



Preliminary and Detailed Site Investigation

Te Kowhai East Development

Te Kowhai East Limited Partnership

Prepared by:

SLR Consulting New Zealand Limited

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1.0	27 May 2026	Lindsay Lutes	Nigel Mather	
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Basis of Report

This report has been prepared by SLR Consulting New Zealand Limited (SLR) with all reasonable skill, care and diligence, and taking account of the timescale and resources allocated to it by agreement with Te Kowhai East Limited Partnership (the Client). Information reported herein is based on the interpretation of data collected, which has been accepted in good faith as being accurate and valid.

It is intended to support the Client's application under the Fast Track Approvals Act 2024 and may be relied upon by the Expert Panel and relevant administering agencies for the purposes of assessing the application.

While SLR has exercised due care in preparing this report, it does not accept liability for any use of the report beyond its intended purpose. Where information has been supplied by the Client or obtained from external sources, it has been assumed to be accurate unless otherwise stated. SLR disclaims any responsibility to the Client and others in respect of any matters outside the agreed scope of the work.

Statement of Qualifications and Experience

Lindsay Lutes – Senior Project Consultant – Land Quality and Remediation, SLR Consulting

I am a Senior Project Consultant – Land Quality and Remediation at SLR Consulting Limited (SLR). SLR is a global environmental and advisory consultancy specialising in sustainability and climate change strategy, planning, environmental management and impact assessment and waste management and remediation. I have been employed at SLR New Zealand since 2025. I previously worked for SLR in Regina, Saskatchewan, Canada from 2021 to 2023.

I hold the qualification of Bachelor of Environmental Science degree from the University of Royal Roads in Victoria, British Columbia, Canada.

I have over ten years of experience in preliminary and detailed site investigations and remediation.

I confirm that, in my capacity as author of this report, I have read and abide by the Environment Court of New Zealand Practice Note 2023, and in particular section 9 the Code of Conduct for Expert Witnesses.

Nigel Mather – Practice Manager – Land Quality and Remediation – SLR Consulting

I am a Practice Manager – Land Quality and Remediation at SLR Consulting Limited (SLR). I have been employed at SLR New Zealand since 2016.

I hold the qualification of Master of Science degree from the University of Auckland.

I have over 20 years of experience covering a broad range of environmental management and risk assessment experience, including contaminated land and groundwater assessment



and remediation, consent application and technical peer review, hazardous substances management and auditing, environmental due diligence and risk assessment (transactional and advisory services), and HSE management systems implementation and auditing.

I confirm that, in my capacity as reviewer of this report, I have read and abide by the Environment Court of New Zealand Practice Note 2023, and in particular section 9 the Code of Conduct for Expert Witnesses.



Executive Summary

SLR Consulting New Zealand Ltd (SLR) has been engaged by Te Kowhai East Limited Partnership (the Client) to undertake a combined Preliminary and Detailed Site Investigation (PSI–DSI) to support the Te Kowhai East Development site (the Project). The Project is located at the primary addresses of 270 Te Kowhai Road and 28 Mathers Road (the Site). The purpose of this PSI–DSI is to support the substantive fast-track application process by identifying any activities listed on the Ministry for the Environment (MfE) Hazardous Activities and Industries List (HAIL), assessing the nature and extent of any contamination present in soil, and considering the implications of the results under the National Environmental Standard for Assessing and Managing Contaminants in Soil to Protect Human Health (NESCSCS) and the Waikato Regional Plan (WRP).

The key findings of the PSI–DSI are:

- Historical and current land uses include pastoral farming, cropping, farm infrastructure, fuel storage, and building maintenance. These activities are consistent with potential HAIL categories A10 (persistent pesticide bulk storage or use), E1 (asbestos-containing materials), F8 (transport depots/yards), and I (accidental/intentional release of hazardous substances).
- A total of 111 soil samples from 58 locations (SS01–SS26, SS28–SS39, HA01–HA19) were collected from 0.0–0.5 m bgl across the proposed disturbance areas.
- The analytical results of the selected soil samples analysed identified:
 - Concentrations of all analysed heavy metals were below the adopted human health criteria for commercial/industrial land use.
 - Asbestos (chrysotile) was detected in one soil sample (SS03) below the adopted commercial/industrial human health guideline; asbestos was not detected above laboratory limits of reporting in any other sample.
 - Total Petroleum Hydrocarbons (TPH) were detected in two soil samples (SS06 and SS32), with concentrations below the adopted human health criteria, but above the Eco SGV. No evidence of separate phase petroleum hydrocarbon was observed at the Site.
 - All organochlorine pesticide results were below laboratory limits of reporting.
 - Lead exceeded the adopted ecological soil guideline value (Eco SGV) for commercial/industrial land use in one sample (SS01).
 - One or more heavy metals exceeded Waikato background soil concentrations in 27 samples.
 - One or more heavy metals exceeded the Waikato Cleanfill disposal criteria in 11 samples analysed.

Based on the findings of this DSI, the following conclusions and recommendations are made:

- Isolated areas of the Site meet the definition of a Piece of Land under NESCSCS Regulation 5(7) due to confirmed current and historic activities at the Site, and the presence of hazardous substances above background or Eco SGV levels.
- Soils across the majority of the Site are considered highly unlikely to present a risk to human health or the environment during proposed development activities.



- Soil disturbance volumes within 'Pieces of Land' where HAIL activities have been identified are expected to exceed the permitted activity (PA) thresholds of Regulation 8(3) of the NESCS. Other PA conditions such as the maximum activity duration and reinstatement requirement are also unlikely to be met.
- Soil in localised areas of the Site contain contaminants at concentrations which require disposal as Managed Fill, if removed from the Site.
- A Controlled Activity consent under NESCS Regulation 9 will be required. A draft Contaminated Site Management Plan (CSMP) has been prepared to support the application and details soil disturbance, handling, segregation, disposal and unexpected discovery protocols.
- The Site does not meet the definition of contaminated land under the WRC Regional Plan because contaminant concentrations do not exceed NESCS Soil Contaminant Standards and are highly unlikely to result in significant adverse effects on the environment.

This investigation and associated reporting have been carried out and reviewed by a Suitably Qualified and Experienced Practitioner (SQEP) in accordance with the requirements of the NESCS.



Table of Contents

Basis of Report	ii
Statement of Qualifications and Experience.....	ii
Executive Summary	iv
Acronyms and Abbreviations	viii
1.0 Introduction	1
1.1 Purpose.....	1
1.2 Scope of Works	1
2.0 Site Description	3
2.1 Site Setting.....	3
3.0 Site History	4
3.1 Historical Aerial Photographs	4
3.2 Council Records.....	6
3.2.1 Waikato Regional Council Listed Use Information Register (LUIR).....	6
3.3 Hazardous Substances and Incidents Report.....	6
3.4 Previous Environmental Investigations	7
3.4.1 2013, Soil and Land Evaluation Ltd (Off-site)	7
3.4.2 2018, Beca Ltd (Off-site)	7
3.5 Site Walkover Observations	8
3.6 Site History Summary.....	8
4.0 HAIL Assessment.....	9
5.0 Initial Conceptual Site Model.....	10
6.0 Detailed Site Investigation.....	11
6.1 Sampling Methodology	11
6.2 Sampling Observations	11
6.3 QA/QC	12
6.4 Evaluation Criteria	12
6.5 Soil Sampling Results	13
6.5.1 Human Health	13
6.5.2 Background and Environment	13
6.5.3 Disposal	13
7.0 Discussion	15
7.1 Results	15
7.1.1 Human Health	15
7.1.2 Background and Environmental.....	15



7.1.3 Disposal	15
7.2 Regulatory Assessment.....	15
7.2.1 HAIL Assessment.....	15
7.2.2 NESCS.....	16
7.3 Waikato Regional Council Regional Plan (WRC RP)	Error! Bookmark not defined.
8.0 Revised Conceptual Site Model	19
9.0 Conclusions and Recommendations	22
10.0 Closure.....	23
11.0 References.....	24

Tables

Table 1: Site Landholding Details.....	3
Table 2: Site Details	3
Table 3: Historical Aerial Photographs	4
Table 4: Summary of WRC HAIL Information.....	6
Table 5: Initial Conceptual Site Model	10
Table 6: Soil Sampling Results Summary	14
Table 7: Conceptual Site Model	20

Figures

Figure 1: Site Location and Layout.....	2
Figure 2: Confirmed HAIL Locations	18

Appendices

Appendix A	Historical Aerial Photographs
Appendix B	WRC Information
Appendix C	Photolog
Appendix D	BH Logs
Appendix E	Chain of Custody
Appendix F	Laboratory Analysis Reports



Acronyms and Abbreviations

ACM	Asbestos-containing material
CLMG	Contaminated Land Management Guidelines
CoPC	Contaminants of Potential Concern
CSM	Conceptual Site Model
CSMP	Contaminated Site Management Plan
DSI	Detailed Site Investigation
Eco SGV	Ecological Soil Guideline Value
EPA	Environmental Protection Agency
GAMAS	New Zealand Guidelines for Assessing and Managing Asbestos in Soil
ha	Hectare
HAIL	Hazardous Activity and Industry List
HCC	Hamilton City Council
HM	Heavy Metals
LoR	Limits of Reporting
LUIR	Listed Use Information Register
MfE	Ministry for the Environment
m asld	Metres above sea level datum
m bgl	Metres below ground level
mg/kg	Milligram / kilogram
NESCS	National Environmental Standards for Assessing and Managing Contaminants in Soil
NZGD	New Zealand Geotechnical Database
OCP	Organochlorine Pesticides
PoL	Piece of Land
PSI	Preliminary Site Investigation
QA/QC	Quality Assurance / Quality Control
SLR	SLR Consulting New Zealand Limited
SPR	Source-Pathway-Receptor
SQEP	Suitably Qualified and Experienced Practitioner
TPH	Total Petroleum Hydrocarbons
WDC	Waikato District Council
WRC	Waikato Regional Council
WANZ	Wells Aotearoa New Zealand



1.0 Introduction

This technical report presents the findings of a Preliminary and Detailed Site Investigation (PSI-DSI) undertaken for the Te Kowhai East Development (the Project).

The report has been prepared to support Te Kowhai East Limited Partnership's substantive application for approvals under the Fast-track Approvals Act 2024 (FTAA).

The Project is a large-scale industrial development located on the north-western edge of Hamilton, adjacent to the established Te Rapa industrial area. The application provides for the creation of an integrated industrial precinct, including approximately 210 industrial lots, land for neighbourhood centre activities, reserves for recreation, stormwater management and ecological mitigation, and associated roading and infrastructure services. The application also seeks approval for the ultimate land use outcomes anticipated across the site, being predominantly industrial activities, along with a limited range of compatible non-industrial activities suited to an industrial environment.

A comprehensive description of the Project is provided in the Substantive Application Report (SAR).

1.1 Purpose

The purpose of the PSI-DSI is to:

- Identify any activities listed on the Ministry for the Environment (MfE) Hazardous Activities and Industries List (HAIL) that are being, have been, or are likely to have been undertaken on the Site.
- Assess the nature and extent of potential soil contamination associated with historical and current land uses.
- Evaluate potential implications for proposed development activities under the National Environmental Standard for Assessing and Managing Contaminants in Soil to Protect Human Health (NESCS) and the Waikato Regional Plan (WRP).
- Provide recommendations regarding contaminated land management requirements associated with the Project.

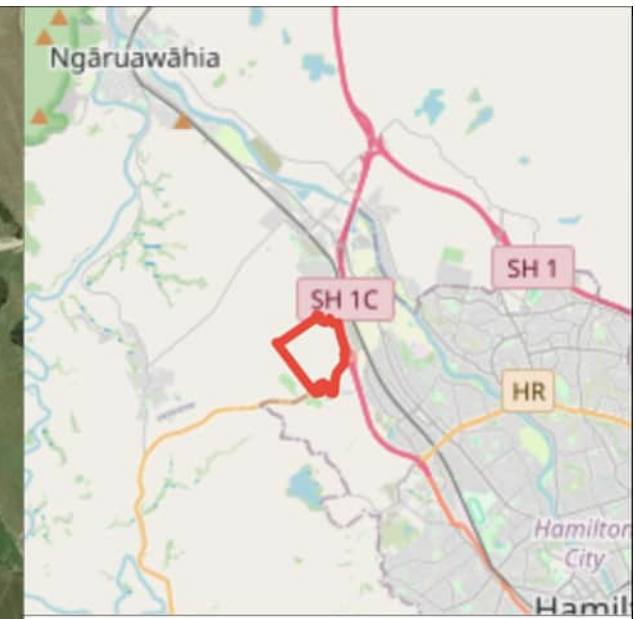
A Site location plan is provided in **Figure 1**.

1.2 Scope of Works

The scope of this combined PSI and DSI included the following:

- Review of publicly available information about the Site, including a review of regional council HAIL records and historical aerial photographs.
- Completion of a Site walkover and documentation of observations.
- Collection and analysis of surface and sub-surface soil samples to assess whether soil contamination resulting from potential HAIL activities identified in the PSI has occurred.
- Development of a Site Conceptual Site Model (CSM) and exposure pathway assessment (determination of source-pathway-receptor (SPR) linkages).
- Provision of recommendations with respect to resource consent requirements and construction/earthworks at the Site.





- Legend**
- Surface Soil Samples (Paddocks)
 - Soil Samples (Historical Structures Pre-2000)
 - Soil Samples (Current Structures Pre-2000)
 - Tyre Storage Soil Samples
 - Site Boundary

0 100 m 200 m
LINZ CC BY 4.0 © Imagery Basemap contributors



Produced by **Datanest.earth**

Title: Site Location and Layout		
Client: Kilroy Group Limited		Size: A3
Project: Te Kowhai East Development	Drawn: LL	Figure No.: 1
Date: 18-02-2026	Checked: NM	
Proj No: 810.032016.00001	Scale: 1:7540	Version: 1.0

2.0 Site Description

The Project site comprises a large, contiguous landholding located on the north-western edge of Hamilton. It is generally bounded by Te Kowhai Road to the south, Koura Drive and State Highway 1C to the east, and Onion Road to the north. The site is made up of multiple land titles, legal descriptions, and associated physical addresses.

Full details of the landholdings are provided in **Table 1**.

Table 1: Site Landholding Details

Physical Address	Legal Description	Record of Title	Owner
270 Te Kowhai Road, Hamilton	Lot 2 DP 523063	831324	Te Kowhai East LP
248 Onion Road, Horotiu	Lot 3 DP 523063	831325	Te Kowhai East LP
28 Mathers Road, Horotiu	Part Allotment 6 Pukete Parish and Part Allotment 215 Parish of Pukete and Section 1 Survey Office Plan 473918	SA770/125	Te Kowhai East LP
246 Te Kowhai Road	Lot 1 DP 546273	929707	Te Kowhai East LP
No physical address	Section 13 SO 416124. Section 2 SO 577981	1109516	Empire Corporation Limited
No physical address	Section 25-26 SO 417000. Section 2 SO 473918	1109519	Empire Corporation Limited

2.1 Site Setting

The collective area of the Site is approximately of 187.5 hectares (ha). A Site location plan is provided in **Figure 1**. Site details are provided in **Table 2**.

Table 2: Site Details

Site Locality	
Councils	District: Waikato District Council (WDC) Regional: Waikato Regional Council (WRC)



Current and Proposed Land Use	Current land use includes pastoral farming (dairy). The proposed development will change the land use to Light Industrial.	
Surrounding Land Use	North:	Onion Road and general rural properties.
	East:	SH1c and Koura Drive with rural and then industrial properties beyond.
	South:	Te Kowhai Road and general rural properties.
	West:	General rural properties.
Topography	The WRC 1m contours map shows that the Site is generally flat and located around 28-29 m above ground level. The northern extent of the Site slopes up to Onion Rd located at 43 m above ground level.	
Geology	The GNS 250k online geological map shows the Site is underlain by Holocene swamp deposits described as soft, dark brown to black, organic mud, muddy peat and woody peat. To the north of the Site are Early Pleistocene – Middle Pleistocene river and igneous deposits and to the east, south and west of the Site are Late Pleistocene river deposits	
Hydrology	Multiple farm drains cross the Site. These appear to follow the local topography and discharge into the Te Rapa catchment and the Waipa River located approximately 5 km northwest of the Site.	
Hydrogeology	The Wells Aotearoa online service has a record of 17 wells or bores that are within the boundary of the Site. No information relating to static water level was available in the data. A geotechnical investigation undertaken by HDGeo (HDGEO 2023) advanced 8 hand augers across the Site. Groundwater was encountered in all hand augers with groundwater depth ranging from 1-2.2 m bgl.	

3.0 Site History

A review of publicly available information was undertaken to understand the history of the Site, and the nature and location of any potentially contaminating activities. This included a review of:

- Historical aerial images (available through Retrolens®, Google® Earth™ Pro and Nearmaps).
- Hazardous Substances and Incidents report provided by the Environmental Protection Agency (EPA).
- A Site walkover.

3.1 Historical Aerial Photographs

Historical aerial photographs were sourced and reviewed from Retrolens® and Google Earth™. These are described in **Table 3** and copies of the historical aerial photographs are provided in **Appendix A**.

Table 3: Historical Aerial Photographs

Year	Reference	Observations
1941	Retrolens®	Site: The Site and surrounding areas are predominantly open rural land with scattered vegetation and shelter belts. Six rectangular buildings or structures are visible near the northern boundary



Year	Reference	Observations
	(Black and White)	(Feature 1). Multiple linear shelter belts are oriented primarily north-south and east-west, dividing paddocks across the Site. Multiple farm drains are visible crossing the Site from east to west. Off-Site: Roadways run along the eastern (Onion and Ruffell Roads), northern (Onion Road) and southern (Te Kowhai Road) boundaries with residential and/or farm buildings in all directions of the Site. A small structure is observed immediately adjacent to the southeastern corner of the Site (Feature 2).
1952	Retrolens® (Black and White)	Site: Three rectangular structures previously observed near the northern boundary (Feature 1) are no longer visible, and one new rectangular structure in the same vicinity is now visible. A new structure is present (Feature 3) in the northern part of the site, located west of the remaining buildings of Feature 1. Off-Site: Feature 2 appears to be a set of stockyards. No significant changes to the road layout or nearby buildings / land use.
1963	Retrolens® (Black and White)	Site: Features 1 and 3 are still visible. Two new sets of farm buildings are present in the southwest and southeast corners of the site (Feature 4 and Feature 5). Off-Site: No significant changes to the road layout or nearby buildings / land use.
1974	Retrolens® (Black and White)	Site: Features 1, 3, 4, and 5 remain consistent. A second structure has been added adjacent to Feature 3. The northern portion of the Site has had a change of land cover to what is inferred to be cropping (Feature 6), as part of this shelter belts have been cleared. Land use of the southern portion of the Site appears consistent to the previous image. Off-Site: The land adjacent to the east of the Site has also undergone the change of land use associated with Feature 6.
1991	Retrolens® (Black and White)	Site: Features 1, 3, 4, and 5 remain consistent. A new structure has been established at the north of the Site (Feature 7). The majority of the northern portion of the Site appears to be in pasture again with the exception of the easternmost portion (Feature 8) which remains in cropping. A new structure that appears to be a milking shed (Feature 9) is visible in the southern portion of the Site. New farm buildings are present in the north and south of the Site. Off-Site: No significant changes to the road layout or nearby buildings / land use.
2004	Google Earth™ (Colour)	Site: All Features from the previous 1991 imagery appear broadly consistent. Off-Site: No significant changes to the road layout or nearby buildings / land use.
2017	Google Earth™ (Colour)	Site: All Features from the previous 2004 imagery appear broadly consistent. Off-Site: State Highway 1 C and Koura Drive have been established. There has been no other significant change in surrounding land use.



3.2 Council Records

3.2.1 Waikato Regional Council Listed Use Information Register (LUIR)

A WRC HAIL report was requested for the Site and provided to SLR on 8 December 2025 and confirmed that the Site does appear on the LUIR. HAIL information is summarised in Table 4.

Table 4: Summary of WRC HAIL Information

WRC Reference	Location	Classification	HAIL Description	Comments
LUI08123	Northern half of the Site	Review Pending	HAIL I. (Unknown period) - superphosphate use	The investigation report details summarised in Section 3.4.1 relates to adjacent land immediately north to, and not on, the Site. Accumulation of cadmium due to historic superphosphate use. See the attached report for details. The site remains under review pending as WRC are still awaiting confirmation that remedial works were completed.
LUI06134	Eastern corner of the Site (including surrounding area to the east)	Verified HAIL - Limited Sampling	A10. Persistent pesticide bulk storage or use (2008 - present) A17. Storage tanks or drums for fuel, chemicals or liquid waste (unknown - present) F4. Motor vehicle workshops (unknown - present)	The investigation report details summarised in Section 3.4.2 relates to investigations conducted adjacent to, and not on, the Site.

A copy of the HAIL information is presented in **Appendix B**.

3.3 Hazardous Substances and Incidents Report

The Environmental Protection Agency (EPA) maintained a list of reported hazardous substance incidents over the period July 2006 – December 2011. A review of the EPA register over this period, accessed February 2026, identified no incidents that have occurred within 1 kilometre (km) of the Site.



3.4 Previous Environmental Investigations

3.4.1 2013, Soil and Land Evaluation Ltd (Off-site)

A Soil Contamination Investigation and Assessment (combined PSI-DSI report, including a RAP Report) was completed by Soil and Land Evaluation Ltd on 2 August 2013 for the property immediately north of the Site (30 Mathers Road, Hamilton). The investigation identified that historic agricultural activities, particularly the use of superphosphate fertiliser, had resulted in elevated cadmium concentrations in soil. Soil sampling confirmed cadmium levels (0.92 mg/kg) exceeded the applicable assessment standard (0.8 mg/kg) for NESCS SCS (25% residential land use), indicating the soil had been adversely affected by past land use and posed a public health risk. The report concluded that the land was not suitable for the proposed rural residential use without remediation and subsequent validation to reduce cadmium concentrations to acceptable levels.

It is noted that the cadmium concentrations reported in the land immediately north of the Site are substantially below the relevant commercial/industrial soil contaminant standard (1,300 mg/kg) applicable to the proposed change of land use for the Site.

3.4.2 2018, Beca Ltd (Off-site)

A Preliminary Site Investigation was completed by Beca Ltd on 3 August 2018 for Hamilton City Council in relation to the proposed realignment of Ruffell Road and Onion Road (adjacent to the Site). The PSI assessed the earthworks footprint at 100 Ruffell Road and 438-492 Onion Road to identify potential contaminants arising from historic and current land uses, and to determine the likely NESCS requirements.

The earthworks footprint and surrounding land has been used for farming since around 1910, including dairying, mushroom and chicken farming, and more recently maize and onion cropping. Historic farming activities involved fuel storage (including a removed UST in 2012), machinery sheds, workshops and washbays, and various storage structures.

The PSI concluded that persistent pesticide use associated with this activity was “more likely than not” to have occurred within the earthworks footprint. The PSI also noted several buildings containing asbestos within the surrounding land. As a result, the following HAIL activities were identified:

- A10: Persistent pesticide bulk storage or use (market garden / cropping activities)
- A17: Fuel storage (tanks or drums)
- G5: Waste disposal to land
- F4: Motor vehicle workshop
- E1: Asbestos-containing building materials.

Beca recommended obtaining NESCS consent and undertaking a Detailed Site Investigation to determine the contamination status and any necessary earthworks controls. Any future demolition would require certified asbestos contractor involvement to prevent soil contamination.

The buildings and fuel storage equipment, and derelict equipment relating to HAILs A17, G5, F4, and E1 are noted in this report to be associated with the property to the east of State Highway 1 and not part of the Site associated with the Te Kowhai development.



3.5 Site Walkover Observations

A Site visit was undertaken by SLR staff on 22, 23 and 27 January 2026. The following observations were made during the Site visit:

- The Site is predominantly flat and slopes gently upwards towards the north. Several swales were observed running across the Site and separating the paddocks.
- The Site consists of paddocks separated by fences, with cattle present at the time of the inspection.
- A few paddocks were observed to be used for growing corn.
- Two clusters of structures were observed on the Site. The northern cluster contained two residential dwellings, a milking shed, and multiple storage/farm sheds. The southern cluster contained one residential dwelling, a former milking shed, and several farm/storage sheds.
- The farm/storage sheds were constructed of metal and/or timber, with metal roofing. These structures were observed to be in generally good condition. Small quantities of fertilisers and fuel were stored inside some of the farm/storage sheds.
- Materials consistent with potential asbestos-containing materials were observed on the rear side of a farm/storage shed in the southern cluster. Broken board materials were also observed next to a farm/storage shed in the northern cluster, adjacent to the milking shed.
- The residential dwellings in the northern cluster contained building materials consistent with potential asbestos-containing materials. Several damaged sections were observed. Paint flakes were present on the ground near the dwelling.
- General refuse, including empty drums, farm tools, and tyres, was observed around farm/storage sheds in both structural clusters.
- Bare areas of soil were observed across the Site, particularly near gates and water troughs.
- Two burn pits were observed on the Site, located adjacent to farm/storage sheds in both structural clusters.
- Tyre storage was observed at two locations on the Site.
- An above-ground fuel tank was observed next to a farm/storage shed in the northern part of the Site. No ground staining was observed in that area.

Photographs from the Site visit are provided in **Appendix C**.

3.6 Site History Summary

Based on the review of publicly available information the Site has been in rural pastoral land use since at least the 1940's (earliest available aerial imagery). The southern portion of the Site has appeared to remain consistently in pastoral land use through to the present day. Various ancillary farm structures and stockyards/milking sheds have been established over time. Cropping land use was visible in the northern portion of the Site in aerial photos from a time around the 1970's, and in later images had reverted to pasture. The easternmost portion of the site remains in cropping land use. Various ancillary farm structures have been established and disestablished over time.



4.0 HAIL Assessment

Based on the above Site history review and Site walkover observations, the following HAIL activities have potentially been undertaken at the Site:

- A10: Chemical manufacture, application and bulk storage: Persistent pesticide bulk storage or use, including sport turfs, market gardens, orchards, glass houses or spray sheds
 - Associated with the northern and eastern portions of the Site which were / are subject to cropping, and potentially other areas of the Site where cropping was not captured in the historic aerial image record.
- E1: Asbestos products manufacture or disposal including sites with buildings containing asbestos products known to be in a deteriorated condition
 - Associated with degradation of asbestos containing materials potentially present onsite given the age of the current and former buildings at the Site.
- F8: Transport depots or yards, including areas used for refuelling or the bulk storage of hazardous substances
 - Associated with the above ground fuel storage tank and farming vehicle storage observed at the Site.
- I: Any other land that has been subject to the intentional or accidental release of a hazardous substance in sufficient quantity that it could be a risk to human health or the environment – associated with:
 - The degradation of potential lead-based paint around the current and former buildings at the Site.
 - Cadmium accumulation from application of superphosphate.

Contaminants of potential concern (CoPC) in soil associated with the above activities include:

- Organochlorine Pesticides (OCPs).
- Heavy metals (arsenic, cadmium, chromium, copper, lead, nickel and zinc).
- Asbestos in soils.
- Total Petroleum Hydrocarbons (TPH).



5.0 Initial Conceptual Site Model

An initial Conceptual Site Model (CSM) based on the findings of the Site history and background information review, provides a detailed description of the identified potential sources, pathways and receptors, and a qualitative assessment of complete or potentially complete source-pathway receptor (SPR) linkages. A risk is only present if there is a complete SPR linkage. The CSM detailed in **Table 5** is not intended to be an exhaustive assessment of all potential SPR linkages. The CSM has been developed based on available information, any omissions are not indicative of no risk.

