



SOUTHERN LINKS 1: INDUSTRIAL DEVELOPMENT – DETAILED SITE INVESTIGATION

Prepared by Swiftsure Consultants Ltd

30 August 2026

Contents

1	Introduction	5
2	Background.....	Error! Bookmark not defined.
3	Purpose and Scope	5
4	Site Description.....	7
5	Published Geology.....	Error! Bookmark not defined.
5.1	Geology and Hydrogeology.....	9
5.2	Geomorphology.....	10
5.3	Groundwater	10
5.4	Proposed Development.....	Error! Bookmark not defined.
6	Information Review	11
6.1	Historical Aerial Review	11
6.2	Waipa District Council	12
	16A Wickham, Hamilton – Preliminary Site Investigation & Detailed Site Investigation	12
	24 Wickham Street and 160 Higgins Road.....	13
	16 Wickham Street, Hamilton – Detailed Site Investigation. PDP, 1 October 2019.....	13
6.3	Additional Information	14
	160 Higgins Road, Preliminary Site Investigation: HD GEO 6 October 2020	14
6.4	Site Visit	15
7	Summary of Desk Study Information	15
8	Conceptual Site Model.....	18
9	Sampling & Analysis Plan.....	22
9.1	Contaminants of Concern	22
9.2	Sampling Rationale	22
9.3	Site Investigation Methodology	23
9.4	Asbestos Controls	24
9.5	Observations	25
	Latham's Mountain	25
	Wider Site	25

9.6	Investigation Criteria	26
10	Results	26
10.1	Heavy Metals	26
10.2	Cadmium	26
10.3	Asbestos	27
10.4	Organics	27
10.5	Quality Assurance	27
11	Limitations of Site Characterization	Error! Bookmark not defined.
12	Discussion and Risk Assessment	28
13	Updated Conceptual Site Model	29
13.1	National Environmental Standard: Contaminated Land	33
13.2	Soil Disturbance	33
13.3	Change of Land Use	34
13.4	Subdivision	34
13.5	Soil Contaminant Standards	35
13.6	Waikato Regional Plan	35
14	Conclusion and Recommendations	36
15	Limitations	38

Tables

Table 1 – Bore Information

Table 2 – Historical Aerial Photographs

Table 3 – Information from Waipa District Council

Table 4 – Conceptual Site Model

Table 5 – Contaminants of Concern

Table 6 – Summary of Samples

Table 7 – Updated CSM

Table 8 – Trigger Activities under the NES-CS

Table 9 – Permitted Activity Criteria for Soil Disturbance

Table 10 – Permitted Activity Criteria for Change of Land Use

Figures

Figure 1 – Site Location Plan

Appendices

Appendix A - Masterplan

Appendix B – Historical Aerial Photographs

Appendix C – Sample Locations

Appendix D – Laboratory Analytical Reports

Appendix E – Site Photographs

Appendix F – Summary of Results

Swiftsure Consultants Ltd Document Control:

Report Title	Southern Link 1: Industrial Development - Detailed Site Investigation		
Client	SouthPark Agri Development Ltd & Industre Property Tahiti Ltd	Client Contact	Dillon Kelliher
Date	Revision Details / Status		
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SQEP Certifying Statement

I certify that the site has been assessed in accordance with current New Zealand Regulations and guidance documents and reported in general accordance with the Ministry for the Environment's Contaminated Land Management Guidelines No. 1: Reporting on Contaminated Sites in New Zealand (dated 2021).

I am considered by Swiftsure Consultants Ltd Limited to be a suitably qualified and experienced practitioner (SQEP) able to certify reports pursuant to the Resource Management (National Environmental Standard for Assessing and Managing Contaminants in Soil to Protect Human Health) Regulations 2011.

Emma Lewis, Contaminated Land Specialist



Dated: 30 August 2026

1 Introduction

Swiftsure Consultants Ltd (“Swiftsure”) has prepared a Detailed Site Investigation (DSI) for the industrial Site at 160 Higgins Road and 16 Wickham Street, 16A Wickham Street, and 24 Wickham Street, Waipa, Hamilton.

2 Project Description

The SL1 Industrial North development forms part of the industrial component of Southern Links 1, a listed project under FTAA 2024. The Southern Links 1 project is a combined 106ha development, including residential and industrial activities. The industrial component comprises circa 60ha and is in joint landownership and is currently used for a mix of rural and related activities. The landholding includes four parcels Lot 2 Deposited Plan 603134, Lot 1 Deposited Plan 603134 both within Southpark Agri Development Limited landholdings (circa 50ha), and Lot 1 Deposited Plan 584573 Industrie Property Tahī Limited and S&S Property Investments Limited (7.8ha) and Lot 1 Deposited Plan 396081 and Lot 1 Deposited Plan 486522 within Industrie Property Tahī Limited landholding (2.1ha).

The proposal seeks approval for a Substantive Application under the Fast-Track Approvals Act 2024 for a comprehensively master planned and staged industrial development. This includes all necessary resource consents under the Resource Management Act 1991, including regional, district approvals where required.

The industrial component provides for the establishment of 60ha gross developable industrial land, together with associated infrastructure and services, including roading and associated stormwater ponds. The proposed industrial development is underpinned by a series of design principles, with a focus on creating a functional, efficient and contiguous industrial development that underscores the locational attributes of SL1 Growth Cell, the Hamilton Southern Links designation and future industrial growth. An integrated roading network which connects to both existing and planned infrastructure underpins this approach.

The 22 serviced industrial lots vary in size and attributes to support a range of industrial uses, none of which are heavy or noxious. A truck and logistics activity is proposed on lot 7 to facilitate the landowners existing national trucking operation. All other industrial lots are sized to support a range of anticipated and provided for industrial activities, underpinned by bulk and location controls.

The proposal includes substantial enabling works to establish developable land, including bulk earthworks across the site and necessary pre-load to manage ground conditions. An integrated stormwater management system including wetlands, detention/attenuation devices and treatment ponds supports the development.

Access and integration with the surrounding Hamilton area is provided through connected transport framework, including the establishment of intersections, roading, and walking and cycle networks, along with upgrades to existing transport infrastructure. The industrial development is proposed to be serviced via a coordinated strategy, including the extension of public networks, upgrades, and installation of appropriate infrastructure.

3 Purpose and Scope

The purpose of this investigation is to assess whether:

- The site is a 'piece of land' under the NES-CS¹.
- Determine if the risk posed by contaminants is unacceptable to the NES-CS.

The objectives of the Detailed Site Investigation (DSI) are to:

- To collect field data to identify the nature and concentration of the contamination present on the site.
- Assess the potential risk to human health and the environment.
- Support consent application under the NES-CS.

The ground investigation component of soils investigation comprised the following:

- Excavation of hand dug pits to a maximum depth of 5m below ground level (bgl) and collection of soil samples from selected depths.
- Collection of surface samples from the paddocks.
- Screening analysis of soil samples (including 1 for QA/QC purposes) for a combination of the following screening suite of contaminants of concern:
 - Heavy metals (arsenic, cadmium, chromium, copper, nickel, lead and zinc).
 - Semi Volatile Organic Compounds (SVOCs).
 - Asbestos (semi quantitative).
 - Polycyclic Aromatic Hydrocarbons (PAHs).
 - Total Petroleum Hydrocarbons (TPH).
- Assessment under the applicable regulatory contaminated land framework.
- Preparation of this report presenting and assessing the results of the investigation.

This assessment has been undertaken and reported in general accordance with the following:

- Contaminated Land Management Guidelines No. 1: Reporting on Contaminated Sites in New Zealand (revised 2021).
- Contaminated Land Management Guidelines No. 5: Site Investigation and Analysis of Soils (revised 2021).
- New Zealand Guidelines for Assessing and Managing Asbestos in Soil, BRANZ (November 2017).

¹ Resource Management (National Environmental Standard for Assessing and Managing Contaminants in Soil to Protect Human Health) Regulations 2011 (NESCSCS).

4 Site Description

The site is located on Higgins Road and Wickham Street, Dinsdale, Hamilton. It is legally described as:

- Lot 1 DP 603134
- LOT 1 DP 584573
- LOT 2 DP 603134
- LOT 1 59491
- LOT 1 DP 365434
- LOT 1 DP 396081 LOT 1 DP 486522
- LOT 1 DP 372217

The site is approximately 60 hectares in area. The site location is shown in **Figure 1**. The site is located in the Waipā District Council jurisdiction and is zoned for rural use. The site topography is largely flat and the ground surface comprises a mixture of concrete, asphalt and gravel hardstand in the wider site; pasture in the farmland and uncontrolled fill in several areas of the site.

Figure 1: Site Location



5 Published Geology

5.1 Geology and Hydrogeology

Geological maps² for the area depict the regional geology for the low-lying areas as comprising Holocene peat deposits. The peat is underlain by interbedded Silts and Sands of the Late Pleistocene aged alluvial deposits of the Hinuera formation, which is underlain by Early Pleistocene aged, fluviually reworked igneous silt/clay of the Walton Subgroup Formation which also form the base of the nearby hills.

The geotechnical investigation for the area³ states that the site contains areas of gravel yards, material stockpiles, and pastureland overlying Peat, Hinuera Silts/Sands and Walton Subgroup Silts and Clays. The topography is generally level between RL38 and 41. However there are large uncontrolled fill and excavations onsite ranging between RL36 m up to RL61. The regional groundwater table is generally within 3 metres of the surface. It states that the ground conditions encountered during the site investigations were generally consistent with the published geology with the exception of imported gravel fill in the gravel yard areas. CMW summarised the strata as follows:

Table 2: Geology Summary

Geology	Unit Description	Top of Unit (m bgl)		Thickness (m)	
		Min	Max	Min	Max
Uncontrolled fill (Gravel Yard/Latham's Mountain)	Stiff to very stiff Clayey Silt and medium dense Sand	0.0	0.2	0.5	3.2*
Peat (swamp deposits)	Firm to very stiff fibrous organic Peat	0.1	1.0	0.3	12.0
Hinuera Formation	Loose to medium dense Sand with interbedded stiff to very stiff Silt, and lenses of Organic Silt	0.1	7.0	3.3	17.5
Walton Subgroup	Stiff to very Stiff Silt and Dense to Very dense Sand	5.2	19.8	0.2	>14.8

*Note: unable to penetrate to full depth, based on contours likely to be ~19m thick in the construction waste site

² Geological Map of New Zealand: 1:125K. Institute of Geological and Nuclear Sciences Ltd, 2010.

³ Geotechnical Investigation Report: Southern Links 1 – Industrial Development. CMW. Version 4. 17 July 2026.

As outlined in the project hydrogeological effects assessment⁴, the site is located within the highly modified Mangaotukutuku Stream catchment. There are numerous artificial farm drains. Hamilton Lake and the Waikato River are located approximately 2.5km to the north of the site.

There are 7 bores within 500m of the site⁴ as follows:

Table 1: Bore Information

Bore ID	Static Water Level (m)	Status
Bore 72 - Station 7946	4.5	Existing
Bore 72 - Station 1349	1.0	Existing
Bore 72 - Station 1348	1.0	Existing
Bore 72 - Station 1347	2.0	Existing
Bore 72 - Station 2039	-	Existing
Bore 72 - Station 13319	-	Existing
Bore 72 - Station 1346	0.5	Existing

5.2 Geomorphology

The project geotechnical assessment⁵ state that the general landform of the project area is low-lying peatland. The site ranges in elevation between RL36m and RL61m. Pre-development, the site would have been near level, grading gently from RL39m in the north to RL41m to the south. This profile can still be seen in the undeveloped southern half of the site. It is noted the southern crop pasture portion of the site has had recontouring for drainage purposes. The northern half of the site has been extensively developed with gravel yards covering most of the central area (RL36 to 42m). Additionally, there are three sites along the northern boundary which contain large material stockpiles: Hamilton Organic (Hamilton City Council Owned) has stockpiles up to 4m high (between RL38m and RL42m). The adjacent landscape supply is outside the Project/Industrial Area site boundary and has stockpiles up to 514m high (between RL40 and RL54m). The construction waste site in the north-eastern corner of the site has the largest stockpiles up to 21m high (between RL40m and RL61m) with slope angles up to 60 degrees to the horizontal.

5.3 Groundwater

The Geotechnical report³ prepared for the wider area states that groundwater was encountered between 0.0m to >16.2m below the existing ground surface at time of testing. Groundwater within the Low Hamilton Hills areas is expected to get closer to the ground surface the lower in elevation the ground surface is. Perched groundwater tables can be present within the layered Walton Subgroup deposits.

⁴ Southern Links 1 Industrial Stage 1 Northern Block Hydrogeological Effects Assessment, WGA, May 2026.

⁵ Southern Links 1 – Industrial Development. Geotechnical Investigation Report. CMW. Version 4. 17 July 2026.

6 Information Review

A review of information relevant to the site was undertaken as part of this assessment. The following sections provide a summary of the review.

