference	LOR	Unit				
Acid Herbicides						
2,4-D	0.5	mg/kg	-	-	< 0.5	-
2,4-DB	0.5	mg/kg	-	-	< 0.5	-
2,4,5-T	0.5	mg/kg	-	-	< 0.5	-
2,4,5-TP	0.5	mg/kg	-	-	< 0.5	-
Atril (loxynil)	0.5	mg/kg	-	-	< 0.5	-
Dicamba	0.5	mg/kg	-	-	< 0.5	-
Dichlorprop	0.5	mg/kg	-	-	< 0.5	-
Dinitro-o-cresol	0.5	mg/kg	-	-	< 0.5	-
Dinoseb	0.5	mg/kg	-	-	< 0.5	-
MCPA	0.5	mg/kg	-	-	< 0.5	-
MCPB	0.5	mg/kg	-	-	< 0.5	-
Mecoprop	0.5	mg/kg	-	-	< 0.5	-
Warfarin (surr.)	1	%	-	-	134	-
Phenols (Halogenated)						
2-Chlorophenol	0.5	mg/kg	-	-	< 0.5	-
2,4-Dichlorophenol	0.5	mg/kg	-	-	< 0.5	-
2,4,5-Trichlorophenol	1	mg/kg	-	-	< 1	-
2,4,6-Trichlorophenol	1	mg/kg	-	-	< 1	-
2,6-Dichlorophenol	0.5	mg/kg	-	-	< 0.5	-
4-Chloro-3-methylphenol	1	mg/kg	-	-	< 1	-
Pentachlorophenol	1	mg/kg	-	-	< 1	-
Tetrachlorophenols - Total	10	mg/kg	-	-	< 10	-
Total Halogenated Phenol*	1	mg/kg	-	-	< 1	-
Phenols (non-Halogenated)						
2-Cyclohexyl-4,6-dinitrophenol	20	mg/kg	-	-	< 20	-
2-Methyl-4,6-dinitrophenol	5	mg/kg	-	-	< 5	-
2-Nitrophenol	1	mg/kg	-	-	< 1	-
2,4-Dimethylphenol	0.5	mg/kg	-	-	< 0.5	-
2,4-Dinitrophenol	5	mg/kg	-	-	< 5	-
2-Methylphenol (o-Cresol)	0.2	mg/kg	-	-	< 0.2	-
3&4-Methylphenol (m&p-Cresol)	0.4	mg/kg	-	-	< 0.4	-
Total cresols*	0.5	mg/kg	-	-	< 0.5	-
4-Nitrophenol	5	mg/kg	-	-	< 5	-
Dinoseb	20	mg/kg	-	-	< 20	-
Phenol	0.5	mg/kg	-	-	< 0.5	-
Phenol-d6 (surr.)	1	%	-	-	77	-
Total Non-Halogenated Phenol*	20	mg/kg	-	-	< 20	-
Semivolatile Organics						
2,4-Dinitrotoluene	0.5	mg/kg	-	-	< 0.5	-
Nitrobenzene	0.5	mg/kg	-	-	< 0.5	-
Chloride	10	mg/kg	< 10	34	< 10	< 10
Chromium (hexavalent)	1	mg/kg	-	-	< 1	-
Conductivity (1:5 aqueous extract at 25 °C as rec.)	10	uS/cm	20	22	< 10	13
Cyanide (free)	1	mg/kg	-	-	< 1	-
Cyanide (total)	1	mg/kg	-	-	< 1	-
Fluoride	100	mg/kg	-	-	190	-
pH (1:5 Aqueous extract at 25 °C as rec.)	0.1	pH Units	5.2	7.0	5.7	6.4
Resistivity*	0.5	ohm.m	500	450	1600	760
Sulphate (as SO4)	10	mg/kg	22	41	< 10	< 10

Client Sample ID			S5	S6	S7	S8
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			S24-Se0047870	S24-Se0047871	S24-Se0047872	S24-Se0047873
Date Sampled			Sep 17, 2024	Sep 17, 2024	Sep 17, 2024	Sep 17, 2024
Test/Reference	LOR	Unit				
Heavy Metals						
Arsenic	2	mg/kg	-	8.1	3.5	12
Beryllium	2	mg/kg	-	< 2	< 2	< 2
Cadmium	0.4	mg/kg	-	< 0.4	< 0.4	< 0.4
Chromium	5	mg/kg	-	25	-	18
Copper	5	mg/kg	-	27	-	49
Lead	5	mg/kg	-	40	27	130
Mercury	0.1	mg/kg	-	< 0.1	< 0.1	0.5
Molybdenum	5	mg/kg	-	< 5	< 5	< 5
Nickel	5	mg/kg	-	30	< 5	6.8
Selenium	2	mg/kg	-	< 2	< 2	< 2
Silver	2	mg/kg	-	-	< 2	-
Zinc	5	mg/kg	-	110	-	110
Sample Properties						
% Moisture	1	%	10	17	15	17
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	%	-	114	-	120
Polychlorinated Biphenyls						
Aroclor-1016	0.1	mg/kg	-	< 0.1	-	< 0.1
Aroclor-1221	0.1	mg/kg	-	< 0.1	-	< 0.1
Aroclor-1232	0.1	mg/kg	-	< 0.1	-	< 0.1
Aroclor-1242	0.1	mg/kg	-	< 0.1	-	< 0.1
Aroclor-1248	0.1	mg/kg	-	< 0.1	-	< 0.1
Aroclor-1254	0.1	mg/kg	-	< 0.1	-	< 0.1
Aroclor-1260	0.1	mg/kg	-	< 0.1	-	< 0.1
Total PCB*	0.1	mg/kg	-	< 0.1	-	< 0.1
Dibutylchloroendate (surr.)	1	%	-	63	-	74
Tetrachloro-m-xylene (surr.)	1	%	-	73	-	96

Client Sample ID			S9	S10	S11	S12
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			S24-Se0047874	S24-Se0047875	S24-Se0047876	S24-Se0047877
Date Sampled			Sep 17, 2024	Sep 17, 2024	Sep 17, 2024	Sep 17, 2024
Test/Reference	LOR	Unit				
Total Recoverable Hydrocarbons						
TRH C6-C9	20	mg/kg	< 20	< 20	-	-
TRH C10-C14	20	mg/kg	< 20	< 20	-	-
TRH C15-C28	50	mg/kg	< 50	< 50	-	-
TRH C29-C36	50	mg/kg	< 50	< 50	-	-
TRH C10-C36 (Total)	50	mg/kg	< 50	< 50	-	-
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	-	-

Client Sample ID			S9	S10	S11	S12
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			S24-Se0047874	S24-Se0047875	S24-Se0047876	S24-Se0047877
Date Sampled			Sep 17, 2024	Sep 17, 2024	Sep 17, 2024	Sep 17, 2024
Test/Reference	LOR	Unit				
Total Recoverable Hydrocarbons						
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	-	-
Total Recoverable Hydrocarbons - 2013 NEPM Fractions						
Naphthalene ^{N02}	0.5	mg/kg	< 0.5	< 0.5	-	-
Polycyclic Aromatic Hydrocarbons						
Benzo(a)pyrene TEQ (lower bound) *	0.5	mg/kg	< 0.5	< 0.5	-	-
Benzo(a)pyrene TEQ (medium bound) *	0.5	mg/kg	0.6	0.6	-	-
Benzo(a)pyrene TEQ (upper bound) *	0.5	mg/kg	1.2	1.2	-	-
Acenaphthene	0.5	mg/kg	< 0.5	< 0.5	-	-
Acenaphthylene	0.5	mg/kg	< 0.5	< 0.5	-	-
Anthracene	0.5	mg/kg	< 0.5	< 0.5	-	-
Benz(a)anthracene	0.5	mg/kg	< 0.5	< 0.5	-	-
Benzo(a)pyrene	0.5	mg/kg	< 0.5	< 0.5	-	-
Benzo(b&j)fluoranthene ^{N07}	0.5	mg/kg	< 0.5	< 0.5	-	-
Benzo(g,h,i)perylene	0.5	mg/kg	< 0.5	< 0.5	-	-
Benzo(k)fluoranthene	0.5	mg/kg	< 0.5	< 0.5	-	-
Chrysene	0.5	mg/kg	< 0.5	< 0.5	-	-
Dibenz(a,h)anthracene	0.5	mg/kg	< 0.5	< 0.5	-	-
Fluoranthene	0.5	mg/kg	< 0.5	< 0.5	-	-
Fluorene	0.5	mg/kg	< 0.5	< 0.5	-	-
Indeno(1,2,3-cd)pyrene	0.5	mg/kg	< 0.5	< 0.5	-	-
Naphthalene	0.5	mg/kg	< 0.5	< 0.5	-	-
Phenanthrene	0.5	mg/kg	< 0.5	< 0.5	-	-
Pyrene	0.5	mg/kg	< 0.5	< 0.5	-	-
Total PAH*	0.5	mg/kg	< 0.5	< 0.5	-	-
2-Fluorobiphenyl (surr.)	1	%	95	71	-	-
p-Terphenyl-d14 (surr.)	1	%	85	69	-	-
Organochlorine Pesticides						
Chlordanes - Total	0.1	mg/kg	< 0.1	< 0.1	-	-
4,4'-DDD	0.05	mg/kg	< 0.05	< 0.05	-	-
4,4'-DDE	0.05	mg/kg	< 0.05	< 0.05	-	-
4,4'-DDT	0.05	mg/kg	< 0.05	< 0.05	-	-
a-HCH	0.05	mg/kg	< 0.05	< 0.05	-	-
Aldrin	0.05	mg/kg	< 0.05	< 0.05	-	-
b-HCH	0.05	mg/kg	< 0.05	< 0.05	-	-
d-HCH	0.05	mg/kg	< 0.05	< 0.05	-	-
Dieldrin	0.05	mg/kg	< 0.05	< 0.05	-	-
Endosulfan I	0.05	mg/kg	< 0.05	< 0.05	-	-
Endosulfan II	0.05	mg/kg	< 0.05	< 0.05	-	-
Endosulfan sulphate	0.05	mg/kg	< 0.05	< 0.05	-	-
Endrin	0.05	mg/kg	< 0.05	< 0.05	-	-
Endrin aldehyde	0.05	mg/kg	< 0.05	< 0.05	-	-
Endrin ketone	0.05	mg/kg	< 0.05	< 0.05	-	-
g-HCH (Lindane)	0.05	mg/kg	< 0.05	< 0.05	-	-
Heptachlor	0.05	mg/kg	< 0.05	< 0.05	-	-
Heptachlor epoxide	0.05	mg/kg	< 0.05	< 0.05	-	-
Hexachlorobenzene	0.05	mg/kg	< 0.05	< 0.05	-	-

Client Sample ID			S9	S10	S11	S12
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			S24-Se0047874	S24-Se0047875	S24-Se0047876	S24-Se0047877
Date Sampled			Sep 17, 2024	Sep 17, 2024	Sep 17, 2024	Sep 17, 2024
Test/Reference	LOR	Unit				
Organochlorine Pesticides						
Methoxychlor	0.05	mg/kg	< 0.05	< 0.05	-	-
Toxaphene	0.5	mg/kg	< 0.5	< 0.5	-	-
Aldrin and Dieldrin (Total)*	0.05	mg/kg	< 0.05	< 0.05	-	-
DDT + DDE + DDD (Total)*	0.05	mg/kg	< 0.05	< 0.05	-	-
Vic EPA IWRG 621 OCP (Total)*	0.1	mg/kg	< 0.1	< 0.1	-	-
Vic EPA IWRG 621 Other OCP (Total)*	0.1	mg/kg	< 0.1	< 0.1	-	-
Dibutylchlorendate (surr.)	1	%	91	73	-	-
Tetrachloro-m-xylene (surr.)	1	%	95	69	-	-
Organophosphorus Pesticides						
Azinphos-methyl	0.2	mg/kg	< 0.2	< 0.2	-	-
Bolstar	0.2	mg/kg	< 0.2	< 0.2	-	-
Chlorfenvinphos	0.2	mg/kg	< 0.2	< 0.2	-	-
Chlorpyrifos	0.2	mg/kg	< 0.2	< 0.2	-	-
Chlorpyrifos-methyl	0.2	mg/kg	< 0.2	< 0.2	-	-
Coumaphos	2	mg/kg	< 2	< 2	-	-
Demeton-S	0.2	mg/kg	< 0.2	< 0.2	-	-
Demeton-O	0.2	mg/kg	< 0.2	< 0.2	-	-
Diazinon	0.2	mg/kg	< 0.2	< 0.2	-	-
Dichlorvos	0.2	mg/kg	< 0.2	< 0.2	-	-
Dimethoate	0.2	mg/kg	< 0.2	< 0.2	-	-
Disulfoton	0.2	mg/kg	< 0.2	< 0.2	-	-
EPN	0.2	mg/kg	< 0.2	< 0.2	-	-
Ethion	0.2	mg/kg	< 0.2	< 0.2	-	-
Ethoprop	0.2	mg/kg	< 0.2	< 0.2	-	-
Ethyl parathion	0.2	mg/kg	< 0.2	< 0.2	-	-
Fenitrothion	0.2	mg/kg	< 0.2	< 0.2	-	-
Fensulfothion	0.2	mg/kg	< 0.2	< 0.2	-	-
Fenthion	0.2	mg/kg	< 0.2	< 0.2	-	-
Malathion	0.2	mg/kg	< 0.2	< 0.2	-	-
Merphos	0.2	mg/kg	< 0.2	< 0.2	-	-
Methyl parathion	0.2	mg/kg	< 0.2	< 0.2	-	-
Mevinphos	0.2	mg/kg	< 0.2	< 0.2	-	-
Monocrotophos	2	mg/kg	< 2	< 2	-	-
Naled	0.2	mg/kg	< 0.2	< 0.2	-	-
Omethoate	2	mg/kg	< 2	< 2	-	-
Phorate	0.2	mg/kg	< 0.2	< 0.2	-	-
Pirimiphos-methyl	0.2	mg/kg	< 0.2	< 0.2	-	-
Pyrazophos	0.2	mg/kg	< 0.2	< 0.2	-	-
Ronnel	0.2	mg/kg	< 0.2	< 0.2	-	-
Terbufos	0.2	mg/kg	< 0.2	< 0.2	-	-
Tetrachlorvinphos	0.2	mg/kg	< 0.2	< 0.2	-	-
Tokuthion	0.2	mg/kg	< 0.2	< 0.2	-	-
Trichloronate	0.2	mg/kg	< 0.2	< 0.2	-	-
Triphenylphosphate (surr.)	1	%	97	72	-	-
Chloride	10	mg/kg	< 10	< 10	11	13
Conductivity (1:5 aqueous extract at 25 °C as rec.)	10	uS/cm	21	< 10	36	< 10
pH (1:5 Aqueous extract at 25 °C as rec.)	0.1	pH Units	5.3	6.6	5.5	6.3
Resistivity*	0.5	ohm.m	470	1100	280	1000
Sulphate (as SO4)	10	mg/kg	35	< 10	59	< 10

Client Sample ID			S9	S10	S11	S12
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			S24-Se0047874	S24-Se0047875	S24-Se0047876	S24-Se0047877
Date Sampled			Sep 17, 2024	Sep 17, 2024	Sep 17, 2024	Sep 17, 2024
Test/Reference	LOR	Unit				
Heavy Metals						
Arsenic	2	mg/kg	8.1	1100	-	-
Beryllium	2	mg/kg	< 2	< 2	-	-
Cadmium	0.4	mg/kg	< 0.4	< 0.4	-	-
Chromium	5	mg/kg	17	15	-	-
Copper	5	mg/kg	5.9	8.8	-	-
Lead	5	mg/kg	17	62	-	-
Mercury	0.1	mg/kg	< 0.1	< 0.1	-	-
Molybdenum	5	mg/kg	< 5	< 5	-	-
Nickel	5	mg/kg	6.3	< 5	-	-
Selenium	2	mg/kg	< 2	< 2	-	-
Zinc	5	mg/kg	16	44	-	-
Sample Properties						
% Moisture	1	%	19	15	18	18
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	%	115	132	-	-
Polychlorinated Biphenyls						
Aroclor-1016	0.1	mg/kg	< 0.1	< 0.1	-	-
Aroclor-1221	0.1	mg/kg	< 0.1	< 0.1	-	-
Aroclor-1232	0.1	mg/kg	< 0.1	< 0.1	-	-
Aroclor-1242	0.1	mg/kg	< 0.1	< 0.1	-	-
Aroclor-1248	0.1	mg/kg	< 0.1	< 0.1	-	-
Aroclor-1254	0.1	mg/kg	< 0.1	< 0.1	-	-
Aroclor-1260	0.1	mg/kg	< 0.1	< 0.1	-	-
Total PCB*	0.1	mg/kg	< 0.1	< 0.1	-	-
Dibutylchloroendate (surr.)	1	%	91	73	-	-
Tetrachloro-m-xylene (surr.)	1	%	95	69	-	-