Table 5: Initial Conceptual Site Model

Activity Identified	Potential HAIL Reference	Location on Site	Potential Contaminants	Pathway	Receptor	Discussion and SPR Linkage
Current and former cropping of the eastern and northern portions of the Site	A10: Chemical manufacture, application and bulk storage: Persistent pesticide bulk storage or use, including sport turfs, market gardens, orchards, glass houses or spray sheds	Northern and eastern portions of the Site, and potentially broader areas.	OCPs, Heavy metals	Direct contact, inhalation and/or ingestion	Site users and maintenance/excavation workers	Potentially Complete Determination of whether the SPR linkage is complete requires soil sampling and analysis to assess the concentrations of contaminants in soil, and a risk assessment to determine the potential risk to human health and the environment.
				Leaching to groundwater/ingress to surface water	Environmental	
Current and historic building with potential asbestos containing materials	E1: Asbestos products manufacture or disposal including Sites with buildings containing asbestos products known to be in a deteriorated condition	Site-wide: various current and former building footprints	Asbestos	Inhalation	Site users and maintenance/excavation workers	
Above ground fuel storage	F8: Transport depots or yards, including areas used for refuelling or the bulk storage of hazardous substances	Next to a shed in the northern area of the Site	Total Petroleum Hydrocarbons	Direct contact, inhalation and/or ingestion	Site users and maintenance/excavation workers	
				Leaching to groundwater/ingress to surface water	Environmental	
Degradation of potential lead-based paint on the historical and current buildings	I: Any other land that has been subject to the intentional or accidental release of a hazardous substance in sufficient quantity that it could be a risk to human health or the environment.	Site-wide: various current and former building footprints	Lead	Direct contact, inhalation and/or ingestion	Site users and maintenance/excavation workers	
				Leaching to groundwater/ingress to surface water	Environmental	
Agricultural activities including superphosphate use		Site-wide	Cadmium Zinc	Direct contact, inhalation and/or ingestion	Site users and maintenance/excavation workers	
				Leaching to groundwater/ingress to surface water	Environmental	



6.0 Detailed Site Investigation

Soil sampling at the Site was undertaken on 22, 23 and 27 January 2026. 111 soil samples were collected from 58 sample locations (SS01 – SS26, SS28 – SS39, and HA01 – HA19) located across the proposed disturbance areas. Soil samples were collected from near surface (0.1 metres below ground level – m bgl) and shallow sub-surface (0.50 m bgl), representative of the anticipated depth of excavation at the Site. Selected soil samples were submitted for laboratory analysis.

Sample locations are presented in **Figure 1**. Soil logging and sample information is presented in **Appendix D**.

Soil sampling was undertaken in general accordance with the Contaminated Land Management Guidelines No.5 Site Investigation and Analysis of Soils (MfE, 1999, revised 2021). The methodology for the soil sampling is set out below.

6.1 Sampling Methodology

The following methodology was adopted during the soil sampling works:

- A hand auger was used to collect soil samples.
 - Surface woodchip cover within three of the farm sheds was moved by hand and samples were collected immediately under the woodchip layer.
- All soil samples were subject to a screening for visual and olfactory evidence of contaminant impact.
- A clean pair of nitrile gloves were worn to place the soil sample within the sample jars to limit the potential for cross-contamination.
- Soil samples were collected directly from the auger and placed in laboratory provided clean sample jars and identified with a unique sample identifier, which was documented on the sample label, and chain of custody form.
- All soil samples were placed in an ice-cooled storage box (i.e. Chilly Bin) immediately after collection and transported under chain of custody documentation to the analytical laboratory.
- All field sampling equipment was decontaminated prior to use at each soil sample location to limit the potential for cross-contamination. Decontamination of field equipment involved: wash with clean potable water; scrubbing in a detergent solution (Decon® 90) and potable water; and a final rinse in clean water.
- The soil samples were transported under full Chain of Custody documentation to Hill Laboratories (Hill Labs), Hamilton. The soils were analysed as per the analytical schedule in **Appendix E**.

6.2 Sampling Observations

Photos of the Site are presented in **Appendix C**. The following soil characteristics and observations are described below:

- The ground surface generally comprised various materials across the Site, primarily consisting of surface silt and sand fill with areas of gravel fill. Underneath the fill materials generally consisting of fine to medium silt and clayey silts.
- Potential broken asbestos board were observed at locations SS02 and SS05.



- Potential paint flakes were observed at locations SS02, SS03, SS10, SS11 and SS29.
- Dark discoloured soil indicative of a potential oil staining was observed at location SS32.
- Tyre storage was encountered at locations HA18 and HA19.
- No other visual or olfactory signs of contamination were present.

6.3 QA/QC

Standard field quality assurance protocols were followed. All tools used for sampling were decontaminated and washed between samples to remove the risk of cross contamination. Nitrile gloves were also used and disposed of between each sample. Samples were analysed by Hill Laboratories, a New Zealand accredited laboratory (by International Accreditation NZ). Their primary quality standard is NZS/ISO/IEC 17025:2005 which incorporates the aspects of ISO 9000 relevant to testing laboratories.

Refer to the laboratory analysis report in **Appendix F** for further information on accreditation.

6.4 Evaluation Criteria

The soil sample results have been screened against the following criteria:

Human Health Guidelines

- NESCS Soil Contaminant Standards (SCS) using the 'commercial / industrial' land use scenario. This is consistent with the proposed land use.
 - In the absence of New Zealand specific human health risk assessment criteria for concentrations of nickel and zinc in soil, the Australian National Environment Protection Council National Environment Protection (Assessment of Site Contamination) Measure 1999, Amendment No.1 (2013) - Health Investigation Levels using 'Commercial / Industrial' exposure scenario guidelines have been adopted¹.
- New Zealand Guidelines for Assessing and Managing Asbestos in Soil (GAMAS) 2024, using the commercial / industrial land use scenario for ACM and the 'all' land use scenario for asbestos fines and fibrous asbestos.
- Ministry for the Environment Guidelines for Assessing and Managing Petroleum Hydrocarbon Contaminated Sites in New Zealand (MfE, 2011) using Tier 1 Soil acceptance criteria for commercial/industrial land use setting from **Table 6**.

Environmental Criteria

- Landcare Research (2022). Exploring the implementation of ecological soil guideline values for soil contaminants (2214-MLDC162) (Eco-SGVs) The Eco-SGVs for commercial / industrial land use (60% level of protection, and 'typical soil' as defined in the guidelines) have been adopted to reflect current and ongoing land use.

Predicted Background Concentrations (PBC)

- Waikato Regional Council background soil concentrations.

Disposal

¹ Adopted in accordance with the hierarchy for selecting Soil Guidelines Values (SGVs) as detailed in MfE CLMG No.2 Hierarchy and Application in New Zealand of Environmental Guideline Values, 2011



- Waikato Cleanfill Acceptance Criteria.
- Gleeson Managed Fill Acceptance Criteria.

6.5 Soil Sampling Results

A summary of the soil sampling results is presented in **Table 6**. The full results are contained in the laboratory analysis reports provided in **Appendix F**.

6.5.1 Human Health

- Asbestos was detected in one soil sample (SS03) as chrysotile; the reported form was loose fibres; however, the concentrations were below the laboratory limit of reporting (LOR) and human health guideline for commercial / industrial land use. Asbestos was not detected in any other sample analysed.
- Concentrations of heavy metals (arsenic, cadmium, chromium, copper, lead, nickel and zinc) were below the respective human health criteria for commercial / industrial land use in all soil samples analysed.
- TPH fraction C₁₀-C₁₄ was detected in two samples analysed (220 mg/kg at SS06/0.0 and 410 mg/kg at SS32/0.0); however, concentrations are below the human health guideline of 1,900 mg/kg for commercial / industrial land use.
- TPH fraction C₁₅-C₃₆ was detected in both SS06/0.0 and SS32/0.0 (up to 12,500 mg/kg at SS32/0.0). There was no evidence of separate phase hydrocarbons at these locations.
- Total hydrocarbon (C7-C36) concentrations were detected up to 13,000 mg/kg in SS32/0.0.
- All composite samples analysed for OCPs were reported below the laboratory LOR.

6.5.2 Background and Environment

- Concentrations of lead exceeded the Eco SGV commercial / industrial criterion in one soil sample (SS01; 1,180 mg/kg vs 900 mg/kg). All other soil samples analysed for heavy metals were within the respective Eco SGV assessment criteria.
- Concentrations of TPH fractions F1, F2 and total hydrocarbons (TPH C7 – C36) exceed the Eco SGV commercial / industrial criterion in two soil samples analysed (SS06 & SS32).
- Concentrations of one or more heavy metals (arsenic, chromium, copper, lead and/or zinc) exceeded the respective background criteria in 27 soil samples.

6.5.3 Disposal

For excavated soils at the Site that require disposal, the following is noted:

- Concentrations of arsenic (SS19), lead (SS01, SS03, SS05, SS09, SS25, SS26, SS28, and SS30) and zinc (SS23) in surface soil exceed the Waikato Cleanfill Criteria.
- Although no evidence of separate phase hydrocarbons was observed, TPH fractions C₁₅-C₃₆ concentrations were elevated (SS06 and SS32) and are not suitable for disposal as Cleanfill.



¹ Refer to the laboratory certificate for full analytical results. Criteria adopted from the following guidelines:
² Human Health Criteria for Commercial/Industrial Land use selected in accordance with CLMO No. 2 (MRE, 2011).
³ NZPM 2013 Criteria for Human Health, V1.0 Commercial/Industrial/Residential Table 2
⁴ Ministry for the Environment (2011) Guidelines for Assessing and Managing Petroleum Hydrocarbon Contaminated Sites in New Zealand: Table 4.1.4 - Tier 1 Soil acceptance criteria commercial/industrial land use. Criteria have been based on a silty clay soil and sandy silt type for soils in 0-10 cm depth. The following notes indicate the relevant pathway for each criterion: v - Volatilisation, a - Soil Ingestion, d - Dermal, p - Produce, m - Maintenance/Excavation, i - Inhalation pathway X - PAHs ignored. NA indicates estimated critical exceeds 20,000 mg/kg. At 20,000 mg/kg residual separate phase is expected to have formed in soil matrix. Some aesthetic impact may be noted. Borehole density values exceed threshold fully to correspond to formation of residual separate phase hydrocarbon contamination.
⁵ Landcare Research (2019). UPDATED user guide: Background soil concentrations and soil odourable values for the detection of ecological receptors Table 23 (Eco-SVG) - Consultation draft (EcoVigil Draft: 1925-GSQC196).
⁶ NZ GASMS (2014) - Commercial/Industrial Criteria
⁷ Volatile Region/Control Wasteline chemical acceptance criteria.
⁸ Gascon Managed F8 Acceptance criteria.

7.0 Discussion

7.1 Results

7.1.1 Human Health

Concentrations of all identified CoPC are below the respective adopted assessment criteria for the protection of human health in regard to the future use of the Site as light industrial land use. The soils are considered highly unlikely to pose a risk to human health during the development works and are suitable to remain on-site.

7.1.2 Background and Environmental

Concentrations of lead exceeded the adopted Eco SGV in one surface soil sample (SS01/0.0). Heavy metals were detected above typical Waikato background concentrations in 27 of the 41 samples analysed. The elevated lead concentration is limited to a single, discrete surface location and is likely attributable to the adjacent house, consistent with the expected behaviour and limited lateral mobility of metals in soils.

TPH were detected at two locations above the Eco SGV for SS06, located beneath an above-ground storage tank (AST) used for refuelling activities, and SS32, located within a shed used for farm machinery storage. The hydrocarbon contamination is considered consistent with historical minor leaks and drips associated with fuel handling and machinery operation. There was no evidence of separate-phase hydrocarbons at either location, and analytical results indicate the contamination is dominated by relatively immobile middle to heavy hydrocarbon fractions (C10-C14 & C15-C36), which exhibit low solubility, strong adsorption to soil, and limited potential for migration. Given that the identified TPH impacts appear to be localised and confined to shallow soils, and that significant concentrations of lighter, more mobile hydrocarbons were not detected, the potential for contaminant migration to groundwater or surface water is considered low. The impacted areas are not located near significant ecological receptors or surface water bodies, with the nearest pond situated approximately 80 m northwest of SS06 and the nearest stormwater catchment swale located approximately 90 m south of SS32. Given the limited extent, localised nature, and low mobility of the contamination, and noting that affected soils would likely be mixed and redistributed during future earthworks, the identified hydrocarbon impacts are considered unlikely to present a significant risk to the environment.

7.1.3 Disposal

Soils are suitable to remain on-site from a human health and environmental risk perspective.

Surplus soils from the localised areas where Cleanfill criteria have been exceeded, and elevated TPH fractions C₁₅-C₃₆, may be suitable for disposal off-site as Managed Fill, subject to confirmation from the receiving facility. Soils outside the identified areas of contamination may be suitable for off-site disposal as Cleanfill, subject to receiving facility acceptance.

7.2 Regulatory Assessment

7.2.1 HAIL Assessment

The reported soil contaminant concentrations across the investigated areas of the Site are generally consistent with rural horticultural land use and historical building infrastructure, as



indicated by the initial HAIL assessment, and are broadly consistent with previous environmental investigations conducted on land immediately adjacent to the Site.

The analytical results support the occurrence of HAIL I: *Land that has been subject to the intentional or accidental release of a hazardous substance* at the Site due to localised heavy metal enrichment consistent with past building maintenance and rural land uses.

The absence of detectable OCP residues suggests that persistent pesticides associated with HAIL A10: *persistent pesticide bulk storage or use, including sport turfs, market gardens, orchards, glass houses or spray shed* have either not been used, or any impacts are not evident in the soils sampled across the Site.

Localised asbestos detection indicates that HAIL E1: *Asbestos products manufacture or disposal, including sites with buildings containing asbestos products known to be in a deteriorated condition* risks may be present in discrete areas, but the limited extent of detection suggests asbestos contamination is not widespread; nevertheless, asbestos-containing material may still be encountered during intrusive works.

Observations made during the Site Walkover identified an above ground fuel storage tank, and a farm shed with vehicle storage, presenting the potential risk of HAIL F8: *Transport depots or yards, including areas used for refuelling or the bulk storage of hazardous substances* being present at the Site. Analytical results support the occurrence of HAIL F8 at the Site due to elevated concentrations of TPH fractions C₁₀–C₁₄ and C₁₅–C₃₆ within the soil at localised areas of the Site.

Areas of confirmed HAIL locations within the Site are presented in **Figure 2**.

7.2.2 NESCS

Soil sampling across the investigation area has confirmed isolated concentrations of heavy metals above published background and Eco SGV criteria, and localised concentrations of TPH above Eco SGV criteria, confirming that these areas have been subject to HAIL activities E1: *Asbestos products manufacture or disposal*, F8: *Transport depots or yards*, and I: *Land that has been subject to the intentional or accidental release of a hazardous substance*. Therefore, these isolated investigation areas are considered to be a 'Piece of Land' under Regulation 5(7) of the NESCS.

This DSI has confirmed contaminant concentrations in soil associated with known HAIL activities undertaken at the Site, and are considered highly unlikely to pose a risk to human health and the environment.

Under Regulation 8(3) of the NESCS, soil disturbance and off-site soil disposal are permitted activities only when the volume of disturbance across each 'Piece of Land' subject to HAIL activities remains below the permitted thresholds, and when other conditions, such as activity duration not exceeding two months and reinstatement to an erosion-resistant state within one month, can be met.

For this Site, the HAIL features are limited to isolated areas only, as HAIL A10 has been assessed as not applicable beyond these discrete locations. However, proposed soil disturbance activities are expected to exceed the permitted soil disturbance thresholds across these 'Pieces of Land'. It is also unlikely that the proposed works will meet other permitted activity requirements, including the maximum activity duration and the reinstatement timeframe.

Given that the Permitted Activity (PA) requirements of Regulation 8(3) are unlikely to be met, a Controlled Activity Consent under Regulation 9 of the NESCS will be required and is being sought as part of the substantive application. To support this, a draft Contaminated Site



Management Plan (CSMP) has been prepared in support of the application, to outline appropriate soil handling, storage, and disposal measures.

7.3 Waikato Regional Council Regional Plan (WRC RP)

The WRC RP glossary definition of a contaminated land:

Contaminated land means land of one of the following kinds:

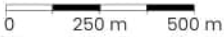
- 1 If there is an applicable national environmental standard on contaminants in soil, the land is more contaminated than the standard allows; or
- 2 If there is no applicable national environmental standard on contaminants in soil, the land has a hazardous substance in or on it that-
 - a) Has significant adverse effects on the environment; or
 - b) Is reasonably likely to have significant adverse effects on the environment.

Based on the analytical results, the concentrations do not exceed the NESCS SCS and therefore the Proposed Development is highly unlikely to meet the WRC RP definition. As such, the contaminated land rules of the WRC RP do not apply.





- Legend**
- HAIL F8 – Transport depots or yards
 - HAIL I – Land Subject to Intentional or Accidental Release of Hazardous Substance (Heavy Metals)
 - HAIL E1 and HAIL I – Asbestos Products & Land Subject to Intentional or Accidental Release (Heavy Metals)
 - Site Boundary



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Produced by **Datanest.earth**

Title: Confirmed HAIL Locations

Client: Kilroy Group Limited

Size: A3

Project:
Te Kowhai East
Development

Drawn: LL

Figure No.: 2

Date: 13-08-2026

Checked:
NM

Proj No:
810.032016.00001

Scale:
1:20000

Version: 1.0

8.0 Revised Conceptual Site Model

A Conceptual Site Model (CSM) (**Table 7**), based on the findings of the Site history, background information review and laboratory analytical results provides a detailed description of the identified potential sources, pathways and receptors, and a qualitative assessment of complete or potentially complete source-pathway-receptor (SPR) linkages. A risk to human health or the environment is only present if there is a complete SPR linkage. The CSM detailed in **Table 7** is not intended to be an exhaustive assessment of all potential SPR linkages. The CSM has been developed based on available information, any omissions are not indicative of no risk.



Table 7: Conceptual Site Model

Source	Pathway	Receptor	Human Health	Discussion	SPR Linkage
Heavy metals in soil	Direct contact, inhalation and/or ingestion	Site users and maintenance/ excavation workers	Human Health	The concentrations of heavy metals reported in soil samples across the Site were below the adopted human health criteria.	Incomplete Concentrations of heavy metals are below adopted human health assessment criteria for future light industrial land use.
	Leaching to groundwater and/or river	Groundwater	Environmental	The concentrations of heavy metals reported in soil samples across the Site reported one localised concentration of lead above the Eco SGV. All remaining samples analysed reported concentrations of heavy metals were below the Eco SGV. Assessment of groundwater or leachable concentration of heavy metals has not been undertaken.	Incomplete Concentration of heavy metals are detected above regional background criteria with one localised concentration of lead reported above the Eco SGV criteria. The remaining samples analysed reported heavy metal concentrations below the Eco SGV criteria. The elevated lead concentration is limited to a single, discrete surface location and is likely attributable to the adjacent house, consistent with the expected behaviour and limited lateral mobility of metals in soils As groundwater is expected to be between 1.0 and 2.2 m bgl it is highly unlikely that concentrations of heavy metals in surface soils would pose a risk to groundwater.
Hydrocarbons in soil	Direct contact, inhalation and/or ingestion	Site users and maintenance/ excavation workers	Human Health	Detectable levels of TPH were identified in selected soils and likely associated with general refuelling and farm vehicle storage activities across the Pieces of Land. Concentrations of all TPH fractions are below adopted human health criteria.	Incomplete Concentrations of TPH are below adopted human health assessment criteria for future light industrial land use.
	Leaching to groundwater and/or river	Groundwater	Environmental	No groundwater / surface water monitoring has been undertaken as part of these works. No groundwater or surface water monitoring has been undertaken as part of these works. However, based on the available soil analytical data, the potential for petroleum hydrocarbons to adversely affect groundwater is considered low. Petroleum hydrocarbon impacts are dominated by the heavier hydrocarbon fractions, with TPH C15-C36 reported at 12,500 mg/kg and TPH C10-C14 reported at 410 mg/kg, while the lighter and more mobile TPH C7-C9 fraction was not detected above the laboratory limit of reporting (<20 mg/kg). Although ecological guideline values were exceeded for the F2 and F3 hydrocarbon fractions, these exceedances are consistent with localised minor leaks and drips associated with agricultural machinery storage and refuelling activities within an active dairy farming operation.	Highly Unlikely The contamination is likely localised to surface soils, with no observation of widespread impacts, free product, or appreciable concentrations of lighter, more mobile hydrocarbons that could readily migrate vertically through the soil profile. On the basis of the hydrocarbon composition, the localised nature of the contamination, and the limited mobility characteristics of the detected C10-C14 and C15-C36 fractions, and given groundwater is expected to be between 1.0 and 2.2 m bgl, the linkage between contaminated soil and groundwater is not considered to pose a significant risk to groundwater.
Organochlorine pesticides in soil	Direct contact, inhalation and/or ingestion	Site users and maintenance/ excavation workers	Human Health	OCPs were not detected in the soil samples analysed.	Incomplete OCPs were not detected at concentrations above the LOR, and therefore do not exceed the adopted human health assessment criteria for light industrial land use
	Leaching to groundwater and/or river	Groundwater	Environmental	No groundwater / surface water monitoring has been undertaken as part of these works. However, undetectable concentrations in soil while not indicative of no risk to groundwater would indicate that the likelihood or risk to groundwater / surface water is low.	Incomplete The concentrations of OCPs were all below the LOR and therefore are not considered to be at concentrations that would pose a leachable risk to groundwater.
Asbestos in soil	Inhalation	Site users and maintenance/	Human Health	Asbestos was detected in one localised surface soil sample at concentrations below the adopted human health criteria.	Highly Unlikely Concentrations of asbestos in isolated areas were detected above LOR but below the adopted human health criteria.



Source	Pathway	Receptor	Human Health	Discussion	SPR Linkage
		excavation workers			



9.0 Conclusions and Recommendations

SLR was engaged by Te Kowhai East Limited Partnership to undertake a combined Preliminary and Detailed Site Investigation (PSI–DSI) the Te Kowhai East Development site (the Project). The objective of the investigation was to identify any activities listed on the Ministry for the Environment (MfE) Hazardous Activities and Industries List (HAIL), assess the nature and extent of contamination in soils where present, and evaluate relevant implications under the National Environmental Standard for Assessing and Managing Contaminants in Soil to Protect Human Health (NESCS) and the Waikato Regional Plan (WRP).

Based on the findings of the PSI–DSI, the following conclusions are made:

- Historical and current land uses across the Site include pastoral farming, cropping, farm infrastructure, fuel storage, and building maintenance activities. These are consistent with potential HAIL activities A10, E1, F8 and I.
- Soil sampling undertaken at 58 locations (SS01 – SS26, SS28 – SS39, and HA01 – HA19), comprising 111 samples from depths of 0.0–0.5 m bgl, identified:
 - Concentrations of all analysed heavy metals below the adopted human health criteria for commercial/industrial land use.
 - One detection of asbestos (chrysotile) in soil (SS03) below the adopted guideline for commercial/industrial land use; asbestos was not detected above laboratory LOR in any other samples.
 - Detectable concentrations of TPH fractions C10–C14 and C15–C36 at SS06 and SS32; reported concentrations of C10–C14 were below human health criteria. There was no evidence of separate phase hydrocarbons observed at these locations.
 - All analysed OCP concentrations were below laboratory limits of reporting.
- Environmental screening identified:
 - Lead exceeded the adopted Eco-SGV (commercial/industrial) in a single soil sample (SS01).
 - Concentrations of TPH in surface soil samples SS06 and SS32 were reported above the Eco SGV.
 - Concentrations of one or more heavy metals exceeded Waikato background soil concentrations in 27 samples.
- Disposal assessment identified:
 - Concentrations of arsenic (SS19), lead (SS01, SS03, SS05, SS09, SS25, SS26, SS28, and SS30) and zinc (SS23) in surface soil exceed the Waikato Cleanfill acceptance criteria.
- Based on the soil contaminant concentrations and the presence of HAIL activities, isolated portions of the Site meet the definition of a ‘Piece of Land’ under Regulation 5(7) of the NESCS.
- Soil contaminant concentrations across the Site do not exceed the NESCS Soil Contaminant Standards for commercial/industrial land use and therefore do not meet the definition of contaminated land under the Waikato Regional Plan.

Based on the findings of this DSI, the following recommendations are made:



- The isolated presence of asbestos, elevated heavy metals and TPH concentrations confirms the occurrence of HAIL activities E1, F8 and I at discrete locations of the Site, and these areas are therefore considered 'Pieces of Land' under Regulation 5(7) of the NESCS.
- Soil disturbance and off-site soil disposal associated with the proposed development will occur within pieces of land where HAIL activities have been identified. Disturbance volumes across these areas are expected to exceed the permitted thresholds of Regulation 8(3) of the NESCS, and other permitted activity conditions—such as the maximum activity duration and reinstatement to an erosion-resistant state—are also unlikely to be met.
- As the proposed earthworks are unlikely to comply with the Permitted Activity requirements of Regulation 8(3), a Controlled Activity consent under Regulation 9 of the NESCS will be required and is being sought as part of the substantive application. A draft Contaminated Site Management Plan (CSMP) has been prepared to support the application and to outline appropriate soil handling and disposal measures.
- Soils are generally suitable to remain on site from a human health and environmental perspective. If off-site disposal is required, surplus soils from the localised areas where Cleanfill criteria have been exceeded—including those with elevated TPH fractions (C₁₅–C₃₆)—may be suitable for disposal as Managed Fill, subject to acceptance by the receiving facility. Soils outside the identified areas of contamination may be suitable for off-site disposal as Cleanfill, also subject to receiving facility confirmation.
- Asbestos-containing material (ACM) associated with existing buildings may be encountered during intrusive works. Standard asbestos-in-soil management controls, including unexpected encounters of ACM, should be incorporated into the SMP where earthworks intersect these areas.

This investigation and associated reporting have been carried out and reviewed by a Suitably Qualified and Experienced Practitioner (SQEP) in accordance with the NESCS.

10.0 Closure

We trust this report meets your satisfaction. If you have any queries, please do not hesitate to contact the undersigned.