6.1 Historical Aerial Review

Historical aerial photographs have been obtained from Retrolens and Google Earth for the years 1943, 1971, 1974, 1984, 1990, 1995, 2005 and 2025. It should be noted that limited availability of historical imagery resulted in some gaps of the review. Copies of the historical aerial photos can be found in **Appendix A. Table 2** below summarises observations from each photo.

Year	Observations
1943	The site appears largely undeveloped with dense scrub and natural vegetation. Surrounding areas to the north and west show cleared farmland and some scattered rural buildings. • No built structures visible within the subject site. • Dense vegetation/undisturbed scrub across most of the site. • Northern and western edges show farmland with paddocks and fencing. • Possible tracks or minor paths visible in the vegetation.
1971	The site shows significant clearing, with most of the dense scrub removed. The area is predominantly open land, likely pasture or fallow farmland. • Vegetation largely cleared; only small patches of trees or scrub remain. • Site subdivided into rough paddocks or sections. • Some light tracks or farm access routes visible. • No built structures observed within the red boundary.
1974	The majority of the site has been divided into paddocks using hedging and the site looks to be used as arable farmland. The railway line is evident to the east of the site. Earthworks are evident in the north-west corner of the site.
1984	Partial imagery. No discernible change. The wider area to the north of the site has seen development.
1990	The north-east portion of the site is subject to large scale earthworks and disturbance. Multiple tracks/roads are present entering this portion of the site. Development has taken place in the north-west corner of the site and multiple buildings are present – likely associated with the horse racing track.
1995	The north-east portion of the site still has considerable earthworks occurring in this area. There are some structures present to the immediate west of this portion of the site likely associated with the filling activities. The northern portion of the site has been developed. There are what appears to be rows of possible plantings. There is a main structure now present in this area and the surrounding site has been disturbed/earth worked.

Year	Observations
2008	The area immediately to the west of the rows (described in 1995) has seen significant soil disturbance for a new development. The eastern half of the site is still being disturbed/filled with multiple tracks now present within this area. The remainder of the site to the south is farmland.
2015	The centre of the site has what now looks like stockpiles of material. The immediate west portion has been developed as a laydown/series of yards. The eastern half of the site is still subject to large scale land disturbance. There are scattered buildings to the west of the site and the remainder is farmland.

6.2 Waipā District Council

An information request was made to Waipā District Council on 15 December 2025 pertaining to land use information for the site. The response stated that there were two Lots with HAIL⁶ notations provided below.

Table 3: Summary of Information from Waipā District Council

WRC reference	Address	Legal Description	HAIL use	Status	Notes
LUI12419	16A Wickham Street Hamilton	LOT 1 DP 396081 LOT 1 DP 486522	F8	Verified HAIL - No Sampling	Auto Logistics
LUI04468	24 Wickham Street Hamilton 3204	LOT 2 DP 603134	G3, B3	Verified HAIL - No Sampling	Fill site. Abatement Notice

The following section provides a summary of the reports provided to Swiftsure by WDC in relation to the site.

16A Wickham, Hamilton – Preliminary Site Investigation & Detailed Site Investigation, 22 March 2023

This report was prepared by Pattle Delamore Partners Limited (PDP) for Stride Property Limited, detailing the findings of a Preliminary and Detailed Site Investigation (PSI/DSI) conducted at 16A Wickham Street, Hamilton. Below are the key points:

- The site is located at 16A Wickham Street, Frankton, Hamilton, covering approximately 4.2 hectares.
- It is bordered by a green waste recycling centre, a waste management transfer station, a quarry, and farmland.

⁶ Hazardous Activities and Industries List, MfE

- The site is zoned for rural use but is currently used for storage and business operations across 15 separate yards.
- HAIL Activities: Verified HAIL activities include wood treatment/preservation and transport depot/yards.
- Heavy metals, petroleum hydrocarbons (TPH), and polycyclic aromatic hydrocarbons (PAHs) were detected in soil samples. Arsenic levels in one stockpile exceeded human health criteria for commercial/industrial use.
- No asbestos was detected in the building material sample analysed.
- The site is underlain by mixed fill and organic peat soils. Perched groundwater was encountered at shallow depths in some areas.
- Elevated arsenic levels in the stockpile in Yard 6 pose a risk to site users and excavation workers if not managed properly.
- Contaminants are unlikely to pose significant risks to groundwater or surface water due to limited leaching and distance from water bodies.
- The NESCS regulations apply to the site due to the presence of HAIL activities and potential soil disturbance during redevelopment.
- Soil disturbance may require a Controlled Activity consent under NESCS if permitted activity rules cannot be met.
- Implementation of a Contaminated Site Management Plan (CSMP) for soil disturbance during redevelopment.
- While some contaminants exceed background levels, the overall risk to human health and environmental receptors is considered low, provided appropriate controls are implemented during redevelopment.

24 Wickham Street and 160 Higgins Road

WDC advised that they did not hold records in relation to these sites. The council advised that there was a consent for receiving fill..

WDC provided the following information:

“Authorisation to Place up to 35,000 cubic metres per year of construction, demolition & industrial waste into & onto land. Planet Recycling located on site adjacent to the office - refer WRC Staff Visits DOC#’s 3534285 & . 2112253. Heavy machinery scrap also on site in the southeastern corner”.

16 Wickham Street, Hamilton – Detailed Site Investigation. PDP, 1 October 2019

This investigation provides a Detailed Site Investigation (DSI) report for 16 Wickham Street, Hamilton, commissioned by Stride Property Limited and prepared by Pattle Delamore Partners Limited (PDP). The investigation aims to assess potential contamination risks and determine if resource consents are required for redevelopment under NES-CS⁷. Below are the key points:

⁷ Resource Management Act and the National Environmental Standards for Assessing and Managing Contaminants in Soil to Protect Human Health

- The investigation focused on 16 Wickham Street, Frankton, Hamilton, covering approximately 4 hectares.
- The current use was a transport yard (Les Harrison Transport Ltd), landscaping supplies business (Complete Landscape Supplies), and event hiring business (X-Site Group).
- The site is underlain by Holocene swamp deposits, including organic-rich mud, peat, and sand layers. Groundwater is shallow, encountered at depths between 0.8m and 2.0m below ground level.
- No evidence of refuse or asbestos was found in the soil. Some areas showed low levels of heavy metals, PAHs, and TPH above background concentrations but below NES-CS standards for commercial/industrial use.
- Low levels of dissolved heavy metals and PAHs were detected in the surface water, but concentrations were below environmental guideline values. TPH was detected in two samples but was not representative of groundwater.
- Hydrocarbon concentrations in the peat layer were interpreted as naturally occurring organic hydrocarbons rather than contamination.
- NES-CS regulations apply to areas with identified contamination sources, but most areas comply with background levels and are not subject to NES-CS.
- Waikato Regional Plan rules for contaminated land remediation are not triggered, as no adverse environmental effects were identified.

The DSI confirmed that contamination levels are generally within acceptable limits for commercial/industrial use. However, specific areas may require resource consent for soil disturbance during redevelopment. Further testing and consultation with local authorities were recommended to ensure compliance with environmental standards.

6.3 Additional Information

The section below provides a summary of additional reports provided to Swiftsure by the Project Team.

160 Higgins Road, Preliminary Site Investigation: HD GEO 6 October 2020

The 160 Higgins Road site was operated as a cleanfill facility where only non-contaminated materials are reported by HD GEO to be accepted. Cleanfill facilities are not permitted to accept materials containing asbestos, hydrocarbons, household waste, or other hazardous substances.

The Higgins Road site is identified on the Hazardous Activities and Industries List (HAIL). Where soil disturbance is proposed on a HAIL site, consideration of the National Environmental Standard for Assessing and Managing Contaminants in Soil to Protect Human Health (NESCSCS) is required. Under the NESCSCS, a risk evaluation must be undertaken to determine the potential risk to human health. HD Geo undertook a Preliminary Site Investigation (PSI) to assess the potential risk associated with the proposed earthworks and to determine whether resource consent under the NESCSCS is required.

Cleanfill facilities, by definition, are not permitted to accept contaminated materials, household rubbish, asbestos, or putrescible waste. The facility has several controls in place to manage incoming materials, including site fencing and locked gates, inspection of loads on arrival, and supervision during unloading. These measures minimise the likelihood of non-cleanfill materials being deposited at the site.

Based on the desktop review, site inspection, and information provided by the facility operators, the potential for contamination was considered to be low. The report concluded that the proposed activity

assessed by HD Geo was considered to be permitted, provided that a Contaminated Site Management Plan (CSMP) is implemented. The CSMP should outline requirements for dust suppression, erosion and sediment control, management of unexpected contamination, and relevant health and safety procedures.

7 Site Visit

Photographs are provided as **Appendix E** from the site visit as well as soil investigation. The site is currently used for light industrial and farmland purposes. A portion of the site is used as a transport and storage yard (Les Harrison Transport Ltd). Current activities comprise 15 yards used as laydown and storage areas for bitumen trucks, container storage, miscellaneous equipment storage, a landscaping supplies business, and storage of heavy machinery and forklifts.

The surrounding land uses include a green waste recycling centre, a waste management transfer station, a quarry, and surrounding farmland.

Although the site is zoned for rural use, it is presently utilised for storage and business operations across approximately 15 separate yard areas.

A large mound where significant filling is evident - known locally as “Latham’s Mountain” is located to across the eastern half of the site. This stockpile comprises heavily vegetated material and materials observed in this area include building and demolition waste and vehicle bodies.

Waste materials such as suspected asbestos containing materials (ACMs) and car batteries were encountered at “Latham’s Mountain” during the geotechnical investigations by CWM.

The western portion of the site appears to have been subject to significant filling, with ground levels raised by several metres. This area contains numerous stockpiles of materials including cleanfill, concrete, asphalt millings, gravels, and basecourse.

An above-ground fuel tank was observed onsite, with staining present on the ground surface nearby, indicating a potential for fuel spills or leaks. Various trucks and trailers are stored within the truck transport yard with visible hydrocarbon staining on the ground.

Bitumen trucks are stored within several of the yards and hydrocarbon staining was noted in various locations on the ground.

A stream runs adjacent to the northern boundary of the yard areas.

Additional site features include portacabin-style storage units used for site operations.

There was a green waste facility to the north of the site operated by Hamilton City Council. The site was noted to be bunded with material ~5m in height. The bunds were noted to contain various materials including rubbish, concrete and refuse materials. The site processes green waste to potting mix and fertilizer using anaerobic composting.

8 Summary of Desk Study Information

Historical aerial imagery indicates the site was largely undeveloped in 1943, consisting primarily of dense scrub and natural vegetation, with surrounding land used for rural farming. By 1971–1974 the vegetation had been cleared and the land subdivided into paddocks, indicating use for pastoral or arable farming. Minor earthworks were visible in the north-western portion of the site by the mid-1970s.

Historical aerial photographs from the late 1980s to early 1990s, show development began to occur in the surrounding area. Large-scale earthworks and land disturbance were evident in the north-eastern portion of the site by 1990, with access tracks and nearby buildings associated with adjacent activities such as the horse racing track. Through the 1990s and 2000s, the site experienced increasing soil disturbance, filling, and development, including stockpiling of materials, and the establishment of yard areas. By 2015 the central portion of the site contained stockpiles of material, while the western portion had been developed into laydown and storage yards. The eastern half continued to show signs of significant land disturbance and filling.

Council records indicate several investigations have been undertaken at the site and have Hazardous Activities and Industries List (HAIL) notations associated with activities such as waste management, timber treatment, transport depots, and fill sites. Waipā District Council also noted that parts of the wider site area have consent to receive construction, demolition, and industrial fill, with past compliance issues resulting in an abatement notice in relation to “Latham’s Mountain”.

Previous investigations undertaken by Pattle Delamore Partners (2019) at nearby 16A Wickham Street identified HAIL-related activities and detected some heavy metals, petroleum hydrocarbons (TPH), and polycyclic aromatic hydrocarbons (PAHs) in soil. Contaminant concentrations were generally within acceptable limits for commercial/industrial land use, although elevated arsenic was identified in one stockpile requiring management. No asbestos was detected in analysed samples. Ground conditions were described as mixed fill overlying organic peat soils with shallow groundwater.

Additional investigations confirmed that while some contaminants were present at low concentrations, risks to human health and environmental receptors were generally considered low, provided appropriate site management measures are implemented during redevelopment. Recommendations included removal and appropriate disposal of contaminated stockpiled material, preparation of a Contaminated Site Management Plan (CSMP), and potential additional testing if soil is removed from the site.

A Preliminary Site Investigation undertaken by HD Geo (2020) at 160 Higgins Road assessed proposed earthworks associated with a cleanfill facility. The facility reportedly accepts only non-contaminated materials and operates with controls such as fencing, locked gates, and inspection of incoming loads. Based on the desktop review, site inspection, and available information, the risk of contamination was considered low, and the proposed earthworks were considered a permitted activity under the NESCS provided a CSMP is implemented.

A recent site visit confirmed the site is currently used for light industrial and rural activities. Land uses include transport and storage yards, container storage, landscaping supplies, heavy machinery storage, and multiple laydown areas.