Client Sample ID			G01 S13	S14	S15	BD
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			S24-Se0047882	S24-Se0047883	S24-Se0047884	S24-Se0047885
Date Sampled			Sep 17, 2024	Sep 17, 2024	Sep 17, 2024	Sep 17, 2024
Test/Reference	LOR	Unit				
Total Recoverable Hydrocarbons						
TRH C6-C9	20	mg/kg	< 20	-	-	-
TRH C10-C14	20	mg/kg	< 20	-	-	-
TRH C15-C28	50	mg/kg	< 50	-	-	-
TRH C29-C36	50	mg/kg	59	-	-	-
TRH C10-C36 (Total)	50	mg/kg	59	-	-	-
TRH C6-C10	20	mg/kg	< 20	-	-	-
TRH C6-C10 less BTEX (F1) ^{N04}	20	mg/kg	< 20	-	-	-
TRH >C10-C16	50	mg/kg	< 50	-	-	-
TRH >C10-C16 less Naphthalene (F2) ^{*N01}	50	mg/kg	< 50	-	-	-

Client Sample ID			G01 S13	S14	S15	BD
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			S24-Se0047882	S24-Se0047883	S24-Se0047884	S24-Se0047885
Date Sampled			Sep 17, 2024	Sep 17, 2024	Sep 17, 2024	Sep 17, 2024
Test/Reference	LOR	Unit				
Total Recoverable Hydrocarbons						
TRH >C16-C34	100	mg/kg	< 100	-	-	-
TRH >C34-C40	100	mg/kg	< 100	-	-	-
TRH >C10-C40 (total)*	100	mg/kg	< 100	-	-	-
Total Recoverable Hydrocarbons - 2013 NEPM Fractions						
Naphthalene ^{N02}	0.5	mg/kg	< 0.5	-	-	-
Polycyclic Aromatic Hydrocarbons						
Benzo(a)pyrene TEQ (lower bound) *	0.5	mg/kg	< 0.5	-	-	-
Benzo(a)pyrene TEQ (medium bound) *	0.5	mg/kg	0.6	-	-	-
Benzo(a)pyrene TEQ (upper bound) *	0.5	mg/kg	1.2	-	-	-
Acenaphthene	0.5	mg/kg	< 0.5	-	-	-
Acenaphthylene	0.5	mg/kg	< 0.5	-	-	-
Anthracene	0.5	mg/kg	< 0.5	-	-	-
Benz(a)anthracene	0.5	mg/kg	< 0.5	-	-	-
Benzo(a)pyrene	0.5	mg/kg	< 0.5	-	-	-
Benzo(b&j)fluoranthene ^{N07}	0.5	mg/kg	< 0.5	-	-	-
Benzo(g,h,i)perylene	0.5	mg/kg	< 0.5	-	-	-
Benzo(k)fluoranthene	0.5	mg/kg	< 0.5	-	-	-
Chrysene	0.5	mg/kg	0.8	-	-	-
Dibenz(a,h)anthracene	0.5	mg/kg	< 0.5	-	-	-
Fluoranthene	0.5	mg/kg	1.0	-	-	-
Fluorene	0.5	mg/kg	< 0.5	-	-	-
Indeno(1,2,3-cd)pyrene	0.5	mg/kg	< 0.5	-	-	-
Naphthalene	0.5	mg/kg	< 0.5	-	-	-
Phenanthrene	0.5	mg/kg	< 0.5	-	-	-
Pyrene	0.5	mg/kg	1.1	-	-	-
Total PAH*	0.5	mg/kg	2.9	-	-	-
2-Fluorobiphenyl (surr.)	1	%	103	-	-	-
p-Terphenyl-d14 (surr.)	1	%	90	-	-	-
Organochlorine Pesticides						
Chlordanes - Total	0.1	mg/kg	< 1	-	-	-
4,4'-DDD	0.05	mg/kg	< 0.5	-	-	-
4,4'-DDE	0.05	mg/kg	< 0.5	-	-	-
4,4'-DDT	0.05	mg/kg	< 0.5	-	-	-
a-HCH	0.05	mg/kg	< 0.5	-	-	-
Aldrin	0.05	mg/kg	< 0.5	-	-	-
b-HCH	0.05	mg/kg	< 0.5	-	-	-
d-HCH	0.05	mg/kg	< 0.5	-	-	-
Dieldrin	0.05	mg/kg	< 0.5	-	-	-
Endosulfan I	0.05	mg/kg	< 0.5	-	-	-
Endosulfan II	0.05	mg/kg	< 0.5	-	-	-
Endosulfan sulphate	0.05	mg/kg	< 0.5	-	-	-
Endrin	0.05	mg/kg	< 0.5	-	-	-
Endrin aldehyde	0.05	mg/kg	< 0.5	-	-	-
Endrin ketone	0.05	mg/kg	< 0.5	-	-	-
g-HCH (Lindane)	0.05	mg/kg	< 0.5	-	-	-
Heptachlor	0.05	mg/kg	< 0.5	-	-	-
Heptachlor epoxide	0.05	mg/kg	< 0.5	-	-	-
Hexachlorobenzene	0.05	mg/kg	< 0.5	-	-	-
Methoxychlor	0.05	mg/kg	< 0.5	-	-	-

Client Sample ID			G01-S13	S14	S15	BD
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			S24-Se0047882	S24-Se0047883	S24-Se0047884	S24-Se0047885
Date Sampled			Sep 17, 2024	Sep 17, 2024	Sep 17, 2024	Sep 17, 2024
Test/Reference	LOR	Unit				
Organochlorine Pesticides						
Toxaphene	0.5	mg/kg	< 10	-	-	-
Aldrin and Dieldrin (Total)*	0.05	mg/kg	< 0.5	-	-	-
DDT + DDE + DDD (Total)*	0.05	mg/kg	< 0.5	-	-	-
Vic EPA IWRG 621 OCP (Total)*	0.1	mg/kg	< 1	-	-	-
Vic EPA IWRG 621 Other OCP (Total)*	0.1	mg/kg	< 1	-	-	-
Dibutylchlorendate (surr.)	1	%	81	-	-	-
Tetrachloro-m-xylene (surr.)	1	%	95	-	-	-
Organophosphorus Pesticides						
Azinphos-methyl	0.2	mg/kg	< 0.5	-	-	-
Bolstar	0.2	mg/kg	< 0.5	-	-	-
Chlorfenvinphos	0.2	mg/kg	< 0.5	-	-	-
Chlorpyrifos	0.2	mg/kg	< 0.5	-	-	-
Chlorpyrifos-methyl	0.2	mg/kg	< 0.5	-	-	-
Coumaphos	2	mg/kg	< 5	-	-	-
Demeton-S	0.2	mg/kg	< 0.5	-	-	-
Demeton-O	0.2	mg/kg	< 0.5	-	-	-
Diazinon	0.2	mg/kg	< 0.5	-	-	-
Dichlorvos	0.2	mg/kg	< 0.5	-	-	-
Dimethoate	0.2	mg/kg	< 0.5	-	-	-
Disulfoton	0.2	mg/kg	< 0.5	-	-	-
EPN	0.2	mg/kg	< 0.5	-	-	-
Ethion	0.2	mg/kg	< 0.5	-	-	-
Ethoprop	0.2	mg/kg	< 0.5	-	-	-
Ethyl parathion	0.2	mg/kg	< 0.5	-	-	-
Fenitrothion	0.2	mg/kg	< 0.5	-	-	-
Fensulfothion	0.2	mg/kg	< 0.5	-	-	-
Fenthion	0.2	mg/kg	< 0.5	-	-	-
Malathion	0.2	mg/kg	< 0.5	-	-	-
Merphos	0.2	mg/kg	< 0.5	-	-	-
Methyl parathion	0.2	mg/kg	< 0.5	-	-	-
Mevinphos	0.2	mg/kg	< 0.5	-	-	-
Monocrotophos	2	mg/kg	< 5	-	-	-
Naled	0.2	mg/kg	< 0.5	-	-	-
Omethoate	2	mg/kg	< 5	-	-	-
Phorate	0.2	mg/kg	< 0.5	-	-	-
Pirimiphos-methyl	0.2	mg/kg	< 0.5	-	-	-
Pyrazophos	0.2	mg/kg	< 0.5	-	-	-
Ronnel	0.2	mg/kg	< 0.5	-	-	-
Terbufos	0.2	mg/kg	< 0.5	-	-	-
Tetrachlorvinphos	0.2	mg/kg	< 0.5	-	-	-
Tokuthion	0.2	mg/kg	< 0.5	-	-	-
Trichloronate	0.2	mg/kg	< 0.5	-	-	-
Triphenylphosphate (surr.)	1	%	83	-	-	-
Heavy Metals						
Arsenic	2	mg/kg	5.5	-	-	2400
Beryllium	2	mg/kg	< 2	-	-	-
Cadmium	0.4	mg/kg	< 0.4	-	-	< 0.4
Chromium	5	mg/kg	13	-	-	31
Copper	5	mg/kg	19	-	-	14

Client Sample ID			G01-S13	S14	S15	BD
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			S24-Se0047882	S24-Se0047883	S24-Se0047884	S24-Se0047885
Date Sampled			Sep 17, 2024	Sep 17, 2024	Sep 17, 2024	Sep 17, 2024
Test/Reference	LOR	Unit				
Heavy Metals						
Lead	5	mg/kg	75	-	-	41
Mercury	0.1	mg/kg	< 0.1	-	-	< 0.1
Molybdenum	5	mg/kg	< 5	-	-	-
Nickel	5	mg/kg	< 5	-	-	7.4
Selenium	2	mg/kg	< 2	-	-	-
Zinc	5	mg/kg	72	-	-	220
Sample Properties						
% Moisture	1	%	22	15	15	13
BTEX						
Benzene	0.1	mg/kg	< 0.1	-	-	-
Toluene	0.1	mg/kg	< 0.1	-	-	-
Ethylbenzene	0.1	mg/kg	< 0.1	-	-	-
m&p-Xylenes	0.2	mg/kg	< 0.2	-	-	-
o-Xylene	0.1	mg/kg	< 0.1	-	-	-
Xylenes - Total*	0.3	mg/kg	< 0.3	-	-	-
4-Bromofluorobenzene (surr.)	1	%	117	-	-	-
Polychlorinated Biphenyls						
Aroclor-1016	0.1	mg/kg	< 1	-	-	-
Aroclor-1221	0.1	mg/kg	< 1	-	-	-
Aroclor-1232	0.1	mg/kg	< 1	-	-	-
Aroclor-1242	0.1	mg/kg	< 1	-	-	-
Aroclor-1248	0.1	mg/kg	< 1	-	-	-
Aroclor-1254	0.1	mg/kg	< 1	-	-	-
Aroclor-1260	0.1	mg/kg	< 1	-	-	-
Total PCB*	0.1	mg/kg	< 1	-	-	-
Dibutylchloroendate (surr.)	1	%	81	-	-	-
Tetrachloro-m-xylene (surr.)	1	%	95	-	-	-
Per- and Polyfluoroalkyl Substances (PFASs) - Short						
1H,1H,2H,2H-perfluorooctanesulfonic acid(6:2 FTSA) ^{N11}	10	ug/kg	-	< 10	< 10	-
13C2-6:2 FTSA (surr.)	1	%	-	119	121	-
Perfluorohexanesulfonic acid (PFHxS) ^{N11}	5	ug/kg	-	< 5	< 5	-
Perfluorooctanesulfonic acid (PFOS) ^{N11}	5	ug/kg	-	< 5	< 5	-
18O2-PFHxS (surr.)	1	%	-	100	99	-
13C8-PFOS (surr.)	1	%	-	112	127	-
Perfluorooctanoic acid (PFOA) ^{N11}	5	ug/kg	-	< 5	< 5	-
13C8-PFOA (surr.)	1	%	-	111	100	-
Sum (PFHxS + PFOS)*	5	ug/kg	-	< 5	< 5	-
Sum of US EPA PFAS (PFOS + PFOA)*	5	ug/kg	-	< 5	< 5	-
Sum of enHealth PFAS (PFHxS + PFOS + PFOA)*	5	ug/kg	-	< 5	< 5	-

Client Sample ID			TS	TB
Sample Matrix			Trip Spike (solid)	Trip Blank (solid)
Eurofins Sample No.			S24-Se0047886	S24-Se0047887
Date Sampled			Sep 17, 2024	Sep 17, 2024
Test/Reference	LOR	Unit		
Total Recoverable Hydrocarbons				
TRH C6-C9	20	mg/kg	-	< 20
TRH C6-C10	20	mg/kg	-	< 20
TRH C6-C10 less BTEX (F1) ^{N04}	20	mg/kg	-	< 20
TRH C6-C10	1	%	75	-
BTEX				
Benzene	0.1	mg/kg	-	< 0.1
Toluene	0.1	mg/kg	-	< 0.1
Ethylbenzene	0.1	mg/kg	-	< 0.1
m&p-Xylenes	0.2	mg/kg	-	< 0.2
o-Xylene	0.1	mg/kg	-	< 0.1
Xylenes - Total*	0.3	mg/kg	-	< 0.3
4-Bromofluorobenzene (surr.)	1	%	-	112
Total Recoverable Hydrocarbons				
Naphthalene	1	%	77	-
TRH C6-C9	1	%	75	-
BTEX				
Benzene	1	%	75	-
Ethylbenzene	1	%	76	-
m&p-Xylenes	1	%	75	-
o-Xylene	1	%	77	-
Toluene	1	%	75	-
Xylenes - Total	1	%	76	-
4-Bromofluorobenzene (surr.)	1	%	90	-
BTEX and Naphthalene				
Naphthalene ^{N02}	0.5	mg/kg	-	< 0.5

Sample History

Where samples are submitted/analysed over several days, the last date of extraction is reported.

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

Description	Testing Site	Extracted	Holding Time
Total Recoverable Hydrocarbons - 1999 NEPM Fractions - Method: LTM-ORG-2010 TRH C6-C40	Sydney	Sep 26, 2024	14 Days
Total Recoverable Hydrocarbons - 2013 NEPM Fractions - Method: LTM-ORG-2010 TRH C6-C40	Sydney	Sep 26, 2024	14 Days
Total Recoverable Hydrocarbons - 2013 NEPM Fractions - Method: LTM-ORG-2010 TRH C6-C40	Sydney	Sep 26, 2024	14 Days
Polycyclic Aromatic Hydrocarbons - Method: LTM-ORG-2130 PAH and Phenols in Soil and Water	Sydney	Sep 26, 2024	14 Days
Organochlorine Pesticides - Method: LTM-ORG-2220 OCP & PCB in Soil and Water	Sydney	Sep 26, 2024	14 Days
Organophosphorus Pesticides - Method: LTM-ORG-2200 Organophosphorus Pesticides by GC-MS	Sydney	Sep 26, 2024	14 Days
Metals M8 - Method: LTM-MET-3040 Metals in Waters, Soils & Sediments by ICP-MS	Sydney	Sep 26, 2024	28 Days
BTEX - Method: LTM-ORG-2010 BTEX and Volatile TRH	Sydney	Sep 26, 2024	14 Days
Polychlorinated Biphenyls - Method: LTM-ORG-2220 OCP & PCB in Soil and Water	Sydney	Sep 26, 2024	28 Days
Total Recoverable Hydrocarbons - Method: LTM-ORG-2010 TRH C6-C40	Sydney	Sep 23, 2024	14 Days
Volatile Organics - Method: LTM-ORG-2150 VOCs in Soils Liquid and other Aqueous Matrices	Sydney	Sep 19, 2024	7 Days
Phthalate Esters - Method: USEPA 8270 Phthalate Esters	Sydney	Sep 19, 2024	14 Days
Acid Herbicides - Method: LTM-ORG-2180 Phenoxy Acid Herbicides	Melbourne	Sep 21, 2024	14 Days
Phenols (Halogenated) - Method: LTM-ORG-2130 PAH and Phenols in Soil and Water	Sydney	Sep 19, 2024	14 Days
Phenols (non-Halogenated) - Method: LTM-ORG-2130 PAH and Phenols in Soil and Water	Sydney	Sep 19, 2024	14 Days
Semivolatile Organics - Method: LTM-ORG-2190 SVOC in Water & Soil by GC-MS	Sydney	Sep 19, 2024	14 Day
Chromium (hexavalent) - Method: In-house method E057.2	Sydney	Sep 19, 2024	28 Days
Cyanide (free) - Method: E054 Free Cyanide	Sydney	Sep 19, 2024	14 Days
Cyanide (total) - Method: E054 Total Cyanide	Sydney	Sep 19, 2024	14 Days
Fluoride - Method: LTM-INO-4150 Determination of Total Fluoride PART A – CIC	Melbourne	Sep 21, 2024	28 Days
DECC Metals : Metals M9DECC - Method: LTM-MET-3040 Metals in Waters, Soils & Sediments by ICP-MS	Sydney	Sep 19, 2024	28 Days
Chloride - Method: LTM-INO-4270 Anions by Ion Chromatography	Sydney	Sep 26, 2024	28 Days
Conductivity (1:5 aqueous extract at 25 °C as rec.) - Method: LTM-INO-4030 Conductivity	Sydney	Sep 26, 2024	7 Days
pH (1:5 Aqueous extract at 25 °C as rec.) - Method: LTM-GEN-7090 pH by ISE	Sydney	Sep 26, 2024	7 Days
Sulphate (as SO4) - Method: In-house method LTM-INO-4270 Sulphate by Ion Chromatograph	Sydney	Sep 26, 2024	28 Days
Heavy Metals	Sydney	Sep 26, 2024	28 Days