Sincerely,

SLR Consulting New Zealand Limited



Lindsay Lutes
Senior Project Consultant
Land Quality and Remediation



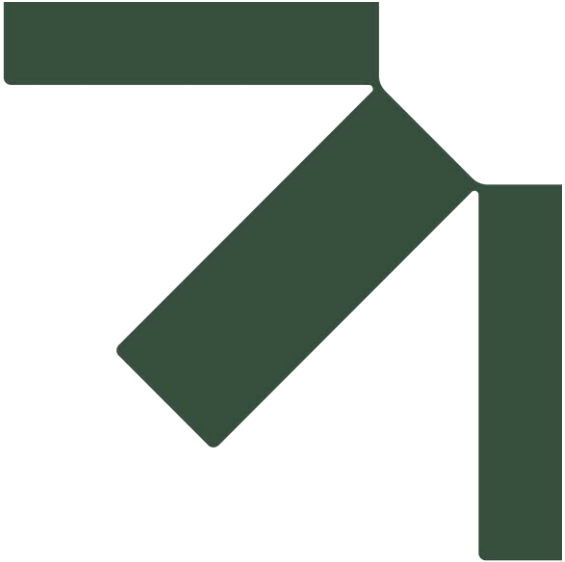
Nigel Mather
Practice Manager – Land Quality and
Remediation



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Appendix A Historical Aerial Photographs

Preliminary and Detailed Site Investigation

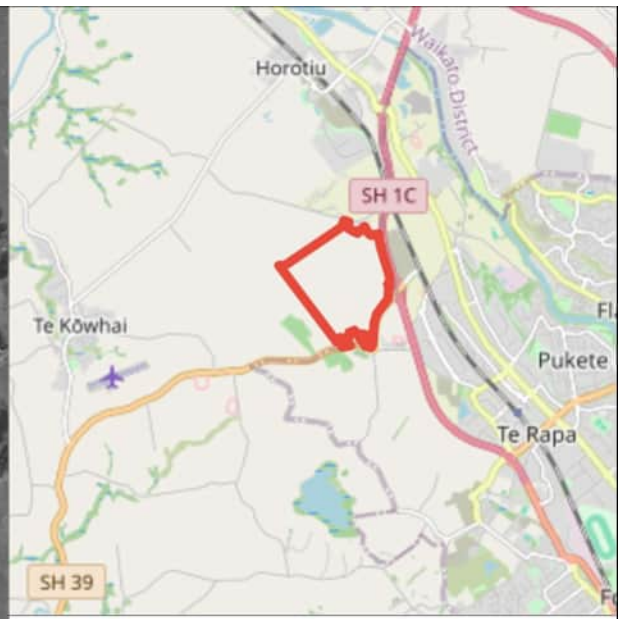
Te Kowhai East Development

Te Kowhai East Limited Partnership

SLR Project No.: 810.032016.00001

14 August 2026

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Legend

Site Boundary

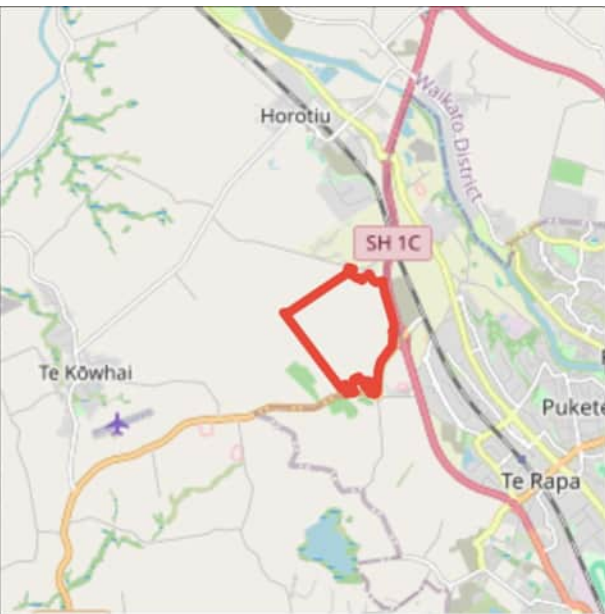
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Produced by **Datanest.earth**

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Client: Kilroy Group Limited		Size: A3
Project: Te Kowhai East Development	Drawn: LL	Figure No.: 1941
Date: 18-02-2026	Checked: NM	
Proj No: 810.032016.00001	Scale: 1:8000	Version: 1.0

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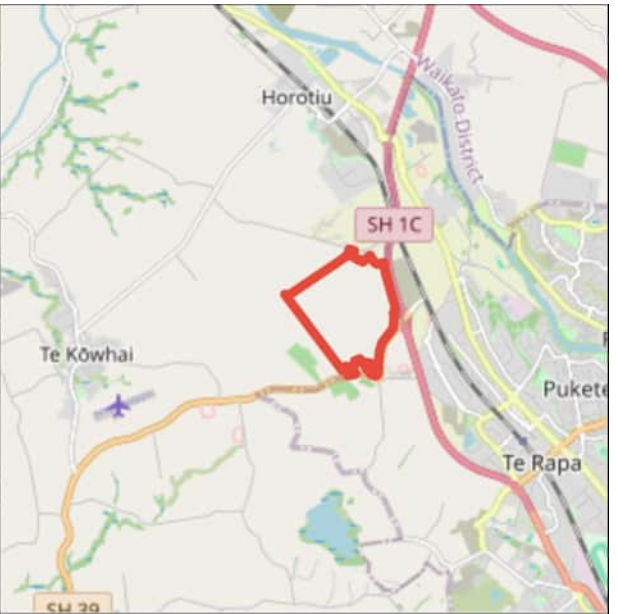
- Site Boundary
- 1952-2

0 100 m 200 m
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Produced by **Datanest.earth**

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Client: Kilroy Group Limited		Size: A3
Project: Te Kowhai East Development	Drawn: LL	Figure No.: 1952
Date: 18-02-2026	Checked: NM	
Proj No: 810.032016.00001	Scale: 1:8000	Version: 1.0



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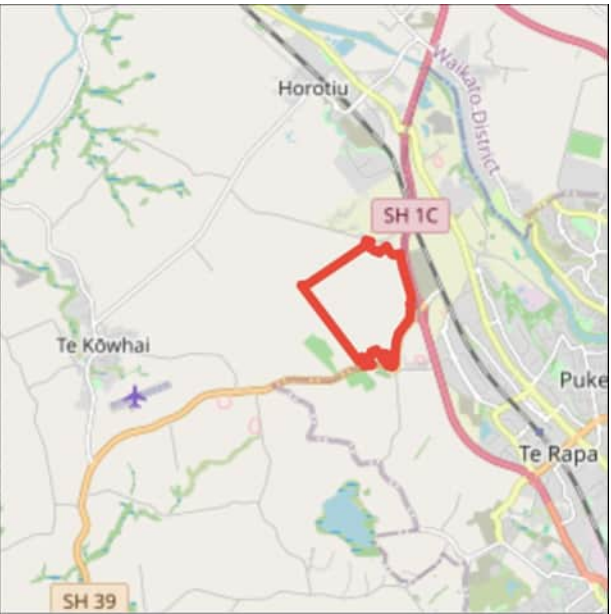
-  Site Boundary
-  1963

0 100 m 200 m
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Produced by **Datanest.earth**

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Client: Kilroy Group Limited		Size: A3
Project: Te Kowhai East Development	Drawn: LL	Figure No.: 1963
Date: 18-02-2026	Checked: NM	
Proj No: 810.032016.00001	Scale: 1:8000	Version: 1.0



Legend

-  Feature 6
-  Site Boundary
-  1974

0 100 m 200 m
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Produced by **Datanest.earth**

Title: 1974 Historical Aerial		
Client: Kilroy Group Limited		Size: A3
Project: Te Kowhai East Development	Drawn: LL	Figure No.: 1974
Date: 18-02-2026	Checked: NM	
Proj No: 810.032016.00001	Scale: 1:8000	Version: 1.0



Legend

- Feature 8
- Site Boundary
- 1991

0 100 m 200 m
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Produced by **Datanest.earth**

Title: 1991 Historical Aerial		
Client: Kilroy Group Limited		Size: A3
Project: Te Kowhai East Development	Drawn: LL	Figure No.: 1991
Date: 18-02-2026	Checked: NM	
Proj No: 810.032016.00001	Scale: 1:8000	Version: 1.0



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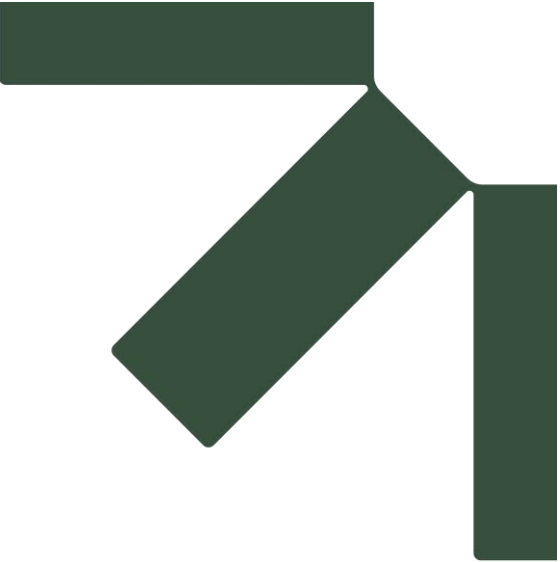
-  Feature 8
-  Site Boundary
-  2004

0 100 m 200 m
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Produced by **Datanest.earth**

Title: 2004 Historical Aerial		
Client: Kilroy Group Limited		Size: A3
Project: Te Kowhai East Development	Drawn: LL	Figure No.: 2004
Date: 18-02-2026	Checked: NM	
Proj No: 810.032016.00001	Scale: 1:8000	Version: 1.0



Appendix B WRC Information

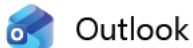
Preliminary and Detailed Site Investigation

Te Kowhai East Development

Te Kowhai East Limited Partnership

SLR Project No.: 810.032016.00001

14 August 2026



RE Land Use Information Register enquiry Multiple Properties, Horotiu (REQ226431) Multiple LUI

From Joshua Evans [REDACTED]
Date Mon 12/8/2025 2:13 PM
To Olivia Mollentze [REDACTED]

 1 attachment (622 KB)

AMENDED DSI RAP for Clem Newby, 284 Onion Road 30 Mathers Road, Hamilton (LUIR #8123) (3004586).PDF;

You don't often get email from [REDACTED]. [Learn why this is important](#)

Dear Olivia,

Thank you for your enquiry regarding information the Waikato Regional Council may hold relating to potential contamination at the property indicated below:

270 Te Kowhai Road, Horotiu: LOT 2 DP 523063 (VGN: 0441040106), **246 Te Kowhai Road, Horotiu:** LOT 1 DP 546273 (VGN: 0441040002), SEC 13 SO 416124 (Parcel ID: 7151440), SEC 2 SO 577981 (Parcel ID: 8385432), **Ruffell Road, Horotiu:** SEC 2 SO 473918 SEC 25 SO 417000 SEC 26 SO 417000 (VGN: 0441039008) & **28 Mathers Road, Horotiu:** LOT 3 DP 523063 PT ALLOT 215 PSH of PUKETE SEC 1 SO 473918 (VGN: 0441038211)

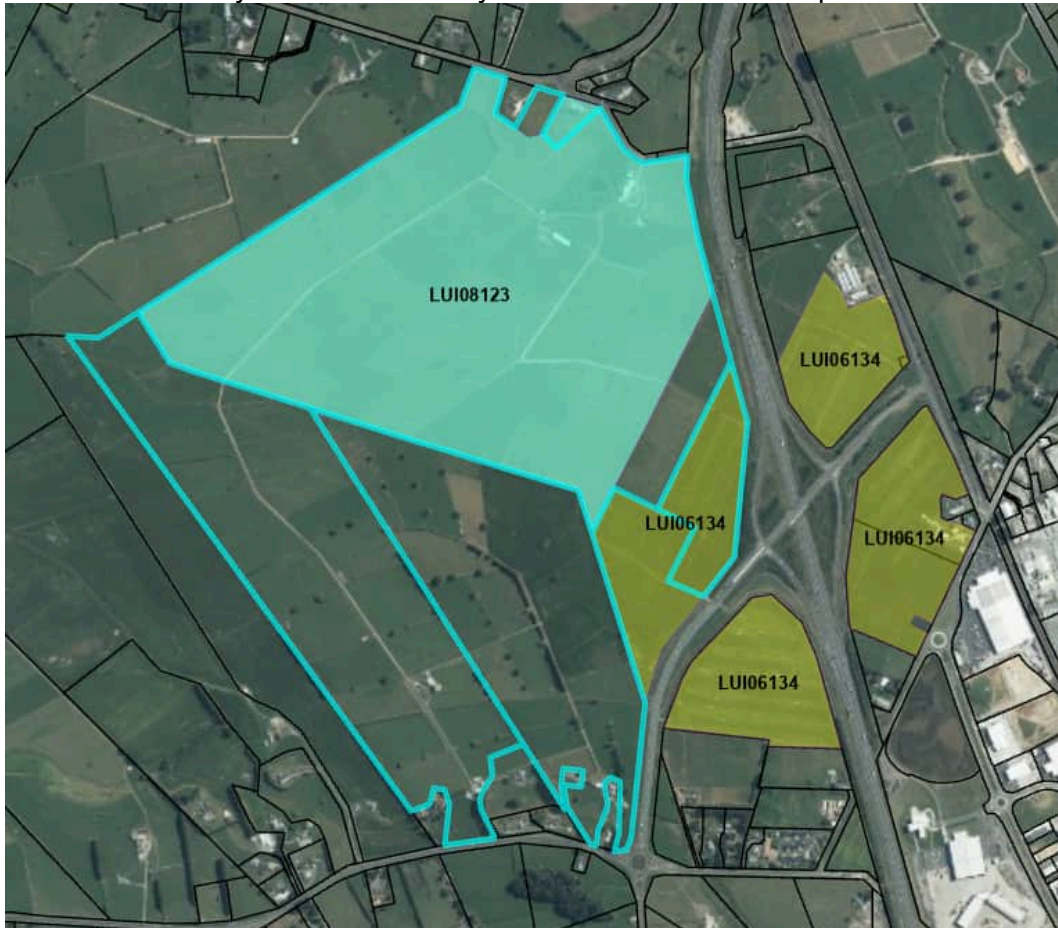


Background: The Waikato Regional Council maintains a register of properties known to be contaminated on the basis of chemical measurements, or potentially contaminated on the basis of

past land use. This register (called the Land Use Information Register) is still under development and should not be regarded as comprehensive. The 'potentially contaminated' category is gradually being compiled with reference to past or present land uses that have a greater than average chance of causing contamination, as outlined in the Ministry for the Environment's Hazardous Activities and Industries List (HAIL): [Hazardous Activities and Industries List guidance: Identifying HAIL land | Ministry for the Environment](#)

This property:

- I can confirm that this property **does** appear on the Land Use Information Register, as indicated by the area shaded yellow and blue on the map below.



WRC REF	Site name	Classification	HAIL Code & Description	Comments and files or documents held
LUI08123	Pastoral Land	Review Pending	HAIL I. (Unknown period) – superphosphate use	Accumulation of cadmium due to historic superphosphate use. See the attached report for details. The site remains under review pending as WRC are still awaiting confirmation that remedial works were completed.
LUI06134	Hooker and Sons/Hooker Onion Farm	Verified HAIL – Limited Sampling	A10. Persistent pesticide bulk storage or use (2008 – present) A17. Storage tanks or drums for fuel, chemicals or liquid waste (unknown - present)	Please the reports associated with this site via: ☐ REQ226431

F4. Motor vehicle workshops (unknown – present)

District Councils: Our records are not integrated with those of territorial authorities, so it would also be worth contacting the Waikato District Council to complete your audit of Council records if you have not already done so. In general, information about known contaminated land will be included on a property LIM produced by the territorial authority.

Rural Land Considerations: Examples of sites that are "more likely than not" to have soil contamination (HAIL sites) include timber treatment activities, service stations and/or petroleum storage, panel beaters, spray painters, etc. Whilst pastoral farming is not included on this list, typical farming activities of horticulture, sheep dipping, chemical storage, petroleum storage and workshops are; but are more difficult to identify and may not be as well represented on the Land Use Information Register. Therefore, individuals interested in pastoral land may be interested in completing further investigations in accordance with Ministry for the Environment Guidelines prior to land purchase and/or development.

Additional Information: Please note that:

- Significant use of lead-based paint on buildings can, in some cases, pose a contamination risk; the use of lead-based paint is not recorded on the Land Use Information Register.
- Buildings in deteriorated or derelict condition which contain asbestos can result in asbestos fibres in soil; the use of asbestos in building materials is not recorded on the Land Use Information Register.
- The long term, frequent use of superphosphate fertilisers can potentially result in elevated levels of cadmium in soil; the use of superphosphate fertiliser is not recorded on the Land Use Information Register.
- We are not currently resourced to fully incorporate historic aerial photographs in our region-wide assessment of HAIL activities. A significant proportion of the Crown historical aerial image archive for the Waikato region is available to view free of charge at <http://retrolens.nz/>. We recommend this resource is consulted for any HAIL assessment.
- Due to the large volume of enquiries being received, we may not be able to respond to your enquiry as quickly as previously. We are resourced to meet **20 day** response times as per LGOIMA, but endeavour to respond more quickly when workload permits. If your enquiry is urgent, please note this first in your enquiry and we will do our best to assist.

Please feel free to contact me if you have any further queries on this matter. For any new enquiries or requests for information please continue to use the [Request for Service form](#) for 'Contaminated Land/HAIL.'

Regards,

Joshua Evans | SCIENTIST - CONTAMINATED LAND | Geothermal & Air, Land Ecology & Contamination, Science, Policy
WAIKATO REGIONAL COUNCIL | Te Kaunihera ā Rohe o Waikato

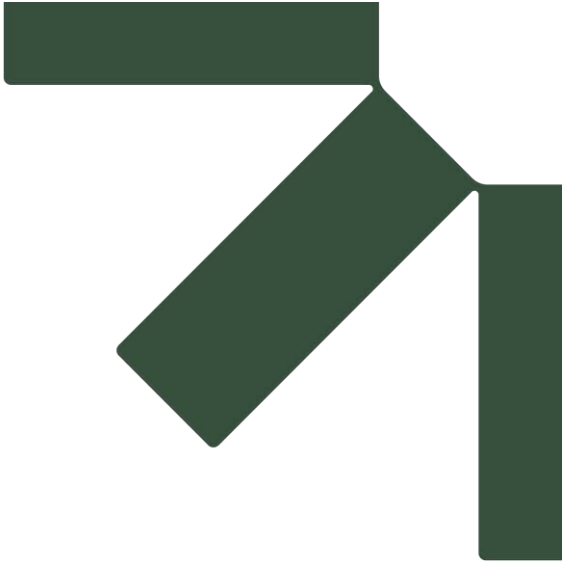
P: +

F: facebook.com/waikatoregion

Private Bag 3038, Waikato Mail Centre, Hamilton, 3240

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Appendix C Photolog

Preliminary and Detailed Site Investigation

Te Kowhai East Development

Te Kowhai East Limited Partnership

SLR Project No.: 810.032016.00001

14 August 2026

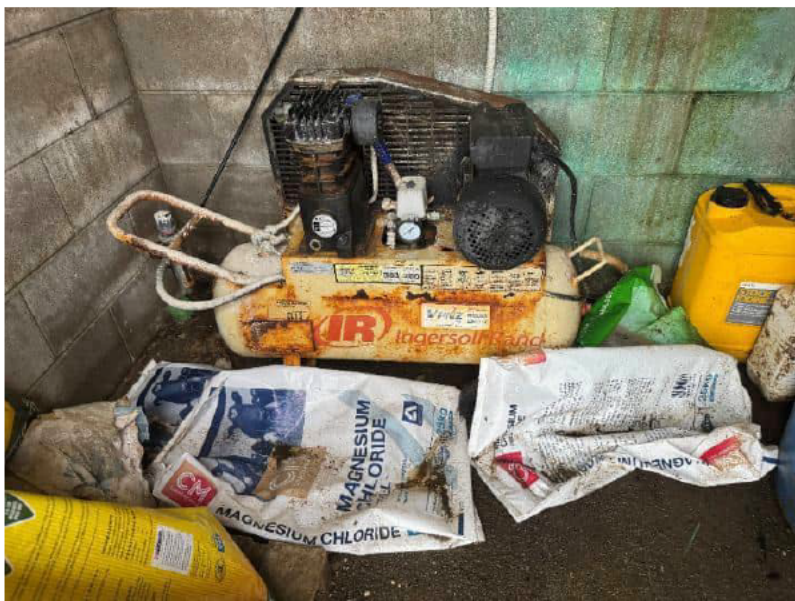
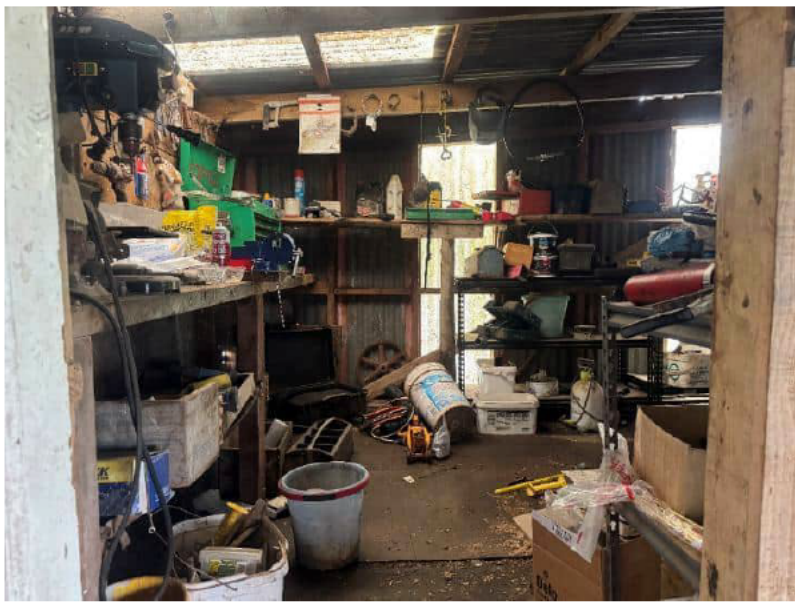
Photolog

Photo 1: General view of site, looking west (27 January 2026).  A wide-angle photograph of a green field with yellow wildflowers in the foreground. In the distance, there are farm buildings and a line of trees under a blue sky with scattered white clouds.	Photo 2: General view of site, looking west (27 January 2026).  A photograph of a field with dense green vegetation and shrubs. A line of trees is visible in the background under a cloudy sky.	Photo 3: General view of site, looking north (27 January 2026).  A photograph of a green field with a small white building on a hill in the distance. The sky is overcast with grey clouds.
Photo 4: General soil profile observed during sampling works across the site (27 January 2026).  A close-up photograph of a soil profile. It shows a dark brown, moist soil layer on top of a lighter, yellowish-brown, crumbly layer, with green grass growing around the edges.	Photo 5: Corn field and location of sample HA15 (27 January 2026).  A photograph of a cornfield with rows of corn plants. The ground is dry and dusty, and some leaves are yellowed.	Photo 6: Wood chip covering the surface within the farm sheds (27 January 2026).  A close-up photograph of a pile of dark brown soil and wood chips. The wood chips are small and light-colored, mixed with the dark soil.



Photo 7: Residential dwelling located in the north of the site, facing west (<i>sample locations SS10 – SS13</i>) (22 January 2026).	Photo 8: Residential dwelling located in the north of the site, facing south (<i>sample locations SS10 – SS13</i>) (22 January 2026).	Photo 9: Potential asbestos in building materials (22 January 2026).
		
Photo 10: Farm shed located in the north of the site, facing west (<i>Feature 1 and sample location SS09</i>) (22 January 2026).	Photo 11: Farm equipment stored within the shed (<i>Feature 1</i>) (22 January 2026).	Photo 12: Milking sheds located in the north of the site, facing south (<i>Feature 7</i>) (22 January 2026).
		



Photo 13: Rear of milking shed with potential lead-based paint (sample location SS08) (22 January 2026).	Photo 14: Small quantity of fertilisers stored within the milking shed (22 January 2026).	Photo 15: Storage shed located in the north of the site, facing south (sample locations SS04 – SS06) (22 January 2026).
		
Photo 16: Storage shed located in the north of the site, facing south (sample locations SS04 – SS06) (22 January 2026).	Photo 17: Storage shed located in the north of the site, facing south (sample locations SS04 – SS06) (22 January 2026).	Photo 18: Above ground fuel tank located adjacent to a storage shed (sample location SS06) (22 January 2026).
		

Commented [NM1]: Milking shed?



Photo 19: Potential asbestos in building materials located at the rear of the storage shed (<i>sample location SS05</i>) (22 January 2026).	Photo 20: Residential dwelling with garage located in the north of the site (<i>Feature 1</i> and <i>sample locations SS01 – SS03</i>), facing south (22 January 2026).	Photo 21: Shed located to the west of the residential dwelling (<i>Feature 1</i>) (22 January 2026).
		
Photo 22: Potential asbestos in building materials located at the southern face of the dwelling (<i>sample location SS03</i>) (22 January 2026).	Photo 23: Farm shed located in the south of the site, facing south (<i>sample locations SS30-SS32</i>) (22 January 2026).	Photo 24: Farm shed located in the south of the site (<i>sample locations SS32</i>) (22 January 2026).
		



Photo 25: Storage shed located in the south of the site, facing north (<i>sample locations SS22 – SS24</i>) (22 January 2026). 	Photo 26: Storage shed located in the south of the site, facing north (<i>sample location SS23</i>) (22 January 2026). 	Photo 27: Residential dwelling located in the south of the site, facing south (22 January 2026). 
Photo 28: Pile of vegetation located in the south of the site (22 January 2026). 	Photo 29: Farm shed located in the south of the site, facing south (<i>sample locations SS25 – SS29</i>) (22 January 2026). 	Photo 30: Burn pit located adjacent to a farm shed located in the south of the site (22 January 2026). 



Photo 31: Empty drums and various farm tools located in the south of the site (22 January 2026).	Photo 32: Potential asbestos in building materials located at the southern face of the farm shed (sample location SS29) (22 January 2026).	Photo 33: Rear of farm shed with potential lead based paint (sample location SS28) (22 January 2026).
		
Photo 34: Storage shed located in the south of the site, facing west (sample locations SS17 – SS19) (22 January 2026.)	Photo 35: Storage shed located in the south of the site (sample locations SS17 – SS19) (22 January 2026.)	Photo 36: Former milking shed located in the south of the site, facing east (Feature 9 and sample locations SS20, SS21) (22 January 2026).
		



Photo 37: Shed located adjacent to a former milking shed (<i>Feature 9</i>) (22 January 2026). 	Photo 38: Farm tools stored within a former milking shed (<i>Feature 9</i>) (22 January 2026). 	Photo 39: Storage of tyres located in the east of the site (<i>sample location HA17, HA18</i>) (27 January 2026). 
Photo 40: Second tyre storage located in the south of the site (<i>sample location HA19</i>) (27 January 2026). 	Photo 41: Hay storage located in the south of the site (27 January 2026). 	Photo 42: Farm structures located in the north of the site (27 January 2026). 

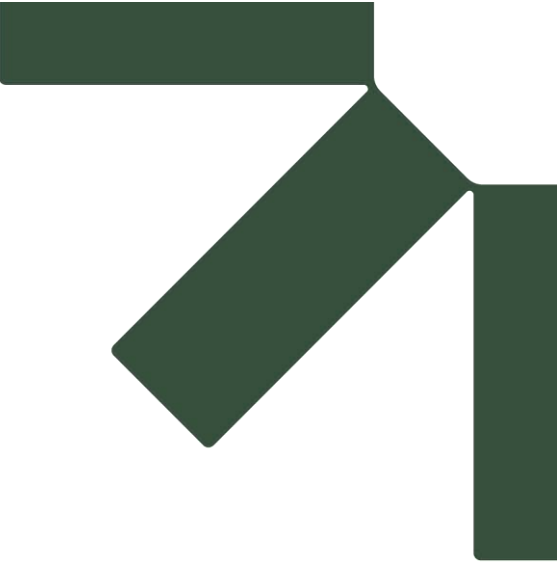


Photo 43: Various items on the ground adjacent to farm structures located in the north of the site (*sample locations SS36 and SS37*). (27 January 2026).



Photo 44: Second burn pit located in the north of the site 27 January 2026).





Appendix D BH Logs

Preliminary and Detailed Site Investigation

Te Kowhai East Development

Te Kowhai East Limited Partnership

SLR Project No.: 810.032016.00001

14 August 2026

UTM : 60H	Driller Rig : Hand Auger	Job Number : 810.032016.00001
Latitude : -37.72958	Driller Supplier : NA	Client : Kilroy Group Limited
Longitude : 175.19173	Logged By : Sandra Hamler	Project : Te Kowhai East Development
Elevation : Not Surveyed	Reviewed By : Nigel Mather	Location : Te Kowhai East
Total Depth : 0.15 m	Date : 27/01/2026	Loc Comment :

PID (ppm)	Sample	Moisture	Water Level	Depth (m)	Graphic Log	LITHOLOGICAL DESCRIPTION	COMMENTS / CONTAMINANT INDICATORS	Well Diagram	Elevation (m)
	HA01_0.0-0.15	M		0.1		SILT; rootlets; dark brown; moist; low plasticity. [TOPSOL]			
						HA01 Terminated at 0.15 m.			

UTM : 60H	Driller Rig : Hand Auger	Job Number : 810.032016.00001
Latitude : -37.72720	Driller Supplier : NA	Client : Kilroy Group Limited
Longitude : 175.19601	Logged By : Sandra Hamler	Project : Te Kowhai East Development
Elevation : Not Surveyed	Reviewed By : Nigel Mather	Location : Te Kowhai East
Total Depth : 0.15 m	Date : 27/01/2026	Loc Comment :

PID (ppm)	Sample	Moisture	Water Level	Depth (m)	Graphic Log	LITHOLOGICAL DESCRIPTION	COMMENTS / CONTAMINANT INDICATORS	Well Diagram	Elevation (m)
	HA02_0.0-0.15	M		0.1		SILT; rootlets; dark brown; moist; low plasticity. [TOPSOIL]			
						HA02 Terminated at 0.15 m.			

UTM : 60H	Driller Rig : Hand Auger	Job Number : 810.032016.00001
Latitude : -37.72516	Driller Supplier : NA	Client : Kilroy Group Limited
Longitude : 175.19963	Logged By : Sandra Hamler	Project : Te Kowhai East Development
Elevation : Not Surveyed	Reviewed By : Nigel Mather	Location : Te Kowhai East
Total Depth : 0.3 m	Date : 27/01/2026	Loc Comment :

PID (ppm)	Sample	Moisture	Water Level	Depth (m)	Graphic Log	LITHOLOGICAL DESCRIPTION	COMMENTS / CONTAMINANT INDICATORS	Well Diagram	Elevation (m)
	HA03_0.0-0.15	M		0.1		SILT; rootlets; dark brown; moist; low plasticity. [TOPSOIL]			
	HA03_0.2-0.3	M		0.2		Clayey SILT; light brown; moist; high plasticity.			
						HA03 Terminated at 0.3 m.			