Significant areas of fill and stockpiled materials were observed, including a large, vegetated mound known locally as “Latham’s Mountain.” WR C reported that a resource consent was held for *“Authorisation to Place up to 35,000 cubic metres per year of construction, demolition & industrial waste into & onto land”*.

Additional observations included numerous material stockpiles, an above-ground fuel tank with staining on the ground surface nearby, an artificial watercourse adjacent to the northern boundary of the yards, and portacabin-style structures used for site operations. Overall, the site reflects a long history of rural use followed by progressive filling, storage, and industrial yard activities.

Long-term and intensive application of superphosphate fertilizers has been scientifically linked to the accumulation of cadmium in agricultural soils. Monitoring data indicates that the national average concentration across all agricultural land classes is 0.4mg/kg of soil (range 0 – 2.5 mg/kg). The concentrations of cadmium in soil are driven largely by phosphate fertiliser use history and soil tillage. Regions with a long history of intensive agriculture and soils with a high phosphatic fertiliser demand

tend to have higher cadmium concentrations, with Waikato, Taranaki and Bay of Plenty recording the highest average soil concentrations⁸.

WRC considers sites with a history of prolonged and intensive superphosphate application to represent a potential contamination risk. There is no record of superphosphate use at the site in the WRC Land Use Information Register.

Although general pastoral and dairy farming activities are not individually listed on the HAIL, associated on-farm practices such as sheep dipping, livestock holding yards, farm waste dumps, and the storage or use of agricultural chemicals and petroleum products are included due to their potential to result in soil and groundwater contamination.

⁸ Cadmium and New Zealand Agriculture and Horticulture: Cadmium Management Group. December 2019

9 Initial Conceptual Site Model

Based on the information review, the initial conceptual site model is shown in **Table 4**. Included are the HAIL codes considered to apply on a '*more likely than not*' basis.

Table 3: Conceptual Site Model

Source	Contaminant of Concern	HAIL Code	Exposure Pathway	Potential Receptor	Pathway Complete?
Uncontrolled building and demolition waste	Asbestos Heavy metals	E1 - Asbestos products manufacture or disposal including sites with buildings containing asbestos products known to be in a deteriorated condition (current and former structures). 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.	Exposure of workers to contaminants in soils and groundwater during site redevelopment – dermal contact, ingestion or inhalation of dust/vapours	Construction workers.	Potential Pathway – Contaminants in soils may be at levels to pose a risk to human health.
			Exposure of future site users to contaminants in soils – dermal contact, ingestion or inhalation of dust/vapours.	Future site users.	Potential Pathway – Contaminants in soils may be at levels to pose a risk to human health.
			Exposure of general public to contaminants in soils– dermal contact, ingestion or inhalation of dust/vapours.	General public.	Incomplete Pathway – General public do not have access to the site.
			Groundwater resources for public consumption.	Leaching and migration of soil contaminants into groundwater.	Potential Pathway –Contaminants in soils may be at levels to have the potential to leach.
			Surface water	Sediment and runoff directly into surface water.	Potential Pathway –Contaminants may be at levels to have the potential to leach to adjacent stormwater channel.
			Exposure of workers to contaminants in soils and groundwater during site redevelopment – dermal contact, ingestion or inhalation of dust/vapours.	Construction workers.	Potential Pathway – Contaminants in soils may be at levels to pose a risk to human health.

Source	Contaminant of Concern	HAIL Code	Exposure Pathway	Potential Receptor	Pathway Complete?
Hydrocarbon use and storage/bitumen emulsion and chemical containers	Hydrocarbons Heavy metals	A.17 Storage tanks or drums for fuel, chemicals or liquid waste.	Exposure of future site users to contaminants in soils – dermal contact, ingestion or inhalation of dust/vapours.	Future site users.	Potential Pathway – Contaminants in soils may be at levels to pose a risk to human health.
			Exposure of general public to contaminants in soils– dermal contact, ingestion or inhalation of dust/vapours.	General public.	Incomplete Pathway – General public do not have access to the site.
			Groundwater resources for public consumption.	Leaching and migration of soil contaminants into groundwater.	Potential Pathway –Contaminants in soils may be at levels to have the potential to leach.
			Surface water	Sediment and runoff directly into surface water.	Potential Pathway –Contaminants may be at levels to have the potential to leach to adjacent stormwater channel.
Superphosphate application	Cadmium	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.	Exposure of workers to contaminants in soils and groundwater during site redevelopment – dermal contact, ingestion or inhalation of dust/vapours.	Construction workers.	Potential Pathway – Contaminants in soils may be at levels to pose a risk to human health.
			Exposure of future site users to contaminants in soils – dermal contact, ingestion or inhalation of dust/vapours.	Future site users.	Potential Pathway – Contaminants in soils may be at levels to pose a risk to human health.
			Exposure of general public to contaminants in soils– dermal contact, ingestion or inhalation of dust/vapours.	General public.	Incomplete Pathway – General public do not have access to the site.
			Groundwater resources for public consumption.	Leaching and migration of soil contaminants into groundwater.	Potential Pathway –Contaminants in soils may be at levels to have the potential to leach.
			Surface water	Sediment and runoff directly into surface water.	Potential Pathway –Contaminants may be at levels to have the potential to leach to adjacent stormwater channel.

Source	Contaminant of Concern	HAIL Code	Exposure Pathway	Potential Receptor	Pathway Complete?
Transport yard including bitumen yards	Wide variety of chemicals, dependent on products being transported. Includes hydrocarbons.	F.8 Transport depots or yards including areas used for refuelling or the bulk storage of hazardous substances	Exposure of workers to contaminants in soils and groundwater during site redevelopment – dermal contact, ingestion or inhalation of dust/vapours.	Construction workers.	Potential Pathway – Contaminants in soils may be at levels to pose a risk to human health.
			Exposure of future site users to contaminants in soils – dermal contact, ingestion or inhalation of dust/vapours.	Future site users.	Potential Pathway – Contaminants in soils may be at levels to pose a risk to human health.
			Exposure of general public to contaminants in soils– dermal contact, ingestion or inhalation of dust/vapours.	General public.	Incomplete Pathway – General public do not have access to the site.
			Groundwater resources for public consumption.	Leaching and migration of soil contaminants into groundwater.	Potential Pathway –Contaminants in soils may be at levels to have the potential to leach.
			Surface water	Sediment and runoff directly into surface water.	Potential Pathway –Contaminants may be at levels to have the potential to leach to adjacent stormwater channel.
Filling activities	PAHs Heavy metals Asbestos	G.5 Waste disposal to land (excluding where biosolids have been used as soil conditioners)	Exposure of workers to contaminants in soils and groundwater during site redevelopment – dermal contact, ingestion or inhalation of dust/vapours.	Construction workers.	Potential Pathway – Contaminants in soils may be at levels to pose a risk to human health.
			Exposure of future site users to contaminants in soils – dermal contact, ingestion or inhalation of dust/vapours.	Future site users.	Potential Pathway – Contaminants in soils may be at levels to pose a risk to human health.
			Exposure of general public to contaminants in soils– dermal contact, ingestion or inhalation of dust/vapours.	General public.	Incomplete Pathway – General public do not have access to the site.

Source	Contaminant of Concern	HAIL Code	Exposure Pathway	Potential Receptor	Pathway Complete?
			Groundwater resources for public consumption.	Leaching and migration of soil contaminants into groundwater.	Potential Pathway –Contaminants in soils may be at levels to have the potential to leach.
			Surface water	Sediment and runoff directly into surface water.	Potential Pathway –Contaminants may be at levels to have the potential to leach to adjacent stormwater channel.

10 Sampling & Analysis Plan

10.1 Contaminants of Concern

Based on the desk study information review, the following contaminants of concern have been identified:

Table 5: Contaminants of Concern

Source Area	Potential Contaminants
Uncontrolled building and demolition waste	Asbestos Heavy metals
Hydrocarbon use and storage	Hydrocarbons Heavy metals
Superphosphate application	Cadmium
Transport yard including bitumen yards	Hydrocarbons PAHs SVOCs Heavy metals
Filling activities	Asbestos Heavy metals PAHs SVOCs

A Sampling and Analysis Plan (SAP) was prepared with the purpose of guiding the collection, handling, and analysis of environmental samples to assess potential contamination at the site during the soil investigation.

10.2 Sampling Rationale

Sampling locations were selected to investigate identified source areas and background conditions. A systematic grid-based approach was adopted for sampling of the paddocks with a 50m grid radius. Shallow soil samples were collected.

Systematic grid sampling was also adopted for the storage yards and transport yard. Targeted sampling investigated as potential hotspots identified in addition to the grid sampling. Typically, a shallow sample, and deeper sample were obtained for depth delineation.

An even distribution of sample locations was adopted for Latham's Mountain where access allowed to provide a high-level screening assessment of the material. Only sub-surface depths could be reached as part of this initial investigation.

Samples were targeted towards the potential hotspots identified from the PSI; namely the above ground fuel storage, stockpiles of fill material, chemical storage areas and surface staining. Sampling density was in general accordance with the GAMAS⁹ and MfE CLMG Guidelines¹⁰.

Table 6: Summary of Sampling

Potential Source	Sampling Description	Number of Samples	Contaminants of Concern
Superphosphate application	4 composite shallow samples in systematic grid approach	2 composite samples comprising 4 subsamples each	Cadmium
"Latham's Mountain"	12 x test pits excavated where access allowed for even coverage of the mountain to a depth of 2-5m bgl.	24 x soil samples and 4 bulk suspected ACM samples	Asbestos Heavy metals PAHs
Transport yard	5 test pits to ~1m bgl Targeted samples of staining and general distribution	4 targeted samples	Heavy metals PAHs Hydrocarbons
Storage Yards	6 targeted test pits: one from top 300mm and deeper sample ~0.5 – 1m bgl	12 targeted samples	Heavy metals Hydrocarbons PAHs SVOCs Asbestos
Green Waste Facility	8 test pits to ~1m bgl.	16 soil samples from various depths and targeting bunded area	Asbestos Heavy metals PAHs
Filling activities	9 test pits providing general distribution and sampling from stockpiles	18 soil samples of fill material	Asbestos Heavy metals PAHs

10.3 Site Investigation Methodology

Soil sampling was undertaken as a staged approach over three site visits – 17 December 2025, 3 February 2026 and 4 February 2026. Approximate sample locations are shown in **Appendix B**.

Samples were obtained using a combination of hand augering, shallow test pitting and deeper mechanical test pitting.

⁹ Guidelines for Assessing and Managing Asbestos in Soil.

¹⁰ Contaminated Land Management Guidelines No. 5: Site Investigation and Analysis of Soils (revised 2021).

Using a stainless-steel trowel and hand auger which were decontaminated using a solution of Decon90® and nitrile gloves which were replaced between sample locations, samples were collected and placed directly in laboratory supplied plastic or glass jars as appropriate. Samples were shipped to Hill Laboratories Ltd (Hill Labs) under chain of custody (COC) documentation. The COC is included in **Appendix C**, and the laboratory analytical reports are available in **Appendix D**.

Soil samples were collected from various depths and analysed for a combination of heavy metals (including lead), asbestos, semi volatile organic compounds (SVOC), hydrocarbons, PAHs and cadmium.

10.4 Asbestos Controls

Due to the presence of potential friable asbestos and the potential high risk of airborne fibre release, specific controls were employed to implemented to protect human health and comply with regulatory requirements. Works within “Latham’s Mountain” were conducted by a competent person trained in asbestos identification, risk management, and safe handling. A Licensed Class A supervisor oversaw the controls as follows:

- Personal Protective Equipment (PPE):
 - Disposable Type 5/6 coveralls (with hood).
 - Half-face respirators with P3 filters.
 - Gloves and safety boots (covered with disposable boot covers.)
- Dust and Fibre Control Measures:
 - Minimise soil disturbance using low-impact tools (e.g. trowel or spade).
 - Wet methods to suppress dust and fibres.
 - No dry brushing or use of high-pressure air/water.
- Area Containment and Access Control:
 - Establish a clearly defined exclusion zone using fencing and signage.
 - Limit access to trained personnel only.
 - Use drop sheets or plastic sheeting in work areas if appropriate.
- Decontamination Procedures:
 - On-site decontamination area for PPE and equipment.
 - Double-bagging of asbestos-contaminated waste in labelled, heavy-duty asbestos bags.
 - All disposable PPE must be treated as asbestos waste.

Due to health and safety constraints, it was not possible to obtain and sieve 10 L of soil at each location (as described within the New Zealand Guidelines for Assessing and Managing Asbestos in Soils).

10.5 Observations

The following key observations were made during the site work:

Latham's Mountain

- The large mound is heavily vegetated and was difficult to access in several areas.
- Various waste materials were observed across the mound, including car bodies, concrete, rubble, tiles, roofing materials, timber, power poles, and scrap metal.
- The toe of the mound, located toward the south-eastern side, appeared to represent the oldest part of the fill.
- Suspected asbestos-containing materials (ACMs) were observed in several locations.
- Gravel tracks were present across the mound, likely providing access during historical filling activities.
- Fill material extended for all test pits with various locations where suspected ACM debris was encountered. Brick, roofing tiles glass, timber and metal were noted in numerous pits.
- A significant building fire was encountered in one test pit where fire-damaged building materials were uncovered. It looked to be likely that the building had been set on fire in situ and buried.