Description	Testing Site	Extracted	Holding Time
- Method: LTM-MET-3040 Metals in Waters, Soils & Sediments by ICP-MS Per- and Polyfluoroalkyl Substances (PFASs) - Short	Sydney	Sep 25, 2024	28 Days
- Method: LTM-ORG-2100 Per- and Polyfluoroalkyl Substances (PFAS) % Moisture	Sydney	Sep 18, 2024	14 Days
- Method: LTM-GEN-7080 Moisture			



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Company Name: Geotesta Pty Ltd (NSW)
Address: Unit 6, 20/22 Foundry Road
Seven Hills
NSW 2147

Project Name: 2-8 HIGHGATE RD LINDFIELD
Project ID: NE1980

Order No.: NE1980-PSI/GSI
Report #: 1140701
Phone: 1300852 216
Fax:

Received: Sep 18, 2024 6:50 PM
Due: Sep 30, 2024
Priority: 7 Day
Contact Name: Mark Laidlaw (GEOTESTA)

Eurofins Analytical Services Manager : Asim Khan

Sample Detail						Asbestos - AS4964	Beryllium	Molybdenum	Selenium	Metals M8	Aggressivity Soil Set	Moisture Set	NSW DECC - Waste Classification Table 1	BTEXN and Volatile TRH	Per- and Polyfluoroalkyl Substances (PFASs) - Short	BTEXN and Volatile TRH	Suite B10B:TRH/BTEXN/PAH/OC/OPP/PCB/M8
Melbourne Laboratory - NATA # 1261 Site # 1254													X				
Sydney Laboratory - NATA # 1261 Site # 18217						X	X	X	X	X	X	X	X	X	X	X	X
External Laboratory																	
No	Sample ID	Sample Date	Sampling Time	Matrix	LAB ID												
1	S1	Sep 17, 2024		Soil	S24-Se0047866						X	X	X				
2	S2	Sep 17, 2024		Soil	S24-Se0047867						X	X					
3	S3	Sep 17, 2024		Soil	S24-Se0047868		X	X	X		X	X					X
4	S4	Sep 17, 2024		Soil	S24-Se0047869						X	X					
5	S5	Sep 17, 2024		Soil	S24-Se0047870						X	X					
6	S6	Sep 17, 2024		Soil	S24-Se0047871		X	X	X		X	X					X
7	S7	Sep 17, 2024		Soil	S24-Se0047872						X	X	X				
8	S8	Sep 17, 2024		Soil	S24-Se0047873		X	X	X		X	X					X
9	S9	Sep 17, 2024		Soil	S24-Se0047874		X	X	X		X	X					X
10	S10	Sep 17, 2024		Soil	S24-Se0047875		X	X	X		X	X					X
11	S11	Sep 17, 2024		Soil	S24-Se0047876						X	X					
12	S12	Sep 17, 2024		Soil	S24-Se0047877						X	X					
13	ASB1	Sep 17, 2024		Soil	S24-Se0047878	X											



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ABN: 91 05 0159 898

Perth
46-48 Banksia Road Welshpool WA 6106 +61 8 6253 4444 NATA# 2377 Site# 2370

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Perth ProMicro
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Company Name: Geotesta Pty Ltd (NSW)
Address: Unit 6, 20/22 Foundry Road
Seven Hills
NSW 2147

Project Name: 2-8 HIGHGATE RD LINDFIELD
Project ID: NE1980

Order No.: NE1980-PSI/GSI
Report #: 1140701
Phone: 1300852 216
Fax:

Received: Sep 18, 2024 6:50 PM
Due: Sep 30, 2024
Priority: 7 Day
Contact Name: Mark Laidlaw (GEOTESTA)

Eurofins Analytical Services Manager : Asim Khan

Sample Detail						Asbestos - AS4964	Beryllium	Molybdenum	Selenium	Metals M8	Aggressivity Soil Set	Moisture Set	NSW DECC - Waste Classification Table 1	BTEXN and Volatile TRH	Per- and Polyfluoroalkyl Substances (PFASs) - Short	BTEXN and Volatile TRH	Suite B10B:TRH/BTEXN/PAH/OC/OPP/PCB/M8
Melbourne Laboratory - NATA # 1261 Site # 1254													X				
Sydney Laboratory - NATA # 1261 Site # 18217						X	X	X	X	X	X	X	X	X	X	X	X
14	ASB2	Sep 17, 2024		Soil	S24-Se0047879	X											
15	ASB3	Sep 17, 2024		Soil	S24-Se0047880	X											
16	ASB4	Sep 17, 2024		Soil	S24-Se0047881	X											
17	S13	Sep 17, 2024		Soil	S24-Se0047882		X	X	X			X					X
18	S14	Sep 17, 2024		Soil	S24-Se0047883							X			X		
19	S15	Sep 17, 2024		Soil	S24-Se0047884							X			X		
20	BD	Sep 17, 2024		Soil	S24-Se0047885					X		X					
21	TS	Sep 17, 2024		Trip Spike (solid)	S24-Se0047886											X	
22	TB	Sep 17, 2024		Trip Blank (solid)	S24-Se0047887									X			
Test Counts						4	6	6	6	1	12	16	2	1	2	1	6

Internal Quality Control Review and Glossary

General

- Laboratory QC results for Method Blanks, Duplicates, Matrix Spikes, and Laboratory Control Samples follow guidelines delineated in the National Environment Protection (Assessment of Site Contamination) Measure 1999, as amended May 2013. They are included in this QC report where applicable. Additional QC data may be available on request.
- Unless otherwise stated, all soil/sediment/solid results are reported on a dry weight basis.
- Unless otherwise stated, all biota/food results are reported on a wet weight basis on the edible portion.
- For CEC results where the sample's origin is unknown or environmentally contaminated, the results should be used advisedly.
- Actual LORs are matrix dependent. Quoted LORs may be raised where sample extracts are diluted due to interferences.
- Results are uncorrected for matrix spikes or surrogate recoveries except for PFAS compounds where annotated.
- SVOC analysis on waters is performed on homogenised, unfiltered samples unless noted otherwise.
- Samples were analysed on an 'as received' basis.
- Information identified in this report with **blue** colour indicates data provided by customers that may have an impact on the results.
- This report replaces any interim results previously issued.

Holding Times

Please refer to the '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 before sample receipt deadlines as stated on the SRA.

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

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

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

Units

mg/kg: milligrams per kilogram	mg/L: milligrams per litre	ppm: parts per million
µg/L: micrograms per litre	ppb: parts per billion	%: Percentage
org/100 mL: Organisms per 100 millilitres	NTU: Nephelometric Turbidity Units	MPN/100 mL: Most Probable Number of organisms per 100 millilitres
CFU: Colony Forming Unit	Colour: Pt-Co Units (CU)	

Terms

APHA	American Public Health Association
CEC	Cation Exchange Capacity
COC	Chain of Custody
CP	Client Parent - QC was performed on samples pertaining to this report
CRM	Certified Reference Material (ISO17034) - reported as percent recovery.
Dry	Where moisture has been determined on a solid sample, the result is expressed on a dry weight basis.
Duplicate	A second piece of analysis from the same sample and reported in the same units as the result to show comparison.
LOR	Limit of Reporting.
LCS	Laboratory Control Sample - 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.
NCP	Non-Client Parent - QC performed on samples not pertaining to this report, QC represents the sequence or batch that client samples were analysed within.
RPD	Relative Percent Difference between two Duplicate pieces of analysis.
SPIKE	Addition of the analyte to the sample and reported as percentage recovery.
SRA	Sample Receipt Advice
Surr - Surrogate	The addition of a similar compound to the analyte target is reported as percentage recovery. See below for acceptance criteria.
TBTO	Tributyltin oxide (<i>bis</i> -tributyltin oxide) - individual tributyltin compounds cannot be identified separately in the environment; however, free tributyltin was measured, and its values were converted stoichiometrically into tributyltin oxide for comparison with regulatory limits.
TCLP	Toxicity Characteristic Leaching Procedure
TEQ	Toxic Equivalency Quotient or Total Equivalence
QSM	US Department of Defense Quality Systems Manual Version 6.0
US EPA	United States Environmental Protection Agency
WA DWER	Sum of PFBA, PFPeA, PFHxA, PFHpA, PFOA, PFBS, PFHxS, PFOS, 6:2 FTSA, 8:2 FTSA

QC - Acceptance Criteria

The acceptance criteria should only be used as a guide and may be different when site-specific Sampling Analysis and Quality Plan (SAQP) have been implemented.

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

Results <10 times the LOR:	No Limit
Results between 10-20 times the LOR:	RPD must lie between 0-50%
Results >20 times the LOR:	RPD must lie between 0-30%

NOTE: pH duplicates are reported as a range, not as RPD

Surrogate Recoveries: Recoveries must lie between 20-130% for Speciated Phenols & 50-150% for PFAS. SVOCs recoveries 20 – 150%, VOC recoveries 50 – 150%

PFAS field samples containing surrogate recoveries above the QC limit designated in QSM 6.0, where no positive PFAS results have been reported or reviewed, and no data was affected.

QC Data General Comments

- Where a result is reported as 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.
- 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 are not data from your samples.
- 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.
- Recovery Data (Spikes & Surrogates) - where chromatographic interference does not allow the determination of recovery, the term "INT" appears against that analyte.
- For Matrix Spikes and LCS results, a dash "-" in the report means that the specific analyte was not added to the QC sample.
- Duplicate RPDs are calculated from raw analytical data; thus, it is possible to have two sets of data.

Quality Control Results

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Method Blank							
Total Recoverable Hydrocarbons							
TRH C10-C14	mg/kg	< 20			20	Pass	
TRH C15-C28	mg/kg	< 50			50	Pass	
TRH C29-C36	mg/kg	< 50			50	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							
Volatile Organics							
1.1-Dichloroethane	mg/kg	< 0.5			0.5	Pass	
1.1-Dichloroethene	mg/kg	< 0.5			0.5	Pass	
1.1.1-Trichloroethane	mg/kg	< 0.5			0.5	Pass	
1.1.1.2-Tetrachloroethane	mg/kg	< 0.5			0.5	Pass	
1.1.2-Trichloroethane	mg/kg	< 0.5			0.5	Pass	
1.1.2.2-Tetrachloroethane	mg/kg	< 0.5			0.5	Pass	
1.2-Dibromoethane	mg/kg	< 0.5			0.5	Pass	
1.2-Dichlorobenzene	mg/kg	< 0.5			0.5	Pass	
1.2-Dichloroethane	mg/kg	< 0.5			0.5	Pass	
1.2-Dichloropropane	mg/kg	< 0.5			0.5	Pass	
1.2.3-Trichloropropane	mg/kg	< 0.5			0.5	Pass	
1.2.4-Trimethylbenzene	mg/kg	< 0.5			0.5	Pass	
1.3-Dichlorobenzene	mg/kg	< 0.5			0.5	Pass	
1.3-Dichloropropane	mg/kg	< 0.5			0.5	Pass	
1.3.5-Trimethylbenzene	mg/kg	< 0.5			0.5	Pass	
1.4-Dichlorobenzene	mg/kg	< 0.5			0.5	Pass	
2-Butanone (MEK)	mg/kg	< 0.5			0.5	Pass	
2-Propanone (Acetone)	mg/kg	< 0.5			0.5	Pass	
4-Chlorotoluene	mg/kg	< 0.5			0.5	Pass	
4-Methyl-2-pentanone (MIBK)	mg/kg	< 0.5			0.5	Pass	
Allyl chloride	mg/kg	< 0.5			0.5	Pass	
Bromobenzene	mg/kg	< 0.5			0.5	Pass	
Bromochloromethane	mg/kg	< 0.5			0.5	Pass	
Bromodichloromethane	mg/kg	< 0.5			0.5	Pass	
Bromoform	mg/kg	< 0.5			0.5	Pass	
Bromomethane	mg/kg	< 0.5			0.5	Pass	
Carbon disulfide	mg/kg	< 0.5			0.5	Pass	
Carbon Tetrachloride	mg/kg	< 0.5			0.5	Pass	
Chlorobenzene	mg/kg	< 0.5			0.5	Pass	
Chloroethane	mg/kg	< 0.5			0.5	Pass	
Chloroform	mg/kg	< 0.5			0.5	Pass	
Chloromethane	mg/kg	< 0.5			0.5	Pass	
cis-1.2-Dichloroethene	mg/kg	< 0.5			0.5	Pass	
cis-1.3-Dichloropropene	mg/kg	< 0.5			0.5	Pass	
Dibromochloromethane	mg/kg	< 0.5			0.5	Pass	
Dibromomethane	mg/kg	< 0.5			0.5	Pass	
Dichlorodifluoromethane	mg/kg	< 0.5			0.5	Pass	
Iodomethane	mg/kg	< 0.5			0.5	Pass	
Isopropyl benzene (Cumene)	mg/kg	< 0.5			0.5	Pass	
Methylene Chloride	mg/kg	< 0.5			0.5	Pass	
Styrene	mg/kg	< 0.5			0.5	Pass	
Tetrachloroethene	mg/kg	< 0.5			0.5	Pass	

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
trans-1,2-Dichloroethene	mg/kg	< 0.5			0.5	Pass	
trans-1,3-Dichloropropene	mg/kg	< 0.5			0.5	Pass	
Trichloroethene	mg/kg	< 0.5			0.5	Pass	
Trichlorofluoromethane	mg/kg	< 0.5			0.5	Pass	
Vinyl chloride	mg/kg	< 0.5			0.5	Pass	
Method Blank							
Acid Herbicides							
2,4-D	mg/kg	< 0.5			0.5	Pass	
2,4-DB	mg/kg	< 0.5			0.5	Pass	
2,4,5-T	mg/kg	< 0.5			0.5	Pass	
2,4,5-TP	mg/kg	< 0.5			0.5	Pass	
Actril (loxynil)	mg/kg	< 0.5			0.5	Pass	
Dicamba	mg/kg	< 0.5			0.5	Pass	
Dichlorprop	mg/kg	< 0.5			0.5	Pass	
Dinitro-o-cresol	mg/kg	< 0.5			0.5	Pass	
Dinoseb	mg/kg	< 0.5			0.5	Pass	
MCPA	mg/kg	< 0.5			0.5	Pass	
MCPB	mg/kg	< 0.5			0.5	Pass	
Mecoprop	mg/kg	< 0.5			0.5	Pass	
Method Blank							
Chloride	mg/kg	< 10			10	Pass	
Chromium (hexavalent)	mg/kg	< 1			1	Pass	
Cyanide (total)	mg/kg	< 1			1	Pass	
Fluoride	mg/kg	< 100			100	Pass	
Sulphate (as SO4)	mg/kg	< 10			10	Pass	
Method Blank							
Heavy Metals							
Arsenic	mg/kg	< 2			2	Pass	
Beryllium	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	
Molybdenum	mg/kg	< 5			5	Pass	
Nickel	mg/kg	< 5			5	Pass	
Selenium	mg/kg	< 2			2	Pass	
Silver	mg/kg	< 2			2	Pass	
Zinc	mg/kg	< 5			5	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	