UTM : 60H	Driller Rig : Hand Auger	Job Number : 810.032016.00001
Latitude : -37.73030	Driller Supplier : NA	Client : Kilroy Group Limited
Longitude : 175.19525	Logged By : Sandra Hamler	Project : Te Kowhai East Development
Elevation : Not Surveyed	Reviewed By : Nigel Mather	Location : Te Kowhai East
Total Depth : 0.15 m	Date : 27/01/2026	Loc Comment :

PID (ppm)	Sample	Moisture	Water Level	Depth (m)	Graphic Log	LITHOLOGICAL DESCRIPTION	COMMENTS / CONTAMINANT INDICATORS	Well Diagram	Elevation (m)
	HA04_0.0-0.15	M		0.1		SILT; trace of fine sand; rootlets; dark brown; moist; low plasticity. [TOPSOIL]			
						HA04 Terminated at 0.15 m.			

UTM : 60H	Driller Rig : Hand Auger	Job Number : 810.032016.00001
Latitude : -37.72746	Driller Supplier : NA	Client : Kilroy Group Limited
Longitude : 175.19943	Logged By : Sandra Hamler	Project : Te Kowhai East Development
Elevation : Not Surveyed	Reviewed By : Nigel Mather	Location : Te Kowhai East
Total Depth : 0.15 m	Date : 27/01/2026	Loc Comment :

PID (ppm)	Sample	Moisture	Water Level	Depth (m)	Graphic Log	LITHOLOGICAL DESCRIPTION	COMMENTS / CONTAMINANT INDICATORS	Well Diagram	Elevation (m)
	HA05_0.0-0.15	M		0.1		SILT; rootlets; dark brown; moist; low plasticity. [TOPSOIL]			
						HA05 Terminated at 0.15 m.			

UTM : 60H	Driller Rig : Hand Auger	Job Number : 810.032016.00001
Latitude : -37.73334	Driller Supplier : NA	Client : Kilroy Group Limited
Longitude : 175.19496	Logged By : Sandra Hamler	Project : Te Kowhai East Development
Elevation : Not Surveyed	Reviewed By : Nigel Mather	Location : Te Kowhai East
Total Depth : 0.15 m	Date : 27/01/2026	Loc Comment :

PID (ppm)	Sample	Moisture	Water Level	Depth (m)	Graphic Log	LITHOLOGICAL DESCRIPTION	COMMENTS / CONTAMINANT INDICATORS	Well Diagram	Elevation (m)
	HA06_0.0-0.15	M		0.1		SILT; rootlets; dark brown; moist; low plasticity. [TOPSOIL]			
						HA06 Terminated at 0.15 m.			

UTM : 60H	Driller Rig : Hand Auger	Job Number : 810.032016.00001
Latitude : -37.73033	Driller Supplier : NA	Client : Kilroy Group Limited
Longitude : 175.19928	Logged By : Sandra Hamler	Project : Te Kowhai East Development
Elevation : Not Surveyed	Reviewed By : Nigel Mather	Location : Te Kowhai East
Total Depth : 0.15 m	Date : 27/01/2026	Loc Comment :

PID (ppm)	Sample	Moisture	Water Level	Depth (m)	Graphic Log	LITHOLOGICAL DESCRIPTION	COMMENTS / CONTAMINANT INDICATORS	Well Diagram	Elevation (m)
	HA07_0.0-0.15	M		0.1		SILT; minor fine sand; rootlets; dark brown; moist. [TOPSOL]			
						HA07 Terminated at 0.15 m.			

UTM : 60H	Driller Rig : Hand Auger	Job Number : 810.032016.00001
Latitude : -37.72784	Driller Supplier : NA	Client : Kilroy Group Limited
Longitude : 175.20388	Logged By : Sandra Hamler	Project : Te Kowhai East Development
Elevation : Not Surveyed	Reviewed By : Nigel Mather	Location : Te Kowhai East
Total Depth : 0.3 m	Date : 27/01/2026	Loc Comment :

PID (ppm)	Sample	Moisture	Water Level	Depth (m)	Graphic Log	LITHOLOGICAL DESCRIPTION	COMMENTS / CONTAMINANT INDICATORS	Well Diagram	Elevation (m)
	HA08_0.0-0.15	M		0.1		SILT; some clay; rootlets; dark brown; moist; medium plasticity. [TOPSOIL]			
	HA08_0.2-0.3	M		0.2		SILT; reddish-brown; moist; low plasticity.			
						HA08 Terminated at 0.3 m.			

UTM : 60H	Driller Rig : Hand Auger	Job Number : 810.032016.00001
Latitude : -37.73439	Driller Supplier : NA	Client : Kilroy Group Limited
Longitude : 175.19868	Logged By : Sandra Hamler	Project : Te Kowhai East Development
Elevation : Not Surveyed	Reviewed By : Nigel Mather	Location : Te Kowhai East
Total Depth : 0.15 m	Date : 27/01/2026	Loc Comment :

PID (ppm)	Sample	Moisture	Water Level	Depth (m)	Graphic Log	LITHOLOGICAL DESCRIPTION	COMMENTS / CONTAMINANT INDICATORS	Well Diagram	Elevation (m)
	HA09_0.0-0.15	M		0.1		SILT; rootlets; dark brown; moist; low plasticity. [TOPSOIL]			
						HA09 Terminated at 0.15 m.			

UTM : 60H	Driller Rig : Hand Auger	Job Number : 810.032016.00001
Latitude : -37.73107	Driller Supplier : NA	Client : Kilroy Group Limited
Longitude : 175.20333	Logged By : Sandra Hamler	Project : Te Kowhai East Development
Elevation : Not Surveyed	Reviewed By : Nigel Mather	Location : Te Kowhai East
Total Depth : 0.15 m	Date : 27/01/2026	Loc Comment :

PID (ppm)	Sample	Moisture	Water Level	Depth (m)	Graphic Log	LITHOLOGICAL DESCRIPTION	COMMENTS / CONTAMINANT INDICATORS	Well Diagram	Elevation (m)
	HA10_0.0-0.15	M		0.1		SILT; some fine sand; rootlets; dark brown; moist; medium plasticity. [TOPSOIL]			
						HA10 Terminated at 0.15 m.			

UTM : 60H	Driller Rig : Hand Auger	Job Number : 810.032016.00001
Latitude : -37.73764	Driller Supplier : NA	Client : Kilroy Group Limited
Longitude : 175.19851	Logged By : Sandra Hamler	Project : Te Kowhai East Development
Elevation : Not Surveyed	Reviewed By : Nigel Mather	Location : Te Kowhai East
Total Depth : 0.4 m	Date : 27/01/2026	Loc Comment :

PID (ppm)	Sample	Moisture	Water Level	Depth (m)	Graphic Log	LITHOLOGICAL DESCRIPTION	COMMENTS / CONTAMINANT INDICATORS	Well Diagram	Elevation (m)
	Soil Logging (TabLogs Enviro) V2 (SLR)-36_0.0-0.1	M		0.1		SILT Minor fine sand, rootlets; Dark brown. moist; low plasticity. [TOPSOIL]			
		M		0.2		SILT; Reddish brown. moist; low plasticity.			
	Soil Logging (TabLogs Enviro) V2 (SLR)-36_0.3-0.4	M		0.3		Clayey SILT; Light brown and orange. moist; high plasticity.			
						HA 11 Terminate at 0.4 m (Target depth was reached at 0.4 m.)			

UTM : 60H	Driller Rig : Hand Auger	Job Number : 810.032016.00001
Latitude : -37.73433	Driller Supplier : NA	Client : Kilroy Group Limited
Longitude : 175.20293	Logged By : Sandra Hamler	Project : Te Kowhai East Development
Elevation : Not Surveyed	Reviewed By : Nigel Mather	Location : Te Kowhai East
Total Depth : 0.15 m	Date : 27/01/2026	Loc Comment :

PID (ppm)	Sample	Moisture	Water Level	Depth (m)	Graphic Log	LITHOLOGICAL DESCRIPTION	COMMENTS / CONTAMINANT INDICATORS	Well Diagram	Elevation (m)
	HA12_0.0-0.15	M		0.1		SILT; trace of sand; rootlets; some organics (wood); dark brown; moist; low plasticity. [TOPSOIL]			
						HA12 Terminated at 0.15 m.			

UTM : 60H	Driller Rig : Hand Auger	Job Number : 810.032016.00001
Latitude : -37.73059	Driller Supplier : NA	Client : Kilroy Group Limited
Longitude : 175.20668	Logged By : Sandra Hamler	Project : Te Kowhai East Development
Elevation : Not Surveyed	Reviewed By : Nigel Mather	Location : Te Kowhai East
Total Depth : 0.4 m	Date : 27/01/2026	Loc Comment :

PID (ppm)	Sample	Moisture	Water Level	Depth (m)	Graphic Log	LITHOLOGICAL DESCRIPTION	COMMENTS / CONTAMINANT INDICATORS	Well Diagram	Elevation (m)
	HA13_0.0-0.15	M		0.1		SILT; some fine sand; rootlets; organics (wood); dark brown; moist; low plasticity. [TOPSOIL]			
		M		0.2		SILT; reddish-brown; moist; low plasticity.			
	HA13_0.3-0.4	M		0.3		Clayey SILT; light brown; moist; high plasticity.			
						HA13 Terminated at 0.4 m.			

UTM : 60H	Driller Rig : Hand Auger	Job Number : 810.032016.00001
Latitude : -37.73734	Driller Supplier : NA	Client : Kilroy Group Limited
Longitude : 175.20239	Logged By : Sandra Hamler	Project : Te Kowhai East Development
Elevation : Not Surveyed	Reviewed By : Nigel Mather	Location : Te Kowhai East
Total Depth : 0.15 m	Date : 27/01/2026	Loc Comment :

PID (ppm)	Sample	Moisture	Water Level	Depth (m)	Graphic Log	LITHOLOGICAL DESCRIPTION	COMMENTS / CONTAMINANT INDICATORS	Well Diagram	Elevation (m)
	HA14_0.0-0.15	M		0.1		SILT; rootlets; dark brown; moist; low plasticity. [TOPSOIL]			
						HA14 Terminated at 0.15 m.			

UTM : 60H	Driller Rig : Hand Auger	Job Number : 810.032016.00001
Latitude : -37.73240	Driller Supplier : NA	Client : Kilroy Group Limited
Longitude : 175.20634	Logged By : Sandra Hamler	Project : Te Kowhai East Development
Elevation : Not Surveyed	Reviewed By : Nigel Mather	Location : Te Kowhai East
Total Depth : 0.15 m	Date : 27/01/2026	Loc Comment :

PID (ppm)	Sample	Moisture	Water Level	Depth (m)	Graphic Log	LITHOLOGICAL DESCRIPTION	COMMENTS / CONTAMINANT INDICATORS	Well Diagram	Elevation (m)
	HA15_0.0-0.15	M		0.1		SILT; some fine sand; rootlets; light brown; moist; medium plasticity.			
						HA15 Terminated at 0.15 m (corn field).			

UTM : 60H	Driller Rig : Hand Auger	Job Number : 810.032016.00001
Latitude : -37.73675	Driller Supplier : NA	Client : Kilroy Group Limited
Longitude : 175.20536	Logged By : Sandra Hamler	Project : Te Kowhai East Development
Elevation : Not Surveyed	Reviewed By : Nigel Mather	Location : Te Kowhai East
Total Depth : 0.15 m	Date : 27/01/2026	Loc Comment :

PID (ppm)	Sample	Moisture	Water Level	Depth (m)	Graphic Log	LITHOLOGICAL DESCRIPTION	COMMENTS / CONTAMINANT INDICATORS	Well Diagram	Elevation (m)
	HA16_0.0-0.15	M		0.1		SILT; some fine sand; rootlets; dark brown; moist; medium plasticity. [TOPSOIL]			
						HA16 Terminated at 0.15 m.			

UTM : 60H	Driller Rig : Hand Auger	Job Number : 810.032016.00001
Latitude : -37.73029	Driller Supplier : NA	Client : Kilroy Group Limited
Longitude : 175.20662	Logged By : Sandra Hamler	Project : Te Kowhai East Development
Elevation : Not Surveyed	Reviewed By : Nigel Mather	Location : Te Kowhai East
Total Depth : 0.35 m	Date : 27/01/2026	Loc Comment :

PID (ppm)	Sample	Moisture	Water Level	Depth (m)	Graphic Log	LITHOLOGICAL DESCRIPTION	COMMENTS / CONTAMINANT INDICATORS	Well Diagram	Elevation (m)
	HA17_0.0-0.15	M		0.1		SILT; rootlets; dark brown; moist; low plasticity. [TOPSOIL]			
	HA17_0.2-0.3	M		0.2		SILT; reddish-brown. moist; low plasticity.			
		M		0.3		Clayey SILT; light brown; moist; high plasticity.			
						HA17 Terminated at 0.35 m (tyre storage).			

UTM : 60H	Driller Rig : Hand Auger	Job Number : 810.032016.00001
Latitude : -37.73023	Driller Supplier : NA	Client : Kilroy Group Limited
Longitude : 175.20685	Logged By : Sandra Hamler	Project : Te Kowhai East Development
Elevation : Not Surveyed	Reviewed By : Nigel Mather	Location : Te Kowhai East
Total Depth : 0.3 m	Date : 27/01/2026	Loc Comment :

PID (ppm)	Sample	Moisture	Water Level	Depth (m)	Graphic Log	LITHOLOGICAL DESCRIPTION	COMMENTS / CONTAMINANT INDICATORS	Well Diagram	Elevation (m)
	HA18_0.0-0.15			0.1		SILT; some fine sand; rootlets; dark brown.. [TOPSOIL]			
	HA18_0.2-0.3	M		0.2		SILT; reddish-brown; moist; low plasticity.			
						HA18 Terminated at 0.3 m (tyre storage).			

UTM : 60H	Driller Rig : Hand Auger	Job Number : 810.032016.00001
Latitude : -37.73444	Driller Supplier : NA	Client : Kilroy Group Limited
Longitude : 175.19741	Logged By : Sandra Hamler	Project : Te Kowhai East Development
Elevation : Not Surveyed	Reviewed By : Nigel Mather	Location : Te Kowhai East
Total Depth : 0.5 m	Date : 04/02/2026	Loc Comment : Tyre area

PID (ppm)	Sample	Moisture	Water Level	Depth (m)	Graphic Log	LITHOLOGICAL DESCRIPTION	COMMENTS / CONTAMINANT INDICATORS	Well Diagram	Elevation (m)
	HA19_0.0-0.15	M		0.1		SILT; rootlets; dark brown; moist; low plasticity. [TOPSOIL]			
				0.2		Clayey SILT; brown; moist; high plasticity.			
	HA19_0.3-0.5	M		0.3					
				0.4					
						HA19 Terminated at 0.5 m.			

UTM : 60H	Driller Rig : Hand Auger	Job Number : 810.032016.00001
Latitude : -37.72642	Driller Supplier : NA	Client : Kilroy Group Limited
Longitude : 175.20509	Logged By : Sandra Hamler	Project : Te Kowhai East Development
Elevation : Not Surveyed	Reviewed By : Nigel Mather	Location : Te Kowhai East
Total Depth : 0.41 m	Date : 22/01/2026	Loc Comment :

PID (ppm)	Sample	Moisture	Water Level	Depth (m)	Graphic Log	LITHOLOGICAL DESCRIPTION	COMMENTS / CONTAMINANT INDICATORS	Well Diagram	Elevation (m)
	SS01_0.0-0.15	M		0.1		Clayey SILT; brown; moist; medium plasticity.			
		M		0.2		Silty CLAY; orange; moist; high plasticity.			
	SS01_0.3-0.4			0.3					
				0.4					
						SS01 Terminated at 0.41 m.			

UTM : 60H	Driller Rig : Hand Auger	Job Number : 810.032016.00001
Latitude : -37.72646	Driller Supplier : NA	Client : Kilroy Group Limited
Longitude : 175.20519	Logged By : Sandra Hamler	Project : Te Kowhai East Development
Elevation : Not Surveyed	Reviewed By : Nigel Mather	Location : Te Kowhai East
Total Depth : 0.4 m	Date : 22/01/2026	Loc Comment :

PID (ppm)	Sample	Moisture	Water Level	Depth (m)	Graphic Log	LITHOLOGICAL DESCRIPTION	COMMENTS / CONTAMINANT INDICATORS	Well Diagram	Elevation (m)
	SS02_0.0-0.15	M		0.1		Clayey SILT; rootlets; brown; moist; medium plasticity.			
		M		0.2		Silty CLAY; orange; moist; high plasticity.			
	SS02_0.3-0.4			0.3					
						SS02 Terminated at 0.4 m.			

UTM : 60H	Driller Rig : Hand Auger	Job Number : 810.032016.00001
Latitude : -37.72646	Driller Supplier : NA	Client : Kilroy Group Limited
Longitude : 175.20526	Logged By : Sandra Hamler	Project : Te Kowhai East Development
Elevation : Not Surveyed	Reviewed By : Nigel Mather	Location : Te Kowhai East
Total Depth : 0.4 m	Date : 22/01/2026	Loc Comment :

PID (ppm)	Sample	Moisture	Water Level	Depth (m)	Graphic Log	LITHOLOGICAL DESCRIPTION	COMMENTS / CONTAMINANT INDICATORS	Well Diagram	Elevation (m)
	SS03_0.0-0.15	M		0.1		Clayey SILT; rootlets; brown; moist; medium plasticity. [TOPSOIL]			
				0.2					
	SS03_0.3-0.4	M		0.3		Silty CLAY; orange; moist; high plasticity.			
						SS03 Terminated at 0.4 m.			

UTM : 60H	Driller Rig : Hand Auger	Job Number : 810.032016.00001
Latitude : -37.72576	Driller Supplier : NA	Client : Kilroy Group Limited
Longitude : 175.20507	Logged By : Sandra Hamler	Project : Te Kowhai East Development
Elevation : Not Surveyed	Reviewed By : Nigel Mather	Location : Te Kowhai East
Total Depth : 0.15 m	Date : 22/01/2026	Loc Comment :

PID (ppm)	Sample	Moisture	Water Level	Depth (m)	Graphic Log	LITHOLOGICAL DESCRIPTION	COMMENTS / CONTAMINANT INDICATORS	Well Diagram	Elevation (m)
	SS04_0.0-0.15	M		0.1		Sandy SILT; rootlets; brown; moist; medium plasticity; sand, fine. [TOPSOIL]			
						SS04 Terminated at 0.15 m.			

UTM : 60H	Driller Rig : Hand Auger	Job Number : 810.032016.00001
Latitude : -37.72582	Driller Supplier : NA	Client : Kilroy Group Limited
Longitude : 175.20509	Logged By : Sandra Hamler	Project : Te Kowhai East Development
Elevation : Not Surveyed	Reviewed By : Nigel Mather	Location : Te Kowhai East
Total Depth : 0.5 m	Date : 22/01/2026	Loc Comment :

PID (ppm)	Sample	Moisture	Water Level	Depth (m)	Graphic Log	LITHOLOGICAL DESCRIPTION	COMMENTS / CONTAMINANT INDICATORS	Well Diagram	Elevation (m)
	SS05_0.0-0.15	M		0.1		Clayey SILT; some gravel; brown; moist; medium plasticity.			
				0.2					
		M		0.3		Silty CLAY; brown and orange with black pockets; moist; high plasticity.			
	SS05_0.4-0.5			0.4					
						SS05 Terminated at 0.5 m.			

UTM : 60H	Driller Rig : Hand Auger	Job Number : 810.032016.00001
Latitude : -37.72583	Driller Supplier : NA	Client : Kilroy Group Limited
Longitude : 175.20500	Logged By : Sandra Hamler	Project : Te Kowhai East Development
Elevation : Not Surveyed	Reviewed By : Nigel Mather	Location : Te Kowhai East
Total Depth : 0.5 m	Date : 22/01/2026	Loc Comment :

PID (ppm)	Sample	Moisture	Water Level	Depth (m)	Graphic Log	LITHOLOGICAL DESCRIPTION	COMMENTS / CONTAMINANT INDICATORS	Well Diagram	Elevation (m)
	SS06_0.0-0.15	M		0.1		Clayey SILT; brown; moist; high plasticity.			
		M		0.2		Clayey SILT; brown and orange; moist; medium plasticity.			
	SS06_0.4-0.5	M		0.4		Silty CLAY; orange; moist; high plasticity.			
						SS06 Terminated at 0.5 m.			

UTM : 60H	Driller Rig : Hand Auger	Job Number : 810.032016.00001
Latitude : -37.72569	Driller Supplier : NA	Client : Kilroy Group Limited
Longitude : 175.20477	Logged By : Sandra Hamler	Project : Te Kowhai East Development
Elevation : Not Surveyed	Reviewed By : Nigel Mather	Location : Te Kowhai East
Total Depth : 0.15 m	Date : 22/01/2026	Loc Comment :

PID (ppm)	Sample	Moisture	Water Level	Depth (m)	Graphic Log	LITHOLOGICAL DESCRIPTION	COMMENTS / CONTAMINANT INDICATORS	Well Diagram	Elevation (m)
	SS07_0.0-0.15	M		0.1		Silty fine to medium SAND; brown; mildly dense; moist. [FILL]			
						SS07 Terminated at 0.15 m.			

UTM : 60H	Driller Rig : Hand Auger	Job Number : 810.032016.00001
Latitude : -37.72553	Driller Supplier : NA	Client : Kilroy Group Limited
Longitude : 175.20489	Logged By : Sandra Hamler	Project : Te Kowhai East Development
Elevation : Not Surveyed	Reviewed By : Nigel Mather	Location : Te Kowhai East
Total Depth : 0.15 m	Date : 04/02/2026	Loc Comment :

PID (ppm)	Sample	Moisture	Water Level	Depth (m)	Graphic Log	LITHOLOGICAL DESCRIPTION	COMMENTS / CONTAMINANT INDICATORS	Well Diagram	Elevation (m)
	SS08_0.0-0.15	M		0.1		Gravelly SILT; rootlets; brown; moist; low plasticity; gravel, fine. [FILL]			
						SS08 Terminated at 0.15 m.			

UTM : 60H	Driller Rig : Hand Auger	Job Number : 810.032016.00001
Latitude : -37.72531	Driller Supplier : NA	Client : Kilroy Group Limited
Longitude : 175.20505	Logged By : Sandra Hamler	Project : Te Kowhai East Development
Elevation : Not Surveyed	Reviewed By : Nigel Mather	Location : Te Kowhai East
Total Depth : 0.15 m	Date : 22/01/2026	Loc Comment :

PID (ppm)	Sample	Moisture	Water Level	Depth (m)	Graphic Log	LITHOLOGICAL DESCRIPTION	COMMENTS / CONTAMINANT INDICATORS	Well Diagram	Elevation (m)
	SS09_0.0-0.15	M		0.1		Clayey SILT; wood bark, some sand; brown; moist; medium plasticity. [FILL]			
						SS09 Terminated at 0.15 m (Concrete at 0.15m bgl)			

UTM : 60H	Driller Rig : Hand Auger	Job Number : 810.032016.00001
Latitude : -37.72519	Driller Supplier : NA	Client : Kilroy Group Limited
Longitude : 175.20494	Logged By : Sandra Hamler	Project : Te Kowhai East Development
Elevation : Not Surveyed	Reviewed By : Nigel Mather	Location : Te Kowhai East
Total Depth : 0.15 m	Date : 28/01/2026	Loc Comment :

PID (ppm)	Sample	Moisture	Water Level	Depth (m)	Graphic Log	LITHOLOGICAL DESCRIPTION	COMMENTS / CONTAMINANT INDICATORS	Well Diagram	Elevation (m)
	SS10_0.0-0.15	D		0.1		SILT Some fine gravel; light brown; dry; low plasticity. [FILL]			
						SS10 Terminated at 0.15 m.			

UTM : 60H	Driller Rig :	Job Number : 810.032016.00001
Latitude : -37.72512	Driller Supplier :	Client : Kilroy Group Limited
Longitude : 175.20493	Logged By : Sandra Hamler	Project : Te Kowhai East Development
Elevation : Not Surveyed	Reviewed By :	Location : Te Kowhai East
Total Depth : 0.4 m	Date : 28/01/2026	Loc Comment :

PID (ppm)	Sample	Moisture	Water Level	Depth (m)	Graphic Log	LITHOLOGICAL DESCRIPTION	COMMENTS / CONTAMINANT INDICATORS	Well Diagram	Elevation (m)
	SS11_0.0-0.15	M		0.1		SILT; some sand; rootlets; dark brown; moist. [TOPSOIL]			
		M		0.2		SILT; light brown; moist; medium plasticity.			
				0.3					
						SS11 Terminated at 0.4 m.			

UTM : 60H	Driller Rig : Hand Auger	Job Number : 810.032016.00001
Latitude : -37.72504	Driller Supplier : NA	Client : Kilroy Group Limited
Longitude : 175.20498	Logged By : Sandra Hamler	Project : Te Kowhai East Development
Elevation : Not Surveyed	Reviewed By : Nigel Mather	Location : Te Kowhai East
Total Depth : 0.2 m	Date : 22/01/2026	Loc Comment :

PID (ppm)	Sample	Moisture	Water Level	Depth (m)	Graphic Log	LITHOLOGICAL DESCRIPTION	COMMENTS / CONTAMINANT INDICATORS	Well Diagram	Elevation (m)
	SS12_0.0-0.15	M		0.1		Sandy SILT; rootlets; brown; moist; low plasticity; sand, fine. [FILL]			
						SS12 Terminated at 0.2 m (Potential services at depths)			

UTM : 60H	Driller Rig : Hand Auger	Job Number : 810.032016.00001
Latitude : -37.72507	Driller Supplier : NA	Client : Kilroy Group Limited
Longitude : 175.20490	Logged By : Sandra Hamler	Project : Te Kowhai East Development
Elevation : Not Surveyed	Reviewed By : Nigel Mather	Location : Te Kowhai East
Total Depth : 0.45 m	Date : 22/01/2026	Loc Comment :

PID (ppm)	Sample	Moisture	Water Level	Depth (m)	Graphic Log	LITHOLOGICAL DESCRIPTION	COMMENTS / CONTAMINANT INDICATORS	Well Diagram	Elevation (m)
	SS13_0.0-0.15	M		0.1		SILT Some fine sand; brown; moist; medium plasticity. [FILL]			
				0.2		Sandy SILT; brown; moist; medium plasticity; sand. [FILL]			
	SS13_0.3-0.4	M		0.3					
		M		0.4		Silty CLAY; orange and brown; moist; high plasticity.			
						SS13 Terminated at 0.45 m.			

UTM : 60H	Driller Rig : Hand Auger	Job Number : 810.032016.00001
Latitude : -37.73572	Driller Supplier : NA	Client : Kilroy Group Limited
Longitude : 175.19794	Logged By : Sandra Hamler	Project : Te Kowhai East Development
Elevation : Not Surveyed	Reviewed By : Nigel Mather	Location : Te Kowhai East
Total Depth : 0.15 m	Date : 22/01/2026	Loc Comment :

PID (ppm)	Sample	Moisture	Water Level	Depth (m)	Graphic Log	LITHOLOGICAL DESCRIPTION	COMMENTS / CONTAMINANT INDICATORS	Well Diagram	Elevation (m)
	SS14_0.0-0.15	M		0.1		Sandy SILT; wood bark; brown; moist; sand, fine. [FILL]			
						SS14 Terminated at 0.15 m.			

UTM : 60H	Driller Rig : Hand Auger	Job Number : 810.032016.00001
Latitude : -37.73579	Driller Supplier : NA	Client : Kilroy Group Limited
Longitude : 175.19788	Logged By : Sandra Hamler	Project : Te Kowhai East Development
Elevation : Not Surveyed	Reviewed By : Nigel Mather	Location : Te Kowhai East
Total Depth : 0.15 m	Date : 22/01/2026	Loc Comment :

PID (ppm)	Sample	Moisture	Water Level	Depth (m)	Graphic Log	LITHOLOGICAL DESCRIPTION	COMMENTS / CONTAMINANT INDICATORS	Well Diagram	Elevation (m)
	SS15_0.0-0.15	M		0.1		Clayey SILT; rootlets, wood bark; brown; moist; medium plasticity. [TOPSOIL]			
						SS15 Terminated at 0.15 m.			