Wider Site

The following observations were made during the site work for the wider site.

Transport Yard

- The transport yard was covered with a gravel cap noted to be potholed in several locations.
- Hydrocarbon staining was noted on the surface gravels in several locations.
- Fill material extended to ~0.5m blg which was underlain by an organic and silty gravelly clay in some locations.

Storage Yards

- The yards were covered with ~0.3m of compacted basecourse/gravel.
- Fill material extended to ~0.5m blg which was underlain by an organic and silty gravelly clay in some locations.
- Hydrocarbon staining was noted on the surface gravels in several locations.

Green Waste Facility

- The existing building had deteriorated building paper lining the roof that had the potential to contain asbestos.
- Chemicals were stored in the building associated with the compost manufacturing process.
- Fill extended to ~1m bgl in the majority of locations.
- General waste materials as well as concrete, brick and building materials were noted in several locations.

Filling Site

- The area was actively being filled by truck & trailer during the investigation.
- Multiple piles of millings and concrete were noted.
- Various fill observations extended to ~1m bgl.

10.6 Investigation Criteria

The following environmental criteria were adopted for this assessment:

- Updated development of soil guideline values for the protection of ecological receptors (Eco-SGVs): Technical document. Manaaki Whenua Landcare Research Lincoln. 2019.
- USEPA Regional Screening Levels for Commercial land use.

The following human health criteria were adopted for this assessment:

- Resource Management (National Environmental Standard for Assessing and Managing Contaminants in Soil to Protect Human Health) Regulations 2011 (Commercial/Industrial land use).
- National Environmental Protection Council (NEPC) National Environmental Protection Measure, Schedule B(1) of the 'Guideline on Investigation Levels for Soils and Groundwater' (NEPC, 2013).
- Guidelines for Assessing and Managing Petroleum Hydrocarbon Contaminated Sites in New Zealand (MfE, 2011). Soil results have been compared to the Tier 1 soil assessment criteria for 'All Pathways'.
- Guidelines for Assessing and Managing Asbestos in Soil, BRANZ 2017.

The following background criteria were adopted to this assessment:

- Background concentrations of inorganic elements in soils for the Waikato region (WRC, 2019)

11 Results

A summary of the results is presented in **Appendix F**. Provided below is a summary of the results. **Appendix D** provides the analytical results provided by the laboratory.

11.1 Heavy Metals

- No soil concentrations exceeded the adopted human health criteria.
- The majority of soil concentrations exceeded the adopted background criteria for selected heavy metals.
- Samples from 0.1m bgl and 0.3m bgl from TP10 exceeded the adopted environmental criteria for zinc. This was from the storage yard area.

11.2 Cadmium

- The majority of samples were above the adopted background criteria. However, no samples exceeded the adopted human health or environmental criteria.

- Eight soil samples were collected from the grazed pasture using a systematic grid approach and analysed for cadmium.
- Cadmium concentrations in these samples ranged from below laboratory detection to 0.88 mg/kg, with soil pH values between 6.0 and 7.3.

11.3 Asbestos

- No soil samples exceeded the adopted human health criteria for asbestos.
- Nine bulk samples were tested for presence/absence asbestos. Three samples (all from “Latham’s Mountain”) returned positive results for asbestos.

11.4 Organics

- There were no detections of SVOCs in any samples.
- PAHs were detected in several samples from shallow depths ranging from 0.1m bgl to 0.4m bgl.
- TPH were detected in 7 soil samples and were above the adopted criteria in three samples with a maximum concentration for Total TPH of 30,000mg/kg in sample AS01 from a depth of 0.1m bgl.

11.5 Quality Assurance

In accordance with the MfE guidance (CLMG No 5), field duplicates were taken in order to provide information on the overall variability of results, as well as to indicate potential errors or bias sampling technique and the analytical laboratory testing.

The relative percentage difference (RPD) between parent and duplicate samples are assessed, and RPDs of less than 30% - 50% are generally appropriate for soil investigation works.

Sample QA was a field replicate of S04; replicates were analysed for heavy elements. The mean relative percentage difference for all heavy elements was 5% and well within the data quality objective.

12 Discussion and Risk Assessment

Soils associated with the area referred to as “Lathams Mountain” were found to contain fragments of ACM within fill material. Laboratory analysis of soil samples did not detect free asbestos fibres within the analysed soil matrix. This result is considered inconsistent with the field observations and the history of filling at the site.

Asbestos contamination associated with demolition waste is typically highly heterogeneous, with asbestos occurring as discrete fragments of ACM within otherwise clean soil. As asbestos is inert and does not migrate through the soil matrix, it is common for laboratory soil samples to return non-detect results even where ACM fragments are present.

The confirmed presence of ACM fragments indicates that asbestos-containing demolition materials are present within the fill at “Latham’s Mountain” and that additional fragments may remain undiscovered, particularly within areas associated with former structures or fill placement.

From a human health perspective, the primary risk associated with ACM in soils relates to the disturbance of soils and the potential for fibres to become airborne. Such disturbance could occur during excavation, piling, landscaping, or future redevelopment activities. Future disturbance could increase the likelihood of ACM fragments being broken and releasing asbestos fibres.

Hydrocarbon concentrations exceeding the relevant human health criteria were also identified in shallow soils in the storage yard and will require remediation or management as part of site redevelopment.

All other soil samples generally complied with the relevant Soil Contaminant Standards (SCSs) and Soil Guideline Values (SGVs) and are therefore considered unlikely to pose a risk to human health in the context of the current or proposed future site use. The only exception was an elevated zinc concentration identified in one location within the storage yard area.

Polycyclic aromatic hydrocarbons (PAHs) were detected at low but measurable concentrations in several samples across the investigation area, primarily within surface and stockpiled soils. However, all reported PAH concentrations were below the relevant human health criteria for commercial/industrial land use and are not considered to present a risk to human health.

Overall, the results indicate that the soils at the site are unlikely to represent a significant contamination source capable of generating ongoing contaminant discharges within the site or beyond the site boundary.

Due to the heterogeneous nature of the fill materials within “Lathams Mountain”, the full composition of the fill mass is unknown and it is not practicable to completely characterise all materials present. As such, the potential for previously unidentified contaminants to be encountered during future ground disturbance cannot be ruled out. Accordingly, provision should be made for the management of unexpected contamination.

13 Updated Conceptual Site Model

Based on the soil investigation, the updated conceptual site model is shown in **Table 7**. Included are the HAIL codes considered to apply on a '*more likely than not*' basis.

Table75: Updated Conceptual Site Model

Source	Contaminant of Concern	HAIL Code	Exposure Pathway	Potential Receptor	Pathway Complete?
Uncontrolled building and demolition waste	Asbestos Heavy metals	E1 - Asbestos products manufacture or disposal including sites with buildings containing asbestos products known to be in a deteriorated condition (current and former structures). 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.	Exposure of workers to contaminants in soils and groundwater during site redevelopment – dermal contact, ingestion or inhalation of dust/vapours	Construction workers.	Complete Pathway – Contaminants in soils are at levels to pose a risk to human health.
			Exposure of future site users to contaminants in soils – dermal contact, ingestion or inhalation of dust/vapours.	Future site users.	Complete Pathway – Contaminants in soils are at levels to pose a risk to human health.
			Exposure of general public to contaminants in soils– dermal contact, ingestion or inhalation of dust/vapours.	General public.	Incomplete Pathway – General public do not have access to the site.
			Groundwater resources for public consumption.	Leaching and migration of soil contaminants into groundwater.	Potential Pathway –Contaminants in soils may be at levels to have the potential to leach. Leachability testing would confirm this.
			Surface water	Sediment and runoff directly into surface water.	Potential Pathway –Contaminants in soils may be at levels to have the potential to leach. Leachability testing would confirm this.

Source	Contaminant of Concern	HAIL Code	Exposure Pathway	Potential Receptor	Pathway Complete?
Hydrocarbon use and storage/bitumen emulsion and chemical containers	Hydrocarbons Heavy metals	A.17 Storage tanks or drums for fuel, chemicals or liquid waste.	Exposure of workers to contaminants in soils and groundwater during site redevelopment – dermal contact, ingestion or inhalation of dust/vapours.	Construction workers.	Complete Pathway – Contaminants in soils are at levels to pose a risk to human health.
			Exposure of future site users to contaminants in soils – dermal contact, ingestion or inhalation of dust/vapours.	Future site users.	Complete Pathway – Contaminants in soils are at levels to pose a risk to human health.
			Exposure of general public to contaminants in soils– dermal contact, ingestion or inhalation of dust/vapours.	General public.	Incomplete Pathway – General public do not have access to the site.
			Groundwater resources for public consumption.	Leaching and migration of soil contaminants into groundwater.	Potential Pathway –Contaminants in soils may be at levels to have the potential to leach. Leachability testing would confirm this.
			Surface water	Sediment and runoff directly into surface water.	Potential Pathway –Contaminants may be at levels to have the potential to leach to adjacent stormwater channel. Leachability testing would confirm this.
Superphosphate application	Cadmium	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.	Exposure of workers to contaminants in soils and groundwater during site redevelopment – dermal contact, ingestion or inhalation of dust/vapours.	Construction workers.	Incomplete Pathway – Contaminants in soils are not at levels to pose a risk to human health.
			Exposure of future site users to contaminants in soils – dermal contact, ingestion or inhalation of dust/vapours.	Future site users.	Incomplete Pathway – Contaminants in soils are not at levels to pose a risk to human health.
			Exposure of general public to contaminants in soils– dermal contact, ingestion or inhalation of dust/vapours.	General public.	Incomplete Pathway – General public do not have access to the site.

Source	Contaminant of Concern	HAIL Code	Exposure Pathway	Potential Receptor	Pathway Complete?
			Groundwater resources for public consumption.	Leaching and migration of soil contaminants into groundwater.	Incomplete Pathway – Contaminants in soils are not at levels to pose a risk to groundwater
			Surface water	Sediment and runoff directly into surface water.	Incomplete Pathway – Contaminants in soils are not at levels to pose a risk to surface water.
Transport yard including bitumen yards	Wide variety of chemicals, dependent on products being transported. Includes hydrocarbons.	F.8 Transport depots or yards including areas used for refuelling or the bulk storage of hazardous substances	Exposure of workers to contaminants in soils and groundwater during site redevelopment – dermal contact, ingestion or inhalation of dust/vapours.	Construction workers.	Complete Pathway – Contaminants in soils are at levels to pose a risk to human health.
			Exposure of future site users to contaminants in soils – dermal contact, ingestion or inhalation of dust/vapours.	Future site users.	Complete Pathway – Contaminants in soils are at levels to pose a risk to human health.
			Exposure of general public to contaminants in soils– dermal contact, ingestion or inhalation of dust/vapours.	General public.	Incomplete Pathway – General public do not have access to the site.
			Groundwater resources for public consumption.	Leaching and migration of soil contaminants into groundwater.	Potential Pathway –Contaminants in soils may be at levels to have the potential to leach. Leachability testing would confirm this
			Surface water	Sediment and runoff directly into surface water.	Potential Pathway –Contaminants may be at levels to have the potential to leach to adjacent stormwater channel. Leachability testing would confirm this
Filling activities	PAHs Heavy metals	G.5 Waste disposal to land (excluding where biosolids have been used as soil conditioners)	Exposure of workers to contaminants in soils and groundwater during site redevelopment – dermal contact, ingestion or inhalation of dust/vapours.	Construction workers.	Incomplete Pathway – Contaminants in soils are not at levels to pose a risk to human health.

Source	Contaminant of Concern	HAIL Code	Exposure Pathway	Potential Receptor	Pathway Complete?
	Asbestos		Exposure of future site users to contaminants in soils – dermal contact, ingestion or inhalation of dust/vapours.	Future site users.	Incomplete Pathway – Contaminants in soils are not at levels to pose a risk to human health.
			Exposure of general public to contaminants in soils– dermal contact, ingestion or inhalation of dust/vapours.	General public.	Incomplete Pathway – Contaminants in soils are not at levels to pose a risk to human health.
			Groundwater resources for public consumption.	Leaching and migration of soil contaminants into groundwater.	Incomplete Pathway – Contaminants in soils are not at levels to pose a risk to groundwater
			Surface water	Sediment and runoff directly into surface water.	Incomplete Pathway – Contaminants in soils are not at levels to pose a risk to surface water

13.1 National Environmental Standard: Contaminated Land

The *Resource Management (National Environmental Standard for Assessing and Managing Contaminants in Soil to Protect Human Health) Regulations 2011* (NES-CS) applies to land as per clause 5(7):

“Land covered:

- (7) *The piece of land is a piece of land that is described by 1 of the following:*
- (a) *an activity or industry described in the HAIL³ is being undertaken on it;*
 - (b) *an activity or industry described in the HAIL has been undertaken on it;*
 - (c) *it is more likely than not that an activity or industry described in the HAIL is being or has been undertaken on it.”*

The following HAIL¹¹ activities have been identified for this site on a more likely than not basis:

- A.17. Storage tanks or drums for fuel, chemicals or liquid waste
- **E1** - Asbestos products manufacture or disposal including sites with buildings containing asbestos products known to be in a deteriorated condition (current and former structures).
- **F.8.** Transport depots or yards including areas used for refuelling or the bulk storage of hazardous substances.
- **G.5.** Waste disposal to land.
- **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.