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Naphthalene	mg/kg	< 0.5			0.5	Pass	
Phenanthrene	mg/kg	< 0.5			0.5	Pass	
Pyrene	mg/kg	< 0.5			0.5	Pass	
Method Blank							
Organochlorine Pesticides							
Chlordanes - Total	mg/kg	< 0.1			0.1	Pass	
4.4'-DDD	mg/kg	< 0.05			0.05	Pass	
4.4'-DDE	mg/kg	< 0.05			0.05	Pass	
4.4'-DDT	mg/kg	< 0.05			0.05	Pass	
a-HCH	mg/kg	< 0.05			0.05	Pass	
Aldrin	mg/kg	< 0.05			0.05	Pass	
b-HCH	mg/kg	< 0.05			0.05	Pass	
d-HCH	mg/kg	< 0.05			0.05	Pass	
Dieldrin	mg/kg	< 0.05			0.05	Pass	
Endosulfan I	mg/kg	< 0.05			0.05	Pass	
Endosulfan II	mg/kg	< 0.05			0.05	Pass	
Endosulfan sulphate	mg/kg	< 0.05			0.05	Pass	
Endrin	mg/kg	< 0.05			0.05	Pass	
Endrin aldehyde	mg/kg	< 0.05			0.05	Pass	
Endrin ketone	mg/kg	< 0.05			0.05	Pass	
g-HCH (Lindane)	mg/kg	< 0.05			0.05	Pass	
Heptachlor	mg/kg	< 0.05			0.05	Pass	
Heptachlor epoxide	mg/kg	< 0.05			0.05	Pass	
Hexachlorobenzene	mg/kg	< 0.05			0.05	Pass	
Methoxychlor	mg/kg	< 0.05			0.05	Pass	
Toxaphene	mg/kg	< 0.5			0.5	Pass	
Method Blank							
Organophosphorus Pesticides							
Azinphos-methyl	mg/kg	< 0.2			0.2	Pass	
Bolstar	mg/kg	< 0.2			0.2	Pass	
Chlorfenvinphos	mg/kg	< 0.2			0.2	Pass	
Chlorpyrifos	mg/kg	< 0.2			0.2	Pass	
Chlorpyrifos-methyl	mg/kg	< 0.2			0.2	Pass	
Coumaphos	mg/kg	< 2			2	Pass	
Demeton-S	mg/kg	< 0.2			0.2	Pass	
Demeton-O	mg/kg	< 0.2			0.2	Pass	
Diazinon	mg/kg	< 0.2			0.2	Pass	
Dichlorvos	mg/kg	< 0.2			0.2	Pass	
Dimethoate	mg/kg	< 0.2			0.2	Pass	
Disulfoton	mg/kg	< 0.2			0.2	Pass	
EPN	mg/kg	< 0.2			0.2	Pass	
Ethion	mg/kg	< 0.2			0.2	Pass	
Ethoprop	mg/kg	< 0.2			0.2	Pass	
Ethyl parathion	mg/kg	< 0.2			0.2	Pass	
Fenitrothion	mg/kg	< 0.2			0.2	Pass	
Fensulfothion	mg/kg	< 0.2			0.2	Pass	
Fenthion	mg/kg	< 0.2			0.2	Pass	
Malathion	mg/kg	< 0.2			0.2	Pass	
Merphos	mg/kg	< 0.2			0.2	Pass	
Methyl parathion	mg/kg	< 0.2			0.2	Pass	
Mevinphos	mg/kg	< 0.2			0.2	Pass	
Monocrotophos	mg/kg	< 2			2	Pass	
Naled	mg/kg	< 0.2			0.2	Pass	
Omethoate	mg/kg	< 2			2	Pass	

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Phorate	mg/kg	< 0.2			0.2	Pass	
Pirimiphos-methyl	mg/kg	< 0.2			0.2	Pass	
Pyrazophos	mg/kg	< 0.2			0.2	Pass	
Ronnel	mg/kg	< 0.2			0.2	Pass	
Terbufos	mg/kg	< 0.2			0.2	Pass	
Tetrachlorvinphos	mg/kg	< 0.2			0.2	Pass	
Tokuthion	mg/kg	< 0.2			0.2	Pass	
Trichloronate	mg/kg	< 0.2			0.2	Pass	
Method Blank							
Heavy Metals							
Chromium	mg/kg	< 5			5	Pass	
Copper	mg/kg	< 5			5	Pass	
Zinc	mg/kg	< 5			5	Pass	
Method Blank							
Polychlorinated Biphenyls							
Aroclor-1016	mg/kg	< 0.1			0.1	Pass	
Aroclor-1221	mg/kg	< 0.1			0.1	Pass	
Aroclor-1232	mg/kg	< 0.1			0.1	Pass	
Aroclor-1242	mg/kg	< 0.1			0.1	Pass	
Aroclor-1248	mg/kg	< 0.1			0.1	Pass	
Aroclor-1254	mg/kg	< 0.1			0.1	Pass	
Aroclor-1260	mg/kg	< 0.1			0.1	Pass	
Total PCB*	mg/kg	< 0.1			0.1	Pass	
Method Blank							
Phthalate Esters							
Bis(2-ethylhexyl)phthalate	mg/kg	< 5			5	Pass	
Butyl benzyl phthalate	mg/kg	< 0.5			0.5	Pass	
Di-n-butyl phthalate	mg/kg	< 0.5			0.5	Pass	
Di-n-octyl phthalate	mg/kg	< 0.5			0.5	Pass	
Diethyl phthalate	mg/kg	< 0.5			0.5	Pass	
Dimethyl phthalate	mg/kg	< 0.5			0.5	Pass	
Method Blank							
Semivolatile Organics							
2,4-Dinitrotoluene	mg/kg	< 0.5			0.5	Pass	
Nitrobenzene	mg/kg	< 0.5			0.5	Pass	
Method Blank							
Conductivity (1:5 aqueous extract at 25 °C as rec.)	uS/cm	< 10			10	Pass	
Method Blank							
Total Recoverable Hydrocarbons							
TRH C6-C9	mg/kg	< 20			20	Pass	
TRH C6-C10	mg/kg	< 20			20	Pass	
Method Blank							
Volatile Organics							
Benzene	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	
Toluene	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	
Method Blank							
Polycyclic Aromatic Hydrocarbons							

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Acenaphthene	mg/kg	< 0.5			0.5	Pass	
Acenaphthylene	mg/kg	< 0.5			0.5	Pass	
Anthracene	mg/kg	< 0.5			0.5	Pass	
Benz(a)anthracene	mg/kg	< 0.5			0.5	Pass	
Benzo(a)pyrene	mg/kg	< 0.5			0.5	Pass	
Benzo(b&j)fluoranthene	mg/kg	< 0.5			0.5	Pass	
Benzo(g,h,i)perylene	mg/kg	< 0.5			0.5	Pass	
Benzo(k)fluoranthene	mg/kg	< 0.5			0.5	Pass	
Chrysene	mg/kg	< 0.5			0.5	Pass	
Dibenz(a,h)anthracene	mg/kg	< 0.5			0.5	Pass	
Fluoranthene	mg/kg	< 0.5			0.5	Pass	
Fluorene	mg/kg	< 0.5			0.5	Pass	
Indeno(1,2,3-cd)pyrene	mg/kg	< 0.5			0.5	Pass	
Naphthalene	mg/kg	< 0.5			0.5	Pass	
Phenanthrene	mg/kg	< 0.5			0.5	Pass	
Pyrene	mg/kg	< 0.5			0.5	Pass	
Method Blank							
Organochlorine Pesticides							
Chlordanes - Total	mg/kg	< 0.1			0.1	Pass	
4,4'-DDD	mg/kg	< 0.05			0.05	Pass	
4,4'-DDE	mg/kg	< 0.05			0.05	Pass	
4,4'-DDT	mg/kg	< 0.05			0.05	Pass	
a-HCH	mg/kg	< 0.05			0.05	Pass	
Aldrin	mg/kg	< 0.05			0.05	Pass	
b-HCH	mg/kg	< 0.05			0.05	Pass	
d-HCH	mg/kg	< 0.05			0.05	Pass	
Dieldrin	mg/kg	< 0.05			0.05	Pass	
Endosulfan I	mg/kg	< 0.05			0.05	Pass	
Endosulfan II	mg/kg	< 0.05			0.05	Pass	
Endosulfan sulphate	mg/kg	< 0.05			0.05	Pass	
Endrin	mg/kg	< 0.05			0.05	Pass	
Endrin ketone	mg/kg	< 0.05			0.05	Pass	
g-HCH (Lindane)	mg/kg	< 0.05			0.05	Pass	
Heptachlor	mg/kg	< 0.05			0.05	Pass	
Heptachlor epoxide	mg/kg	< 0.05			0.05	Pass	
Hexachlorobenzene	mg/kg	< 0.05			0.05	Pass	
Methoxychlor	mg/kg	< 0.05			0.05	Pass	
Toxaphene	mg/kg	< 0.5			0.5	Pass	
Method Blank							
Phenols (Halogenated)							
2-Chlorophenol	mg/kg	< 0.5			0.5	Pass	
2,4-Dichlorophenol	mg/kg	< 0.5			0.5	Pass	
2,4,5-Trichlorophenol	mg/kg	< 1			1	Pass	
2,4,6-Trichlorophenol	mg/kg	< 1			1	Pass	
2,6-Dichlorophenol	mg/kg	< 0.5			0.5	Pass	
4-Chloro-3-methylphenol	mg/kg	< 1			1	Pass	
Pentachlorophenol	mg/kg	< 1			1	Pass	
Tetrachlorophenols - Total	mg/kg	< 10			10	Pass	
Method Blank							
Phenols (non-Halogenated)							
2-Cyclohexyl-4,6-dinitrophenol	mg/kg	< 20			20	Pass	
2-Methyl-4,6-dinitrophenol	mg/kg	< 5			5	Pass	
2-Nitrophenol	mg/kg	< 1			1	Pass	
2,4-Dimethylphenol	mg/kg	< 0.5			0.5	Pass	

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
2,4-Dinitrophenol	mg/kg	< 5			5	Pass	
2-Methylphenol (o-Cresol)	mg/kg	< 0.2			0.2	Pass	
3&4-Methylphenol (m&p-Cresol)	mg/kg	< 0.4			0.4	Pass	
4-Nitrophenol	mg/kg	< 5			5	Pass	
Dinoseb	mg/kg	< 20			20	Pass	
Phenol	mg/kg	< 0.5			0.5	Pass	
Method Blank							
Polychlorinated Biphenyls							
Aroclor-1016	mg/kg	< 0.1			0.1	Pass	
Aroclor-1221	mg/kg	< 0.1			0.1	Pass	
Aroclor-1232	mg/kg	< 0.1			0.1	Pass	
Aroclor-1242	mg/kg	< 0.1			0.1	Pass	
Aroclor-1248	mg/kg	< 0.1			0.1	Pass	
Aroclor-1254	mg/kg	< 0.1			0.1	Pass	
Aroclor-1260	mg/kg	< 0.1			0.1	Pass	
Total PCB*	mg/kg	< 0.1			0.1	Pass	
Method Blank							
Per- and Polyfluoroalkyl Substances (PFASs) - Short							
1H.1H.2H.2H-perfluorooctanesulfonic acid(6:2 FTSA)	ug/kg	< 10			10	Pass	
Perfluorohexanesulfonic acid (PFHxS)	ug/kg	< 5			5	Pass	
Perfluorooctanesulfonic acid (PFOS)	ug/kg	< 5			5	Pass	
Perfluorooctanoic acid (PFOA)	ug/kg	< 5			5	Pass	
LCS - % Recovery							
Total Recoverable Hydrocarbons							
TRH C10-C14	%	88			70-130	Pass	
TRH >C10-C16	%	89			70-130	Pass	
LCS - % Recovery							
Volatile Organics							
1.1.1-Trichloroethane	%	73			70-130	Pass	
1.2-Dichlorobenzene	%	82			70-130	Pass	
1.2-Dichloroethane	%	79			70-130	Pass	
Trichloroethene	%	71			70-130	Pass	
LCS - % Recovery							
Acid Herbicides							
2,4-D	%	102			70-130	Pass	
2,4-DB	%	120			70-130	Pass	
2,4,5-T	%	125			70-130	Pass	
2,4,5-TP	%	128			70-130	Pass	
Actril (loxynil)	%	93			70-130	Pass	
Dicamba	%	121			70-130	Pass	
Dichlorprop	%	128			70-130	Pass	
Dinitro-o-cresol	%	104			70-130	Pass	
Dinoseb	%	111			70-130	Pass	
MCPA	%	103			70-130	Pass	
MCPB	%	106			70-130	Pass	
Mecoprop	%	125			70-130	Pass	
LCS - % Recovery							
Phenols (Halogenated)							
Pentachlorophenol	%	91			25-140	Pass	
LCS - % Recovery							
Phenols (non-Halogenated)							
2-Cyclohexyl-4,6-dinitrophenol	%	121			25-140	Pass	
2,4-Dinitrophenol	%	129			25-140	Pass	
LCS - % Recovery							

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Chromium (hexavalent)	%	120			70-130	Pass	
Cyanide (total)	%	116			70-130	Pass	
Fluoride	%	84			70-130	Pass	
LCS - % Recovery							
Heavy Metals							
Arsenic	%	116			80-120	Pass	
Beryllium	%	91			80-120	Pass	
Cadmium	%	117			80-120	Pass	
Chromium	%	97			80-120	Pass	
Copper	%	97			80-120	Pass	
Lead	%	116			80-120	Pass	
Mercury	%	110			80-120	Pass	
Molybdenum	%	97			80-120	Pass	
Nickel	%	113			80-120	Pass	
Selenium	%	90			80-120	Pass	
Silver	%	102			80-120	Pass	
Zinc	%	98			80-120	Pass	
LCS - % Recovery							
Polycyclic Aromatic Hydrocarbons							
Acenaphthene	%	80			70-130	Pass	
Acenaphthylene	%	76			70-130	Pass	
Anthracene	%	79			70-130	Pass	
Benz(a)anthracene	%	80			70-130	Pass	
Benzo(a)pyrene	%	82			70-130	Pass	
Benzo(b&j)fluoranthene	%	86			70-130	Pass	
Benzo(g,h,i)perylene	%	79			70-130	Pass	
Benzo(k)fluoranthene	%	87			70-130	Pass	
Chrysene	%	85			70-130	Pass	
Dibenz(a,h)anthracene	%	85			70-130	Pass	
Fluoranthene	%	82			70-130	Pass	
Fluorene	%	81			70-130	Pass	
Indeno(1,2,3-cd)pyrene	%	90			70-130	Pass	
Naphthalene	%	83			70-130	Pass	
Phenanthrene	%	82			70-130	Pass	
Pyrene	%	79			70-130	Pass	
LCS - % Recovery							
Organochlorine Pesticides							
Chlordanes - Total	%	96			70-130	Pass	
4,4'-DDD	%	92			70-130	Pass	
4,4'-DDE	%	94			70-130	Pass	
4,4'-DDT	%	83			70-130	Pass	
a-HCH	%	90			70-130	Pass	
Aldrin	%	94			70-130	Pass	
b-HCH	%	95			70-130	Pass	
d-HCH	%	96			70-130	Pass	
Dieldrin	%	90			70-130	Pass	
Endosulfan I	%	93			70-130	Pass	
Endosulfan II	%	88			70-130	Pass	
Endosulfan sulphate	%	86			70-130	Pass	
Endrin	%	93			70-130	Pass	
Endrin aldehyde	%	82			70-130	Pass	
Endrin ketone	%	91			70-130	Pass	
g-HCH (Lindane)	%	92			70-130	Pass	
Heptachlor	%	97			70-130	Pass	