UTM : 60H	Driller Rig : Hand Auger	Job Number : 810.032016.00001
Latitude : -37.73575	Driller Supplier : NA	Client : Kilroy Group Limited
Longitude : 175.19786	Logged By : Sandra Hamler	Project : Te Kowhai East Development
Elevation : Not Surveyed	Reviewed By : Nigel Mather	Location : Te Kowhai East
Total Depth : 0.15 m	Date : 22/01/2026	Loc Comment :

PID (ppm)	Sample	Moisture	Water Level	Depth (m)	Graphic Log	LITHOLOGICAL DESCRIPTION	COMMENTS / CONTAMINANT INDICATORS	Well Diagram	Elevation (m)
	SS16_0.0-0.15	D		0.1		SILT; wood bark; brown . dry. [FILL]			
						SS16 Terminated at 0.15 m.			

UTM : 60H	Driller Rig : Hand Auger	Job Number : 810.032016.00001
Latitude : -37.73667	Driller Supplier : NA	Client : Kilroy Group Limited
Longitude : 175.19934	Logged By : Sandra Hamler	Project : Te Kowhai East Development
Elevation : Not Surveyed	Reviewed By : Nigel Mather	Location : Te Kowhai East
Total Depth : 0.15 m	Date : 22/01/2026	Loc Comment :

PID (ppm)	Sample	Moisture	Water Level	Depth (m)	Graphic Log	LITHOLOGICAL DESCRIPTION	COMMENTS / CONTAMINANT INDICATORS	Well Diagram	Elevation (m)
	SS17_0.0-0.15	M		0.1		Fine to medium SAND; rootlets; brown; mildly dense; moist. [FILL]			
						SS17 Terminated at 0.15 m.			

UTM : 60H	Driller Rig : Hand Auger	Job Number : 810.032016.00001
Latitude : -37.73671	Driller Supplier : NA	Client : Kilroy Group Limited
Longitude : 175.19943	Logged By : Sandra Hamler	Project : Te Kowhai East Development
Elevation : Not Surveyed	Reviewed By : Nigel Mather	Location : Te Kowhai East
Total Depth : 0.4 m	Date : 22/01/2026	Loc Comment :

PID (ppm)	Sample	Moisture	Water Level	Depth (m)	Graphic Log	LITHOLOGICAL DESCRIPTION	COMMENTS / CONTAMINANT INDICATORS	Well Diagram	Elevation (m)
	SS18_0.0-0.15	M		0.1		Clayey SILT; rootlets; brown; moist; medium plasticity. [TOPSOIL]			
				0.2		Clayey SILT; orange; moist; high plasticity.			
	SS18_0.3-0.4	M		0.3					
						SS18 Terminated at 0.4 m.			



UTM	: 60H	Driller Rig	: Hand Auger	Job Number	: 810.032016.00001
Latitude	: -37.73671	Driller Supplier	: NA	Client	: Kilroy Group Limited
Longitude	: 175.19933	Logged By	: Sandra Hamler	Project	: Te Kowhai East Development
Elevation	: Not Surveyed	Reviewed By	: Nigel Mather	Location	: Te Kowhai East
Total Depth	: 0.2 m	Date	: 22/01/2026	Loc Comment	:

Page 1 of 1

UTM : 60H	Driller Rig : Hand Auger	Job Number : 810.032016.00001
Latitude : -37.73659	Driller Supplier : NA	Client : Kilroy Group Limited
Longitude : 175.19964	Logged By : Sandra Hamler	Project : Te Kowhai East Development
Elevation : Not Surveyed	Reviewed By : Nigel Mather	Location : Te Kowhai East
Total Depth : 0.15 m	Date : 22/01/2026	Loc Comment :

PID (ppm)	Sample	Moisture	Water Level	Depth (m)	Graphic Log	LITHOLOGICAL DESCRIPTION	COMMENTS / CONTAMINANT INDICATORS	Well Diagram	Elevation (m)
	SS20_0.0-0.15	M		0.1		Medium to coarse SAND; brown; mildly dense; moist. [FILL]			
						SS20 Terminated at 0.15 m.			

UTM : 60H	Driller Rig : Hand Auger	Job Number : 810.032016.00001
Latitude : -37.73672	Driller Supplier : NA	Client : Kilroy Group Limited
Longitude : 175.19972	Logged By : Sandra Hamler	Project : Te Kowhai East Development
Elevation : Not Surveyed	Reviewed By : Nigel Mather	Location : Te Kowhai East
Total Depth : 0.4 m	Date : 22/01/2026	Loc Comment :

PID (ppm)	Sample	Moisture	Water Level	Depth (m)	Graphic Log	LITHOLOGICAL DESCRIPTION	COMMENTS / CONTAMINANT INDICATORS	Well Diagram	Elevation (m)
	SS21_0.0-0.15	M		0.1		Fine to medium SAND; brown; mildly dense; moist. [FILL]			
				0.2					
	SS21_0.3-0.4			0.3					
						SS21 Terminated at 0.4 m.			

UTM : 60H	Driller Rig : Hand Auger	Job Number : 810.032016.00001
Latitude : -37.73884	Driller Supplier : NA	Client : Kilroy Group Limited
Longitude : 175.20108	Logged By : Sandra Hamler	Project : Te Kowhai East Development
Elevation : Not Surveyed	Reviewed By : Nigel Mather	Location : Te Kowhai East
Total Depth : 0.15 m	Date : 22/01/2026	Loc Comment :

PID (ppm)	Sample	Moisture	Water Level	Depth (m)	Graphic Log	LITHOLOGICAL DESCRIPTION	COMMENTS / CONTAMINANT INDICATORS	Well Diagram	Elevation (m)
	SS22_0.0-0.15	M		0.1		Sandy SILT; brown; moist; low plasticity; sand. [FILL]			
						SS22 Terminated at 0.15 m.			

UTM : 60H	Driller Rig : Hand Auger	Job Number : 810.032016.00001
Latitude : -37.73879	Driller Supplier : NA	Client : Kilroy Group Limited
Longitude : 175.20111	Logged By : Sandra Hamler	Project : Te Kowhai East Development
Elevation : Not Surveyed	Reviewed By : Nigel Mather	Location : Te Kowhai East
Total Depth : 0.15 m	Date : 22/01/2026	Loc Comment :

PID (ppm)	Sample	Moisture	Water Level	Depth (m)	Graphic Log	LITHOLOGICAL DESCRIPTION	COMMENTS / CONTAMINANT INDICATORS	Well Diagram	Elevation (m)
	SS23_0.0-0.15	M		0.1		Sandy SILT; brown; moist; low plasticity; sand, fine to coarse. [FILL]			
						SS23 Terminated at 0.15 m.			

UTM : 60H	Driller Rig : Hand Auger	Job Number : 810.032016.00001
Latitude : -37.73876	Driller Supplier : NA	Client : Kilroy Group Limited
Longitude : 175.20100	Logged By : Sandra Hamler	Project : Te Kowhai East Development
Elevation : Not Surveyed	Reviewed By : Nigel Mather	Location : Te Kowhai East
Total Depth : 0.4 m	Date : 22/01/2026	Loc Comment :

PID (ppm)	Sample	Moisture	Water Level	Depth (m)	Graphic Log	LITHOLOGICAL DESCRIPTION	COMMENTS / CONTAMINANT INDICATORS	Well Diagram	Elevation (m)
	SS24_0.0-0.15	M		0.1		SILT; dark brown; moist; medium plasticity. [FILL]			
		M		0.2		Medium SAND; brown; loose; moist. [FILL]			
	SS24_0.3-0.4	M		0.3		Clayey SILT; orange and brown; moist; high plasticity.			
						SS24 Terminated at 0.4 m.			

UTM : 60H	Driller Rig : Hand Auger	Job Number : 810.032016.00001
Latitude : -37.73918	Driller Supplier : NA	Client : Kilroy Group Limited
Longitude : 175.20102	Logged By : Sandra Hamler	Project : Te Kowhai East Development
Elevation : Not Surveyed	Reviewed By : Nigel Mather	Location : Te Kowhai East
Total Depth : 0.15 m	Date : 22/01/2026	Loc Comment :

PID (ppm)	Sample	Moisture	Water Level	Depth (m)	Graphic Log	LITHOLOGICAL DESCRIPTION	COMMENTS / CONTAMINANT INDICATORS	Well Diagram	Elevation (m)
	SS25_0.0-0.15	M		0.1		Silty fine GRAVEL; some coarse sand; brown; dense; moist. [FILL]			
						SS25 Terminated at 0.15 m.			

UTM : 60H	Driller Rig : Hand Auger	Job Number : 810.032016.00001
Latitude : -37.73927	Driller Supplier : NA	Client : Kilroy Group Limited
Longitude : 175.20117	Logged By : Sandra Hamler	Project : Te Kowhai East Development
Elevation : Not Surveyed	Reviewed By : Nigel Mather	Location : Te Kowhai East
Total Depth : 0.5 m	Date : 22/01/2026	Loc Comment :

PID (ppm)	Sample	Moisture	Water Level	Depth (m)	Graphic Log	LITHOLOGICAL DESCRIPTION	COMMENTS / CONTAMINANT INDICATORS	Well Diagram	Elevation (m)
	SS26_0.0-0.15	M		0.1		Clayey SILT; rootlets; brown; moist; medium plasticity. [TOPSOIL]			
				0.2		Clayey SILT; orange; moist; high plasticity.			
	SS26_0.4-0.5	M		0.3					
				0.4					
						SS26 Terminated at 0.5 m.			

UTM : 60H	Driller Rig : Hand Auger	Job Number : 810.032016.00001
Latitude : -37.73923	Driller Supplier : NA	Client : Kilroy Group Limited
Longitude : 175.20086	Logged By : Sandra Hamler	Project : Te Kowhai East Development
Elevation : Not Surveyed	Reviewed By : Nigel Mather	Location : Te Kowhai East
Total Depth : 0.15 m	Date : 22/01/2026	Loc Comment :

PID (ppm)	Sample	Moisture	Water Level	Depth (m)	Graphic Log	LITHOLOGICAL DESCRIPTION	COMMENTS / CONTAMINANT INDICATORS	Well Diagram	Elevation (m)
	SS28_0.0-0.15	M		0.1		Clayey SILT; some coarse sand; dark brown; moist; high plasticity. [FILL]			
						SS28 Terminated at 0.15 m.			

UTM : 60H	Driller Rig : Hand Auger	Job Number : 810.032016.00001
Latitude : -37.73923	Driller Supplier : NA	Client : Kilroy Group Limited
Longitude : 175.20095	Logged By : Sandra Hamler	Project : Te Kowhai East Development
Elevation : Not Surveyed	Reviewed By : Nigel Mather	Location : Te Kowhai East
Total Depth : 0.15 m	Date : 22/01/2026	Loc Comment :

PID (ppm)	Sample	Moisture	Water Level	Depth (m)	Graphic Log	LITHOLOGICAL DESCRIPTION	COMMENTS / CONTAMINANT INDICATORS	Well Diagram	Elevation (m)
	SS29_0.0-0.15	M		0.1		medium SAND; rootlets; brown; mildly dense; moist. [FILL]			
						SS29 Terminated at 0.15 m.			

UTM : 60H	Driller Rig : Hand Auger	Job Number : 810.032016.00001
Latitude : -37.73909	Driller Supplier : NA	Client : Kilroy Group Limited
Longitude : 175.20110	Logged By : Sandra Hamler	Project : Te Kowhai East Development
Elevation : Not Surveyed	Reviewed By : Nigel Mather	Location : Te Kowhai East
Total Depth : 0.15 m	Date : 22/01/2026	Loc Comment :

PID (ppm)	Sample	Moisture	Water Level	Depth (m)	Graphic Log	LITHOLOGICAL DESCRIPTION	COMMENTS / CONTAMINANT INDICATORS	Well Diagram	Elevation (m)
	SS30_0.0-0.15	M		0.1		Sandy fine to medium GRAVEL; some silt; brown; mildly dense; moist [FILL]			
						SS30 Terminated at 0.15 m.			

UTM : 60H	Driller Rig : Hand Auger	Job Number : 810.032016.00001
Latitude : -37.73904	Driller Supplier : NA	Client : Kilroy Group Limited
Longitude : 175.20104	Logged By : Sandra Hamler	Project : Te Kowhai East Development
Elevation : Not Surveyed	Reviewed By : Nigel Mather	Location : Te Kowhai East
Total Depth : 0.15 m	Date : 22/01/2026	Loc Comment :

PID (ppm)	Sample	Moisture	Water Level	Depth (m)	Graphic Log	LITHOLOGICAL DESCRIPTION	COMMENTS / CONTAMINANT INDICATORS	Well Diagram	Elevation (m)
	SS31_0.0-0.15	M		0.1		Sandy SILT; rootlets; brown; moist; medium plasticity; sand, medium. [FILL]			
						SS31 Terminated at 0.15 m.			

UTM : 60H	Driller Rig : Hand Auger	Job Number : 810.032016.00001
Latitude : -37.73904	Driller Supplier : NA	Client : Kilroy Group Limited
Longitude : 175.20113	Logged By : Sandra Hamler	Project : Te Kowhai East Development
Elevation : Not Surveyed	Reviewed By : Nigel Mather	Location : Te Kowhai East
Total Depth : 0.5 m	Date : 22/01/2026	Loc Comment :

PID (ppm)	Sample	Moisture	Water Level	Depth (m)	Graphic Log	LITHOLOGICAL DESCRIPTION	COMMENTS / CONTAMINANT INDICATORS	Well Diagram	Elevation (m)
	SS32_0.0-0.15	D		0.1		Sandy SILT; wood bark; brown; dry; low plasticity; sand, fine. [FILL]			
		M		0.2		Clayey SILT; light grey and orange; moist; high plasticity.			
	SS32_0.4-0.5			0.3					
				0.4					
						SS32 Terminated at 0.5 m.			

UTM : 60H	Driller Rig : Hand Auger	Job Number : 810.032016.00001
Latitude : -37.72461	Driller Supplier : NA	Client : Kilroy Group Limited
Longitude : 175.20128	Logged By : Sandra Hamler	Project : Te Kowhai East Development
Elevation : Not Surveyed	Reviewed By : Nigel Mather	Location : Te Kowhai East
Total Depth : 0.5 m	Date : 27/01/2026	Loc Comment :

PID (ppm)	Sample	Moisture	Water Level	Depth (m)	Graphic Log	LITHOLOGICAL DESCRIPTION	COMMENTS / CONTAMINANT INDICATORS	Well Diagram	Elevation (m)
	SS33_0.0-0.15	M		0.1		Clayey SILT; rootlets; brown and orange; moist; high plasticity.			
				0.2					
		M		0.3		Clayey SILT; light brown and light grey; moist; high plasticity.			
	SS33_0.4-0.5			0.4					
						SS33 Terminated at 0.5 m (former structure).			

UTM : 60H	Driller Rig : Hand Auger	Job Number : 810.032016.00001
Latitude : -37.72518	Driller Supplier : NA	Client : Kilroy Group Limited
Longitude : 175.20237	Logged By : Sandra Hamler	Project : Te Kowhai East Development
Elevation : Not Surveyed	Reviewed By : Nigel Mather	Location : Te Kowhai East
Total Depth : 0.5 m	Date : 27/01/2026	Loc Comment :

PID (ppm)	Sample	Moisture	Water Level	Depth (m)	Graphic Log	LITHOLOGICAL DESCRIPTION	COMMENTS / CONTAMINANT INDICATORS	Well Diagram	Elevation (m)
	SS34_0.0-0.15	M		0.1		SILT Some clay; rootlets; dark brown; moist; medium plasticity. [TOPSOIL]			
		M		0.2		Clayey SILT; light brown; moist; high plasticity.			
	SS34_0.4-0.5	M		0.4		Clayey SILT; trace of fine gravel, manganese; light brown and orange and black; moist; high plasticity.			
						SS34 Terminated at 0.5 m.			

UTM : 60H	Driller Rig : Hand Auger	Job Number : 810.032016.00001
Latitude : -37.72502	Driller Supplier : NA	Client : Kilroy Group Limited
Longitude : 175.20313	Logged By : Sandra Hamler	Project : Te Kowhai East Development
Elevation : Not Surveyed	Reviewed By : Nigel Mather	Location : Te Kowhai East
Total Depth : 0.5 m	Date : 27/01/2026	Loc Comment :

PID (ppm)	Sample	Moisture	Water Level	Depth (m)	Graphic Log	LITHOLOGICAL DESCRIPTION	COMMENTS / CONTAMINANT INDICATORS	Well Diagram	Elevation (m)
	SS35_0.0-0.15	M		0.1		SILT; some clay; rootlets; dark brown and some orange; moist; medium plasticity.			
		M		0.2		Clayey SILT; black inclusions; orange and brown; moist; high plasticity.			
	SS35_0.4-0.5	M		0.4		Clayey SILT; orange; moist; high plasticity.			
						SS35 Terminated at 0.5 m (former structure).			

UTM : 60H	Driller Rig : Hand Auger	Job Number : 810.032016.00001
Latitude : -37.72589	Driller Supplier : NA	Client : Kilroy Group Limited
Longitude : 175.20281	Logged By : Sandra Hamler	Project : Te Kowhai East Development
Elevation : Not Surveyed	Reviewed By : Nigel Mather	Location : Te Kowhai East
Total Depth : 0.6 m	Date : 27/01/2026	Loc Comment :

PID (ppm)	Sample	Moisture	Water Level	Depth (m)	Graphic Log	LITHOLOGICAL DESCRIPTION	COMMENTS / CONTAMINANT INDICATORS	Well Diagram	Elevation (m)
	SS36_0.0-0.15	M		0.1		SILT; organics, rootlets; dark brown; moist; low plasticity. [TOPSOIL]			
		M		0.2		Clayey SILT; light brown; moist; high plasticity.			
	SS36_0.4-0.5	VM		0.4		Silty fine SAND; roots; light brown; mildly dense; very moist.			
				0.5					
						SS36 Terminated at 0.6 m.			

UTM : 60H	Driller Rig : Hand Auger	Job Number : 810.032016.00001
Latitude : -37.72602	Driller Supplier : NA	Client : Kilroy Group Limited
Longitude : 175.20254	Logged By : Sandra Hamler	Project : Te Kowhai East Development
Elevation : Not Surveyed	Reviewed By : Nigel Mather	Location : Te Kowhai East
Total Depth : 0.5 m	Date : 27/01/2026	Loc Comment :

PID (ppm)	Sample	Moisture	Water Level	Depth (m)	Graphic Log	LITHOLOGICAL DESCRIPTION	COMMENTS / CONTAMINANT INDICATORS	Well Diagram	Elevation (m)
	SS37_0.0-0.15	M		0.1		SILT; rootlets; dark brown; moist; medium plasticity. [TOPSOIL]			
		M		0.2		Clayey SILT; light brown and orange; moist; high plasticity.			
	SS37_0.4-0.5			0.3					
				0.4					
						SS37 Terminated at 0.5 m (former structure).			

UTM : 60H	Driller Rig : Hand Auger	Job Number : 810.032016.00001
Latitude : -37.72633	Driller Supplier : NA	Client : Kilroy Group Limited
Longitude : 175.20480	Logged By : Sandra Hamler	Project : Te Kowhai East Development
Elevation : Not Surveyed	Reviewed By : Nigel Mather	Location : Te Kowhai East
Total Depth : 0.5 m	Date : 04/02/2026	Loc Comment :

PID (ppm)	Sample	Moisture	Water Level	Depth (m)	Graphic Log	LITHOLOGICAL DESCRIPTION	COMMENTS / CONTAMINANT INDICATORS	Well Diagram	Elevation (m)
	SS38_0.0-0.15	M		0.1		SILT; rootlets; dark brown; moist. [TOPSOIL]			
				0.2		Clayey SILT; brown; moist; high plasticity.			
	SS38_0.4-0.5	M		0.3					
				0.4					
						SS38 Terminated at 0.5 m.			

UTM : 60H	Driller Rig : Hand Auger	Job Number : 810.032016.00001
Latitude : -37.72904	Driller Supplier : NA	Client : Kilroy Group Limited
Longitude : 175.20317	Logged By : Sandra Hamler	Project : Te Kowhai East Development
Elevation : Not Surveyed	Reviewed By : Nigel Mather	Location : Te Kowhai East
Total Depth : 0.15 m	Date : 04/02/2026	Loc Comment :

PID (ppm)	Sample	Moisture	Water Level	Depth (m)	Graphic Log	LITHOLOGICAL DESCRIPTION	COMMENTS / CONTAMINANT INDICATORS	Well Diagram	Elevation (m)
	SS39_0.0-0.15	M		0.1		SILT rootlets; dark brown. moist. [TOPSOIL]			
						SS39 Terminate at 0.15 m (Target depth was reached at 0.15 m.)			

Appendix E Chain of Custody

Preliminary and Detailed Site Investigation

Te Kowhai East Development

Te Kowhai East Limited Partnership

SLR Project No.: 810.032016.00001

14 August 2026





Quote No

Primary Contact

Lindsay Lutes

Submitted By

Sandra Hamler

Client Name

SLP

Address

Postcode

Phone

Email

Charge To

SLP

Client Reference

810.032016.00001

Order No

Results To

Reports will be emailed to Primary Contact by default.
Additional Reports will be sent as specified below.

☒ Email Primary Contact

☐ Email Submitter

☐ Email Client

☐ Email Other

☐ Other

ANALYSIS REQUEST

R J Hill Laboratories Limited
221A Ellis Street, Hamilton 3204
Private Bag 3205
Hamilton 3240, New Zealand

Job No: Date Recv: 22-Jan-26 17:51

408 0910

Received by: Isaac Broadbent

0508 HILL LAB (44 555 22)

+64 7 858 2000

mail@hill-labs.co.nz

www.hill-labs.co.nz



3140809102

CHAIN OF CUSTODY RECORD

Sent to
Hill Labs

Date & Time:

22/1/26 17:45

Name:

Sandra Hamler

Signature:

Sandra H.

☒ Tick if you require COC
to be emailed back

Received at
Hill Labs

(Refer to Lab created Job
No above)

Date & Time:

Name:

Signature:

Condition

☐ Room Temp

☐ Chilled

☐ Frozen

Temp:

24.3

ADDITIONAL INFORMATION / KNOWN HAZARDS

COC 1/2

Priority

☐ Low

☒ Normal

☐ High

☐ Urgent (ASAP, extra charge applies, please contact lab first)

Requested Reporting Date:

No.	Sample Name	Sample Date	Sample Time	Sample Type	Tests Required (if not as per Quote)
1	SS17/0.0	22/1/26		ES	Hold cold
2	SS24/0.0				
3	SS24/0.4				
4	SS31/0.0				
5	SS21/0.0				
6	SS21/0.4				
7	SS23/0.0				
8	SS26/0.0				
9	SS26/0.4				
10	SS15/0.0				
11	SS18/0.0				
12	SS29/0.0				

Continued on next page

No.	Sample Name	Sample Date	Sample Time	Sample Type	Tests Required (if not as per Quote)
13	SS18/0.4	22/11/26		ES	Hold Cold
14	SS30/0.0				
15	SS28/0.0				
16	SS19/0.0				
17	SS25/0.0				
18	SS22/0.0				
19	SS05/0.0				
20	SS05/0.4				
21	SS10/0.0				
22	SS16/0.0				
23	SS08/0.0				
24	SS13/0.0				
25	SS14/0.0				
26	SS03/0.0				
27	SS03/0.4				
28	SS20/0.0				
29	SS01/0.0				
30	SS01/0.4				
31	SS02/0.0				
32	SS12/0.0				
33	SS07/0.0				
34	SS02/0.4				
35	SS11/0.0				
36	SS11/0.4				
37	SS09/0.0				
38	SS13/0.4				
39	SS04/0.0				
40	SS06/2.0				



Quote No

Primary Contact

Submitted By

Client Name

Address

Postcode

Phone

Email

Charge To

Client Reference

Order No

Results To

Reports will be emailed to Primary Contact by default.
Additional Reports will be sent as specified below.☒ Email Primary Contact ☐ Email Submitter ☐ Email Client☐ Email Other☐ Other**ANALYSIS REQUEST**R J Hill Laboratories Limited
221A Ellis Street, Hamilton 3204
Private Bag 3205
Hamilton 3240, New Zealand

☎ 0508 HILL LAB (44 555 22)

☎ +64 7 858 2000

✉ mail@hill-labs.co.nz

🌐 www.hill-labs.co.nz

Office use only

(Job No)

CHAIN OF CUSTODY RECORDSent to
Hill Labs

Date & Time: 22/1/2016 17:45

Name: Sandra Hamler

☐ Tick if you require COC
to be emailed back

Signature: Sandra H.

Received at
Hill Labs(Refer to Lab created Job
No above)

Date & Time:

Name:

Signature:

Condition

☐ Room Temp☐ Chilled☐ Frozen

Temp:

ADDITIONAL INFORMATION / KNOWN HAZARDS

COC 2/2

Priority ☐ Low ☒ Normal ☐ High☐ Urgent (ASAP, extra charge applies, please contact lab first)

Requested Reporting Date:

No.	Sample Name	Sample Date	Sample Time	Sample Type	Tests Required (if not as per Quote)
1	SS06/0.0	22/1/2016		ES	Hold Cold
2	SS06/0.5	↓		↓	↓
3	SS32/0.0	↓		↓	↓
4	SS32/0.5	↓		↓	↓
5					
6					
7					
8					
9					
10					
11					
12					

Continued on next page

Job Information Summary

Page 1 of 3

Client:	SLR Consulting New Zealand Limited	Lab No:	4080910
Contact:	Lindsay Lutes	Date Registered:	23-Jan-2026 10:29 am
	C/- SLR Consulting New Zealand Limited	Priority:	High
	PO Box 911310	Quote No:	97403
	Victoria Street West	Order No:	
	Auckland 1142	Client Reference:	810.032016.00001
		Add. Client Ref:	
		Submitted By:	Sandra Hamler
		Charge To:	SLR Consulting New Zealand Limited
		Target Date:	11-Feb-2026 4:30 pm

Samples

No	Sample Name	Sample Type	Containers	Tests Requested
1	SS17/0.0 22-Jan-2026	Soil	PSoil250	Total Recoverable Lead
2	SS24/0.0 22-Jan-2026	Soil	PSoil250	Total Recoverable Lead
3	SS24/0.4 22-Jan-2026	Soil	PSoil250	Hold Cold
4	SS31/0.0 22-Jan-2026	Soil	PSoil250	Total Recoverable Lead
5	SS21/0.0 22-Jan-2026	Soil	PSoil250	Total Recoverable Lead
6	SS21/0.4 22-Jan-2026	Soil	PSoil250	Hold Cold
7	SS23/0.0 22-Jan-2026	Soil	PSoil250	Heavy Metals, Screen Level
8	SS26/0.0 22-Jan-2026	Soil	PSoil250	Total Recoverable Lead
9	SS26/0.4 22-Jan-2026	Soil	PSoil250	Hold Cold
10	SS15/0.0 22-Jan-2026	Soil	PSoil250	Total Recoverable Lead
11	SS18/0.0 22-Jan-2026	Soil	PSoil250	Total Recoverable Lead
12	SS29/0.0 22-Jan-2026	Soil	PSoil250	Hold Cold
13	SS18/0.4 22-Jan-2026	Soil	PSoil250	Hold Cold
14	SS30/0.0 22-Jan-2026	Soil	PSoil250	Total Recoverable Lead
15	SS28/0.0 22-Jan-2026	Soil	PSoil250	Total Recoverable Lead
16	SS19/0.0 22-Jan-2026	Soil	PSoil250	Heavy Metals, Screen Level
17	SS25/0.0 22-Jan-2026	Soil	PSoil250	Total Recoverable Lead
18	SS22/0.0 22-Jan-2026	Soil	PSoil250	Total Recoverable Lead
19	SS05/0.0 22-Jan-2026	Soil	PSoil250	Total Recoverable Lead
20	SS05/0.4 22-Jan-2026	Soil	PSoil250	Hold Cold
21	SS10/0.0 22-Jan-2026	Soil	PSoil250	Total Recoverable Lead
22	SS16/0.0 22-Jan-2026	Soil	PSoil250	Heavy Metals, Screen Level
23	SS08/0.0 22-Jan-2026	Soil	PSoil250	Total Recoverable Lead
24	SS13/0.0 22-Jan-2026	Soil	PSoil250	Hold Cold
25	SS14/0.0 22-Jan-2026	Soil	PSoil250	Total Recoverable Lead
26	SS03/0.0 22-Jan-2026	Soil	PSoil250	Total Recoverable Lead
27	SS03/0.4 22-Jan-2026	Soil	PSoil250	Hold Cold
28	SS20/0.0 22-Jan-2026	Soil	PSoil250	Total Recoverable Lead
29	SS01/0.0 22-Jan-2026	Soil	PSoil250	Total Recoverable Lead
30	SS01/0.4 22-Jan-2026	Soil	PSoil250	Total Recoverable Lead
31	SS02/0.0 22-Jan-2026	Soil	PSoil250	Hold Cold
32	SS12/0.0 22-Jan-2026	Soil	PSoil250	Total Recoverable Lead
33	SS07/0.0 22-Jan-2026	Soil	PSoil250	Total Recoverable Lead
34	SS02/0.4 22-Jan-2026	Soil	PSoil250	Hold Cold
35	SS11/0.0 22-Jan-2026	Soil	PSoil250	Total Recoverable Lead
36	SS11/0.4 22-Jan-2026	Soil	PSoil250	Hold Cold
37	SS09/0.0 22-Jan-2026	Soil	PSoil250	Total Recoverable Lead

Samples				
No	Sample Name	Sample Type	Containers	Tests Requested
38	SS13/0.4 22-Jan-2026	Soil	PSoil250	Hold Cold
39	SS04/0.0 22-Jan-2026	Soil	PSoil250	Total Recoverable Lead
40	SS06/0.0 22-Jan-2026	Soil	GSoil300	Total Petroleum Hydrocarbons in Soil
41	SS06/0.5 22-Jan-2026	Soil	GSoil300	Hold Cold
42	SS32/0 0 22 Jan 2026	Soil	GSoil300	Heavy Metals, Screen Level, Total Petroleum Hydrocarbons in Soil
43	SS32/0.5 22-Jan-2026	Soil	GSoil300	Hold Cold

Summary of Methods

The following table(s) gives a brief description of the methods used to conduct the analyses for this job. The detection limits given below are those attainable in a relatively simple matrix. Detection limits may be higher for individual samples should insufficient sample be available, or if the matrix requires that dilutions be performed during analysis. A detection limit range indicates the lowest and highest detection limits in the associated suite of analytes. A full listing of compounds and detection limits are available from the laboratory upon request. Unless otherwise indicated, analyses were performed at Hill Labs, 28 Duke Street, Frankton, Hamilton 3204.