The NES-CS applies to five activities taking place on land identified to have potentially contaminative activities being undertaken on it, as listed on the HAIL. Should a trigger activity be undertaken, the regulations of the NES-CS will apply.

Table 8: NES-SC Trigger Activities

Trigger Activity
Does the proposed activity at the site include the removal or replacement of all, or part of, a fuel storage system?
Does the proposed activity at the site include soil sampling?
Does the proposed activity at the site involve the disturbance of soil?
Does the proposed activity at the site involve the subdivision of the land?
Does the proposed activity involve a change of land use?

13.2 Soil Disturbance

Regulation 8(3) of the NESCS provides for the disturbance of contaminated soil on a “piece of land” (as per Regulation 5(7) as a Permitted Activity, providing that the criteria in **Table 9** (below) are met.

The investigation has determined the site to be a “piece of land” on a more likely than not basis. The area of the site is ~400,000m².

¹¹ Hazardous Activities and Industries List (MfE)

Table 9: Permitted Activity Soil Disturbance Criteria

	Criteria	Complies
1	Appropriate dust, erosion and sediment controls are put in place to limit contaminant mobility for the duration of the works and until the site is in an erosion free state.	Yes
2	The soil is in an erosion free state within one month of the completion of works.	Yes
3	The volume of soil disturbance must be no more than 25 m ³ per 500 m ² of the "piece of land".	Unlikely
4	Soil must not be taken away from the site that exceeds 5 m ³ per 500 m ² of the "piece of land" per year.	Unlikely
5	Soil for off-site disposal must be taken to an appropriate facility.	Yes
6	Duration of the works must not exceed two months.	To be confirmed
7	On-site containment of contaminants must not be compromised.	Yes

Based on the above assessment, the proposed soil disturbance and disposal volumes were considered unlikely to meet the permitted activity limits specified in Regulation 8(3) of the NES-CS. Soil disturbance (including soil disposal) will therefore require a land use consent.

13.3 Change of Land Use

Regulation 8(4) of the NES-CS provides for changing use of the piece of land as a Permitted Activity, providing that the criteria in **Table 10** are met.

Regulation 8(4) allows land-use change of a piece of land where it can be demonstrated it is highly unlikely that there will be a risk to human health given the intended activity. Highly unlikely should be interpreted in a plain English way to mean a high probability that there is no serious or real and substantial risk¹².

Based on the findings of the investigation and considering the likely nature of any contamination as well as potential exposure pathways, there is a potential risk to human health associated with the proposed activity on the site. Under the intended land use, direct or indirect exposure to contaminated soil is considered reasonably likely to pose a risk to human health. Consequently, the proposed change in land use is unlikely to comply with the permitted activity criteria specified under Regulation 8(4) of the NES-CS.

13.4 Subdivision

Regulation 8(4) of the NES-CS provides for subdividing of the piece of land as a Permitted Activity, providing that the criteria in **Table 10** are met.

To meet the requirements of a permitted activity, a preliminary site investigation (PSI) must be undertaken. The PSI is required for each of the resulting land parcels of a subdivision that contain a

¹² Users' Guide: NES for Assessing and Managing Contaminants in Soil to Protect Human Health, 2012

piece of land on which hazardous activities are being, have been, or are more likely than not to have been undertaken.

Regulation 8(4) allows subdivision of a piece of land where it can be demonstrated it is highly unlikely that there will be a risk to human health given the intended activity. Highly unlikely should be interpreted in a plain English way to mean a high probability that there is no serious or real and substantial risk¹³.

Based on the findings of the investigation and considering the likely nature of any contamination as well as potential exposure pathways, there is a potential risk to human health associated with the proposed activity on the site. Under the intended land use, direct or indirect exposure to contaminated soil is considered reasonably likely to pose a risk to human health. Consequently, the proposed subdivision is unlikely to comply with the permitted activity criteria specified under Regulation 8(4) of the NES-CS.

13.5 Soil Contaminant Standards

Given concentrations of contaminants have exceeded the Soil Contaminant Standards (SCSs) (or the appropriate adopted criteria) a Restricted Discretionary consent under Regulation 10 of the NES-CS is required.

Table 10: Permitted Activity Criteria for Change of Land Use

	Criteria	Complies
1	A preliminary site investigation of the land or piece of land must exist.	Yes
2	The report on the preliminary site investigation must state that it is highly unlikely that there will be a risk to human health if the activity is done to the piece of land.	No
3	The report must be accompanied by a relevant site plan to which the report is referenced.	Yes
4	The consent authority must have the report and the plan.	Yes

13.6 Waikato Regional Plan

The Waikato Regional Plan defines 'contaminated land' as:

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

Given contaminants have been found to exceed the Soil Contaminant Standards (SCSs) the site is therefore classified as 'contaminated'.

¹³ Users' Guide: NES for Assessing and Managing Contaminants in Soil to Protect Human Health, 2012

Rules relating to discharges from remediation of contaminated land are defined in Module 5 of the Waikato Regional Plan section 5.3 (Contaminated Land). It states the following:

Permitted Activity Rule – Discharges from Remediation of Contaminated Land

Any discharge arising from remediation of contaminated land is a permitted activity, subject to the following conditions:

- a. any discharge to air arising from the activity shall comply with the conditions and standards and terms in Section 6.1.8 except where the matters addressed in Section 6.1.8 are already addressed by conditions on resource consents for the site.
- b. No contaminants from the remediation of the contaminated land shall be discharged into water or onto land unless discharged to a landfill authorised in Section 5.2.7.
- c. The Waikato Regional Council shall be provided with the following reports prepared in compliance with Contaminated Land Management Guideline No.1: Reporting on Contaminated Sites in New Zealand (Ministry for the Environment, Wellington, NZ, updated October 2003) prior to commencement of land remediation:
 - i. detailed site investigation report
 - ii. site remedial action plan
- d. After remediation is completed, copies of the following reports prepared in compliance with Contaminated Land Management Guideline No.1: Reporting on Contaminated Sites in New Zealand (Ministry for the Environment, Wellington, NZ, updated October 2003) must be provided to the Waikato Regional Council:
 - i. site validation report
 - ii. ongoing monitoring and management plan.
- e. Any updates of these reports shall be provided to the Waikato Regional Council if a change in investigation, remediation and monitoring strategy occurs.

14 Conclusion and Recommendations

The investigation confirmed that soils associated with the area referred to as “Latham’s Mountain” contain fragments of ACM within fill material. Although laboratory analysis did not detect free asbestos fibres within the analysed soil matrix, this is not considered inconsistent with the field observations or the known history of filling at the site. Asbestos contamination associated with demolition waste is typically highly heterogeneous, with asbestos present as discrete fragments of ACM within otherwise clean soil. The presence of ACM fragments confirms that asbestos-containing demolition materials are present within the fill at “Latham’s Mountain” and that additional fragments may remain undiscovered within the filled area.

From a human health perspective, the primary risk relates to the disturbance of soils containing ACM, which may result in the release of airborne asbestos fibres during activities such as excavation, piling, landscaping, or redevelopment. Appropriate management measures will therefore be required for any future ground disturbance within the affected areas.

Hydrocarbon concentrations exceeding the relevant human health criteria were identified in shallow soils within the storage yard area and will require remediation or management as part of site redevelopment. All other soil samples generally complied with the relevant Soil Contaminant Standards

(SCSs) and Soil Guideline Values (SGVs) and are considered unlikely to pose a risk to human health for the current or proposed future land use. The only exception was an elevated zinc concentration identified in one location within the storage yard area. Polycyclic aromatic hydrocarbons (PAHs) were detected at low but measurable concentrations in several samples across the investigation area, primarily within surface and stockpiled soils; however, all reported concentrations were below the relevant human health criteria for commercial/industrial land use and are not considered to present a risk to human health.

Overall, the results indicate that soils at the site are unlikely to represent a significant contamination source capable of generating ongoing contaminant discharges within the site or beyond the site boundary. However, due to the heterogeneous nature of the fill materials within “Latham’s Mountain”, the full composition of the fill mass cannot be completely characterised and the presence of additional contamination cannot be ruled out. Provision should therefore be made for the management of unexpected contamination during future ground disturbance works.

In accordance with the Resource Management (National Environmental Standard for Assessing and Managing Contaminants in Soil to Protect Human Health) Regulations 2011 (NES-CS), the site is considered to be a “piece of land” where activities listed on the Hazardous Activities and Industries List (HAIL) have been undertaken on a more likely than not basis. The identified HAIL activities include storage of fuel or chemicals, asbestos-containing building materials associated with former structures, transport depot activities including refuelling and hazardous substance storage, waste disposal to land, and other potential releases of hazardous substances.

Based on the findings of this investigation, the proposed soil disturbance volumes associated with redevelopment are unlikely to meet the permitted activity thresholds under Regulation 8(3) of the NES-CS. Accordingly, soil disturbance and associated soil disposal activities will require land use consent. In addition, given that contaminants exceed the relevant Soil Contaminant Standards and there is potential for human exposure under the proposed development scenario, the proposed change in land use and subdivision are unlikely to meet the permitted activity criteria under Regulation 8(4) of the NES-CS. As such, a Restricted Discretionary Land Use Consent under Regulation 10 of the NES-CS will be required.

Furthermore, as contaminant concentrations exceed the relevant SCSs, the site meets the definition of contaminated land under the Waikato Regional Plan. Any remediation undertaken at the site will therefore need to comply with the relevant provisions of the Regional Plan relating to discharges from remediation of contaminated land.

It is recommended that a Remedial Options Assessment be undertaken as part of a Remediation Action Plan (RAP) to evaluate appropriate remediation and/or management measures required to support the proposed development and to ensure that soil disturbance and contamination are managed in accordance with the NES-CS and relevant regional planning requirements.

15 Limitations

This report is the property of SouthPark Agri Development Ltd & Industrie Property Tahi Ltd and Swiftsure Consultants Ltd. It was produced for the purpose stated above in accordance with the conditions of the contract dated 22 October 2025. It does not purport to provide legal or financial advice. Swiftsure Consultants Ltd accepts no liability to any other party or for any other purpose.

We have only reviewed readily available information. This information may contain errors and omissions, for which we cannot be responsible: we have not validated any information unless specifically stated.

Characterisation of subsurface conditions is dependent on the number of sample locations, methods of sampling and the uniformity of subsurface conditions. The accuracy of this characterisation is therefore limited by the scope of works undertaken in accordance with the MfE guidelines. There is the possibility that contamination present on the site has not been identified. Whilst contaminant concentrations may be estimated at chosen sample locations, conditions at any location removed from the specific points of sampling can only be inferred based on geological and hydrogeological conditions and the nature and the extent of identified contamination. Subsurface conditions can vary, resulting in uneven distribution of contaminants across a site which cannot be defined by these investigations. In addition, with time, the site conditions and environmental guidelines could change so that the reported assessments and conclusions are no longer valid. The conclusions of this report are made on the basis that the site conditions revealed by the investigation are representative of the actual conditions across the site at the time of sampling.

The recommendations in this report are based on information provide to Swiftsure Consultants Ltd at the time of writing this report.