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Heptachlor epoxide	%	96			70-130	Pass	
Hexachlorobenzene	%	92			70-130	Pass	
Methoxychlor	%	90			70-130	Pass	
LCS - % Recovery							
Organophosphorus Pesticides							
Diazinon	%	124			70-130	Pass	
Dimethoate	%	124			70-130	Pass	
Ethion	%	112			70-130	Pass	
Fenitrothion	%	129			70-130	Pass	
Mevinphos	%	112			70-130	Pass	
LCS - % Recovery							
Heavy Metals							
Chromium	%	102			80-120	Pass	
Copper	%	101			80-120	Pass	
Zinc	%	99			80-120	Pass	
LCS - % Recovery							
Polychlorinated Biphenyls							
Aroclor-1016	%	84			70-130	Pass	
Aroclor-1260	%	87			70-130	Pass	
LCS - % Recovery							
Conductivity (1:5 aqueous extract at 25 °C as rec.)	%	101			70-130	Pass	
Resistivity*	%	101			70-130	Pass	
LCS - % Recovery							
Semivolatile Organics							
2,4-Dinitrotoluene	%	105			70-130	Pass	
LCS - % Recovery							
Total Recoverable Hydrocarbons							
TRH C6-C9	%	97			70-130	Pass	
TRH C6-C10	%	94			70-130	Pass	
LCS - % Recovery							
Volatile Organics							
Benzene	%	100			70-130	Pass	
Ethylbenzene	%	111			70-130	Pass	
m&p-Xylenes	%	100			70-130	Pass	
o-Xylene	%	113			70-130	Pass	
Toluene	%	102			70-130	Pass	
Xylenes - Total*	%	104			70-130	Pass	
LCS - % Recovery							
Total Recoverable Hydrocarbons - 2013 NEPM Fractions							
Naphthalene	%	108			70-130	Pass	
LCS - % Recovery							
Polycyclic Aromatic Hydrocarbons							
Acenaphthene	%	96			70-130	Pass	
Acenaphthylene	%	96			70-130	Pass	
Anthracene	%	91			70-130	Pass	
Benz(a)anthracene	%	96			70-130	Pass	
Benzo(a)pyrene	%	108			70-130	Pass	
Benzo(b&j)fluoranthene	%	105			70-130	Pass	
Benzo(g,h,i)perylene	%	97			70-130	Pass	
Benzo(k)fluoranthene	%	106			70-130	Pass	
Chrysene	%	116			70-130	Pass	
Dibenz(a,h)anthracene	%	106			70-130	Pass	
Fluoranthene	%	100			70-130	Pass	
Fluorene	%	103			70-130	Pass	

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Indeno(1.2.3-cd)pyrene	%	104			70-130	Pass	
Naphthalene	%	98			70-130	Pass	
Phenanthrene	%	99			70-130	Pass	
Pyrene	%	105			70-130	Pass	
LCS - % Recovery							
Organochlorine Pesticides							
Chlordanes - Total	%	125			70-130	Pass	
4.4'-DDD	%	115			70-130	Pass	
4.4'-DDE	%	120			70-130	Pass	
a-HCH	%	115			70-130	Pass	
Aldrin	%	118			70-130	Pass	
b-HCH	%	110			70-130	Pass	
d-HCH	%	115			70-130	Pass	
Dieldrin	%	120			70-130	Pass	
Endosulfan I	%	110			70-130	Pass	
Endosulfan II	%	111			70-130	Pass	
Endosulfan sulphate	%	121			70-130	Pass	
g-HCH (Lindane)	%	124			70-130	Pass	
Heptachlor epoxide	%	124			70-130	Pass	
Hexachlorobenzene	%	120			70-130	Pass	
LCS - % Recovery							
Phenols (Halogenated)							
2-Chlorophenol	%	103			25-140	Pass	
2.4-Dichlorophenol	%	89			25-140	Pass	
2.4.5-Trichlorophenol	%	92			25-140	Pass	
2.4.6-Trichlorophenol	%	92			25-140	Pass	
2.6-Dichlorophenol	%	92			25-140	Pass	
4-Chloro-3-methylphenol	%	87			25-140	Pass	
Tetrachlorophenols - Total	%	72			25-140	Pass	
LCS - % Recovery							
Phenols (non-Halogenated)							
2-Methyl-4.6-dinitrophenol	%	115			25-140	Pass	
2-Nitrophenol	%	100			25-140	Pass	
2.4-Dimethylphenol	%	91			25-140	Pass	
2-Methylphenol (o-Cresol)	%	94			25-140	Pass	
3&4-Methylphenol (m&p-Cresol)	%	90			25-140	Pass	
4-Nitrophenol	%	86			25-140	Pass	
Dinoseb	%	122			25-140	Pass	
Phenol	%	92			25-140	Pass	
LCS - % Recovery							
Polychlorinated Biphenyls							
Aroclor-1016	%	105			70-130	Pass	
Aroclor-1260	%	120			70-130	Pass	
LCS - % Recovery							
Per- and Polyfluoroalkyl Substances (PFASs) - Short							
1H.1H.2H.2H-perfluorooctanesulfonic acid(6:2 FTSA)	%	108			50-150	Pass	
Perfluorohexanesulfonic acid (PFHxS)	%	115			50-150	Pass	
Perfluorooctanesulfonic acid (PFOS)	%	108			50-150	Pass	
Perfluorooctanoic acid (PFOA)	%	96			50-150	Pass	

Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Spike - % Recovery									
Total Recoverable Hydrocarbons				Result 1					
TRH C10-C14	N24-Se0059557	NCP	%	82			70-130	Pass	
TRH >C10-C16	N24-Se0059557	NCP	%	82			70-130	Pass	
Spike - % Recovery									
Polycyclic Aromatic Hydrocarbons				Result 1					
Acenaphthene	S24-Se0058672	NCP	%	106			70-130	Pass	
Acenaphthylene	S24-Se0062055	NCP	%	84			70-130	Pass	
Anthracene	S24-Se0062055	NCP	%	81			70-130	Pass	
Benz(a)anthracene	S24-Se0062055	NCP	%	74			70-130	Pass	
Benzo(a)pyrene	S24-Se0062055	NCP	%	79			70-130	Pass	
Benzo(b&i)fluoranthene	S24-Se0062055	NCP	%	74			70-130	Pass	
Benzo(g,h,i)perylene	S24-Se0062055	NCP	%	70			70-130	Pass	
Benzo(k)fluoranthene	S24-Se0062055	NCP	%	80			70-130	Pass	
Chrysene	S24-Se0062055	NCP	%	84			70-130	Pass	
Dibenz(a,h)anthracene	S24-Se0062055	NCP	%	82			70-130	Pass	
Fluoranthene	S24-Se0062055	NCP	%	86			70-130	Pass	
Fluorene	S24-Se0062055	NCP	%	85			70-130	Pass	
Indeno(1,2,3-cd)pyrene	S24-Se0062055	NCP	%	80			70-130	Pass	
Naphthalene	S24-Se0062055	NCP	%	84			70-130	Pass	
Phenanthrene	S24-Se0062055	NCP	%	79			70-130	Pass	
Pyrene	S24-Se0058672	NCP	%	106			70-130	Pass	
Spike - % Recovery									
Acid Herbicides				Result 1					
2,4-D	M24-Se0048050	NCP	%	103			70-130	Pass	
Actril (loxynil)	M24-Se0047632	NCP	%	73			70-130	Pass	
Dichlorprop	M24-Se0048050	NCP	%	120			70-130	Pass	
MCPA	M24-Se0048050	NCP	%	99			70-130	Pass	
MCPB	M24-Se0048050	NCP	%	91			70-130	Pass	
Spike - % Recovery									
Phenols (Halogenated)				Result 1					
2-Chlorophenol	S24-Se0062055	NCP	%	90			30-130	Pass	
2,4-Dichlorophenol	S24-Se0062055	NCP	%	82			30-130	Pass	
2,4,6-Trichlorophenol	S24-Se0062055	NCP	%	80			30-130	Pass	
2,6-Dichlorophenol	S24-Se0062055	NCP	%	84			30-130	Pass	
4-Chloro-3-methylphenol	S24-Se0058672	NCP	%	83			30-130	Pass	
Tetrachlorophenols - Total	S24-Se0062055	NCP	%	81			30-130	Pass	
Spike - % Recovery									
Phenols (non-Halogenated)				Result 1					
2-Cyclohexyl-4,6-dinitrophenol	S24-Se0062055	NCP	%	111			30-130	Pass	
2-Methyl-4,6-dinitrophenol	S24-Se0062055	NCP	%	93			30-130	Pass	
2-Nitrophenol	S24-Se0062055	NCP	%	89			30-130	Pass	
2,4-Dimethylphenol	S24-Se0062055	NCP	%	79			30-130	Pass	
2,4-Dinitrophenol	S24-Se0062055	NCP	%	104			70-130	Pass	
2-Methylphenol (o-Cresol)	S24-Se0062055	NCP	%	84			30-130	Pass	
3&4-Methylphenol (m&p-Cresol)	S24-Se0062055	NCP	%	80			30-130	Pass	
4-Nitrophenol	S24-Se0062055	NCP	%	80			30-130	Pass	
Dinoseb	S24-Se0062055	NCP	%	96			30-130	Pass	
Phenol	S24-Se0062055	NCP	%	77			30-130	Pass	
Spike - % Recovery									
Semivolatile Organics				Result 1					
2,4-Dinitrotoluene	S24-Se0058672	NCP	%	76			70-130	Pass	
Spike - % Recovery									
				Result 1					

Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Cyanide (total)	S24-Se0057360	NCP	%	125			70-130	Pass	
Fluoride	S24-Se0047866	CP	%	91			70-130	Pass	
Spike - % Recovery									
Heavy Metals				Result 1					
Arsenic	S24-Se0050951	NCP	%	96			75-125	Pass	
Beryllium	S24-Se0050036	NCP	%	87			75-125	Pass	
Cadmium	S24-Se0050951	NCP	%	103			75-125	Pass	
Lead	S24-Se0050951	NCP	%	117			75-125	Pass	
Mercury	S24-Se0050951	NCP	%	96			75-125	Pass	
Molybdenum	S24-Se0050036	NCP	%	91			75-125	Pass	
Nickel	S24-Se0050951	NCP	%	94			75-125	Pass	
Selenium	S24-Se0050036	NCP	%	84			75-125	Pass	
Silver	S24-Se0050036	NCP	%	96			75-125	Pass	
Spike - % Recovery									
Heavy Metals				Result 1					
Chromium	N24-Se0056634	NCP	%	106			75-125	Pass	
Copper	N24-Se0056634	NCP	%	101			75-125	Pass	
Zinc	N24-Se0056634	NCP	%	108			75-125	Pass	
Spike - % Recovery									
				Result 1					
Chloride	S24-Se0047873	CP	%	111			70-130	Pass	
Sulphate (as SO4)	S24-Se0047873	CP	%	108			70-130	Pass	
Spike - % Recovery									
Organochlorine Pesticides				Result 1					
Chlordanes - Total	S24-Se0047874	CP	%	84			70-130	Pass	
4,4'-DDD	S24-Se0047874	CP	%	77			70-130	Pass	
4,4'-DDE	S24-Se0047874	CP	%	81			70-130	Pass	
4,4'-DDT	S24-Se0047874	CP	%	76			70-130	Pass	
a-HCH	S24-Se0047874	CP	%	79			70-130	Pass	
Aldrin	S24-Se0047874	CP	%	78			70-130	Pass	
b-HCH	S24-Se0047874	CP	%	78			70-130	Pass	
d-HCH	S24-Se0047874	CP	%	84			70-130	Pass	
Dieldrin	S24-Se0047874	CP	%	78			70-130	Pass	
Endosulfan I	S24-Se0047874	CP	%	86			70-130	Pass	
Endosulfan II	S24-Se0047874	CP	%	80			70-130	Pass	
Endosulfan sulphate	S24-Se0047874	CP	%	79			70-130	Pass	
Endrin	S24-Se0047874	CP	%	76			70-130	Pass	
Endrin aldehyde	S24-Se0047874	CP	%	80			70-130	Pass	
Endrin ketone	S24-Se0047874	CP	%	74			70-130	Pass	
g-HCH (Lindane)	S24-Se0047874	CP	%	82			70-130	Pass	
Heptachlor	S24-Se0047874	CP	%	78			70-130	Pass	
Heptachlor epoxide	S24-Se0047874	CP	%	82			70-130	Pass	
Hexachlorobenzene	S24-Se0047874	CP	%	82			70-130	Pass	
Methoxychlor	S24-Se0047874	CP	%	77			70-130	Pass	
Spike - % Recovery									
				Result 1					
Chloride	S24-Se0047874	CP	%	107			70-130	Pass	
Sulphate (as SO4)	S24-Se0047874	CP	%	104			70-130	Pass	
Spike - % Recovery									
Polychlorinated Biphenyls				Result 1					
Aroclor-1016	S24-Se0047874	CP	%	71			70-130	Pass	
Aroclor-1260	S24-Se0047874	CP	%	80			70-130	Pass	
Spike - % Recovery									
Total Recoverable Hydrocarbons				Result 1					

Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
TRH C6-C9	S24-Se0047882	CP	%	111			70-130	Pass	
TRH C6-C10	S24-Se0047882	CP	%	109			70-130	Pass	
Spike - % Recovery									
Volatile Organics				Result 1					
Benzene	S24-Se0047882	CP	%	107			70-130	Pass	
Ethylbenzene	S24-Se0047882	CP	%	103			70-130	Pass	
m&p-Xylenes	S24-Se0047882	CP	%	100			70-130	Pass	
o-Xylene	S24-Se0047882	CP	%	91			70-130	Pass	
Toluene	S24-Se0047882	CP	%	110			70-130	Pass	
Xylenes - Total*	S24-Se0047882	CP	%	97			70-130	Pass	
Spike - % Recovery									
Total Recoverable Hydrocarbons - 2013 NEPM Fractions				Result 1					
Naphthalene	S24-Se0047882	CP	%	78			70-130	Pass	
Spike - % Recovery									
Per- and Polyfluoroalkyl Substances (PFASs) - Short				Result 1					
1H,1H,2H,2H-perfluorooctanesulfonic acid(6:2 FTSA)	S24-Se0034477	NCP	%	119			50-150	Pass	
Perfluorohexanesulfonic acid (PFHxS)	S24-Se0034477	NCP	%	94			50-150	Pass	
Perfluorooctanesulfonic acid (PFOS)	S24-Se0034477	NCP	%	105			50-150	Pass	
Perfluorooctanoic acid (PFOA)	S24-Se0034477	NCP	%	110			50-150	Pass	
Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Duplicate									
Volatile Organics				Result 1	Result 2	RPD			
1.1-Dichloroethane	S24-Se0050625	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
1.1-Dichloroethene	S24-Se0050625	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
1.1.1-Trichloroethane	S24-Se0050625	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
1.1.1.2-Tetrachloroethane	S24-Se0050625	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
1.1.2-Trichloroethane	S24-Se0050625	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
1.1.2.2-Tetrachloroethane	S24-Se0050625	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
1.2-Dibromoethane	S24-Se0050625	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
1.2-Dichlorobenzene	S24-Se0050625	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
1.2-Dichloroethane	S24-Se0050625	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
1.2-Dichloropropane	S24-Se0050625	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
1.2.3-Trichloropropane	S24-Se0050625	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
1.2.4-Trimethylbenzene	S24-Se0050625	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
1.3-Dichlorobenzene	S24-Se0050625	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
1.3-Dichloropropane	S24-Se0050625	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
1.3.5-Trimethylbenzene	S24-Se0050625	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
1.4-Dichlorobenzene	S24-Se0050625	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
2-Butanone (MEK)	S24-Se0050625	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
2-Propanone (Acetone)	S24-Se0050625	NCP	mg/kg	0.9	0.8	13	30%	Pass	
4-Chlorotoluene	S24-Se0050625	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
4-Methyl-2-pentanone (MIBK)	S24-Se0050625	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Allyl chloride	S24-Se0050625	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Bromobenzene	S24-Se0050625	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Bromochloromethane	S24-Se0050625	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Bromodichloromethane	S24-Se0050625	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Bromoform	S24-Se0050625	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Bromomethane	S24-Se0050625	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Carbon disulfide	S24-Se0050625	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Carbon Tetrachloride	S24-Se0050625	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Chlorobenzene	S24-Se0050625	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	