Sample Type: Soil			
Test	Method Description	Default Detection Limit	Sample No
Individual Tests			
Environmental Solids Sample Drying	Air dried at 35°C Used for sample preparation. May contain a residual moisture content of 2-5%. (Free water removed before analysis, non-soil objects such as sticks, leaves, grass and stones also removed).	-	1 2, 4 5, 7 8, 10 11, 14-19, 21 23, 25-26, 28-30, 32 33, 35, 37, 39, 42
Environmental Solids Sample Preparation	Air dried at 35°C and sieved, <2mm fraction. Used for sample preparation May contain a residual moisture content of 2-5%. (Free water removed before analysis, non-soil objects such as sticks, leaves, grass and stones also removed).	-	1-2, 4-5, 8, 10-11, 14-15, 17-19, 21, 23, 25-26, 28-30, 32-33, 35, 37, 39
Dry Matter	Dried at 103°C for 4-22hr (removes 3-5% more water than air dry) , gravimetry. (Free water removed before analysis, non-soil objects such as sticks, leaves, grass and stones also removed). US EPA 3550.	0.10 g/100g as rcvd	40, 42
Total Recoverable digestion	Nitric / hydrochloric acid digestion. US EPA 200.2 (modified), APHA 3125 B: Online Edition.	-	1-2, 4-5, 8, 10-11, 14-15, 17-19, 21, 23, 25-26, 28-30, 32-33, 35, 37, 39
Total Recoverable Lead	Dried sample, sieved as specified (if required). Nitric/Hydrochloric acid digestion, ICP-MS, screen level. US EPA 200.2 (modified), APHA 3125 B: Online Edition.	0.4 mg/kg dry wt	1-2, 4-5, 8, 10-11, 14-15, 17-19, 21, 23, 25-26, 28-30, 32-33, 35, 37, 39
Heavy Metals, Screen Level	Dried sample, < 2mm fraction. Nitric/Hydrochloric acid digestion. Complies with NES Regulations. ICP-MS screen level, interference removal by Kinetic Energy Discrimination if required. US EPA 200.2 (modified), APHA 3125 B: Online Edition.	0.10 - 4 mg/kg dry wt	7, 16, 22, 42
Total Petroleum Hydrocarbons in Soil			
Client Chromatogram for TPH by FID	Small peaks associated with QC compounds may be visible in chromatograms with low TPH concentrations. QC peaks are as follows: one peak in the C12 - 14 band, the C21 - 25 band and the C30 - 36 band. All QC peaks are corrected for in the reported TPH concentrations.	-	40, 42
C7 - C9	Solvent extraction, GC-FID analysis. Tested on as received sample. In-house based on US EPA 8015.	20 mg/kg dry wt	40, 42
C10 - C14	Solvent extraction, GC-FID analysis. Tested on as received sample. In-house based on US EPA 8015.	20 mg/kg dry wt	40, 42
C15 - C36	Solvent extraction, GC-FID analysis. Tested on as received sample. In-house based on US EPA 8015.	40 mg/kg dry wt	40, 42

Sample Type: Soil			
Test	Method Description	Default Detection Limit	Sample No
Total hydrocarbons (C7 - C36)	Calculation: Sum of carbon bands from C7 to C36. In-house based on US EPA 8015.	70 mg/kg dry wt	40, 42



ANALYSIS REQUEST

Job No: Date Recv: 23-Jan-26 10:37
R J Hill Laboratories Limited
221A Ellis Street, Hamilton 3204
Private Bag 3205
Hamilton 3240, New Zealand

408 1410

Received by: Callum MacDonald

0508 HILL LAB (44 555 22)
+64 7 858 2000
mail@hill-labs.co.nz
www.hill-labs.co.nz



3 14 36 14 102

CHAIN OF CUSTODY RECORD

Sent to
Hill Labs

Date & Time: 22/1/26 8:17:45

Name: Sandra Hamler

Signature: Sandra H.

☒ Tick if you require COC
to be emailed back

Received at
Hill Labs

(Refer to Lab created Job
No above)

Date & Time:

Name:

Signature:

Condition

☐ Room Temp ☐ Chilled ☐ Frozen

Temp:

24.3

Quote No

Primary Contact Lindsay Lyles

Submitted By Sandra Hamler

Client Name SLR

Address

Postcode

Phone

Mobile

Email

Charge To SLR

Client Reference 810.032016.00001

Order No

Results To Reports will be emailed to Primary Contact by default.
Additional Reports will be sent as specified below.

☒ Email Primary Contact ☐ Email Submitter ☐ Email Client

☐ Email Other

☐ Other

ADDITIONAL INFORMATION / KNOWN HAZARDS

COC 1/2

Priority ☐ Low ☒ Normal ☐ High

☐ Urgent (ASAP, extra charge applies, please contact lab first)

Requested Reporting Date:

No.	Sample Name	Sample Date	Sample Time	Sample Type	Tests Required (if not as per Quote)
1	SS17/0.0	22/1/26		ES	Hold cold
2	SS24/0.0				
3	SS24/0.4				
4	SS31/0.0				
5	SS21/0.0				
6	SS21/0.4				
7	SS23/0.0				
8	SS26/0.0				
9	SS26/0.4				
10	SS15/0.0				
11	SS18/0.0				
12	SS29/0.0				

Continued on next page

No.	Sample Name	Sample Date	Sample Time	Sample Type	Tests Required (If not as per Quote)
13	SS18/0.4	22/1/26		ES	Hold Cold
14	SS30/0.0				
15	SS28/0.0				
16	SS19/0.0				
17	SS25/0.0				
18	SS22/0.0				
19	SS05/0.0				
20	SS05/0.4				
21	SS10/0.0				
22	SS16/0.0				
23	SS08/0.0				
24	SS13/0.0				
25	SS14/0.0				
26	SS03/0.0				
27	SS03/0.4				
28	SS20/0.0				
29	SS01/0.0				
30	SS01/0.4				
31	SS02/0.0				
32	SS12/0.0				
33	SS07/0.0				
34	SS02/0.4				
35	SS11/0.0				
36	SS11/0.4				
37	SS09/0.0				
38	SS13/0.4				
39	SS04/0.0				
40	SS06/0.0				



Quote No

Primary Contact

Submitted By

Client Name

Address

Postcode

Phone

Mobile

Email

Charge To

Client Reference

Order No

Results To

Reports will be emailed to Primary Contact by default.
Additional Reports will be sent as specified below.☒ Email Primary Contact☐ Email Submitter☐ Email Client☐ Email Other☐ Other**ANALYSIS REQUEST**R J Hill Laboratories Limited
221A Ellis Street, Hamilton 3204
Private Bag 3205
Hamilton 3240, New Zealand

☎ 0508 HILL LAB (44 555 22)

☎ +64 7 858 2000

✉ mail@hill-labs.co.nz

🌐 www.hill-labs.co.nz

Office use only
(Job No)**CHAIN OF CUSTODY RECORD**Sent to
Hill Labs

Date & Time: 22/1/2016 17:45

Name: Sandra Hamler

☐ Tick if you require COC
to be emailed back

Signature: Sandra H.

Received at
Hill Labs

Date & Time:

(Refer to Lab created Job
No above)

Name:

Signature:

Condition

☐ Room Temp☐ Chilled☐ Frozen

Temp:

ADDITIONAL INFORMATION / KNOWN HAZARDS

COC 2/2

Priority ☐ Low ☒ Normal ☐ High☐ Urgent (ASAP, extra charge applies, please contact lab first)

Requested Reporting Date:

No.	Sample Name	Sample Date	Sample Time	Sample Type	Tests Required (If not as per Quote)
1	SS06/0.0	22/1/2016		ES	4old Gold
2	SS06/0.5	↓		↓	↓
3	SS32/0.0				
4	SS32/0.5	↓		↓	↓
5					
6					
7					
8					
9					
10					
11					
12					

Continued on next page

Job Information Summary

Page 1 of 2

Client:	SLR Consulting New Zealand Limited	Lab No:	4081410
Contact:	Lindsay Lutes	Date Registered:	23-Jan-2026 10:40 am
	C/- SLR Consulting New Zealand Limited	Priority:	High
	PO Box 911310	Quote No:	97403
	Victoria Street West	Order No:	
	Auckland 1142	Client Reference:	810.032016.00001
		Add. Client Ref:	
		Submitted By:	Sandra Hamler
		Charge To:	SLR Consulting New Zealand Limited
		Target Date:	30-Jan-2026 4:30 pm

Samples

No	Sample Name	Sample Type	Containers	Tests Requested
1	SS29/0.0 22-Jan-2026	Soil	PSoil500Asb	New Zealand Guidelines Semi Quantitative Asbestos in Soil
2	SS05/0.0 22 Jan 2026	Soil	PSoil500Asb	New Zealand Guidelines Semi Quantitative Asbestos in Soil
3	SS05/0.4 22 Jan 2026	Soil	PSoil500Asb	Hold Cold
4	SS10/0.0 22 Jan 2026	Soil	PSoil500Asb	New Zealand Guidelines Semi Quantitative Asbestos in Soil
5	SS13/0.0 22-Jan-2026	Soil	PSoil500Asb	New Zealand Guidelines Semi Quantitative Asbestos in Soil
6	SS03/0.0 22-Jan-2026	Soil	PSoil500Asb	New Zealand Guidelines Semi Quantitative Asbestos in Soil
7	SS03/0.4 22 Jan 2026	Soil	PSoil500Asb	Hold Cold
8	SS12/0.0 22-Jan-2026	Soil	PSoil500Asb	New Zealand Guidelines Semi Quantitative Asbestos in Soil
9	SS07/0.0 22-Jan-2026	Soil	PSoil500Asb	New Zealand Guidelines Semi Quantitative Asbestos in Soil
10	SS11/0.0 22-Jan-2026	Soil	PSoil500Asb	New Zealand Guidelines Semi Quantitative Asbestos in Soil
11	SS11/0.4 22-Jan-2026	Soil	PSoil500Asb	Hold Cold
12	SS13/0.4 22-Jan-2026	Soil	PSoil500Asb	Hold Cold

Summary of Methods

The following table(s) gives a brief description of the methods used to conduct the analyses for this job. The detection limits given below are those attainable in a relatively simple matrix. Detection limits may be higher for individual samples should insufficient sample be available, or if the matrix requires that dilutions be performed during analysis. A detection limit range indicates the lowest and highest detection limits in the associated suite of analytes. A full listing of compounds and detection limits are available from the laboratory upon request. Unless otherwise indicated, analyses were performed at Hill Labs, 28 Duke Street, Frankton, Hamilton 3204.

Sample Type: Soil			
Test	Method Description	Default Detection Limit	Sample No
New Zealand Guidelines Semi Quantitative Asbestos in Soil			
As Received Weight	Measurement on analytical balance. Analysed at Hill Laboratories - Asbestos; Unit 1, 17 Print Place, Middleton, Christchurch.	0.1 g	1 2, 4 6, 8 10
Dry Weight	Sample dried at 100 to 105°C, measurement on balance. Analysed at Hill Laboratories - Asbestos; Unit 1, 17 Print Place, Middleton, Christchurch.	0.1 g	1-2, 4-6, 8-10
Moisture	Sample dried at 100 to 105°C. Calculation = (As received weight - Dry weight) / as received weight x 100.	1 %	1-2, 4-6, 8-10
Sample Fraction >10mm	Sample dried at 100 to 105°C, 10mm sieve, measurement on analytical balance. Analysed at Hill Laboratories - Asbestos; Unit 1, 17 Print Place, Middleton, Christchurch.	0.1 g dry wt	1-2, 4-6, 8-10
Sample Fraction <10mm to >2mm	Sample dried at 100 to 105°C, 10mm and 2mm sieve, measurement on analytical balance. Analysed at Hill Laboratories - Asbestos; Unit 1, 17 Print Place, Middleton, Christchurch.	0.1 g dry wt	1-2, 4-6, 8-10

Sample Type: Soil			
Test	Method Description	Default Detection Limit	Sample No
Sample Fraction <2mm	Sample dried at 100 to 105°C, 2mm sieve, measurement on analytical balance. Analysed at Hill Laboratories - Asbestos; Unit 1, 17 Print Place, Middleton, Christchurch.	0.1 g dry wt	1 2, 4 6, 8 10
Asbestos Presence / Absence	Examination using Low Powered Stereomicroscopy followed by 'Polarised Light Microscopy' including 'Dispersion Staining Techniques'. Analysed at Hill Laboratories - Asbestos; Unit 1, 17 Print Place, Middleton, Christchurch. AS 4964 (2004) - Method for the Qualitative Identification of Asbestos in Bulk Samples.	0.01%	1 2, 4 6, 8 10
Description of Asbestos Form	Description of asbestos form and/or shape if present.	-	1 2, 4 6, 8 10
Weight of Asbestos in ACM (Non-Friable)	Measurement on analytical balance, from the >10mm Fraction. Weight of asbestos based on assessment of ACM form. Analysed at Hill Laboratories - Asbestos; Unit 1, 17 Print Place, Middleton, Christchurch. New Zealand Guidelines for Assessing and Managing Asbestos in Soil, November 2017.	0.00001 g dry wt	1-2, 4-6, 8-10
Asbestos in ACM as % of Total Sample	Calculated from weight of asbestos in ACM and sample dry weight. New Zealand Guidelines for Assessing and Managing Asbestos in Soil, November 2017.	0.001 % w/w	1-2, 4-6, 8-10
Weight of Asbestos as Fibrous Asbestos (Friable)	Measurement on analytical balance, from the >10mm Fraction. Analysed at Hill Laboratories - Asbestos; Unit 1, 17 Print Place, Middleton, Christchurch. New Zealand Guidelines for Assessing and Managing Asbestos in Soil, November 2017.	0.00001 g dry wt	1-2, 4-6, 8-10
Asbestos as Fibrous Asbestos as % of Total Sample	Calculated from weight of fibrous asbestos and sample dry weight. New Zealand Guidelines for Assessing and Managing Asbestos in Soil, November 2017.	0.001 % w/w	1 2, 4 6, 8 10
Weight of Asbestos as Asbestos Fines (Friable)	Measurement on analytical balance, from the <10mm Fractions. Analysed at Hill Laboratories - Asbestos; Unit 1, 17 Print Place, Middleton, Christchurch. New Zealand Guidelines for Assessing and Managing Asbestos in Soil, November 2017.	0.00001 g dry wt	1-2, 4-6, 8-10
Asbestos as Asbestos Fines as % of Total Sample	Calculated from weight of asbestos fines and sample dry weight. New Zealand Guidelines for Assessing and Managing Asbestos in Soil, November 2017.	0.001 % w/w	1-2, 4-6, 8-10
Combined Fibrous Asbestos + Asbestos Fines as % of Total Sample	Calculated from weight of fibrous asbestos plus asbestos fines and sample dry weight. New Zealand Guidelines for Assessing and Managing Asbestos in Soil, November 2017.	0.001 % w/w	1 2, 4 6, 8 10



Quote No

Primary Contact

Submitted By

Client Name

Address

Postcode

Phone

Mobile

Email

Charge To

Client Reference

Order No

Results To

Reports will be emailed to Primary Contact by default.
Additional Reports will be sent as specified below.☒ Email Primary Contact ☐ Email Submitter ☐ Email Client☐ Email Other☐ Other

ADDITIONAL INFORMATION

ANALYSIS REQUEST

R J Hill Laboratories Limited
Ground Floor, 28 Heather Street
Parnell
Auckland 1052, New Zealand

Job No: Date Recv: 27-Jan-26 17:26

408 3769

Received by: Darryl Brown

0508 HILL LAB (44 555 22)

+64 7 858 2000

mail@hill-labs.co.nz

www.hill-labs.co.nz



314 083 7695

26.0

CHAIN OF CUSTODY RECORD

Sent to

Hill Laboratories

Date & Time:

Name: Sandra Hamler

☐ Tick if you require COC
to be emailed back

Signature: Sandra H.

Samples will be processed at a Hill Labs site with the appropriate testing
capability and capacity. Please inform the lab if you wish samples to be
retained and analysed at the site of receipt.

Received at

Hill Laboratories

Date & Time:

Name:

Signature:

Priority

☐ Low☒ Normal☐ High☐ Urgent (ASAP, extra charge applies, please contact lab first)

Requested Reporting Date:

Please ensure all asbestos samples are **individually
double bagged** upon-submission to the laboratory.

No.	Sample Name	Sample Material	Sample Location	Sample Date	Tests Required (if not as per Quote)
1	HA01/0.0	ES		27/1/26	Hold cold
2	HA02/0.0				
3	HA03/0.0				
4	HA04/0.3				
5	HA04/0.0				
6	HA05/0.0				
7	HA06/0.0				
8	HA07/0.0				
9	HA08/0.0				
10	HA08/0.3				
11	HA09/0.0				
12	HA10/0.0				
13	HA11/0.0				

No.	Sample Name	Sample Material	Sample Location	Sample Date	Tests Required (If not as per Quote)
14	HA11/0.3	ES		27/1/26	Hold cold
15	HA12/0.0	ES			
16	HA13/0.0				
17	HA13/0.3				
18	HA14/0.0				
19	HA15/0.0				
20	HA16/0.0				
21	SS33/0.0				
22	SS33/0.5				
23	SS34/0.0				
24	SS34/0.5				
25	SS35/0.0				
26	SS35/0.5				
27	SS36/0.0				
28	SS36/0.5				
29	SS37/0.0				
30	SS37/0.5				
31	SS38/0.0				
32	SS38/0.5				
33	SS39/0.0				
34	HA17/0.0				
35	HA17/0.3				
36	HA18/0.0				
37	HA18/0.3				
38	HA19/0.0				
39	HA19/0.3				
40					
41					

Job Information Summary

Page 1 of 2

Client:	SLR Consulting New Zealand Limited	Lab No:	4083769
Contact:	Lindsay Lutes	Date Registered:	28-Jan-2026 11:17 am
	C/- SLR Consulting New Zealand Limited	Priority:	High
	PO Box 911310	Quote No:	97403
	Victoria Street West	Order No:	
	Auckland 1142	Client Reference:	810.032016.00001
		Add. Client Ref:	
		Submitted By:	Sandra Hamler
		Charge To:	SLR Consulting New Zealand Limited
		Target Date:	02-Feb-2026 4:30 pm

Samples

No	Sample Name	Sample Type	Containers	Tests Requested
1	HA01/0.0 27-Jan-2026	Soil	PSoil250	
2	HA02/0.0 27-Jan-2026	Soil	GSoil300, PSoil250	
3	HA03/0.0 27-Jan-2026	Soil	GSoil300, PSoil250	
4	HA03/0.3 27-Jan-2026	Soil	GSoil300, PSoil250	Hold Cold
5	HA04/0.0 27-Jan-2026	Soil	GSoil300, cPSoil	
6	HA05/0.0 27-Jan-2026	Soil	GSoil300, PSoil250	
7	HA06/0.0 27-Jan-2026	Soil	GSoil300, PSoil250	
8	HA07/0.0 27-Jan-2026	Soil	GSoil300, PSoil250	
9	HA08/0.0 27-Jan-2026	Soil	GSoil300, cPSoil	
10	HA08/0.3 27-Jan-2026	Soil	GSoil300, cPSoil	Hold Cold
11	HA09/0.0 27-Jan-2026	Soil	GSoil300, PSoil250	
12	HA10/0.0 27-Jan-2026	Soil	GSoil300, PSoil250	
13	HA11/0.0 27-Jan-2026	Soil	GSoil300, PSoil250	
14	HA11/0.3 27-Jan-2026	Soil	GSoil300, PSoil250	Hold Cold
15	HA12/0.0 27-Jan-2026	Soil	GSoil300, PSoil250	
16	HA13/0.0 27-Jan-2026	Soil	GSoil300, PSoil250	
17	HA13/0.3 27-Jan-2026	Soil	GSoil300, PSoil250	Hold Cold
18	HA14/0.0 27-Jan-2026	Soil	GSoil300, PSoil250	
19	HA15/0.0 27-Jan-2026	Soil	GSoil300, PSoil250	
20	HA16/0.0 27-Jan-2026	Soil	GSoil300, PSoil250	
21	SS33/0.0 27-Jan-2026	Soil	PSoil250	Total Recoverable Lead
22	SS33/0.5 27-Jan-2026	Soil	PSoil250	Hold Cold
23	SS34/0.0 27-Jan-2026	Soil	PSoil250	Total Recoverable Lead
24	SS34/0.5 27-Jan-2026	Soil	PSoil250	Hold Cold
25	SS35/0.0 27-Jan-2026	Soil	PSoil250	Total Recoverable Lead
26	SS35/0.5 27-Jan-2026	Soil	PSoil250	Hold Cold
27	SS36/0.0 27-Jan-2026	Soil	PSoil250	Total Recoverable Lead
28	SS36/0.5 27-Jan-2026	Soil	PSoil250	Hold Cold
29	SS37/0.0 27-Jan-2026	Soil	PSoil250	Total Recoverable Lead
30	SS37/0.5 27-Jan-2026	Soil	PSoil250	Hold Cold
31	SS38/0.0 27-Jan-2026	Soil	PSoil250	Total Recoverable Lead
32	SS38/0.5 27-Jan-2026	Soil	PSoil250	Hold Cold
33	SS39/0.0 27-Jan-2026	Soil	GSoil300	Hold Cold
34	HA17/0.0 27-Jan-2026	Soil	GSoil300	Hold Cold
35	HA17/0.3 27-Jan-2026	Soil	GSoil300	Hold Cold
36	HA18/0.0 27-Jan-2026	Soil	GSoil300	Hold Cold
37	HA18/0.3 27-Jan-2026	Soil	GSoil300	Hold Cold

Samples				
No	Sample Name	Sample Type	Containers	Tests Requested
38	HA19/0.0 27-Jan-2026	Soil	GSoil300	Heavy Metals, Screen Level
39	HA19/0.3 27-Jan-2026	Soil	GSoil300	Hold Cold
40	HA01/0.3 27-Jan-2026	Soil	GSoil300	Hold Cold
41	Composite of HA01/0.0, HA02/0.0, HA03/0.0 & HA04/0.0 27-Jan-2026	Soil	OrgComp	Organochlorine Pesticides Screening in Soil
42	Composite of HA05/0.0, HA06/0.0, HA07/0.0 & HA08/0.0 27-Jan-2026	Soil	OrgComp	Organochlorine Pesticides Screening in Soil
43	Composite of HA09/0 0, HA10/0 0, HA11/0 0 & HA12/0 0 27 Jan 2026	Soil	OrgComp	Organochlorine Pesticides Screening in Soil
44	Composite of HA13/0 0, HA14/0 0, HA15/0 0 & HA16/0 0 27 Jan 2026	Soil	OrgComp	Organochlorine Pesticides Screening in Soil

Summary of Methods

The following table(s) gives a brief description of the methods used to conduct the analyses for this job. The detection limits given below are those attainable in a relatively simple matrix. Detection limits may be higher for individual samples should insufficient sample be available, or if the matrix requires that dilutions be performed during analysis. A detection limit range indicates the lowest and highest detection limits in the associated suite of analytes. A full listing of compounds and detection limits are available from the laboratory upon request. Unless otherwise indicated, analyses were performed at Hill Labs, 28 Duke Street, Frankton, Hamilton 3204.

Sample Type: Soil			
Test	Method Description	Default Detection Limit	Sample No
Environmental Solids Sample Drying	Air dried at 35°C Used for sample preparation. May contain a residual moisture content of 2-5%. (Free water removed before analysis, non-soil objects such as sticks, leaves, grass and stones also removed).	-	21, 23, 25, 27, 29, 31, 38
Environmental Solids Sample Preparation	Air dried at 35°C and sieved, <2mm fraction. Used for sample preparation May contain a residual moisture content of 2-5%. (Free water removed before analysis, non-soil objects such as sticks, leaves, grass and stones also removed).	-	21, 23, 25, 27, 29, 31
Heavy Metals, Screen Level	Dried sample, < 2mm fraction. Nitric/Hydrochloric acid digestion. Complies with NES Regulations. ICP-MS screen level, interference removal by Kinetic Energy Discrimination if required. US EPA 200.2 (modified), APHA 3125 B: Online Edition.	0.10 - 4 mg/kg dry wt	38
Organochlorine Pesticides Screening in Soil	Sonication extraction, GC-ECD analysis. Tested on as received sample. In-house based on US EPA 8081.	0.010 - 0.06 mg/kg dry wt	41 44
Dry Matter	Dried at 103°C for 4-22hr (removes 3-5% more water than air dry) , gravimetry. (Free water removed before analysis, non-soil objects such as sticks, leaves, grass and stones also removed). US EPA 3550.	0.10 g/100g as rcvd	41-44
Total Recoverable digestion	Nitric / hydrochloric acid digestion. US EPA 200.2 (modified), APHA 3125 B: Online Edition.	-	21, 23, 25, 27, 29, 31
Composite Environmental Solid Samples	Individual sample fractions mixed together to form a composite fraction.	-	1-3, 5-9, 11-13, 15-16, 18-20
Total Recoverable Lead	Dried sample, sieved as specified (if required). Nitric/Hydrochloric acid digestion, ICP-MS, screen level. US EPA 200.2 (modified), APHA 3125 B: Online Edition.	0.4 mg/kg dry wt	21, 23, 25, 27, 29, 31



Quote No

Primary Contact Lindsay LutesSubmitted By Sandra HamlerClient Name SLR

Address

Postcode

Phone

Mobile

Email

Charge To SLRClient Reference 810.032016.00001

Order No

Results To

Reports will be emailed to Primary Contact by default.
Additional Reports will be sent as specified below.☒ Email Primary Contact ☐ Email Submitter ☐ Email Client☐ Email Other☐ Other

ADDITIONAL INFORMATION

?

ANALYSIS REQUEST

R J Hill Laboratories Limited
Ground Floor, 28 Heather Street
Parnell
Auckland 1052, New Zealand

Job No: Date Recd: 28-Jan-26 11:25

408 4402

0508 HILL LAB (44 555 22)

+64 7 858 2000

mail@hill-labs.co.nz

www.hill-labs.co.nz

Received by: Nathaniel Sue



3140844028

26.0

CHAIN OF CUSTODY RECORD

Sent to
Hill LaboratoriesDate & Time: 27/1/26 17:20Name: Sandra Hamler☐ Tick if you require COC
to be emailed backSignature: Sandra H.Samples will be processed at a Hill Labs site with the appropriate testing
capability and capacity. Please inform the lab if you wish samples to be
retained and analysed at the site of receipt.Received at
Hill Laboratories

Date & Time:

Name:

Signature:

Priority ☐ Low ☒ Normal ☐ High☐ Urgent (ASAP, extra charge applies, please contact lab first)

Requested Reporting Date:

Please ensure all asbestos samples are **individually**
double bagged upon submission to the laboratory.