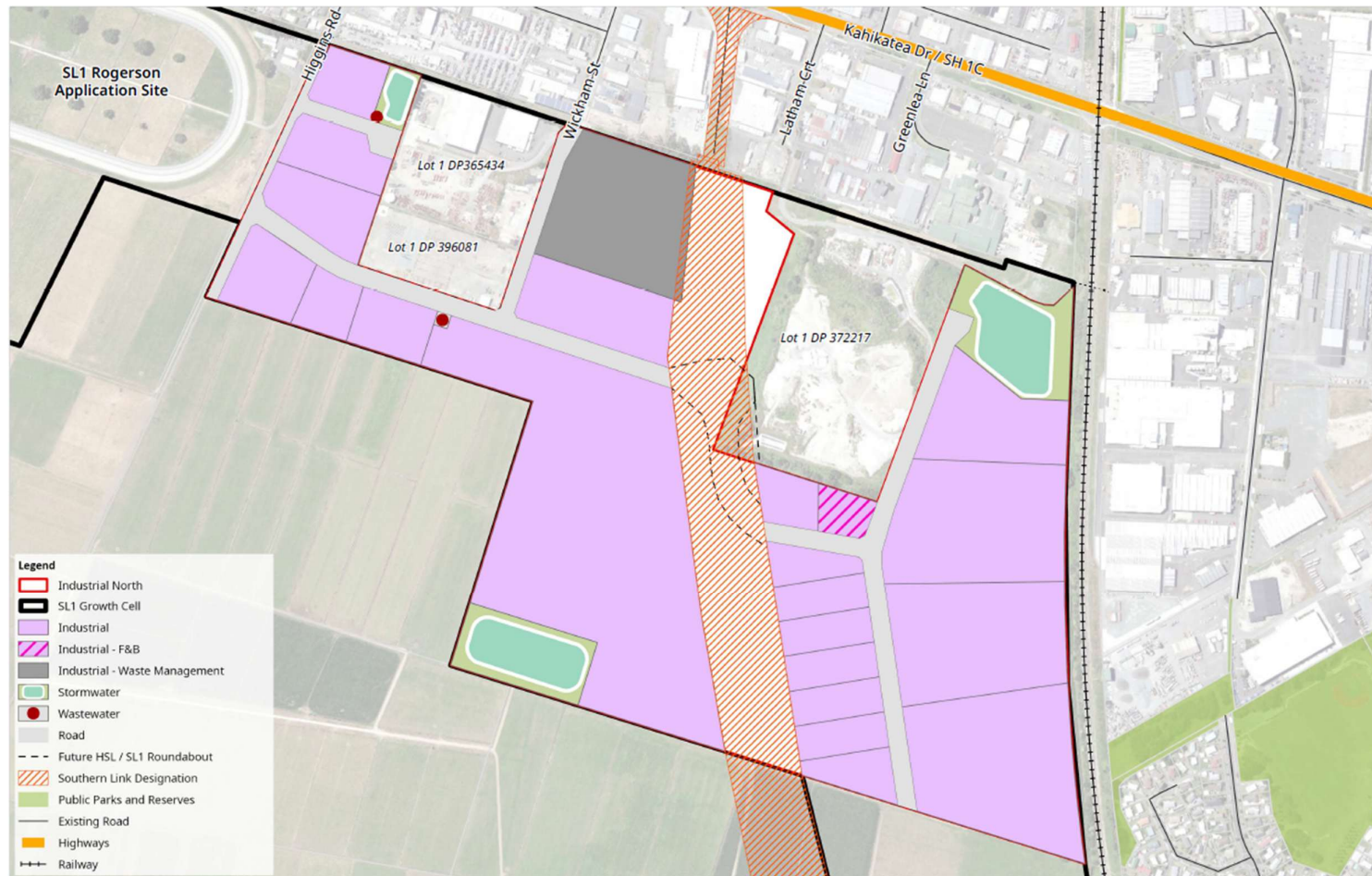
The report has been prepared by Swiftsure on the specific instructions of our Client. Any use or reliance by any person contrary to the above, to which Swiftsure has not given its prior written consent, is at that person's own risk and Swiftsure accepts no liability to any other person for their use of or reliance on this report. This report contains information obtained by inspection, sampling, testing or other means of investigation. Unless specifically stated otherwise in this report, Swiftsure has relied on the accuracy, completeness, currency and sufficiency of all information provided to it by, or on behalf of, the Client or any third party, including the information listed above, and has not independently verified the information provided. Swiftsure accepts no responsibility for errors or omissions in, or the currency or sufficiency of, the information provided. Publicly available records are frequently inaccurate or incomplete.

The recommendations in this report are based on information provide to Swiftsure Consultants Ltd at the time of writing this report.

This report is current as of 30 August 2026. Site conditions may change in future, as may regulations and guidance. Readers must make their own judgements as to whether this report remains current at the time of reading, and/or seek further advice from Swiftsure Consultants Ltd.

This report should be read in full, having regard to all stated assumptions, limitations, and disclaimers.

APPENDIX A: Masterplan



Client: Saxby Rd JV Ltd, Industrie Property Tahi & South Park Agri Development Ltd
Job Number: 25546 & 26111

Drawing: Industrial North Proposed Masterplan
Version: Draft
Date: 30/06/2026

Scale: 1:5,000 @ A3
Sheet: 1 of 1



**SL1 Residential South & Industrial North
 Substantive Application**

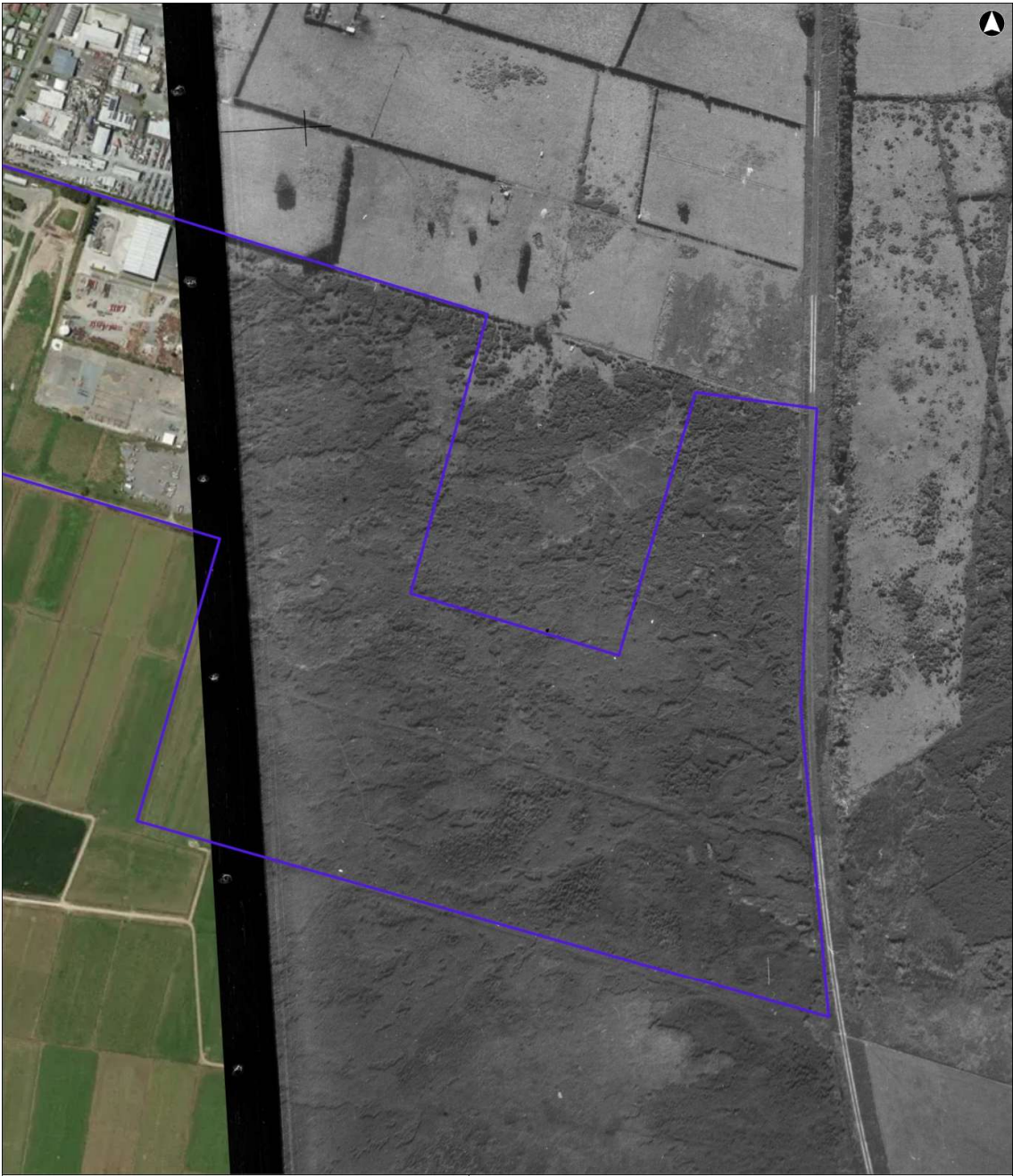
49A and 49B Saxbys Road, Saxbys Road, 18, 20 & 24 Wickham Street, 160 & 162 Higgins Road, Waikato

B&A
 Urban & Environmental

File Path: I:\Jobs\13000-13999 General Jobs\025546 SL1 Industrial and Residential Stage 1\05\GIS\SL1 Stage 1 Residential\

APPENDIX B:

Historical Aerial
Photographs



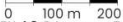
Legend Site Area 1943	0100 m200 m LINZ CC BY 4.0 © Imagery Basemap contributors SWIFTSURE INDUSTRIAL DEVELOPMENT Produced by Datanest.earth	Title: Historical Aerial Photos		
	Client: SouthPark Agri Development Ltd & Industrie Property Tahi Ltd	Size: A4		
	Project: SL1 Industrial Block Drawn: EL	Figure No.: 6		
	Date: 08-03-2026 Checked: EL			
	Proj No: 2027 Scale: 1:6885	Version: Final		



Legend Site Area 1971 0100 m200 m LINZ CC BY 4.0 © Imagery Basemap contributors SWIFTSURE Produced by Datanest.earth		Title: Historical Aerial Photos <table><tr><td colspan="2">Client: SouthPark Agri Development Ltd & Industrie Property Tahi Ltd</td><td rowspan="2">Size: A4</td></tr><tr><td>Project: SLI Industrial Block</td><td>Drawn: EL</td></tr><tr><td>Date: 08-03-2026</td><td>Checked: EL</td><td rowspan="2">Figure No.: 6</td></tr><tr><td>Proj No: 2027</td><td>Scale: 1:10392</td><td>Version: Final</td></tr></table>		Client: SouthPark Agri Development Ltd & Industrie Property Tahi Ltd		Size: A4	Project: SLI Industrial Block	Drawn: EL	Date: 08-03-2026	Checked: EL	Figure No.: 6	Proj No: 2027	Scale: 1:10392	Version: Final
Client: SouthPark Agri Development Ltd & Industrie Property Tahi Ltd		Size: A4												
Project: SLI Industrial Block	Drawn: EL													
Date: 08-03-2026	Checked: EL	Figure No.: 6												
Proj No: 2027	Scale: 1:10392		Version: Final											





Legend  Site Area  1995		Title: Historical Aerial Photos	
 LINZ CC BY 4.0 © Imagery Basemap contributors  Produced by Datanest.earth		Client: SouthPark Agri Development Ltd & Industrie Property Tahi Ltd	Size: A4
Project: SL1 Industrial Block		Drawn: EL	Figure No.: 6
Date: 08-03-2026		Checked: EL	
Proj No: 2027		Scale: 1:10392	Version: Final

APPENDIX C: Sample Locations





APPENDIX D:

Laboratory Analytical Reports



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

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

Certificate of Analysis

Page 1 of 2

Client:	SwiftSure Consultants Limited	Lab No:	4065097	A2Pv1
Contact:	Emma Lewis C/- SwiftSure Consultants Limited 180C Crawford Road RD 1 Tauranga 3171	Date Received:	24-Dec-2025	
		Date Reported:	24-Dec-2025	
		Quote No:	142554	
		Order No:		
		Client Reference:	SL1 Northern Block	
		Submitted By:	Emma Lewis	

Sample Type: Building Material

Sample Name	Lab Number	Sample Category	Sample Weight on receipt (g)	Asbestos Presence / Absence	Description of Asbestos in Non Homogeneous Samples
B01 17-Dec-2025	4065097.1	Debris	4.14	Asbestos NOT detected. Organic fibres detected. Synthetic mineral fibres detected.	N/A
B02 17-Dec-2025	4065097.2	Other #1	16.17	Asbestos NOT detected. Organic fibres detected.	N/A
B03 17-Dec-2025	4065097.3	Fibre Board	470.43	Asbestos NOT detected. Synthetic mineral fibres detected.	N/A
B04 17-Dec-2025	4065097.4	Paper	24.61	Asbestos NOT detected. Organic fibres detected. Synthetic mineral fibres detected.	N/A
B05 17-Dec-2025	4065097.5	Linoleum / Vinyl floor tile	1.29	Asbestos NOT detected. Synthetic mineral fibres detected.	N/A

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.

Analyst's Comments

#1 Rocks

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 analyses. 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, Franklin, Hamilton 3204.

Sample Type: Building Material			
Test	Method Description	Default Detection Limit	Sample No
Asbestos in Bulk Material			
Sample Category	Assessment of sample type. Analysed at Hill Laboratories - Asbestos; 28 Heather Street, Auckland.	-	1-5
Sample Weight on receipt	Sample weight (approximate). Analysed at Hill Laboratories - Asbestos; 28 Heather Street, Auckland.	0.01 g	1-5
Asbestos Presence / Absence	Examination using Low Powered Stereomicroscopy followed by 'Polarised Light Microscopy' including 'Dispersion Staining Techniques'. Analysed at Hill Laboratories - Asbestos; 28 Heather Street, Auckland. AS 4964 (2004) - Method for the Qualitative Identification of Asbestos in Bulk Samples.	0.01%	1-5



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Sample Type: Building Material			
Test	Method Description	Default Detection Limit	Sample No
Description of Asbestos in Non Homogeneous Samples	Form, dimensions and/or weight of asbestos fibres present. Analysed at Hill Laboratories - Asbestos; 28 Heather Street, Auckland. AS 4964 (2004) - Method for the Qualitative Identification of Asbestos in Bulk Samples.	-	1-5

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

Testing was completed on 24-Dec-2025. 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.