Test	Lab Sample ID	QA Source	Units	Result 1	Result 2	RPD	Acceptance Limits	Pass Limits	Qualifying Code
Duplicate									
Volatile Organics				Result 1	Result 2	RPD			
Chloroethane	S24-Se0050625	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Chloroform	S24-Se0050625	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Chloromethane	S24-Se0050625	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
cis-1.2-Dichloroethene	S24-Se0050625	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
cis-1.3-Dichloropropene	S24-Se0050625	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Dibromochloromethane	S24-Se0050625	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Dibromomethane	S24-Se0050625	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Dichlorodifluoromethane	S24-Se0050625	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Iodomethane	S24-Se0050625	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Isopropyl benzene (Cumene)	S24-Se0050625	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Methylene Chloride	S24-Se0050625	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Styrene	S24-Se0050625	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Tetrachloroethene	S24-Se0050625	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
trans-1.2-Dichloroethene	S24-Se0050625	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
trans-1.3-Dichloropropene	S24-Se0050625	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Trichloroethene	S24-Se0050625	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Trichlorofluoromethane	S24-Se0050625	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Vinyl chloride	S24-Se0050625	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Duplicate									
Organochlorine Pesticides				Result 1	Result 2	RPD			
Toxaphene	S24-Se0034429	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Duplicate									
Phthalate Esters				Result 1	Result 2	RPD			
Bis(2-ethylhexyl)phthalate	S24-Se0034429	NCP	mg/kg	< 5	< 5	<1	30%	Pass	
Butyl benzyl phthalate	S24-Se0034429	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Di-n-butyl phthalate	S24-Se0034429	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Di-n-octyl phthalate	S24-Se0034429	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Diethyl phthalate	S24-Se0034429	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Dimethyl phthalate	S24-Se0034429	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Duplicate									
Acid Herbicides				Result 1	Result 2	RPD			
2.4-D	M24-Se0055703	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
2.4-DB	M24-Se0055703	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
2.4.5-T	M24-Se0055703	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
2.4.5-TP	M24-Se0055703	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Actril (loxynil)	M24-Se0055703	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Dicamba	M24-Se0055703	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Dichlorprop	M24-Se0055703	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Dinitro-o-cresol	M24-Se0055703	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Dinoseb	M24-Se0055703	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
MCPA	M24-Se0055703	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
MCPB	M24-Se0055703	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Mecoprop	M24-Se0055703	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Duplicate									
Phenols (Halogenated)				Result 1	Result 2	RPD			
2-Chlorophenol	S24-Se0062057	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
2.4-Dichlorophenol	S24-Se0062057	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
2.4.5-Trichlorophenol	S24-Se0062057	NCP	mg/kg	< 1	< 1	<1	30%	Pass	
2.4.6-Trichlorophenol	S24-Se0062057	NCP	mg/kg	< 1	< 1	<1	30%	Pass	
2.6-Dichlorophenol	S24-Se0062057	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
4-Chloro-3-methylphenol	S24-Se0062057	NCP	mg/kg	< 1	< 1	<1	30%	Pass	
Pentachlorophenol	S24-Se0062057	NCP	mg/kg	< 1	< 1	<1	30%	Pass	
Tetrachlorophenols - Total	S24-Se0062057	NCP	mg/kg	< 10	< 10	<1	30%	Pass	

Duplicate								
Phenols (non-Halogenated)				Result 1	Result 2	RPD		
2-Cyclohexyl-4,6-dinitrophenol	S24-Se0062057	NCP	mg/kg	< 20	< 20	<1	30%	Pass
2-Methyl-4,6-dinitrophenol	S24-Se0062057	NCP	mg/kg	< 5	< 5	<1	30%	Pass
2-Nitrophenol	S24-Se0062057	NCP	mg/kg	< 1	< 1	<1	30%	Pass
2,4-Dimethylphenol	S24-Se0062057	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
2,4-Dinitrophenol	S24-Se0062057	NCP	mg/kg	< 5	< 5	<1	30%	Pass
2-Methylphenol (o-Cresol)	S24-Se0062057	NCP	mg/kg	< 0.2	< 0.2	<1	30%	Pass
3&4-Methylphenol (m&p-Cresol)	S24-Se0062057	NCP	mg/kg	< 0.4	< 0.4	<1	30%	Pass
4-Nitrophenol	S24-Se0062057	NCP	mg/kg	< 5	< 5	<1	30%	Pass
Dinoseb	S24-Se0062057	NCP	mg/kg	< 20	< 20	<1	30%	Pass
Phenol	S24-Se0062057	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Duplicate								
Semivolatile Organics				Result 1	Result 2	RPD		
2,4-Dinitrotoluene	S24-Se0034429	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Nitrobenzene	S24-Se0034429	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Duplicate								
				Result 1	Result 2	RPD		
Chromium (hexavalent)	S24-Se0047866	CP	mg/kg	< 1	< 1	<1	30%	Pass
Cyanide (total)	S24-Se0047866	CP	mg/kg	< 1	< 1	<1	30%	Pass
Fluoride	M24-Se0051416	NCP	mg/kg	< 100	< 100	<1	30%	Pass
Duplicate								
Heavy Metals				Result 1	Result 2	RPD		
Beryllium	S24-Se0049353	NCP	mg/kg	< 2	< 2	<1	30%	Pass
Lead	S24-Se0051361	NCP	mg/kg	< 5	< 5	<1	30%	Pass
Molybdenum	S24-Se0049353	NCP	mg/kg	< 5	< 5	<1	30%	Pass
Selenium	S24-Se0049353	NCP	mg/kg	< 2	< 2	<1	30%	Pass
Silver	S24-Se0049353	NCP	mg/kg	< 2	< 2	<1	30%	Pass
Duplicate								
Sample Properties				Result 1	Result 2	RPD		
% Moisture	S24-Se0047866	CP	%	17	17	1.0	30%	Pass
Duplicate								
				Result 1	Result 2	RPD		
Chloride	S24-Se0047869	CP	mg/kg	< 10	< 10	<1	30%	Pass
Sulphate (as SO ₄)	S24-Se0047869	CP	mg/kg	15	14	5.0	30%	Pass
Duplicate								
				Result 1	Result 2	RPD		
Chromium (hexavalent)	S24-Se0047872	CP	mg/kg	< 1	< 1	<1	30%	Pass
Duplicate								
Total Recoverable Hydrocarbons				Result 1	Result 2	RPD		
TRH C10-C14	S24-Se0047873	CP	mg/kg	< 20	< 20	<1	30%	Pass
TRH C15-C28	S24-Se0047873	CP	mg/kg	< 50	< 50	<1	30%	Pass
TRH C29-C36	S24-Se0047873	CP	mg/kg	< 50	< 50	<1	30%	Pass
TRH >C10-C16	S24-Se0047873	CP	mg/kg	< 50	< 50	<1	30%	Pass
TRH >C16-C34	S24-Se0047873	CP	mg/kg	< 100	< 100	<1	30%	Pass
TRH >C34-C40	S24-Se0047873	CP	mg/kg	< 100	< 100	<1	30%	Pass
Duplicate								
Polycyclic Aromatic Hydrocarbons				Result 1	Result 2	RPD		
Acenaphthene	S24-Se0047873	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Acenaphthylene	S24-Se0047873	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Anthracene	S24-Se0047873	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Benz(a)anthracene	S24-Se0047873	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Benzo(a)pyrene	S24-Se0047873	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Benzo(b&j)fluoranthene	S24-Se0047873	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Benzo(g,h,i)perylene	S24-Se0047873	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Benzo(k)fluoranthene	S24-Se0047873	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass

Duplicate								
Polycyclic Aromatic Hydrocarbons				Result 1	Result 2	RPD		
Chrysene	S24-Se0047873	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Dibenz(a,h)anthracene	S24-Se0047873	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Fluoranthene	S24-Se0047873	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Fluorene	S24-Se0047873	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Indeno(1.2.3-cd)pyrene	S24-Se0047873	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Naphthalene	S24-Se0047873	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Phenanthrene	S24-Se0047873	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Pyrene	S24-Se0047873	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Duplicate								
Organochlorine Pesticides				Result 1	Result 2	RPD		
Chlordanes - Total	S24-Se0047873	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass
4,4'-DDD	S24-Se0047873	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass
4,4'-DDE	S24-Se0047873	CP	mg/kg	0.14	0.14	4.0	30%	Pass
4,4'-DDT	S24-Se0047873	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass
a-HCH	S24-Se0047873	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass
Aldrin	S24-Se0047873	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass
b-HCH	S24-Se0047873	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass
d-HCH	S24-Se0047873	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass
Dieldrin	S24-Se0047873	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass
Endosulfan I	S24-Se0047873	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass
Endosulfan II	S24-Se0047873	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass
Endosulfan sulphate	S24-Se0047873	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass
Endrin	S24-Se0047873	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass
Endrin aldehyde	S24-Se0047873	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass
Endrin ketone	S24-Se0047873	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass
g-HCH (Lindane)	S24-Se0047873	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass
Heptachlor	S24-Se0047873	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass
Heptachlor epoxide	S24-Se0047873	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass
Hexachlorobenzene	S24-Se0047873	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass
Methoxychlor	S24-Se0047873	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass
Duplicate								
Organophosphorus Pesticides				Result 1	Result 2	RPD		
Azinphos-methyl	S24-Se0047873	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass
Bolstar	S24-Se0047873	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass
Chlorfenvinphos	S24-Se0047873	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass
Chlorpyrifos	S24-Se0047873	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass
Chlorpyrifos-methyl	S24-Se0047873	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass
Coumaphos	S24-Se0047873	CP	mg/kg	< 2	< 2	<1	30%	Pass
Demeton-S	S24-Se0047873	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass
Demeton-O	S24-Se0047873	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass
Diazinon	S24-Se0047873	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass
Dichlorvos	S24-Se0047873	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass
Dimethoate	S24-Se0047873	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass
Disulfoton	S24-Se0047873	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass
EPN	S24-Se0047873	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass
Ethion	S24-Se0047873	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass
Ethoprop	S24-Se0047873	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass
Ethyl parathion	S24-Se0047873	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass
Fenitrothion	S24-Se0047873	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass
Fensulfthion	S24-Se0047873	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass
Fenthion	S24-Se0047873	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass
Malathion	S24-Se0047873	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass
Merphos	S24-Se0047873	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass
Methyl parathion	S24-Se0047873	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass

Duplicate								
Organophosphorus Pesticides				Result 1	Result 2	RPD		
Mevinphos	S24-Se0047873	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass
Monocrotophos	S24-Se0047873	CP	mg/kg	< 2	< 2	<1	30%	Pass
Naled	S24-Se0047873	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass
Omethoate	S24-Se0047873	CP	mg/kg	< 2	< 2	<1	30%	Pass
Phorate	S24-Se0047873	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass
Pirimiphos-methyl	S24-Se0047873	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass
Pyrazophos	S24-Se0047873	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass
Ronnel	S24-Se0047873	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass
Terbufos	S24-Se0047873	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass
Tetrachlorvinphos	S24-Se0047873	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass
Tokuthion	S24-Se0047873	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass
Trichloronate	S24-Se0047873	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass
Duplicate								
				Result 1	Result 2	RPD		
Conductivity (1:5 aqueous extract at 25 °C as rec.)	S24-Se0047873	CP	uS/cm	13	< 10	40	30%	Fail
pH (1:5 Aqueous extract at 25 °C as rec.)	S24-Se0047873	CP	pH Units	6.4	6.5	<1	30%	Pass
Duplicate								
Polychlorinated Biphenyls				Result 1	Result 2	RPD		
Aroclor-1016	S24-Se0047873	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass
Aroclor-1221	S24-Se0047873	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass
Aroclor-1232	S24-Se0047873	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass
Aroclor-1242	S24-Se0047873	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass
Aroclor-1248	S24-Se0047873	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass
Aroclor-1254	S24-Se0047873	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass
Aroclor-1260	S24-Se0047873	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass
Total PCB*	S24-Se0047873	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass
Duplicate								
				Result 1	Result 2	RPD		
Conductivity (1:5 aqueous extract at 25 °C as rec.)	S24-Se0047874	CP	uS/cm	21	22	2.0	30%	Pass
pH (1:5 Aqueous extract at 25 °C as rec.)	S24-Se0047874	CP	pH Units	5.3	5.2	<1	30%	Pass
Resistivity*	S24-Se0047874	CP	ohm.m	470	460	2.0	30%	Pass
Duplicate								
Total Recoverable Hydrocarbons				Result 1	Result 2	RPD		
TRH C6-C9	S24-Se0047875	CP	mg/kg	< 20	< 20	<1	30%	Pass
TRH C6-C10	S24-Se0047875	CP	mg/kg	< 20	< 20	<1	30%	Pass
Duplicate								
Volatile Organics				Result 1	Result 2	RPD		
Benzene	S24-Se0047875	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass
Ethylbenzene	S24-Se0047875	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass
m&p-Xylenes	S24-Se0047875	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass
o-Xylene	S24-Se0047875	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass
Toluene	S24-Se0047875	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass
Xylenes - Total*	S24-Se0047875	CP	mg/kg	< 0.3	< 0.3	<1	30%	Pass
Duplicate								
Total Recoverable Hydrocarbons - 2013 NEPM Fractions				Result 1	Result 2	RPD		
Naphthalene	S24-Se0047875	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass

Duplicate								
Polycyclic Aromatic Hydrocarbons				Result 1	Result 2	RPD		
Acenaphthene	S24-Se0047875	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Acenaphthylene	S24-Se0047875	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Anthracene	S24-Se0047875	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Benz(a)anthracene	S24-Se0047875	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Benzo(a)pyrene	S24-Se0047875	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Benzo(b&j)fluoranthene	S24-Se0047875	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Benzo(g,h,i)perylene	S24-Se0047875	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Benzo(k)fluoranthene	S24-Se0047875	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Chrysene	S24-Se0047875	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Dibenz(a,h)anthracene	S24-Se0047875	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Fluoranthene	S24-Se0047875	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Fluorene	S24-Se0047875	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Indeno(1,2,3-cd)pyrene	S24-Se0047875	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Naphthalene	S24-Se0047875	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Phenanthrene	S24-Se0047875	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Pyrene	S24-Se0047875	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Duplicate								
Organochlorine Pesticides				Result 1	Result 2	RPD		
Chlordanes - Total	S24-Se0047875	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass
4,4'-DDD	S24-Se0047875	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass
4,4'-DDE	S24-Se0047875	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass
4,4'-DDT	S24-Se0047875	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass
a-HCH	S24-Se0047875	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass
Aldrin	S24-Se0047875	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass
b-HCH	S24-Se0047875	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass
d-HCH	S24-Se0047875	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass
Dieldrin	S24-Se0047875	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass
Endosulfan I	S24-Se0047875	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass
Endosulfan II	S24-Se0047875	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass
Endosulfan sulphate	S24-Se0047875	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass
Endrin	S24-Se0047875	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass
Endrin aldehyde	S24-Se0047875	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass
Endrin ketone	S24-Se0047875	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass
g-HCH (Lindane)	S24-Se0047875	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass
Heptachlor	S24-Se0047875	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass
Heptachlor epoxide	S24-Se0047875	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass
Hexachlorobenzene	S24-Se0047875	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass
Methoxychlor	S24-Se0047875	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass
Duplicate								
Organophosphorus Pesticides				Result 1	Result 2	RPD		
Azinphos-methyl	S24-Se0047875	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass
Bolstar	S24-Se0047875	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass
Chlorfenvinphos	S24-Se0047875	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass
Chlorpyrifos	S24-Se0047875	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass
Chlorpyrifos-methyl	S24-Se0047875	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass
Coumaphos	S24-Se0047875	CP	mg/kg	< 2	< 2	<1	30%	Pass
Demeton-S	S24-Se0047875	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass
Demeton-O	S24-Se0047875	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass
Diazinon	S24-Se0047875	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass
Dichlorvos	S24-Se0047875	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass
Dimethoate	S24-Se0047875	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass
Disulfoton	S24-Se0047875	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass
EPN	S24-Se0047875	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass
Ethion	S24-Se0047875	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass

Duplicate								
Organophosphorus Pesticides				Result 1	Result 2	RPD		
Ethoprop	S24-Se0047875	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass
Ethyl parathion	S24-Se0047875	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass
Fenitrothion	S24-Se0047875	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass
Fensulfothion	S24-Se0047875	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass
Fenthion	S24-Se0047875	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass
Malathion	S24-Se0047875	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass
Merphos	S24-Se0047875	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass
Methyl parathion	S24-Se0047875	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass
Mevinphos	S24-Se0047875	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass
Monocrotophos	S24-Se0047875	CP	mg/kg	< 2	< 2	<1	30%	Pass
Naled	S24-Se0047875	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass
Omethoate	S24-Se0047875	CP	mg/kg	< 2	< 2	<1	30%	Pass
Phorate	S24-Se0047875	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass
Pirimiphos-methyl	S24-Se0047875	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass
Pyrazophos	S24-Se0047875	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass
Ronnel	S24-Se0047875	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass
Terbufos	S24-Se0047875	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass
Tetrachlorvinphos	S24-Se0047875	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass
Tokuthion	S24-Se0047875	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass
Trichloronate	S24-Se0047875	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass
Duplicate								
Polychlorinated Biphenyls				Result 1	Result 2	RPD		
Aroclor-1016	S24-Se0047875	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass
Aroclor-1221	S24-Se0047875	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass
Aroclor-1232	S24-Se0047875	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass
Aroclor-1242	S24-Se0047875	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass
Aroclor-1248	S24-Se0047875	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass
Aroclor-1254	S24-Se0047875	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass
Aroclor-1260	S24-Se0047875	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass
Total PCB*	S24-Se0047875	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass
Duplicate								
Sample Properties				Result 1	Result 2	RPD		
% Moisture	S24-Se0047877	CP	%	18	17	6.0	30%	Pass
Duplicate								
Per- and Polyfluoroalkyl Substances (PFASs) - Short				Result 1	Result 2	RPD		
1H.1H.2H.2H-perfluorooctanesulfonic acid(6:2 FTSA)	S24-Se0048725	NCP	ug/kg	< 10	< 10	<1	30%	Pass
Perfluorohexanesulfonic acid (PFHxS)	S24-Se0048725	NCP	ug/kg	< 5	< 5	<1	30%	Pass
Perfluorooctanesulfonic acid (PFOS)	S24-Se0048725	NCP	ug/kg	< 5	< 5	<1	30%	Pass
Perfluorooctanoic acid (PFOA)	S24-Se0048725	NCP	ug/kg	< 5	< 5	<1	30%	Pass
Duplicate								
Heavy Metals				Result 1	Result 2	RPD		
Arsenic	S24-Se0047885	CP	mg/kg	2400	2300	5.0	30%	Pass
Cadmium	S24-Se0047885	CP	mg/kg	< 0.4	< 0.4	<1	30%	Pass
Chromium	S24-Se0047885	CP	mg/kg	31	30	6.0	30%	Pass
Copper	S24-Se0047885	CP	mg/kg	14	15	11	30%	Pass
Mercury	S24-Se0047885	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass
Nickel	S24-Se0047885	CP	mg/kg	7.4	6.6	11	30%	Pass
Zinc	S24-Se0047885	CP	mg/kg	220	200	8.0	30%	Pass