No.	Sample Name	Sample Material	Sample Location	Sample Date	Tests Required (if not as per Quote)
1	HA01/0.0	ES		27/1/26	Hold cold
2	HA02/0.0				
3	HA03/0.0				
4	HA04/0.3				
5	HA04/0.0				
6	HA05/0.0				
7	HA06/0.0				
8	HA07/0.0				
9	HA08/0.0				
10	HA08/0.3				
11	HA09/0.0				
12	HA10/0.0				
13	HA11/0.0				

No.	Sample Name	Sample Material	Sample Location	Sample Date	Tests Required (If not as per Quote)
14	HA11/0.3	ES		ZF126	Hold cold
15	HA12/0.0				
16	HA13/0.0				
17	HA13/0.3				
18	HA14/0.0				
19	HA15/0.0				
20	HA16/0.0				
21	SS33/0.0				
22	SS33/0.5				
23	SS34/0.0				
24	SS34/0.5				
25	SS35/0.0				
26	SS35/0.5				
27	SS36/0.0				
28	SS36/0.5				
29	SS37/0.0				
30	SS37/0.5				
31	SS38/0.0				
32	SS38/0.5				
33	SS39/0.0				
34	HA17/0.0				
35	HA17/0.3				
36	HA18/0.0				
37	HA18/0.3				
38	HA19/0.0				
39	HA19/0.3				
40					
41					

Job Information Summary

Page 1 of 2

Client:	SLR Consulting New Zealand Limited	Lab No:	4084402
Contact:	Lindsay Lutes	Date Registered:	28-Jan-2026 11:28 am
	C/- SLR Consulting New Zealand Limited	Priority:	High
	PO Box 911310	Quote No:	97403
	Victoria Street West	Order No:	
	Auckland 1142	Client Reference:	810.032016.00001
		Add. Client Ref:	
		Submitted By:	Sandra Hamler
		Charge To:	SLR Consulting New Zealand Limited
		Target Date*:	02-Feb-2026 4:30 pm

* As the samples require analysis at a Hill Labs location that is different to where they were received, the Target Date for reporting has been extended

Samples

No	Sample Name	Sample Type	Containers	Tests Requested
1	SS33/0 0 27 Jan 2026	Soil	PSoil500Asb	New Zealand Guidelines Semi Quantitative Asbestos in Soil
2	SS33/0.5 27-Jan-2026	Soil	PSoil500Asb	Hold Cold
3	SS34/0.0 27-Jan-2026	Soil	PSoil500Asb	New Zealand Guidelines Semi Quantitative Asbestos in Soil
4	SS34/0.5 27-Jan-2026	Soil	PSoil500Asb	Hold Cold
5	SS35/0.0 27-Jan-2026	Soil	PSoil500Asb	New Zealand Guidelines Semi Quantitative Asbestos in Soil
6	SS35/0 5 27 Jan 2026	Soil	PSoil500Asb	Hold Cold
7	SS36/0.0 27-Jan-2026	Soil	PSoil500Asb	New Zealand Guidelines Semi Quantitative Asbestos in Soil
8	SS36/0 5 27 Jan 2026	Soil	PSoil500Asb	Hold Cold
9	SS37/0 5 27 Jan 2026	Soil	PSoil500Asb	Hold Cold
10	SS37/0.0 27-Jan-2026	Soil	PSoil500Asb	New Zealand Guidelines Semi Quantitative Asbestos in Soil
11	SS38/0 0 27 Jan 2026	Soil	PSoil500Asb	New Zealand Guidelines Semi Quantitative Asbestos in Soil
12	SS38/0.5 27-Jan-2026	Soil	PSoil500Asb	Hold Cold

Summary of Methods

The following table(s) gives a brief description of the methods used to conduct the analyses for this job. The detection limits given below are those attainable in a relatively simple matrix. Detection limits may be higher for individual samples should insufficient sample be available, or if the matrix requires that dilutions be performed during analysis. A detection limit range indicates the lowest and highest detection limits in the associated suite of analytes. A full listing of compounds and detection limits are available from the laboratory upon request. Unless otherwise indicated, analyses were performed at Hill Labs, 28 Duke Street, Frankton, Hamilton 3204.

Sample Type: Soil			
Test	Method Description	Default Detection Limit	Sample No
New Zealand Guidelines Semi Quantitative Asbestos in Soil			
As Received Weight	Measurement on analytical balance. Analysed at Hill Laboratories - Asbestos; Unit 1, 17 Print Place, Middleton, Christchurch.	0.1 g	1, 3, 5, 7, 10-11
Dry Weight	Sample dried at 100 to 105°C, measurement on balance. Analysed at Hill Laboratories - Asbestos; Unit 1, 17 Print Place, Middleton, Christchurch.	0.1 g	1, 3, 5, 7, 10-11
Moisture	Sample dried at 100 to 105°C. Calculation = (As received weight - Dry weight) / as received weight x 100.	1 %	1, 3, 5, 7, 10-11
Sample Fraction >10mm	Sample dried at 100 to 105°C, 10mm sieve, measurement on analytical balance. Analysed at Hill Laboratories - Asbestos; Unit 1, 17 Print Place, Middleton, Christchurch.	0.1 g dry wt	1, 3, 5, 7, 10-11
Sample Fraction <10mm to >2mm	Sample dried at 100 to 105°C, 10mm and 2mm sieve, measurement on analytical balance. Analysed at Hill Laboratories - Asbestos; Unit 1, 17 Print Place, Middleton, Christchurch.	0.1 g dry wt	1, 3, 5, 7, 10-11

Sample Type: Soil			
Test	Method Description	Default Detection Limit	Sample No
Sample Fraction <2mm	Sample dried at 100 to 105°C, 2mm sieve, measurement on analytical balance. Analysed at Hill Laboratories - Asbestos; Unit 1, 17 Print Place, Middleton, Christchurch.	0.1 g dry wt	1, 3, 5, 7, 10 11
Asbestos Presence / Absence	Examination using Low Powered Stereomicroscopy followed by 'Polarised Light Microscopy' including 'Dispersion Staining Techniques'. Analysed at Hill Laboratories - Asbestos; Unit 1, 17 Print Place, Middleton, Christchurch. AS 4964 (2004) - Method for the Qualitative Identification of Asbestos in Bulk Samples.	0.01%	1, 3, 5, 7, 10 11
Description of Asbestos Form	Description of asbestos form and/or shape if present.	-	1, 3, 5, 7, 10 11
Weight of Asbestos in ACM (Non-Friable)	Measurement on analytical balance, from the >10mm Fraction. Weight of asbestos based on assessment of ACM form. Analysed at Hill Laboratories - Asbestos; Unit 1, 17 Print Place, Middleton, Christchurch. New Zealand Guidelines for Assessing and Managing Asbestos in Soil, November 2017.	0.00001 g dry wt	1, 3, 5, 7, 10-11
Asbestos in ACM as % of Total Sample	Calculated from weight of asbestos in ACM and sample dry weight. New Zealand Guidelines for Assessing and Managing Asbestos in Soil, November 2017.	0.001 % w/w	1, 3, 5, 7, 10-11
Weight of Asbestos as Fibrous Asbestos (Friable)	Measurement on analytical balance, from the >10mm Fraction. Analysed at Hill Laboratories - Asbestos; Unit 1, 17 Print Place, Middleton, Christchurch. New Zealand Guidelines for Assessing and Managing Asbestos in Soil, November 2017.	0.00001 g dry wt	1, 3, 5, 7, 10-11
Asbestos as Fibrous Asbestos as % of Total Sample	Calculated from weight of fibrous asbestos and sample dry weight. New Zealand Guidelines for Assessing and Managing Asbestos in Soil, November 2017.	0.001 % w/w	1, 3, 5, 7, 10 11
Weight of Asbestos as Asbestos Fines (Friable)	Measurement on analytical balance, from the <10mm Fractions. Analysed at Hill Laboratories - Asbestos; Unit 1, 17 Print Place, Middleton, Christchurch. New Zealand Guidelines for Assessing and Managing Asbestos in Soil, November 2017.	0.00001 g dry wt	1, 3, 5, 7, 10-11
Asbestos as Asbestos Fines as % of Total Sample	Calculated from weight of asbestos fines and sample dry weight. New Zealand Guidelines for Assessing and Managing Asbestos in Soil, November 2017.	0.001 % w/w	1, 3, 5, 7, 10-11
Combined Fibrous Asbestos + Asbestos Fines as % of Total Sample	Calculated from weight of fibrous asbestos plus asbestos fines and sample dry weight. New Zealand Guidelines for Assessing and Managing Asbestos in Soil, November 2017.	0.001 % w/w	1, 3, 5, 7, 10 11

Appendix F Laboratory Analysis Reports

Preliminary and Detailed Site Investigation

Te Kowhai East Development

Te Kowhai East Limited Partnership

SLR Project No.: 810.032016.00001

14 August 2026



Certificate of Analysis

Page 1 of 4

Client:	SLR Consulting New Zealand Limited	Lab No:	4080910	SPV2
Contact:	Lindsay Lutes	Date Received:	22-Jan-2026	
	C/- SLR Consulting New Zealand Limited	Date Reported:	12-Feb-2026	(Amended)
	PO Box 911310	Quote No:	97403	
	Victoria Street West	Order No:		
	Auckland 1142	Client Reference:	810.032016.00001	
		Submitted By:	Sandra Hamler	

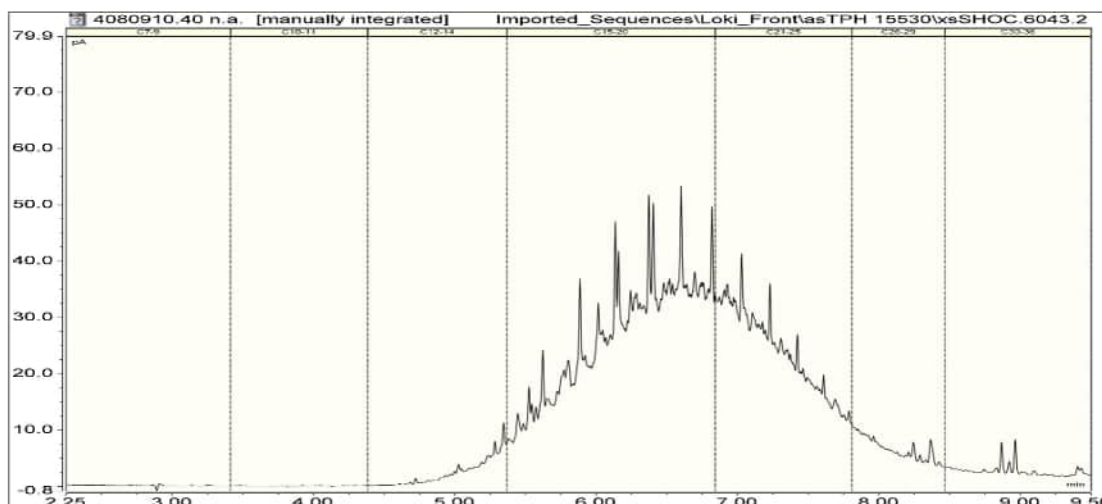
Sample Type: Soil						
Sample Name:	SS17/0.0	SS24/0.0	SS31/0.0	SS21/0.0	SS23/0.0	
	22-Jan-2026	22-Jan-2026	22-Jan-2026	22-Jan-2026	22-Jan-2026	
Lab Number:	4080910.1	4080910.2	4080910.4	4080910.5	4080910.7	
Individual Tests						
Total Recoverable Lead	mg/kg dry wt	5.8	75	12.7	12.6	-
Heavy Metals, Screen Level						
Total Recoverable Arsenic	mg/kg dry wt	-	-	-	-	7
Total Recoverable Cadmium	mg/kg dry wt	-	-	-	-	0.55
Total Recoverable Chromium	mg/kg dry wt	-	-	-	-	9
Total Recoverable Copper	mg/kg dry wt	-	-	-	-	37
Total Recoverable Lead	mg/kg dry wt	-	-	-	-	7.4
Total Recoverable Nickel	mg/kg dry wt	-	-	-	-	3
Total Recoverable Zinc	mg/kg dry wt	-	-	-	-	240
Sample Name:	SS26/0.0	SS15/0.0	SS18/0.0	SS30/0.0	SS28/0.0	
	22-Jan-2026	22-Jan-2026	22-Jan-2026	22-Jan-2026	22-Jan-2026	
Lab Number:	4080910.8	4080910.10	4080910.11	4080910.14	4080910.15	
Individual Tests						
Total Recoverable Lead	mg/kg dry wt	300	34	13.4	330	420
Sample Name:	SS19/0.0	SS25/0.0	SS22/0.0	SS05/0.0	SS10/0.0	
	22-Jan-2026	22-Jan-2026	22-Jan-2026	22-Jan-2026	22-Jan-2026	
Lab Number:	4080910.16	4080910.17	4080910.18	4080910.19	4080910.21	
Individual Tests						
Total Recoverable Lead	mg/kg dry wt	-	102	9.5	79	87
Heavy Metals, Screen Level						
Total Recoverable Arsenic	mg/kg dry wt	24	-	-	-	-
Total Recoverable Cadmium	mg/kg dry wt	0.22	-	-	-	-
Total Recoverable Chromium	mg/kg dry wt	21	-	-	-	-
Total Recoverable Copper	mg/kg dry wt	16	-	-	-	-
Total Recoverable Lead	mg/kg dry wt	11.8	-	-	-	-
Total Recoverable Nickel	mg/kg dry wt	2	-	-	-	-
Total Recoverable Zinc	mg/kg dry wt	21	-	-	-	-
Sample Name:	SS16/0.0	SS08/0.0	SS14/0.0	SS03/0.0	SS20/0.0	
	22-Jan-2026	22-Jan-2026	22-Jan-2026	22-Jan-2026	22-Jan-2026	
Lab Number:	4080910.22	4080910.23	4080910.25	4080910.26	4080910.28	
Individual Tests						
Total Recoverable Lead	mg/kg dry wt	-	23	47	230	13.1

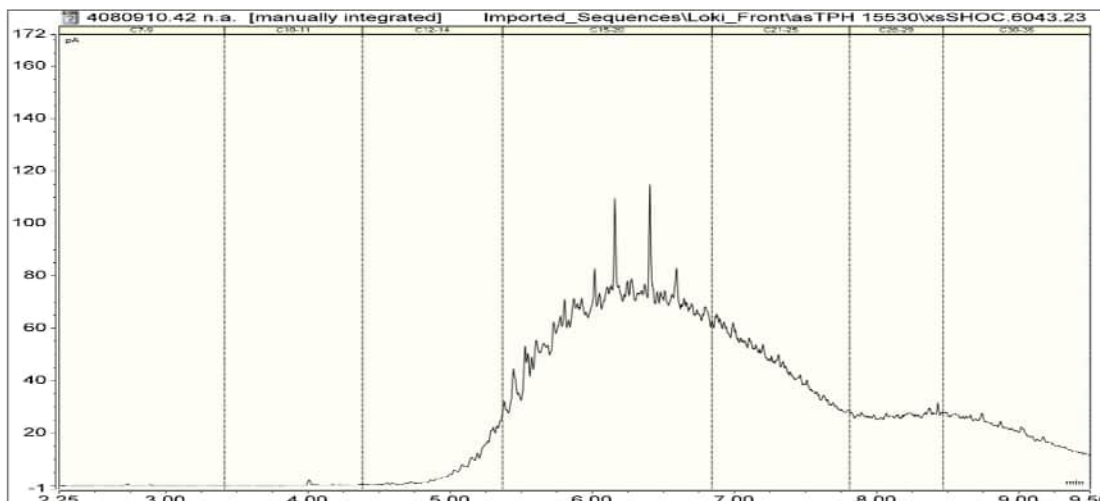
Sample Type: Soil						
Sample Name:		SS16/0.0 22-Jan-2026	SS08/0.0 22-Jan-2026	SS14/0.0 22-Jan-2026	SS03/0.0 22-Jan-2026	SS20/0.0 22-Jan-2026
Lab Number:		4080910.22	4080910.23	4080910.25	4080910.26	4080910.28
Heavy Metals, Screen Level						
Total Recoverable Arsenic	mg/kg dry wt	6	-	-	-	-
Total Recoverable Cadmium	mg/kg dry wt	0.15	-	-	-	-
Total Recoverable Chromium	mg/kg dry wt	13	-	-	-	-
Total Recoverable Copper	mg/kg dry wt	14	-	-	-	-
Total Recoverable Lead	mg/kg dry wt	16.6	-	-	-	-
Total Recoverable Nickel	mg/kg dry wt	3	-	-	-	-
Total Recoverable Zinc	mg/kg dry wt	165	-	-	-	-
Sample Name:		SS01/0.0 22-Jan-2026	SS01/0.4 22-Jan-2026	SS12/0.0 22-Jan-2026	SS07/0.0 22-Jan-2026	SS11/0.0 22-Jan-2026
Lab Number:		4080910.29	4080910.30	4080910.32	4080910.33	4080910.35
Individual Tests						
Total Recoverable Lead	mg/kg dry wt	1,180	50	23	10.0	21
Sample Name:		SS09/0.0 22-Jan-2026	SS04/0.0 22-Jan-2026	SS06/0.0 22-Jan-2026	SS32/0.0 22-Jan-2026	
Lab Number:		4080910.37	4080910.39	4080910.40	4080910.42	
Individual Tests						
Dry Matter	g/100g as rcvd	-	-	65	93	
Total Recoverable Lead	mg/kg dry wt	118	19.4	-	-	
Heavy Metals, Screen Level						
Total Recoverable Arsenic	mg/kg dry wt	-	-	-	4	
Total Recoverable Cadmium	mg/kg dry wt	-	-	-	0.16	
Total Recoverable Chromium	mg/kg dry wt	-	-	-	6	
Total Recoverable Copper	mg/kg dry wt	-	-	-	12	
Total Recoverable Lead	mg/kg dry wt	-	-	-	14.6	
Total Recoverable Nickel	mg/kg dry wt	-	-	-	4	
Total Recoverable Zinc	mg/kg dry wt	-	-	-	48	
Total Petroleum Hydrocarbons in Soil						
C7 - C9	mg/kg dry wt	-	-	< 30	< 20	
C10 - C14	mg/kg dry wt	-	-	220	410	
C15 - C36	mg/kg dry wt	-	-	7,100	12,500	
Total hydrocarbons (C7 - C36)	mg/kg dry wt	-	-	7,300	13,000	

4080910.40

SS06/0.0 22-Jan-2026

Client Chromatogram for TPH by FID





Analyst's Comments

Amended Report: This certificate of analysis replaces report '4080910-SPv1' issued on 30-Jan-2026 at 4:24 pm.
Reason for amendment: Additional testing added as per clients request.

Summary of Methods

The following table(s) gives a brief description of the methods used to conduct the analyses for this job. The detection limits given below are those attainable in a relatively simple matrix. Detection limits may be higher for individual samples should insufficient sample be available, or if the matrix requires that dilutions be performed during analysis. A detection limit range indicates the lowest and highest detection limits in the associated suite of analytes. A full listing of compounds and detection limits are available from the laboratory upon request. Unless otherwise indicated, analyses were performed at Hill Labs, 28 Duke Street, Frankton, Hamilton 3204.

Sample Type: Soil

Test	Method Description	Default Detection Limit	Sample No
Individual Tests			
Environmental Solids Sample Drying*	Air dried at 35°C Used for sample preparation. May contain a residual moisture content of 2-5%. (Free water removed before analysis, non-soil objects such as sticks, leaves, grass and stones also removed).	-	1-2, 4-5, 7-8, 10-11, 14-19, 21-23, 25-26, 28-30, 32-33, 35, 37, 39, 42
Environmental Solids Sample Preparation	Air dried at 35°C and sieved, <2mm fraction. Used for sample preparation May contain a residual moisture content of 2-5%. (Free water removed before analysis, non-soil objects such as sticks, leaves, grass and stones also removed).	-	1-2, 4-5, 8, 10-11, 14-15, 17-19, 21, 23, 25-26, 28-30, 32-33, 35, 37, 39
Dry Matter	Dried at 103°C for 4-22hr (removes 3-5% more water than air dry) , gravimetry. (Free water removed before analysis, non-soil objects such as sticks, leaves, grass and stones also removed). US EPA 3550.	0.10 g/100g as rcvd	40, 42
Total Recoverable digestion	Nitric / hydrochloric acid digestion. US EPA 200.2 (modified), APHA 3125 B: Online Edition.	-	1-2, 4-5, 8, 10-11, 14-15, 17-19, 21, 23, 25-26, 28-30, 32-33, 35, 37, 39
Total Recoverable Lead	Dried sample, sieved as specified (if required). Nitric/Hydrochloric acid digestion, ICP-MS, screen level. US EPA 200.2 (modified), APHA 3125 B: Online Edition.	0.4 mg/kg dry wt	1-2, 4-5, 8, 10-11, 14-15, 17-19, 21, 23, 25-26, 28-30, 32-33, 35, 37, 39

Sample Type: Soil			
Test	Method Description	Default Detection Limit	Sample No
Heavy Metals, Screen Level	Dried sample, < 2mm fraction. Nitric/Hydrochloric acid digestion. Complies with NES Regulations. ICP-MS screen level, interference removal by Kinetic Energy Discrimination if required. US EPA 200.2 (modified), APHA 3125 B: Online Edition.	0.10 - 4 mg/kg dry wt	7, 16, 22, 42
Total Petroleum Hydrocarbons in Soil			
Client Chromatogram for TPH by FID	Small peaks associated with QC compounds may be visible in chromatograms with low TPH concentrations. QC peaks are as follows: one peak in the C12 - 14 band, the C21 - 25 band and the C30 - 36 band. All QC peaks are corrected for in the reported TPH concentrations.	-	40, 42
C7 - C9	Solvent extraction, GC-FID analysis. Tested on as received sample. In-house based on US EPA 8015.	20 mg/kg dry wt	40, 42
C10 - C14	Solvent extraction, GC-FID analysis. Tested on as received sample. In-house based on US EPA 8015.	20 mg/kg dry wt	40, 42
C15 - C36	Solvent extraction, GC-FID analysis. Tested on as received sample. In-house based on US EPA 8015.	40 mg/kg dry wt	40, 42
Total hydrocarbons (C7 - C36)	Calculation: Sum of carbon bands from C7 to C36. In-house based on US EPA 8015.	70 mg/kg dry wt	40, 42

These samples were collected by yourselves (or your agent) and analysed as received at the laboratory.

Testing was completed between 28-Jan-2026 and 12-Feb-2026. For completion dates of individual analyses please contact the laboratory.

Samples are held at the laboratory after reporting for a length of time based on the stability of the samples and analytes being tested (considering any preservation used), and the storage space available. Once the storage period is completed, the samples are discarded unless otherwise agreed with the customer. Extended storage times may incur additional charges.

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Ara Heron BSc (Tech)
Client Services Manager - Environmental

Certificate of Analysis

Page 1 of 3

Client:	SLR Consulting New Zealand Limited	Lab No:	4081410	A2Pv1
Contact:	Lindsay Lutes	Date Received:	23-Jan-2026	
	C/- SLR Consulting New Zealand Limited	Date Reported:	30-Jan-2026	
	PO Box 911310	Quote No:	97403	
	Victoria Street West	Order No:		
	Auckland 1142	Client Reference:	810.032016.00001	
		Submitted By:	Sandra Hamler	

Sample Type: Soil

Sample Name:	SS29/0.0 22-Jan-2026	SS05/0.0 22-Jan-2026	SS10/0.0 22-Jan-2026	SS13/0.0 22-Jan-2026	SS03/0.0 22-Jan-2026
Lab Number:	4081410.1	4081410.2	4081410.4	4081410.5	4081410.6
Asbestos Presence / Absence	Asbestos NOT detected.	Asbestos NOT detected.	Asbestos NOT detected.	Asbestos NOT detected.	Chrysotile (White Asbestos) detected.
Description of Asbestos Form	-	-	-	-	Loose fibres
Asbestos in ACM as % of Total Sample*	% w/w < 0.001	% w/w < 0.001	% w/w < 0.001	% w/w < 0.001	% w/w < 0.001
Combined Fibrous Asbestos + Asbestos Fines as % of Total Sample*	% w/w < 0.001	% w/w < 0.001	% w/w < 0.001	% w/w < 0.001	% w/w < 0.001
Asbestos as Fibrous Asbestos as % of Total Sample*	% w/w < 0.001	% w/w < 0.001	% w/w < 0.001	% w/w < 0.001	% w/w < 0.001
Asbestos as Asbestos Fines as % of Total Sample*	% w/w < 0.001	% w/w < 0.001	% w/w < 0.001	% w/w < 0.001	% w/w < 0.001
As Received Weight	g 650.1	g 745.6	g 538.2	g 542.7	g 570.4
Dry Weight	g 533.8	g 537.2	g 458.0	g 377.9	g 404.2
Moisture*	% 18	% 28	% 15	% 30	% 29
Sample Fraction >10mm	g dry wt 17.5	g dry wt 23.1	g dry wt < 0.1	g dry wt 12.3	g dry wt 6.0
Sample Fraction <10mm to >2mm	g dry wt 122.6	g dry wt 127.8	g dry wt 82.6	g dry wt 38.4	g dry wt 135.8
Sample Fraction <2mm	g dry wt 393.2	g dry wt 385.5	g dry wt 374.8	g dry wt 326.2	g dry wt 261.9
<2mm Subsample Weight	g dry wt 56.3	g dry wt 58.8	g dry wt 51.6	g dry wt 57.4	g dry wt 54.6
Weight of Asbestos in ACM (Non-Friable)	g dry wt < 0.00001	g dry wt < 0.00001	g dry wt < 0.00001	g dry wt < 0.00001	g dry wt < 0.00001
Weight of Asbestos as Fibrous Asbestos (Friable)	g dry wt < 0.00001	g dry wt < 0.00001	g dry wt < 0.00001	g dry wt < 0.00001	g dry wt < 0.00001
Weight of Asbestos as Asbestos Fines (Friable)*	g dry wt < 0.00001	g dry wt < 0.00001	g dry wt < 0.00001	g dry wt < 0.00001	g dry wt 0.00005

Sample Name:	SS12/0.0 22-Jan-2026	SS07/0.0 22-Jan-2026	SS11/0.0 22-Jan-2026
Lab Number:	4081410.8	4081410.9	4081410.10
Asbestos Presence / Absence	Asbestos NOT detected.	Asbestos NOT detected.	Asbestos NOT detected.
Description of Asbestos Form	-	-	-
Asbestos in ACM as % of Total Sample*	% w/w < 0.001	% w/w < 0.001	% w/w < 0.001
Combined Fibrous Asbestos + Asbestos Fines as % of Total Sample*	% w/w < 0.001	% w/w < 0.001	% w/w < 0.001
Asbestos as Fibrous Asbestos as % of Total Sample*	% w/w < 0.001	% w/w < 0.001	% w/w < 0.001
Asbestos as Asbestos Fines as % of Total Sample*	% w/w < 0.001	% w/w < 0.001	% w/w < 0.001
As Received Weight	g 592.8	g 713.4	g 552.9
Dry Weight	g 458.4	g 568.0	g 363.8
Moisture*	% 23	% 20	% 34

Sample Type: Soil				
Sample Name:		SS12/0.0 22-Jan-2026	SS07/0.0 22-Jan-2026	SS11/0.0 22-Jan-2026
Lab Number:		4081410.8	4081410.9	4081410.10
Sample Fraction >10mm	g dry wt	< 0.1	23.5	< 0.1
Sample Fraction <10mm to >2mm	g dry wt	106.6	133.8	32.2
Sample Fraction <2mm	g dry wt	351.0	410.0	330.9
<2mm Subsample Weight	g dry wt	53.8	52.1	56.3
Weight of Asbestos in ACM (Non-Friable)	g dry wt	< 0.00001	< 0.00001	< 0.00001
Weight of Asbestos as Fibrous Asbestos (Friable)	g dry wt	< 0.00001	< 0.00001	< 0.00001
Weight of Asbestos as Asbestos Fines (Friable)*	g dry wt	< 0.00001	< 0.00001	< 0.00001

Glossary of Terms

- Loose fibres (Minor) - One or two fibres/fibre bundles identified during analysis by stereo microscope/PLM.
 - Loose fibres (Major) - Three or more fibres/fibre bundles identified during analysis by stereo microscope/PLM.
 - ACM Debris (Minor) - One or two small (<2mm) pieces of material attached to fibres identified during analysis by stereo microscope/PLM.
 - ACM Debris (Major) - Large (>2mm) piece, or more than three small (<2mm) pieces of material attached to fibres identified during analysis by stereo microscope/PLM.
 - Unknown Mineral Fibres - Mineral fibres of unknown type detected by polarised light microscopy including dispersion staining. The fibres detected may or may not be asbestos fibres. To confirm the identities, another independent analytical technique may be required.
 - Trace - Trace levels of asbestos, as defined by AS4964-2004.
- For further details, please contact the Asbestos Team.