This certificate of analysis must not be reproduced, except in full, without the written consent of the signatory.

Mahaleel (May) Alfante BSc, PGDipSci
Laboratory Technician - Asbestos



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Certificate of Analysis

Page 1 of 2

Client:	SwiftSure Consultants Limited	Lab No:	4065098	A2Pv1
Contact:	Emma Lewis	Date Received:	24-Dec-2025	
	C/- SwiftSure Consultants Limited	Date Reported:	05-Jan-2026	
	180C Crawford Road	Quote No:	142554	
	RD 1	Order No:		
	Tauranga 3171	Client Reference:	SL1 Northern Block	
		Submitted By:	Emma Lewis	

Sample Type: Soil					
Sample Name:	S01 17-Dec-2025	S03 17-Dec-2025	S05 17-Dec-2025	S07 17-Dec-2025	S11 17-Dec-2025
Lab Number:	4065098.1	4065098.2	4065098.3	4065098.4	4065098.5
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 694.8	g 378.6	g 581.7	g 588.0	g 445.1
Dry Weight	g 434.4	g 236.4	g 423.0	g 463.2	g 426.6
Moisture*	% 37	% 38	% 27	% 21	% 4
Sample Fraction >10mm*	g dry wt 37.5	g dry wt < 0.1	g dry wt 32.3	g dry wt 57.8	g dry wt 26.3
Sample Fraction <10mm to >2mm*	g dry wt 244.4	g dry wt 106.6	g dry wt 232.3	g dry wt 257.6	g dry wt 138.1
Sample Fraction <2mm*	g dry wt 152.3	g dry wt 129.2	g dry wt 158.4	g dry wt 147.6	g dry wt 261.4
<2mm Subsample Weight*	g dry wt 50.9	g dry wt 55.8	g dry wt 50.2	g dry wt 56.0	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 < 0.00001

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 AS4064-2004.

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.



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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 analyses. 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; 28 Heather Street, Auckland.	0.1 g	1-5
Dry Weight	Sample dried at 100 to 105°C, measurement on balance. Analysed at Hill Laboratories - Asbestos; 28 Heather Street, Auckland.	0.1 g	1-5
Moisture*	Sample dried at 100 to 105°C. Calculation = (As received weight - Dry weight) / as received weight x 100.	1 %	1-5
Sample Fraction >10mm*	Sample dried at 100 to 105°C, 10mm sieve, measurement on analytical balance. Analysed at Hill Laboratories - Asbestos; 28 Heather Street, Auckland.	0.1 g dry wt	1-5
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; 28 Heather Street, Auckland.	0.1 g dry wt	1-5
Sample Fraction <2mm*	Sample dried at 100 to 105°C, 2mm sieve, measurement on analytical balance. Analysed at Hill Laboratories - Asbestos; 28 Heather Street, Auckland.	0.1 g dry wt	1-5
Asbestos Presence / Absence	Examination using Low Powered Stereomicroscopy followed by 'Polarised Light Microscopy' including 'Dispersion Staining Techniques'. Analysed at Hill Laboratories - Asbestos; 28 Heather Street, Auckland. AS 4064 (2004) - Method for the Qualitative Identification of Asbestos in Bulk Samples.	0.01%	1-5
Description of Asbestos Form	Description of asbestos form and/or shape if present.	-	1-5
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; 28 Heather Street, Auckland. New Zealand Guidelines for Assessing and Managing Asbestos in Soil, November 2017.	0.00001 g dry wt	1-5
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	1-5
Weight of Asbestos as Fibrous Asbestos (Friable)*	Measurement on analytical balance, from the >10mm Fraction. Analysed at Hill Laboratories - Asbestos; 28 Heather Street, Auckland. New Zealand Guidelines for Assessing and Managing Asbestos in Soil, November 2017.	0.00001 g dry wt	1-5
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	1-5
Weight of Asbestos as Asbestos Fines (Friable)*	Measurement on analytical balance, from the <10mm Fractions. Analysed at Hill Laboratories - Asbestos; 28 Heather Street, Auckland. New Zealand Guidelines for Assessing and Managing Asbestos in Soil, November 2017.	0.00001 g dry wt	1-5
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	1-5
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	1-5

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

Testing was completed between 29-Dec-2025 and 31-Dec-2025. 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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Mahaleel (May) Alfante BSc, PGDipSci
Laboratory Technician - Asbestos



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Christchurch 8024 New Zealand

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Certificate of Analysis

Page 1 of 5

Client:	SwiftSure Consultants Limited	Lab No:	4091003	A2Pv1
Contact:	Emma Lewis C/- SwiftSure Consultants Limited 180C Crawford Road RD 1 Tauranga 3171	Date Received:	04-Feb-2026	
		Date Reported:	13-Feb-2026	
		Quote No:	142911	
		Order No:		
		Client Reference:	Northern Block Fill	
		Submitted By:	Emma Lewis	

Sample Type: Soil					
Sample Name:	HA04/1 03-Feb-2026	HA04/2 03-Feb-2026	HA05/1 03-Feb-2026	HA05/2 03-Feb-2026	HA06/1 03-Feb-2026
Lab Number:	4091003.1	4091003.2	4091003.3	4091003.4	4091003.5
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 614.4	g 754.1	g 709.6	g 515.0	g 909.5
Dry Weight	g 488.1	g 671.7	g 553.4	g 326.0	g 862.8
Moisture*	% 21	% 11	% 22	% 37	% 5
Sample Fraction >10mm	g dry wt 128.9	g dry wt 163.3	g dry wt 124.3	g dry wt 9.4	g dry wt 289.1
Sample Fraction <10mm to >2mm	g dry wt 166.6	g dry wt 256.0	g dry wt 180.3	g dry wt 87.8	g dry wt 281.6
Sample Fraction <2mm	g dry wt 191.6	g dry wt 251.9	g dry wt 247.2	g dry wt 224.3	g dry wt 291.5
<2mm Subsample Weight	g dry wt 50.9	g dry wt 50.7	g dry wt 51.9	g dry wt 51.6	g dry wt 57.4
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:	HA07/2 03-Feb-2026	HA01 04-Feb-2026	AS06 04-Feb-2026	TP05/1 04-Feb-2026	TP17/1 04-Feb-2026
Lab Number:	4091003.6	4091003.8	4091003.9	4091003.10	4091003.11
Asbestos Presence / Absence	Asbestos NOT detected.	Asbestos NOT detected.	Asbestos NOT detected.	Chrysotile (White Asbestos) detected.	Asbestos NOT detected.
Description of Asbestos Form	-	-	-	Vinyl with paper backing	-
Asbestos in ACM as % of Total Sample*	% w/w < 0.001	% w/w < 0.001	% w/w < 0.001	0.027	% 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	< 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	< 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	< 0.001	% w/w < 0.001
As Received Weight	g 800.4	g 612.3	g 703.7	g 650.1	g 668.4
Dry Weight	g 742.3	g 413.2	g 554.0	g 469.2	g 556.0



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Sample Type: Soil					
Sample Name:	HA07/2 03-Feb-2026	HA/01 04-Feb-2026	AS06 04-Feb-2026	TP05/1 04-Feb-2026	TP17/1 04-Feb-2026
Lab Number:	4091003.6	4091003.8	4091003.9	4091003.10	4091003.11
Moisture*	%	7	33	21	28
Sample Fraction >10mm	g dry wt	162.3	94.1	131.3	121.2
Sample Fraction <10mm to >2mm	g dry wt	234.4	146.2	145.6	107.0
Sample Fraction <2mm	g dry wt	345.3	172.5	276.8	240.3
<2mm Subsample Weight	g dry wt	55.8	54.8	53.4	53.6
Weight of Asbestos in ACM (Non-Friable)	g dry wt	< 0.00001	< 0.00001	< 0.00001	0.12502
Weight of Asbestos as Fibrous Asbestos (Friable)	g dry wt	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Weight of Asbestos as Asbestos Fines (Friable)*	g dry wt	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Sample Name:	LM07/1 05-Feb-2026	LM07/2 05-Feb-2026	L08/1 05-Feb-2026	L09/1 05-Feb-2026	LM11/1 05-Feb-2026
Lab Number:	4091003.12	4091003.13	4091003.14	4091003.15	4091003.16
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	< 0.001	< 0.001	< 0.001
Combined Fibrous Asbestos + Asbestos Fines as % of Total Sample*	% w/w	< 0.001	< 0.001	< 0.001	< 0.001
Asbestos as Fibrous Asbestos as % of Total Sample*	% w/w	< 0.001	< 0.001	< 0.001	< 0.001
Asbestos as Asbestos Fines as % of Total Sample*	% w/w	< 0.001	< 0.001	< 0.001	< 0.001
As Received Weight	g	514.0	593.5	630.4	704.0
Dry Weight	g	375.8	441.0	533.2	586.5
Moisture*	%	27	26	15	17
Sample Fraction >10mm	g dry wt	72.7	33.0	145.4	46.2
Sample Fraction <10mm to >2mm	g dry wt	102.7	100.4	159.1	186.3
Sample Fraction <2mm	g dry wt	199.8	307.3	228.6	353.5
<2mm Subsample Weight	g dry wt	51.5	53.2	51.0	55.0
Weight of Asbestos in ACM (Non-Friable)	g dry wt	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Weight of Asbestos as Fibrous Asbestos (Friable)	g dry wt	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Weight of Asbestos as Asbestos Fines (Friable)*	g dry wt	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Sample Name:	LM12/1 05-Feb-2026	LM19/1 05-Feb-2026	LM19/2 05-Feb-2026	LM01/1 05-Feb-2026	LM01/2 05-Feb-2026
Lab Number:	4091003.17	4091003.18	4091003.19	4091003.20	4091003.21
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	< 0.001	< 0.001	< 0.001
Combined Fibrous Asbestos + Asbestos Fines as % of Total Sample*	% w/w	< 0.001	< 0.001	< 0.001	< 0.001
Asbestos as Fibrous Asbestos as % of Total Sample*	% w/w	< 0.001	< 0.001	< 0.001	< 0.001
Asbestos as Asbestos Fines as % of Total Sample*	% w/w	< 0.001	< 0.001	< 0.001	< 0.001
As Received Weight	g	570.1	556.8	500.1	777.2
Dry Weight	g	463.7	444.7	392.7	643.0
Moisture*	%	19	20	21	17
Sample Fraction >10mm	g dry wt	50.4	47.3	23.3	47.3
Sample Fraction <10mm to >2mm	g dry wt	142.0	111.7	118.0	102.2
Sample Fraction <2mm	g dry wt	270.8	285.6	251.0	493.3

Lab No: 4091003-A2Pv1

Hill Labs

Page 2 of 5

Sample Type: Soil					
Sample Name:	LM12/1 05-Feb-2026	LM19/1 05-Feb-2026	LM19/2 05-Feb-2026	LM01/1 05-Feb-2026	LM01/2 05-Feb-2026
Lab Number:	4091003.17	4091003.18	4091003.19	4091003.20	4091003.21
<2mm Subsample Weight	g dry wt	52.4	51.9	50.3	52.4
Weight of Asbestos in ACM (Non-Friable)	g dry wt	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Weight of Asbestos as Fibrous Asbestos (Friable)	g dry wt	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Weight of Asbestos as Asbestos Fines (Friable)*	g dry wt	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Sample Name:	LM02/1 05-Feb-2026	LM02/2 05-Feb-2026	LM03/1 05-Feb-2026	LM03/2 05-Feb-2026	LM04/1 05-Feb-2026
Lab Number:	4091003.22	4091003.23	4091003.24	4091003.25	4091003.26
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	< 0.001	< 0.001	< 0.001
Combined Fibrous Asbestos + Asbestos Fines as % of Total Sample*	% w/w	< 0.001	< 0.001	< 0.001	< 0.001
Asbestos as Fibrous Asbestos as % of Total Sample*	% w/w	< 0.001	< 0.001	< 0.001	< 0.001
Asbestos as Asbestos Fines as % of Total Sample*	% w/w	< 0.001	< 0.001	< 0.001	< 0.001
As Received Weight	g	499.8	545.4	548.5	741.7
Dry Weight	g	390.0	442.9	404.3	558.6
Moisture*	%	22	19	26	25
Sample Fraction >10mm	g dry wt	27.0	23.9	15.4	64.7
Sample Fraction <10mm to >2mm	g dry wt	92.1	146.5	127.0	147.3
Sample Fraction <2mm	g dry wt	270.1	272.2	261.4	346.0
<2mm Subsample Weight	g dry wt	51.7	51.3	54.8	51.6
Weight of Asbestos in ACM (Non-Friable)	g dry wt	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Weight of Asbestos as Fibrous Asbestos (Friable)	g dry wt	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Weight of Asbestos as Asbestos Fines (Friable)*	g dry wt	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Sample Name:	LM04/2 05-Feb-2026		LM06/1 05-Feb-2026		
Lab Number:	4091003.27		4091003.28		
Asbestos Presence / Absence	Asbestos NOT detected.		Chrysotile (White Asbestos) detected.		
Description of Asbestos Form	-		Loose fibres		
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		781.5		
Dry Weight	g		648.3		
Moisture*	%		17		
Sample Fraction >10mm	g dry wt		136.5		
Sample Fraction <10mm to >2mm	g dry wt		177.5		
Sample Fraction <2mm	g dry wt		333.6		
<2mm Subsample Weight	g dry wt		52.1		
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 AS4984-2004.