Comments

Sample Integrity

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

Qualifier Codes/Comments

Code	Description
G01	The LORs have been raised due to matrix interference
N01	F2 is determined by arithmetically subtracting the "naphthalene" value from the ">C10-C16" value. The naphthalene value used in this calculation is obtained from volatiles (Purge & Trap analysis).
N02	Where we have reported both volatile (P&T GCMS) and semivolatile (GCMS) naphthalene data, results may not be identical. Provided correct sample handling protocols have been followed, any observed differences in results are likely to be due to procedural differences within each methodology. Results determined by both techniques have passed all QAQC acceptance criteria, and are entirely technically valid.
N04	F1 is determined by arithmetically subtracting the "Total BTEX" value from the "C6-C10" value. The "Total BTEX" value is obtained by summing the concentrations of BTEX analytes. The "C6-C10" value is obtained by quantitating against a standard of mixed aromatic/aliphatic analytes.
N07	Please note:- These two PAH isomers closely co-elute using the most contemporary analytical methods and both the reported concentration (and the TEQ) apply specifically to the total of the two co-eluting PAHs
N11	Isotope dilution is used for calibration of each native compound for which an exact labelled analogue is available (Isotope Dilution Quantitation). The isotopically labelled analogues allow identification and recovery correction of the concentration of the associated native PFAS compounds.
Q15	The RPD reported passes Eurofins Environment Testing's QC - Acceptance Criteria as defined in the Internal Quality Control Review and Glossary page of this report.

Authorised by:

Asim Khan	Analytical Services Manager
Bennel Jiri	Senior Analyst-Asbestos
Caitlin Breeze	Senior Analyst-Inorganic
Dilani Samarakoon	Senior Analyst-Inorganic
Fang Yee Tan	Senior Analyst-Metal
Mickael Ros	Senior Analyst-Metal
Raymond Siu	Senior Analyst-Volatile
Roopesh Rangarajan	Senior Analyst-Organic
Roopesh Rangarajan	Senior Analyst-PFAS
Roopesh Rangarajan	Senior Analyst-Sample Properties
Roopesh Rangarajan	Senior Analyst-Volatile
Ryan Phillips	Senior Analyst-Inorganic



Glenn Jackson
Managing Director

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](#).

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Geotesta Pty Ltd (NSW)
Unit 6, 20/22 Foundry Road
Seven Hills
NSW 2147



NATA Accredited
Accreditation Number 1261
Site Number 18217

Accredited for compliance with ISO/IEC 17025—Testing
 NATA is a signatory to the ILAC Mutual Recognition
 Arrangement for the mutual recognition of the
 equivalence of testing, medical testing, calibration,
 inspection, proficiency testing scheme providers and
 reference materials producers reports and certificates.

Attention: Mark Laidlaw (GEOTESTA)
Report 1140701-AID
Project Name 2-8 HIGHGATE RD LINDFIELD
Project ID NE1980
Received Date Sep 18, 2024
Date Reported Oct 01, 2024

Methodology:

Asbestos Fibre
 Identification

Conducted in accordance with the Australian Standard AS 5370:2024* Sampling and qualitative identification of asbestos in bulk materials (ISO 22262-1:2012, MOD), formerly AS 4964-2004 and in-house Method LTM-ASB-8020 by polarised light microscopy (PLM) and dispersion staining (DS) techniques.

NOTE: Positive Trace Analysis results indicate the sample contains detectable respirable fibres.

Man-made vitreous
 fibre (MMVF)

Fibres exhibiting isotropic characteristics, including glass fibres, glass wool, rock wool, slag wool, ceramic fibres and bio-soluble fibres. NOTE: previously known as "synthetic mineral fibre" (SMF). Simple analytical procedures such as polarised light microscopy cannot detect or reliably identify asbestos in some types of commercial products containing asbestos, either because the fibres are below the resolution of optical microscopy or because the matrix material adheres too strongly to the fibres. For these types of products, electron microscopy may be necessary.

Subsampling Soil
 Samples

The sample submitted is dried and passed through a 10 mm sieve followed by a 2 mm sieve. All fibrous matter greater than 10 mm and greater than 2 mm and the material passing through the 2 mm sieve are retained and analysed for the presence of asbestos. If the sub 2mm fraction is greater than approximately 30 g to 60 g, then a subsampling routine based on ISO 3082:2017(E) is employed.

NOTE: Depending on the nature and size of the soil sample, the sub-2 mm residue material may need to be subsampled for trace analysis, in accordance with AS 5370:2024.*

Bonded asbestos-
 containing material
 (ACM)

The material is first examined, and any fibres are isolated for identification by PLM and DS. Where required, interfering matrices may be removed by disintegration using a range of heat, chemical or physical treatments, possibly in combination. The resultant material is then further examined in accordance with AS 5370:2024*.

NOTE: Even after disintegration, it may be difficult to detect the presence of asbestos in some asbestos-containing bulk materials using PLM and DS. This is due to the low grade or small length or diameter of the asbestos fibres present in the material or to the fact that very fine fibres have been distributed intimately throughout the materials. Vinyl/asbestos floor tiles, some asbestos-containing sealants and mastics, asbestos-containing epoxy resins and some ore samples are examples of these types of material, which are difficult to analyse.

Limit of Reporting
 (LOR)

The performance limitation of the AS 5370:2024* method for non-homogeneous samples is around 0.1 g/kg (equivalent to 0.01% (w/w)). Where no asbestos is found by PLM and DS, including Trace Analysis, this is considered to be at the nominal reporting limit of 0.01% (w/w). The NEPM screening level of 0.001% (w/w) is intended as an on-site determination, not a laboratory limit of reporting, per se. Examination of large sample size (e.g., 500 mL) may improve the likelihood of detecting asbestos, particularly AF, to aid assessment against the NEPM criteria. Gravimetric determinations to this level of accuracy are outside of AS 5370:2024*, and hence, NATA Accreditation does not cover the performance of this service (non-NATA results are shown with an asterisk).

NOTE: NATA News March 2014, p.7, states in relation to AS 4964-2004: "This is a qualitative method with a nominal reporting limit of 0.01 % " and that currently in Australia "there is no validated method available for the quantification of asbestos". This report is consistent with the analytical procedures and reporting recommendations in the NEPM and the WA DoH.

Project Name 2-8 HIGHGATE RD LINDFIELD
Project ID NE1980
Date Sampled Sep 17, 2024
Report 1140701-AID

Client Sample ID	Eurofins Sample No.	Date Sampled	Sample Description	Result
ASB1	24-Se0047878	Sep 17, 2024	Approximate Sample 190g Sample consisted of: Brown coarse-grained soil and rocks	No asbestos detected at the reporting limit of 0.01% w/w. Organic fibre detected. No trace asbestos detected.
ASB2	24-Se0047879	Sep 17, 2024	Approximate Sample 164g Sample consisted of: Brown fine-grained clayey soil and rocks	No asbestos detected at the reporting limit of 0.01% w/w. Organic fibre detected. No trace asbestos detected.
ASB3	24-Se0047880	Sep 17, 2024	Approximate Sample 166g Sample consisted of: Brown fine-grained clayey soil and rocks	No asbestos detected at the reporting limit of 0.01% w/w. Organic fibre detected. No trace asbestos detected.
ASB4	24-Se0047881	Sep 17, 2024	Approximate Sample 124g Sample consisted of: Brown fine-grained clayey soil and rocks	No asbestos detected at the reporting limit of 0.01% w/w. Organic fibre detected. No trace asbestos detected.

Sample History

Where samples are submitted/analysed over several days, the last date of extraction is reported.

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

Description	Testing Site	Extracted	Holding Time
Asbestos - LTM-ASB-8020	Sydney	Sep 18, 2024	Indefinite



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Eurofins Environment Testing Australia Pty Ltd

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Company Name: Geotesta Pty Ltd (NSW)
Address: Unit 6, 20/22 Foundry Road
Seven Hills
NSW 2147

Project Name: 2-8 HIGHGATE RD LINDFIELD
Project ID: NE1980

Order No.: NE1980-PSI/GSI
Report #: 1140701
Phone: 1300852 216
Fax:

Received: Sep 18, 2024 6:50 PM
Due: Sep 30, 2024
Priority: 7 Day
Contact Name: Mark Laidlaw (GEOTESTA)

Eurofins Analytical Services Manager : Asim Khan

Sample Detail						Asbestos - AS4964	Beryllium	Molybdenum	Selenium	Metals M8	Aggressivity Soil Set	Moisture Set	NSW DECC - Waste Classification Table 1	BTEXN and Volatile TRH	Per- and Polyfluoroalkyl Substances (PFASs) - Short	BTEXN and Volatile TRH	Suite B10B:TRH/BTEXN/PAH/OC/OPP/PCB/M8
Melbourne Laboratory - NATA # 1261 Site # 1254													X				
Sydney Laboratory - NATA # 1261 Site # 18217						X	X	X	X	X	X	X	X	X	X	X	X
External Laboratory																	
No	Sample ID	Sample Date	Sampling Time	Matrix	LAB ID												
1	S1	Sep 17, 2024		Soil	S24-Se0047866						X	X	X				
2	S2	Sep 17, 2024		Soil	S24-Se0047867						X	X					
3	S3	Sep 17, 2024		Soil	S24-Se0047868		X	X	X		X	X					X
4	S4	Sep 17, 2024		Soil	S24-Se0047869						X	X					
5	S5	Sep 17, 2024		Soil	S24-Se0047870						X	X					
6	S6	Sep 17, 2024		Soil	S24-Se0047871		X	X	X		X	X					X
7	S7	Sep 17, 2024		Soil	S24-Se0047872						X	X	X				
8	S8	Sep 17, 2024		Soil	S24-Se0047873		X	X	X		X	X					X
9	S9	Sep 17, 2024		Soil	S24-Se0047874		X	X	X		X	X					X
10	S10	Sep 17, 2024		Soil	S24-Se0047875		X	X	X		X	X					X
11	S11	Sep 17, 2024		Soil	S24-Se0047876						X	X					
12	S12	Sep 17, 2024		Soil	S24-Se0047877						X	X					
13	ASB1	Sep 17, 2024		Soil	S24-Se0047878	X											



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Company Name: Geotesta Pty Ltd (NSW)
Address: Unit 6, 20/22 Foundry Road
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Project Name: 2-8 HIGHGATE RD LINDFIELD
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Order No.: NE1980-PSI/GSI
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Received: Sep 18, 2024 6:50 PM
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Contact Name: Mark Laidlaw (GEOTESTA)

Eurofins Analytical Services Manager : Asim Khan

Sample Detail						Asbestos - AS4964	Beryllium	Molybdenum	Selenium	Metals M8	Aggressivity Soil Set	Moisture Set	NSW DECC - Waste Classification Table 1	BTEXN and Volatile TRH	Per- and Polyfluoroalkyl Substances (PFASs) - Short	BTEXN and Volatile TRH	Suite B10B:TRH/BTEXN/PAH/OC/OPP/PCB/M8
Melbourne Laboratory - NATA # 1261 Site # 1254													X				
Sydney Laboratory - NATA # 1261 Site # 18217						X	X	X	X	X	X	X	X	X	X	X	X
14	ASB2	Sep 17, 2024		Soil	S24-Se0047879	X											
15	ASB3	Sep 17, 2024		Soil	S24-Se0047880	X											
16	ASB4	Sep 17, 2024		Soil	S24-Se0047881	X											
17	S13	Sep 17, 2024		Soil	S24-Se0047882		X	X	X			X					X
18	S14	Sep 17, 2024		Soil	S24-Se0047883							X			X		
19	S15	Sep 17, 2024		Soil	S24-Se0047884							X			X		
20	BD	Sep 17, 2024		Soil	S24-Se0047885					X		X					
21	TS	Sep 17, 2024		Trip Spike (solid)	S24-Se0047886											X	
22	TB	Sep 17, 2024		Trip Blank (solid)	S24-Se0047887									X			
Test Counts						4	6	6	6	1	12	16	2	1	2	1	6

Internal Quality Control Review and Glossary General

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

Holding Times

Please refer to the most recent version of the 'Sample Preservation and Container Guide' for holding times (QS3001).

Units

% w/w:	Percentage weight-for-weight basis, e.g. of asbestos in asbestos-containing finds in soil samples (% w/w)
F/fld	Airborne fibre filter loading as Fibres (N) per Fields counted (n)
F/mL	Airborne fibre reported concentration as Fibres per millilitre of air drawn over the sampler membrane (C)
g, kg	Mass, e.g. of whole sample (M) or asbestos-containing find within the sample (m)
g/kg	Concentration in grams per kilogram
L, mL	Volume, e.g. of air as measured in AFM (V = r x t)
L/min	Airborne fibre sampling Flowrate as litres per minute of air drawn over the sampler membrane (r)
min	Time (t), e.g. of air sample collection period

Calculations

Airborne Fibre Concentration: $C = \left(\frac{A}{a}\right) \times \left(\frac{N}{n}\right) \times \left(\frac{1}{r}\right) \times \left(\frac{1}{t}\right) = K \times \left(\frac{N}{n}\right) \times \left(\frac{1}{V}\right)$

Asbestos Content (as asbestos): $\% w/w = \frac{(m \times P_A)}{M}$

Weighted Average (of asbestos): $\%_{WA} = \sum \frac{(m \times P_A) \times x}{x}$