Please refer to the **BRANZ New Zealand Guidelines for Assessing and Managing Asbestos in Soil**.
<https://www.branz.co.nz/asbestos>

The following assumptions have been made:

1. Asbestos Fines in the <2mm fraction, after homogenisation, is evenly distributed throughout the fraction
2. The weight of asbestos in the sample is unaffected by the ashing process.

Results are representative of the sample provided to Hill Laboratories only.

Summary of Methods

The following table(s) gives a brief description of the methods used to conduct the analyses for this job. The detection limits given below are those attainable in a relatively simple matrix. Detection limits may be higher for individual samples should insufficient sample be available, or if the matrix requires that dilutions be performed during analysis. A detection limit range indicates the lowest and highest detection limits in the associated suite of analytes. A full listing of compounds and detection limits are available from the laboratory upon request. Unless otherwise indicated, analyses were performed at Hill Labs, 28 Duke Street, Frankton, Hamilton 3204.

Sample Type: Soil			
Test	Method Description	Default Detection Limit	Sample No
New Zealand Guidelines Semi Quantitative Asbestos in Soil			
As Received Weight	Measurement on analytical balance. Analysed at Hill Laboratories - Asbestos; Unit 1, 17 Print Place, Middleton, Christchurch.	0.1 g	1-2, 4-6, 8-10
Dry Weight	Sample dried at 100 to 105°C, measurement on balance. Analysed at Hill Laboratories - Asbestos; Unit 1, 17 Print Place, Middleton, Christchurch.	0.1 g	1-2, 4-6, 8-10
Moisture*	Sample dried at 100 to 105°C. Calculation = (As received weight - Dry weight) / as received weight x 100.	1 %	1-2, 4-6, 8-10
Sample Fraction >10mm	Sample dried at 100 to 105°C, 10mm sieve, measurement on analytical balance. Analysed at Hill Laboratories - Asbestos; Unit 1, 17 Print Place, Middleton, Christchurch.	0.1 g dry wt	1-2, 4-6, 8-10
Sample Fraction <10mm to >2mm	Sample dried at 100 to 105°C, 10mm and 2mm sieve, measurement on analytical balance. Analysed at Hill Laboratories - Asbestos; Unit 1, 17 Print Place, Middleton, Christchurch.	0.1 g dry wt	1-2, 4-6, 8-10
Sample Fraction <2mm	Sample dried at 100 to 105°C, 2mm sieve, measurement on analytical balance. Analysed at Hill Laboratories - Asbestos; Unit 1, 17 Print Place, Middleton, Christchurch.	0.1 g dry wt	1-2, 4-6, 8-10
Asbestos Presence / Absence	Examination using Low Powered Stereomicroscopy followed by 'Polarised Light Microscopy' including 'Dispersion Staining Techniques'. Analysed at Hill Laboratories - Asbestos; Unit 1, 17 Print Place, Middleton, Christchurch. AS 4964 (2004) - Method for the Qualitative Identification of Asbestos in Bulk Samples.	0.01%	1-2, 4-6, 8-10
Description of Asbestos Form	Description of asbestos form and/or shape if present.	-	1-2, 4-6, 8-10

Sample Type: Soil			
Test	Method Description	Default Detection Limit	Sample No
Weight of Asbestos in ACM (Non-Friable)	Measurement on analytical balance, from the >10mm Fraction. Weight of asbestos based on assessment of ACM form. Analysed at Hill Laboratories - Asbestos; Unit 1, 17 Print Place, Middleton, Christchurch. New Zealand Guidelines for Assessing and Managing Asbestos in Soil, November 2017.	0.00001 g dry wt	1-2, 4-6, 8-10
Asbestos in ACM as % of Total Sample*	Calculated from weight of asbestos in ACM and sample dry weight. New Zealand Guidelines for Assessing and Managing Asbestos in Soil, November 2017.	0.001 % w/w	1-2, 4-6, 8-10
Weight of Asbestos as Fibrous Asbestos (Friable)	Measurement on analytical balance, from the >10mm Fraction. Analysed at Hill Laboratories - Asbestos; Unit 1, 17 Print Place, Middleton, Christchurch. New Zealand Guidelines for Assessing and Managing Asbestos in Soil, November 2017.	0.00001 g dry wt	1-2, 4-6, 8-10
Asbestos as Fibrous Asbestos as % of Total Sample*	Calculated from weight of fibrous asbestos and sample dry weight. New Zealand Guidelines for Assessing and Managing Asbestos in Soil, November 2017.	0.001 % w/w	1-2, 4-6, 8-10
Weight of Asbestos as Asbestos Fines (Friable)*	Measurement on analytical balance, from the <10mm Fractions. Analysed at Hill Laboratories - Asbestos; Unit 1, 17 Print Place, Middleton, Christchurch. New Zealand Guidelines for Assessing and Managing Asbestos in Soil, November 2017.	0.00001 g dry wt	1-2, 4-6, 8-10
Asbestos as Asbestos Fines as % of Total Sample*	Calculated from weight of asbestos fines and sample dry weight. New Zealand Guidelines for Assessing and Managing Asbestos in Soil, November 2017.	0.001 % w/w	1-2, 4-6, 8-10
Combined Fibrous Asbestos + Asbestos Fines as % of Total Sample*	Calculated from weight of fibrous asbestos plus asbestos fines and sample dry weight. New Zealand Guidelines for Assessing and Managing Asbestos in Soil, November 2017.	0.001 % w/w	1-2, 4-6, 8-10

These samples were collected by yourselves (or your agent) and analysed as received at the laboratory.

Testing was completed on 30-Jan-2026. For completion dates of individual analyses please contact the laboratory.

Samples are held at the laboratory after reporting for a length of time based on the stability of the samples and analytes being tested (considering any preservation used), and the storage space available. Once the storage period is completed, the samples are discarded unless otherwise agreed with the customer. Extended storage times may incur additional charges.

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John Keneth Paglingayen BAPSc
Laboratory Technician - Asbestos

Certificate of Analysis

Page 1 of 3

Client:	SLR Consulting New Zealand Limited	Lab No:	4083769	SPV1
Contact:	Lindsay Lutes	Date Received:	27-Jan-2026	
	C/- SLR Consulting New Zealand Limited	Date Reported:	02-Feb-2026	
	PO Box 911310	Quote No:	97403	
	Victoria Street West	Order No:		
	Auckland 1142	Client Reference:	810.032016.00001	
		Submitted By:	Sandra Hamler	

Sample Type: Soil

Sample Name:	SS33/0.0 27-Jan-2026	SS34/0.0 27-Jan-2026	SS35/0.0 27-Jan-2026	SS36/0.0 27-Jan-2026	SS37/0.0 27-Jan-2026
Lab Number:	4083769.21	4083769.23	4083769.25	4083769.27	4083769.29

Individual Tests

Total Recoverable Lead	mg/kg dry wt	22	24	35	28	39
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Sample Name:	SS38/0.0 27-Jan-2026	HA19/0.0 27-Jan-2026	Composite of HA01/0.0, HA02/0.0, HA03/0.0 & HA04/0.0 27-Jan-2026	Composite of HA05/0.0, HA06/0.0, HA07/0.0 & HA08/0.0 27-Jan-2026	Composite of HA09/0.0, HA10/0.0, HA11/0.0 & HA12/0.0 27-Jan-2026
Lab Number:	4083769.31	4083769.38	4083769.41	4083769.42	4083769.43

Individual Tests

Dry Matter	g/100g as rcvd	-	-	49	51	60
Total Recoverable Lead	mg/kg dry wt	42	-	-	-	-

Heavy Metals, Screen Level

Total Recoverable Arsenic	mg/kg dry wt	-	8	-	-	-
Total Recoverable Cadmium	mg/kg dry wt	-	0.47	-	-	-
Total Recoverable Chromium	mg/kg dry wt	-	6	-	-	-
Total Recoverable Copper	mg/kg dry wt	-	15	-	-	-
Total Recoverable Lead	mg/kg dry wt	-	9.3	-	-	-
Total Recoverable Nickel	mg/kg dry wt	-	3	-	-	-
Total Recoverable Zinc	mg/kg dry wt	-	91	-	-	-

Organochlorine Pesticides Screening in Soil

Aldrin	mg/kg dry wt	-	-	< 0.03	< 0.02	< 0.016
alpha-BHC	mg/kg dry wt	-	-	< 0.03	< 0.02	< 0.016
beta-BHC	mg/kg dry wt	-	-	< 0.03	< 0.02	< 0.016
delta-BHC	mg/kg dry wt	-	-	< 0.03	< 0.02	< 0.016
gamma-BHC (Lindane)	mg/kg dry wt	-	-	< 0.03	< 0.02	< 0.016
cis-Chlordane	mg/kg dry wt	-	-	< 0.03	< 0.02	< 0.016
trans-Chlordane	mg/kg dry wt	-	-	< 0.03	< 0.02	< 0.016
2,4'-DDD	mg/kg dry wt	-	-	< 0.03	< 0.02	< 0.016
4,4'-DDD	mg/kg dry wt	-	-	< 0.03	< 0.02	< 0.016
2,4'-DDE	mg/kg dry wt	-	-	< 0.03	< 0.02	< 0.016
4,4'-DDE	mg/kg dry wt	-	-	< 0.03	< 0.02	< 0.016
2,4'-DDT	mg/kg dry wt	-	-	< 0.03	< 0.02	< 0.016
4,4'-DDT	mg/kg dry wt	-	-	< 0.03	< 0.02	< 0.016
Total DDT Isomers	mg/kg dry wt	-	-	< 0.13	< 0.12	< 0.10
Dieldrin	mg/kg dry wt	-	-	< 0.03	< 0.02	< 0.016
Endosulfan I	mg/kg dry wt	-	-	< 0.03	< 0.02	< 0.016
Endosulfan II	mg/kg dry wt	-	-	< 0.03	< 0.02	< 0.016
Endosulfan sulphate	mg/kg dry wt	-	-	< 0.03	< 0.02	< 0.016



This Laboratory is accredited by International Accreditation New Zealand (IANZ), which represents New Zealand in the International Laboratory Accreditation Cooperation (ILAC). Through the ILAC Mutual Recognition Arrangement (ILAC-MRA) this accreditation is internationally recognised. The tests reported herein have been performed in accordance with the terms of accreditation, with the exception of tests marked * or any comments and interpretations, which are not accredited.

Sample Type: Soil						
Sample Name:		SS38/0.0 27-Jan-2026	HA19/0.0 27-Jan-2026	Composite of HA01/0.0, HA02/0.0, HA03/0.0 & HA04/0.0 27-Jan-2026	Composite of HA05/0.0, HA06/0.0, HA07/0.0 & HA08/0.0 27-Jan-2026	Composite of HA09/0.0, HA10/0.0, HA11/0.0 & HA12/0.0 27-Jan-2026
Lab Number:		4083769.31	4083769.38	4083769.41	4083769.42	4083769.43
Organochlorine Pesticides Screening in Soil						
Endrin	mg/kg dry wt	-	-	< 0.03	< 0.02	< 0.016
Endrin aldehyde	mg/kg dry wt	-	-	< 0.03	< 0.02	< 0.016
Endrin ketone	mg/kg dry wt	-	-	< 0.03	< 0.02	< 0.016
Heptachlor	mg/kg dry wt	-	-	< 0.03	< 0.02	< 0.016
Heptachlor epoxide	mg/kg dry wt	-	-	< 0.03	< 0.02	< 0.016
Hexachlorobenzene	mg/kg dry wt	-	-	< 0.03	< 0.02	< 0.016
Methoxychlor	mg/kg dry wt	-	-	< 0.03	< 0.02	< 0.016
Sample Name:		Composite of HA13/0.0, HA14/0.0, HA15/0.0 & HA16/0.0 27-Jan-2026				
Lab Number:		4083769.44				
Individual Tests						
Dry Matter	g/100g as rcvd	60				
Organochlorine Pesticides Screening in Soil						
Aldrin	mg/kg dry wt	< 0.017				
alpha-BHC	mg/kg dry wt	< 0.017				
beta-BHC	mg/kg dry wt	< 0.017				
delta-BHC	mg/kg dry wt	< 0.017				
gamma-BHC (Lindane)	mg/kg dry wt	< 0.017				
cis-Chlordane	mg/kg dry wt	< 0.017				
trans-Chlordane	mg/kg dry wt	< 0.017				
2,4'-DDD	mg/kg dry wt	< 0.017				
4,4'-DDD	mg/kg dry wt	< 0.017				
2,4'-DDE	mg/kg dry wt	< 0.017				
4,4'-DDE	mg/kg dry wt	< 0.017				
2,4'-DDT	mg/kg dry wt	< 0.017				
4,4'-DDT	mg/kg dry wt	< 0.017				
Total DDT Isomers	mg/kg dry wt	< 0.11				
Dieldrin	mg/kg dry wt	< 0.017				
Endosulfan I	mg/kg dry wt	< 0.017				
Endosulfan II	mg/kg dry wt	< 0.017				
Endosulfan sulphate	mg/kg dry wt	< 0.017				
Endrin	mg/kg dry wt	< 0.017				
Endrin aldehyde	mg/kg dry wt	< 0.017				
Endrin ketone	mg/kg dry wt	< 0.017				
Heptachlor	mg/kg dry wt	< 0.017				
Heptachlor epoxide	mg/kg dry wt	< 0.017				
Hexachlorobenzene	mg/kg dry wt	< 0.017				
Methoxychlor	mg/kg dry wt	< 0.017				

Summary of Methods

The following table(s) gives a brief description of the methods used to conduct the analyses for this job. The detection limits given below are those attainable in a relatively simple matrix. Detection limits may be higher for individual samples should insufficient sample be available, or if the matrix requires that dilutions be performed during analysis. A detection limit range indicates the lowest and highest detection limits in the associated suite of analytes. A full listing of compounds and detection limits are available from the laboratory upon request. Unless otherwise indicated, analyses were performed at Hill Labs, 28 Duke Street, Frankton, Hamilton 3204.

Sample Type: Soil			
Test	Method Description	Default Detection Limit	Sample No
Environmental Solids Sample Drying*	Air dried at 35°C Used for sample preparation. May contain a residual moisture content of 2-5%. (Free water removed before analysis, non-soil objects such as sticks, leaves, grass and stones also removed).	-	21, 23, 25, 27, 29, 31, 38
Environmental Solids Sample Preparation	Air dried at 35°C and sieved, <2mm fraction. Used for sample preparation May contain a residual moisture content of 2-5%. (Free water removed before analysis, non-soil objects such as sticks, leaves, grass and stones also removed).	-	21, 23, 25, 27, 29, 31

Sample Type: Soil			
Test	Method Description	Default Detection Limit	Sample No
Heavy Metals, Screen Level	Dried sample, < 2mm fraction. Nitric/Hydrochloric acid digestion. Complies with NES Regulations. ICP-MS screen level, interference removal by Kinetic Energy Discrimination if required. US EPA 200.2 (modified), APHA 3125 B: Online Edition.	0.10 - 4 mg/kg dry wt	38
Organochlorine Pesticides Screening in Soil	Sonication extraction, GC-ECD analysis. Tested on as received sample. In-house based on US EPA 8081.	0.010 - 0.06 mg/kg dry wt	41-44
Dry Matter	Dried at 103°C for 4-22hr (removes 3-5% more water than air dry) , gravimetry. (Free water removed before analysis, non-soil objects such as sticks, leaves, grass and stones also removed). US EPA 3550.	0.10 g/100g as rcvd	41-44
Total Recoverable digestion	Nitric / hydrochloric acid digestion. US EPA 200.2 (modified), APHA 3125 B: Online Edition.	-	21, 23, 25, 27, 29, 31
Composite Environmental Solid Samples*	Individual sample fractions mixed together to form a composite fraction.	-	1-3, 5-9, 11-13, 15-16, 18-20
Total Recoverable Lead	Dried sample, sieved as specified (if required). Nitric/Hydrochloric acid digestion, ICP-MS, screen level. US EPA 200.2 (modified), APHA 3125 B: Online Edition.	0.4 mg/kg dry wt	21, 23, 25, 27, 29, 31

These samples were collected by yourselves (or your agent) and analysed as received at the laboratory.

Testing was completed between 28-Jan-2026 and 02-Feb-2026. For completion dates of individual analyses please contact the laboratory.

Samples are held at the laboratory after reporting for a length of time based on the stability of the samples and analytes being tested (considering any preservation used), and the storage space available. Once the storage period is completed, the samples are discarded unless otherwise agreed with the customer. Extended storage times may incur additional charges.

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Kim Harrison MSc
Client Services Manager - Environmental

Certificate of Analysis

Page 1 of 3

Client:	SLR Consulting New Zealand Limited	Lab No:	4084402	A2Pv1
Contact:	Lindsay Lutes	Date Received:	28-Jan-2026	
	C/- SLR Consulting New Zealand Limited	Date Reported:	02-Feb-2026	
	PO Box 911310	Quote No:	97403	
	Victoria Street West	Order No:		
	Auckland 1142	Client Reference:	810.032016.00001	
		Submitted By:	Sandra Hamler	

Sample Type: Soil					
Sample Name:	SS33/0.0 27-Jan-2026	SS34/0.0 27-Jan-2026	SS35/0.0 27-Jan-2026	SS36/0.0 27-Jan-2026	SS37/0.0 27-Jan-2026
Lab Number:	4084402.1	4084402.3	4084402.5	4084402.7	4084402.10
Asbestos Presence / Absence	Asbestos NOT detected.	Asbestos NOT detected.	Asbestos NOT detected.	Asbestos NOT detected.	Asbestos NOT detected.
Description of Asbestos Form	-	-	-	-	-
Asbestos in ACM as % of Total Sample*	% w/w < 0.001	% w/w < 0.001	% w/w < 0.001	% w/w < 0.001	% w/w < 0.001
Combined Fibrous Asbestos + Asbestos Fines as % of Total Sample*	% w/w < 0.001	% w/w < 0.001	% w/w < 0.001	% w/w < 0.001	% w/w < 0.001
Asbestos as Fibrous Asbestos as % of Total Sample*	% w/w < 0.001	% w/w < 0.001	% w/w < 0.001	% w/w < 0.001	% w/w < 0.001
Asbestos as Asbestos Fines as % of Total Sample*	% w/w < 0.001	% w/w < 0.001	% w/w < 0.001	% w/w < 0.001	% w/w < 0.001
As Received Weight	g 618.6	g 545.9	g 656.2	g 481.8	g 524.6
Dry Weight	g 438.9	g 361.4	g 475.7	g 307.2	g 348.2
Moisture*	% 29	% 34	% 28	% 36	% 34
Sample Fraction >10mm	g dry wt < 0.1	g dry wt < 0.1	g dry wt 43.7	g dry wt 8.4	g dry wt 5.7
Sample Fraction <10mm to >2mm	g dry wt 78.2	g dry wt 67.0	g dry wt 186.4	g dry wt 86.8	g dry wt 53.4
Sample Fraction <2mm	g dry wt 358.7	g dry wt 293.2	g dry wt 244.1	g dry wt 210.9	g dry wt 288.1
<2mm Subsample Weight	g dry wt 52.4	g dry wt 51.1	g dry wt 50.7	g dry wt 51.3	g dry wt 53.9
Weight of Asbestos in ACM (Non-Friable)	g dry wt < 0.00001	g dry wt < 0.00001	g dry wt < 0.00001	g dry wt < 0.00001	g dry wt < 0.00001
Weight of Asbestos as Fibrous Asbestos (Friable)	g dry wt < 0.00001	g dry wt < 0.00001	g dry wt < 0.00001	g dry wt < 0.00001	g dry wt < 0.00001
Weight of Asbestos as Asbestos Fines (Friable)*	g dry wt < 0.00001	g dry wt < 0.00001	g dry wt < 0.00001	g dry wt < 0.00001	g dry wt < 0.00001

Sample Name:	SS38/0.0 27-Jan-2026
Lab Number:	4084402.11
Asbestos Presence / Absence	Asbestos NOT detected.
Description of Asbestos Form	-
Asbestos in ACM as % of Total Sample*	% w/w < 0.001
Combined Fibrous Asbestos + Asbestos Fines as % of Total Sample*	% w/w < 0.001
Asbestos as Fibrous Asbestos as % of Total Sample*	% w/w < 0.001
Asbestos as Asbestos Fines as % of Total Sample*	% w/w < 0.001
As Received Weight	g 551.7
Dry Weight	g 396.1
Moisture*	% 28
Sample Fraction >10mm	g dry wt < 0.1

Sample Type: Soil		
Sample Name:	SS38/0.0 27-Jan-2026	
Lab Number:	4084402.11	
Sample Fraction <10mm to >2mm	g dry wt	86.1
Sample Fraction <2mm	g dry wt	308.8
<2mm Subsample Weight	g dry wt	51.1
Weight of Asbestos in ACM (Non-Friable)	g dry wt	< 0.00001
Weight of Asbestos as Fibrous Asbestos (Friable)	g dry wt	< 0.00001
Weight of Asbestos as Asbestos Fines (Friable)*	g dry wt	< 0.00001

Glossary of Terms

- Loose fibres (Minor) - One or two fibres/fibre bundles identified during analysis by stereo microscope/PLM.
- Loose fibres (Major) - Three or more fibres/fibre bundles identified during analysis by stereo microscope/PLM.
- ACM Debris (Minor) - One or two small (<2mm) pieces of material attached to fibres identified during analysis by stereo microscope/PLM.
- ACM Debris (Major) - Large (>2mm) piece, or more than three small (<2mm) pieces of material attached to fibres identified during analysis by stereo microscope/PLM.
- Unknown Mineral Fibres - Mineral fibres of unknown type detected by polarised light microscopy including dispersion staining. The fibres detected may or may not be asbestos fibres. To confirm the identities, another independent analytical technique may be required.
- Trace - Trace levels of asbestos, as defined by AS4964-2004.

For further details, please contact the Asbestos Team.

Please refer to the **BRANZ New Zealand Guidelines for Assessing and Managing Asbestos in Soil**.

<https://www.branz.co.nz/asbestos>

The following assumptions have been made:

1. Asbestos Fines in the <2mm fraction, after homogenisation, is evenly distributed throughout the fraction
2. The weight of asbestos in the sample is unaffected by the ashing process.

Results are representative of the sample provided to Hill Laboratories only.

Summary of Methods

The following table(s) gives a brief description of the methods used to conduct the analyses for this job. The detection limits given below are those attainable in a relatively simple matrix. Detection limits may be higher for individual samples should insufficient sample be available, or if the matrix requires that dilutions be performed during analysis. A detection limit range indicates the lowest and highest detection limits in the associated suite of analytes. A full listing of compounds and detection limits are available from the laboratory upon request. Unless otherwise indicated, analyses were performed at Hill Labs, 28 Duke Street, Frankton, Hamilton 3204.

Sample Type: Soil			
Test	Method Description	Default Detection Limit	Sample No
New Zealand Guidelines Semi Quantitative Asbestos in Soil			
As Received Weight	Measurement on analytical balance. Analysed at Hill Laboratories - Asbestos; Unit 1, 17 Print Place, Middleton, Christchurch.	0.1 g	1, 3, 5, 7, 10-11
Dry Weight	Sample dried at 100 to 105°C, measurement on balance. Analysed at Hill Laboratories - Asbestos; Unit 1, 17 Print Place, Middleton, Christchurch.	0.1 g	1, 3, 5, 7, 10-11
Moisture*	Sample dried at 100 to 105°C. Calculation = (As received weight - Dry weight) / as received weight x 100.	1 %	1, 3, 5, 7, 10-11
Sample Fraction >10mm	Sample dried at 100 to 105°C, 10mm sieve, measurement on analytical balance. Analysed at Hill Laboratories - Asbestos; Unit 1, 17 Print Place, Middleton, Christchurch.	0.1 g dry wt	1, 3, 5, 7, 10-11
Sample Fraction <10mm to >2mm	Sample dried at 100 to 105°C, 10mm and 2mm sieve, measurement on analytical balance. Analysed at Hill Laboratories - Asbestos; Unit 1, 17 Print Place, Middleton, Christchurch.	0.1 g dry wt	1, 3, 5, 7, 10-11
Sample Fraction <2mm	Sample dried at 100 to 105°C, 2mm sieve, measurement on analytical balance. Analysed at Hill Laboratories - Asbestos; Unit 1, 17 Print Place, Middleton, Christchurch.	0.1 g dry wt	1, 3, 5, 7, 10-11
Asbestos Presence / Absence	Examination using Low Powered Stereomicroscopy followed by 'Polarised Light Microscopy' including 'Dispersion Staining Techniques'. Analysed at Hill Laboratories - Asbestos; Unit 1, 17 Print Place, Middleton, Christchurch. AS 4964 (2004) - Method for the Qualitative Identification of Asbestos in Bulk Samples.	0.01%	1, 3, 5, 7, 10-11
Description of Asbestos Form	Description of asbestos form and/or shape if present.	-	1, 3, 5, 7, 10-11
Weight of Asbestos in ACM (Non-Friable)	Measurement on analytical balance, from the >10mm Fraction. Weight of asbestos based on assessment of ACM form. Analysed at Hill Laboratories - Asbestos; Unit 1, 17 Print Place, Middleton, Christchurch. New Zealand Guidelines for Assessing and Managing Asbestos in Soil, November 2017.	0.00001 g dry wt	1, 3, 5, 7, 10-11

Sample Type: Soil			
Test	Method Description	Default Detection Limit	Sample No
Asbestos in ACM as % of Total Sample*	Calculated from weight of asbestos in ACM and sample dry weight. New Zealand Guidelines for Assessing and Managing Asbestos in Soil, November 2017.	0.001 % w/w	1, 3, 5, 7, 10-11
Weight of Asbestos as Fibrous Asbestos (Friable)	Measurement on analytical balance, from the >10mm Fraction. Analysed at Hill Laboratories - Asbestos; Unit 1, 17 Print Place, Middleton, Christchurch. New Zealand Guidelines for Assessing and Managing Asbestos in Soil, November 2017.	0.00001 g dry wt	1, 3, 5, 7, 10-11
Asbestos as Fibrous Asbestos as % of Total Sample*	Calculated from weight of fibrous asbestos and sample dry weight. New Zealand Guidelines for Assessing and Managing Asbestos in Soil, November 2017.	0.001 % w/w	1, 3, 5, 7, 10-11
Weight of Asbestos as Asbestos Fines (Friable)*	Measurement on analytical balance, from the <10mm Fractions. Analysed at Hill Laboratories - Asbestos; Unit 1, 17 Print Place, Middleton, Christchurch. New Zealand Guidelines for Assessing and Managing Asbestos in Soil, November 2017.	0.00001 g dry wt	1, 3, 5, 7, 10-11
Asbestos as Asbestos Fines as % of Total Sample*	Calculated from weight of asbestos fines and sample dry weight. New Zealand Guidelines for Assessing and Managing Asbestos in Soil, November 2017.	0.001 % w/w	1, 3, 5, 7, 10-11
Combined Fibrous Asbestos + Asbestos Fines as % of Total Sample*	Calculated from weight of fibrous asbestos plus asbestos fines and sample dry weight. New Zealand Guidelines for Assessing and Managing Asbestos in Soil, November 2017.	0.001 % w/w	1, 3, 5, 7, 10-11

These samples were collected by yourselves (or your agent) and analysed as received at the laboratory.

Testing was completed between 01-Feb-2026 and 02-Feb-2026. For completion dates of individual analyses please contact the laboratory.

Samples are held at the laboratory after reporting for a length of time based on the stability of the samples and analytes being tested (considering any preservation used), and the storage space available. Once the storage period is completed, the samples are discarded unless otherwise agreed with the customer. Extended storage times may incur additional charges.

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Belinda Hughes BSc, PGDipSci
Laboratory Technician - Asbestos