Terms

%asbestos	Estimated percentage of asbestos in a given matrix may be derived from knowledge or experience of the material, informed by HSG264 <i>Appendix 2</i> , else assumed to be 15% in accordance with WA DOH <i>Appendix 2</i> (PA). This estimate is not NATA-accredited.
ACM	Asbestos Containing Materials. Asbestos contained within a non-asbestos matrix, typically presented in bonded (non-friable) condition. For the purposes of the NEPM and WA DOH, ACM corresponds to material larger than 7 mm x 7 mm.
AF	Asbestos Fines. Asbestos contamination within a soil sample, as defined by WA DOH. Includes loose fibre bundles and small pieces of friable and non-friable material such as asbestos cement fragments mixed with soil. Considered under the NEPM as equivalent to "non-bonded / friable".
AFM	Airborne Fibre Monitoring, e.g., by the MFM.
Amosite	Amosite Asbestos Detected. Amosite may also refer to Fibrous Grunerite or Brown Asbestos. Identified in accordance with AS 5370:2024* Sampling and qualitative identification of asbestos in bulk materials (ISO 22262-1:2012, MOD), formerly AS 4964-2004.
AS	Australian Standard.
Asbestos Content (as asbestos)	Total %w/w asbestos content in asbestos-containing finds in a soil sample (% w/w).
Chrysotile	Chrysotile Asbestos Detected. Chrysotile may also refer to Fibrous Serpentine or White Asbestos. Identified in accordance with AS 5370:2024* Sampling and qualitative identification of asbestos in bulk materials (ISO 22262-1:2012, MOD), formerly AS 4964-2004..
COC	Chain of Custody.
Crocidolite	Crocidolite Asbestos Detected. Crocidolite may also refer to Fibrous Riebeckite or Blue Asbestos. Identified in accordance with AS 5370:2024* Sampling and qualitative identification of asbestos in bulk materials (ISO 22262-1:2012, MOD), formerly AS 4964-2004..
Dry	Sample is dried by heating prior to analysis.
DS	Dispersion Staining. Technique required for unequivocal Identification of asbestos fibres by PLM.
FA	Fibrous Asbestos. Asbestos-containing material that is wholly or in part friable, including materials with higher asbestos content with a propensity to become friable with handling, and any material that was previously non-friable and in a severely degraded condition. For the purposes of the NEPM and WA DOH, FA generally corresponds to material larger than 7 mm x 7 mm, although FA may be more difficult to distinguish visibly and may be assessed as AF.
Fibre Count	Total of all fibres (whether asbestos or not) meeting the counting criteria set out in the NOHSC:3003
Fibre ID	Fibre Identification. Unequivocal identification of asbestos fibres according to AS 5370:2024* Sampling and qualitative identification of asbestos in bulk materials (ISO 22262-1:2012, MOD), formerly AS 4964-2004.. Includes Chrysotile, Amosite (Grunerite) or Crocidolite asbestos.
Friable	Asbestos-containing materials of any size that may be broken or crumbled by hand pressure. For the purposes of the NEPM, this includes both AF and FA. It is outside of the laboratory's remit to assess the degree of friability.
HSG248	UK HSE HSG248, <i>Asbestos: The Analysts Guide</i> , 2 nd Edition (2021), ISBN: 9780616667079.
HSG264	UK HSE HSG264, <i>Asbestos: The Survey Guide</i> (2012), ISBN: 9780717665020
ISO (also ISO/IEC)	International Organization for Standardization / International Electrotechnical Commission.
K Factor	Microscope constant (K) as derived from the effective filter area of the given AFM membrane used for collecting the sample (A) and the projected eyepiece graticule area of the specific microscope used for the analysis (a).
LOR	Limit of Reporting.
MFM (also NOHSC:3003)	Membrane Filter Method. As described by the Australian Government National Occupational Health and Safety Commission, <i>Guidance Note on the Membrane Filter Method for Estimating Airborne Asbestos Fibres</i> , 2nd Edition [NOHSC:3003(2005)].
MMVF	Man-Made Vitreous Fibre - exhibiting isotropic characteristics, including glass fibres, glass wool, rock wool, slag wool, ceramic fibres and "bio-soluble fibres". NOTE: previously known as "synthetic mineral fibre" (SMF).
NEPM (also ASC NEPM)	National Environment Protection (Assessment of Site Contamination) Measure, (2013, as amended).
Organic	Organic Fibres Detected. Organic may refer to Natural or Man-Made Polymeric Fibres. Identified in accordance with AS 5370:2024* Sampling and qualitative identification of asbestos in bulk materials (ISO 22262-1:2012, MOD), formerly AS 4964-2004..
PCM	Phase Contrast Microscopy. This is used for fibre counting according to the MFM.
PLM	Polarised Light Microscopy. As used for Fibre Identification and Trace Analysis according to AS 5370:2024* Sampling and qualitative identification of asbestos in bulk materials (ISO 22262-1:2012, MOD), formerly AS 4964-2004..
Sampling	Unless otherwise stated, Eurofins are not responsible for sampling equipment or the sampling process.
SRA	Sample Receipt Advice.
Trace Analysis	An analytical procedure is used to detect the presence of respirable fibres (particularly asbestos) in a given sample matrix.
UK HSE HSG	United Kingdom, Health and Safety Executive, Health and Safety Guidance, publication.
UMF	Unidentified Mineral Fibre Detected. Fibrous minerals that are detected but have not been unequivocally identified by PLM with DS according to AS 5370:2024* Sampling and qualitative identification of asbestos in bulk materials (ISO 22262-1:2012, MOD), formerly AS 4964-2004.. It may include (but is not limited to) actinolite, anthophyllite, or tremolite asbestos.
WA DOH	Reference document for the NEPM. Government of Western Australia, <i>Guidelines for the Assessment, Remediation and Management of Asbestos-Contaminated Sites in Western Australia</i> (updated 2021), including Appendix Four: <i>Laboratory analysis</i>
Weighted Average	Combined average %w/w asbestos content of all asbestos-containing finds in the given aliquot or total soil sample (%_{WA}).

Comments

Sample Integrity

Custody Seals Intact (if used)	N/A
Attempt to Chill was evident	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

Asbestos Counter/Identifier:

Chamath JHM Annakkage Senior Analyst-Asbestos

Authorised by:

Bennel Jiri Senior Analyst-Asbestos



Glenn Jackson
Managing Director

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](#).

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Page 1 of 2

CLIENT DETAILS

Contact Name:	Mark Laidlaw / Fang Bian
Project Manager :	Addy Wuthisen
Email for results :	fb@geotesta.com.au mark@geotesta.com.au

Purchase Order :	NE1980-PSI/GSI
PROJECT Number :	NE1980
PROJECT Name :	2-8 Highgate Rd. Lindfield

COC Number :	
Eurofins mgt quote ID :	
Data output format:	

Special Directions & Comments :

Analytes

Some common holding times (with correct preservation).
For further information contact the iab

Eurofins : mot DI water batch number:

[illegible]

Waters		Soils	
BTEX, MAH, VOC	14 days	BTEX, MAH, VOC	14 days
TRH, PAH, Phenols, Pesticides	7 days	TRH, PAH, Phenols, Pesticides	14 days
Heavy Metals	6 months	Heavy Metals	6 months
Mercury, CrVI	28 days	Mercury, CrVI	28 days
Microbiological testing	24 hours	Microbiological testing	72 hours
BOD, Nitrate, Nitrite, Total N	2 days	Anions	28 days
Solids - TSS, TDS etc	7 days	SPOCAS, pH Field and FOX, CrS	24 hours
Ferrous iron	7 days	ASLP, TCLP	7 days

Containers:

PFAS	125ml glass	200ml glass	Asbestos Bag	Sample comments:
2	6	8	4	
	X	X		
	X	X		
	X			
	X			
		X		
		X		
		X		
		X		
		X		
	X			
	X			
			X	100 ml Bag
			X	100 ml Bag
			X	100 ml Bag
			X	100 ml Bag

Relinquished By: Fang Bian

Date & Time:: 18/09/24

Signature: _____

Laboratory Staff

Received By:	April 17 Jan 15
Date & Time:	1819124 6:50PM
Signature:	e

Turn around time

1 DAY ☐ 2 DAY ☐ 3 DAY ☐
5 DAY ☒ 10 DAY ☐

Method Of Shipment

☒ Courier
☐ Hand Delivered
☐ Postal

Temperature on arrival:

Report number:

114070

Eurofins Environment Testing Australia Pty Ltd

ABN: 50 005 085 521

Melbourne	Geelong	Sydney	Canberra	Brisbane	Newcastle
6 Monterey Road Dandenong South VIC 3175 +61 3 8564 5000 NATA# 1261 Site# 1254	19/8 Lewalan Street Grovedale VIC 3216 +61 3 8564 5000 NATA# 1261 Site# 25403	179 Magowar Road Girraween NSW 2145 +61 2 9900 8400 NATA# 1261 Site# 18217	Unit 1,2 Dacre Street Mitchell ACT 2911 +61 2 6113 8091 NATA# 1261 Site# 25466	1/21 Smallwood Place Murarie QLD 4172 T: +61 7 3902 4600 NATA# 1261 Site# 20794 & 2780	1/2 Frost Drive Mayfield West NSW 2304 +61 2 4968 8448 NATA# 1261 Site# 25079

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Eurofins ProMicro Pty Ltd

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Perth ProMicro
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NZBN: 9429046024954

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35 O'Rorke Road Penrose, Auckland 1061 +64 9 526 4551 IANZ# 1327	Unit C1/4 Pacific Rise, Mount Wellington, Auckland 1061 +64 9 525 0568 IANZ# 1308	43 Detroit Drive Rolleston, Christchurch 7675 +64 3 343 5201 IANZ# 1290	1277 Cameron Road, Gate Pa, Tauranga 3112 +64 9 525 0568 IANZ# 1402

Sample Receipt Advice

Company name:	Geotesta Pty Ltd (NSW)
Contact name:	Mark Laidlaw (GEOTESTA)
Project name:	2-8 HIGHGATE RD LINDFIELD
Project ID:	NE1980
Turnaround time:	7 Day
Date/Time received	Sep 18, 2024 6:50 PM
Eurofins reference	1140701

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

Standard TAT is currently 7 days due to temporary laboratory constraints, please contact your Analytical Services Manager should faster TAT be required or if you would like to receive an interim report.

Samples received by the laboratory after 5.30pm are deemed to have been received the following working day.

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 Mark Laidlaw (GEOTESTA) - mark@geotesta.com.au.

Note: A copy of these results will also be delivered to the general Geotesta Pty Ltd (NSW) email address.

Appendix E

Comparison of Laboratory Results with Site Assessment Criteria

2-8 Highgate Road, Lindfield NSW 2070

		Benzene	Ethylbenzene	m&p-Xylenes	o-Xylene	Toluene	Xylenes - Total*
NEPM 2013 Health investigation levels (HILs) A							
NEPM 2013 Health screen levels (HSLs) A		0.5	55	-	-	160	40
NEPM 2013 Ecological investigation levels (EIL)							
NEPM 2013 Ecological screening levels (ESL)							
NEPM 2013 Management limits (ML)							

Field ID	Date	BTEX					
S3	17/09/2024	< 0.1	< 0.1	< 0.2	< 0.1	< 0.1	< 0.3
S6	17/09/2024	< 0.1	< 0.1	< 0.2	< 0.1	< 0.1	< 0.3
S8	17/09/2024	< 0.1	< 0.1	< 0.2	< 0.1	< 0.1	< 0.3
S9	17/09/2024	< 0.1	< 0.1	< 0.2	< 0.1	< 0.1	< 0.3
S13	17/09/2024	< 0.1	< 0.1	< 0.2	< 0.1	< 0.1	< 0.3
S10	17/09/2024	< 0.1	< 0.1	< 0.2	< 0.1	< 0.1	< 0.3

2-8 Highgate Road, Lindfield NSW 2070		Arsenic	Cadmium	Chromium	Copper	Lead	Mercury	Nickel	Zinc
NEPM 2013 Health investigation levels (HILs) A		100	20	100	6,000	300	40	400	7,400
NEPM 2013 Health screen levels (HSLs) A									
NEPM 2013 Ecological investigation levels (EIL)		100		416	136	1,115		170	189
NEPM 2013 Ecological screening levels (ESL)									
NEPM 2013 Management limits (ML)									

Field ID	Date	Heavy Metals							
S1	17/09/2024	5.1	< 0.4			23	< 0.1	< 5	
S3	17/09/2024	9.8	< 0.4	16	5.8	15	< 0.1	< 5	8.9
S6	17/09/2024	8.1	< 0.4	25	27	40	< 0.1	30	110
S7	17/09/2024	3.5	< 0.4			27	< 0.1	< 5	
S8	17/09/2024	12	< 0.4	18	49	130	0.5	6.8	110
S9	17/09/2024	8.1	< 0.4	17	5.9	17	< 0.1	6.3	16
S13	17/09/2024	5.5	< 0.4	13	19	75	< 0.1	< 5	72
S10	17/09/2024	1100	< 0.4	15	8.8	62	< 0.1	< 5	44
BD	17/09/2024	2400	< 0.4	31	14	41	< 0.1	7.4	220

2-8 Highgate Road,
Lindfield NSW 2070

		4,4'-DDD	4,4'-DDE	4,4'-DDT	a-HCH	Aldrin	Aldrin and	b-HCH	Chlordanes -	DDT + DDE +	d-HCH	Dieldrin	Endosulfan I	Endosulfan II	Endosulfan	Endrin	Endrin	Endrin ketone	g-HCH	Heptachlor	Heptachlor	Hexachlorobenz	Methoxychlor	Toxaphene	Vic EPA IWRG	Vic EPA IWRG
NEPM 2013 Health investigation levels (HILs) A							6		50	240			270			10				6			300	20		
NEPM 2013 Health screen levels (HSLs) A																										
NEPM 2013 Ecological investigation levels (EIL)				180																						
NEPM 2013 Ecological screening levels (ESL)																										
NEPM 2013 Management limits (ML)																										

Field ID	Date	Organochlorine Pesticides																							
S1	17/09/2024	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.1	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.5	< 0.1	< 0.1
S3	17/09/2024	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.1	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.5	< 0.1	< 0.1
S6	17/09/2024	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.1	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.5	< 0.1	< 0.1
S7	17/09/2024	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.1	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.5	< 0.1	< 0.1
S8	17/09/2024	< 0.05	0.14	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.1	0.14	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.5	0.14	< 0.1
S9	17/09/2024	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.1	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.5	< 0.1	< 0.1
S13	17/09/2024	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 1	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 10	< 1	< 1
S10	17/09/2024	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.1	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.5	< 0.1	< 0.1

2-8 Highgate Road, Lindfield NSW 2070

2-8 Highgate Road, Lindfield NSW 2070		Aroclor-1016	Aroclor-1221	Aroclor-1232	Aroclor-1242	Aroclor-1248	Aroclor-1254	Aroclor-1260	Total PCB*
NEPM 2013 Health investigation levels (HILs) A									1
NEPM 2013 Health screen levels (HSLs) A									
NEPM 2013 Ecological investigation levels (EIL)									
NEPM 2013 Ecological screening levels (ESL)									
NEPM 2013 Management limits (ML)									

[illegible]

[illegible]

[illegible]

2-8 Highgate Road, Lindfield NSW 2070

		Naphthalene	TRH >C10-C16	TRH >C10-C16 less Naphthalene (F2)*	TRH >C10-C40 (total)*	TRH >C16-C34	TRH >C34-C40	TRH C10-C14	TRH C10-C36 (Total)	TRH C15-C28	TRH C29-C36	TRH C6-C10	TRH C6-C10 less BTEX (F1)	TRH C6-C9
NEPM 2013 Health investigation levels (HILs) A														
NEPM 2013 Health screen levels (HSLs) A				110									45	
NEPM 2013 Ecological investigation levels (EIL)														
NEPM 2013 Ecological screening levels (ESL)				120		300	2800						180	
NEPM 2013 Management limits (ML)				1,000		2,500	10,000						700	

Field ID	Date	Total Recoverable Hydrocarbons - 2013 NEPM Fractions												
S1	17/09/2024	< 0.5	< 50	< 50	< 100	< 100	< 100	< 20	< 50	< 50	< 50	< 20	< 20	< 20
S3	17/09/2024	< 0.5	< 50	< 50	< 100	< 100	< 100	< 20	< 50	< 50	< 50	< 20	< 20	< 20
S6	17/09/2024	< 0.5	< 50	< 50	< 100	< 100	< 100	< 20	< 50	< 50	< 50	< 20	< 20	< 20
S7	17/09/2024	< 0.5	< 50	< 50	< 100	< 100	< 100	< 20	< 50	< 50	< 50	< 20	< 20	< 20
S8	17/09/2024	< 0.5	< 50	< 50	< 100	< 100	< 100	< 20	< 50	< 50	< 50	< 20	< 20	< 20
S9	17/09/2024	< 0.5	< 50	< 50	< 100	< 100	< 100	< 20	< 50	< 50	< 50	< 20	< 20	< 20
S13	17/09/2024	< 0.5	< 50	< 50	< 100	< 100	< 100	< 20	59	< 50	59	< 20	< 20	< 20
S10	17/09/2024	< 0.5	< 50	< 50	< 100	< 100	< 100	< 20	< 50	< 50	< 50	< 20	< 20	< 20

2-8 Highgate Road, Lindfield NSW 2070		Asbestos Sample Mass/Dimensions	Asbestos Sample Description	Asbestos Reported Result
NEPM 2013 Health screen levels (HSLs) A				0.1%
Field ID	Date			
ASB1	17/09/2024	190g	Brown coarse-grained soil and rocks	No asbestos detected at the reporting limit of 0.01% w/w. Organic fibre detected. No trace asbestos detected.
ASB2	17/09/2024	164g	Brown fine-grained clayey soil and rocks	No asbestos detected at the reporting limit of 0.01% w/w. Organic fibre detected. No trace asbestos detected.
ASB3	17/09/2024	166g	Brown fine-grained clayey soil and rocks	No asbestos detected at the reporting limit of 0.01% w/w. Organic fibre detected. No trace asbestos detected.
ASB4	17/09/2024	124g	Brown fine-grained clayey soil and rocks	No asbestos detected at the reporting limit of 0.01% w/w. Organic fibre detected. No trace asbestos detected.