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	1-6, 8-28
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	1-6, 8-28
Moisture*	Sample dried at 100 to 105°C. Calculation = (As received weight - Dry weight) / as received weight x 100.	1 %	1-6, 8-28
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	1-6, 8-28
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	1-6, 8-28
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	1-6, 8-28
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 4984 (2004) - Method for the Qualitative Identification of Asbestos in Bulk Samples.	0.01%	1-6, 8-28
Description of Asbestos Form	Description of asbestos form and/or shape if present.	-	1-6, 8-28
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	1-6, 8-28
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	1-6, 8-28
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	1-6, 8-28
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	1-6, 8-28
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	1-6, 8-28



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Certificate of Analysis

Page 1 of 2

Client:	SwiftSure Consultants Limited	Lab No:	4093424	A2Pv1
Contact:	Emma Lewis	Date Received:	09-Feb-2026	
	C/- SwiftSure Consultants Limited	Date Reported:	11-Feb-2026	
	180C Crawford Road	Quote No:	142911	
	RD 1	Order No:		
	Tauranga 3171	Client Reference:	Northern Block Fill Site	
		Submitted By:	Emma Lewis	

Sample Type: Building Material					
Sample Name	Lab Number	Sample Category*	Sample Weight on receipt (g)	Asbestos Presence / Absence	Description of Asbestos in Non Homogeneous Samples
PACM/1 04-Feb-2026	4093424.1	Cement Product	244.72	Chrysotile (White Asbestos) detected. Organic fibres detected.	N/A
PACM/2 05-Feb-2026	4093424.2	Cement Product	69.98	Amosite (Brown Asbestos) detected. Chrysotile (White Asbestos) detected.	N/A
PACM/19 05-Feb-2026	4093424.3	Debris	152.21	Asbestos NOT detected. Organic fibres detected. Synthetic mineral fibres detected.	N/A
PACM/3 05-Feb-2026	4093424.4	Cement Product	130.17	Asbestos NOT detected. Organic fibres detected.	N/A

Glossary of Terms

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 - 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.

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: Building Material			
Test	Method Description	Default Detection Limit	Sample No
Asbestos in Bulk Material			
Sample Category*	Assessment of sample type. Analysed at Hill Laboratories - Asbestos; 204 Thorndon Quay, Wellington.	-	1-4
Sample Weight on receipt	Sample weight (approximate). Analysed at Hill Laboratories - Asbestos; 204 Thorndon Quay, Wellington.	0.01 g	1-4
Asbestos Presence / Absence	Examination using Low Powered Stereomicroscopy followed by 'Polarised Light Microscopy' including 'Dispersion Staining Techniques'. Analysed at Hill Laboratories - Asbestos; 204 Thorndon Quay, Wellington. AS 4964 (2004) - Method for the Qualitative Identification of Asbestos in Bulk Samples.	0.01%	1-4
Description of Asbestos in Non Homogeneous Samples	Form, dimensions and/or weight of asbestos fibres present. AS 4964 (2004) - Method for the Qualitative Identification of Asbestos in Bulk Samples.	-	1-4



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.



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Certificate of Analysis

Page 1 of 18

Client:	SwiftSure Consultants Limited	Lab No:	4090048	SPv4
Contact:	Emma Lewis C/- SwiftSure Consultants Limited 180C Crawford Road RD 1 Tauranga 3171	Date Received:	03-Feb-2026	
		Date Reported:	12-Feb-2026	
		Quote No:	142911	
		Order No:		
		Client Reference:	Northern Block Fill	
		Submitted By:	Emma Lewis	

Sample Type: Soil						
Sample Name:	HA04/1 03-Feb-2026	HA04/2 03-Feb-2026	HA05/1 03-Feb-2026	HA05/2 03-Feb-2026	HA07/1 03-Feb-2026	
Lab Number:	4090048.1	4090048.2	4090048.3	4090048.4	4090048.5	
Individual Tests						
Dry Matter	g/100g as rcvd	83	85	-	-	84
Heavy Metals with Mercury, Screen Level						
Total Recoverable Arsenic	mg/kg dry wt	8	10	7	6	6
Total Recoverable Cadmium	mg/kg dry wt	0.10	< 0.10	0.11	0.3	< 0.10
Total Recoverable Chromium	mg/kg dry wt	12	13	17	9	8
Total Recoverable Copper	mg/kg dry wt	18	20	30	20	10
Total Recoverable Lead	mg/kg dry wt	17.0	14.4	32	16.5	27
Total Recoverable Mercury	mg/kg dry wt	< 0.10	< 0.10	0.17	< 0.2	0.11
Total Recoverable Nickel	mg/kg dry wt	6	7	7	4	4
Total Recoverable Zinc	mg/kg dry wt	52	56	73	42	59
Polycyclic Aromatic Hydrocarbons Screening in Soil*						
Total of Reported PAHs in Soil	mg/kg dry wt	< 0.3	0.4	-	-	3.9
1-Methylnaphthalene	mg/kg dry wt	< 0.012	< 0.012	-	-	< 0.012
2-Methylnaphthalene	mg/kg dry wt	< 0.012	< 0.012	-	-	< 0.012
Acenaphthylene	mg/kg dry wt	< 0.012	< 0.012	-	-	0.030
Acenaphthene	mg/kg dry wt	< 0.012	< 0.012	-	-	< 0.012
Anthracene	mg/kg dry wt	< 0.012	< 0.012	-	-	0.044
Benzo[a]anthracene	mg/kg dry wt	< 0.012	0.019	-	-	0.28
Benzo[a]pyrene (BAP)	mg/kg dry wt	0.016	0.036	-	-	0.37
Benzo[a]pyrene Potency Equivalency Factor (PEF) NES*	mg/kg dry wt	< 0.029	0.055	-	-	0.55
Benzo[a]pyrene Toxic Equivalence (TEF)*	mg/kg dry wt	< 0.029	0.055	-	-	0.54
Benzo[b]fluoranthene + Benzo[k] fluoranthene	mg/kg dry wt	0.017	0.038	-	-	0.44
Benzo[e]pyrene	mg/kg dry wt	< 0.012	0.027	-	-	0.23
Benzo[g,h,i]perylene	mg/kg dry wt	0.018	0.042	-	-	0.28
Benzo[k]fluoranthene	mg/kg dry wt	< 0.012	0.015	-	-	0.160
Chrysene	mg/kg dry wt	< 0.012	0.018	-	-	0.24
Dibenzo[a,h]anthracene	mg/kg dry wt	< 0.012	< 0.012	-	-	0.054
Fluoranthene	mg/kg dry wt	0.016	0.032	-	-	0.59
Fluorene	mg/kg dry wt	< 0.012	< 0.012	-	-	0.016
Indeno[1,2,3-c,d]pyrene	mg/kg dry wt	0.014	0.035	-	-	0.29
Naphthalene	mg/kg dry wt	< 0.06	< 0.06	-	-	< 0.06
Perylene	mg/kg dry wt	0.026	0.060	-	-	0.089
Phenanthrene	mg/kg dry wt	< 0.012	0.012	-	-	0.168
Pyrene	mg/kg dry wt	0.026	0.058	-	-	0.63



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Sample Type: Soil						
Sample Name:		HA07/2 03-Feb-2026	QA 03-Feb-2026	TP10/1 04-Feb-2026	TP10/2 04-Feb-2026	TP11/1 04-Feb-2026
Lab Number:		4090048.6	4090048.7	4090048.9	4090048.10	4090048.11
Individual Tests						
Dry Matter	g/100g as rcvd	92	-	94	90	88
Heavy Metals with Mercury, Screen Level						
Total Recoverable Arsenic	mg/kg dry wt	6	9	12	9	9
Total Recoverable Cadmium	mg/kg dry wt	< 0.10	0.12	< 0.10	0.13	0.14
Total Recoverable Chromium	mg/kg dry wt	9	13	15	19	14
Total Recoverable Copper	mg/kg dry wt	10	19	18	29	22
Total Recoverable Lead	mg/kg dry wt	12.3	18.8	24	30	13.4
Total Recoverable Mercury	mg/kg dry wt	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Total Recoverable Nickel	mg/kg dry wt	6	6	9	9	10
Total Recoverable Zinc	mg/kg dry wt	48	57	600	1,080	73
Polycyclic Aromatic Hydrocarbons Screening in Soil*						
Total of Reported PAHs in Soil	mg/kg dry wt	0.7	-	-	-	-
1-Methylnaphthalene	mg/kg dry wt	< 0.011	-	-	-	-
2-Methylnaphthalene	mg/kg dry wt	< 0.011	-	-	-	-
Acenaphthylene	mg/kg dry wt	< 0.011	-	-	-	-
Acenaphthene	mg/kg dry wt	< 0.011	-	-	-	-
Anthracene	mg/kg dry wt	< 0.011	-	-	-	-
Benzo[a]anthracene	mg/kg dry wt	0.031	-	-	-	-
Benzo[a]pyrene (BAP)	mg/kg dry wt	0.077	-	-	-	-
Benzo[a]pyrene Potency Equivalency Factor (PEF) NES*	mg/kg dry wt	0.117	-	-	-	-
Benzo[a]pyrene Toxic Equivalence (TEF)*	mg/kg dry wt	0.117	-	-	-	-
Benzo[b]fluoranthene + Benzo[j] fluoranthene	mg/kg dry wt	0.086	-	-	-	-
Benzo[e]pyrene	mg/kg dry wt	0.058	-	-	-	-
Benzo[g,h,i]perylene	mg/kg dry wt	0.104	-	-	-	-
Benzo[k]fluoranthene	mg/kg dry wt	0.029	-	-	-	-
Chrysene	mg/kg dry wt	0.029	-	-	-	-
Dibenzo[a,h]anthracene	mg/kg dry wt	0.017	-	-	-	-
Fluoranthene	mg/kg dry wt	0.043	-	-	-	-
Fluorene	mg/kg dry wt	< 0.011	-	-	-	-
Indeno[1,2,3-c,d]pyrene	mg/kg dry wt	0.086	-	-	-	-
Naphthalene	mg/kg dry wt	< 0.06	-	-	-	-
Perylene	mg/kg dry wt	0.026	-	-	-	-
Phenanthrene	mg/kg dry wt	< 0.011	-	-	-	-
Pyrene	mg/kg dry wt	0.071	-	-	-	-
Total Petroleum Hydrocarbons in Soil						
C7 - C9	mg/kg dry wt	-	-	< 20	< 20	< 20
C10 - C14	mg/kg dry wt	-	-	4,900	< 20	< 20
C15 - C36	mg/kg dry wt	-	-	14,800	110	880
Total hydrocarbons (C7 - C36)	mg/kg dry wt	-	-	19,700	117	890
Sample Name:		TP11/2 04-Feb-2026	TP18/1 04-Feb-2026	TP18/2 04-Feb-2026	AS01 04-Feb-2026	TP12/1 04-Feb-2026
Lab Number:		4090048.12	4090048.13	4090048.14	4090048.15	4090048.16
Individual Tests						
Dry Matter	g/100g as rcvd	-	-	89	93	95
Heavy Metals with Mercury, Screen Level						
Total Recoverable Arsenic	mg/kg dry wt	7	27	10	6	7
Total Recoverable Cadmium	mg/kg dry wt	< 0.10	< 0.10	< 0.10	< 0.10	0.11
Total Recoverable Chromium	mg/kg dry wt	10	37	17	11	14
Total Recoverable Copper	mg/kg dry wt	13	41	19	20	19
Total Recoverable Lead	mg/kg dry wt	21	15.2	17.9	9.1	16.7
Total Recoverable Mercury	mg/kg dry wt	0.11	< 0.10	0.10	< 0.10	< 0.10
Total Recoverable Nickel	mg/kg dry wt	5	20	10	8	11

Sample Type: Soil						
Sample Name:	TP11/2 04-Feb-2026	TP18/1 04-Feb-2026	TP18/2 04-Feb-2026	AS01 04-Feb-2026	TP12/1 04-Feb-2026	
Lab Number:	4090048.12	4090048.13	4090048.14	4090048.15	4090048.16	
Heavy Metals with Mercury, Screen Level						
Total Recoverable Zinc	mg/kg dry wt	54	99	57	60	87
Polycyclic Aromatic Hydrocarbons Screening in Soil*						
Total of Reported PAHs in Soil	mg/kg dry wt	-	-	69	-	-
1-Methylnaphthalene	mg/kg dry wt	-	-	0.121	-	-
2-Methylnaphthalene	mg/kg dry wt	-	-	0.113	-	-
Acenaphthylene	mg/kg dry wt	-	-	0.100	-	-
Acenaphthene	mg/kg dry wt	-	-	1.30	-	-
Anthracene	mg/kg dry wt	-	-	2.0	-	-
Benzo[a]anthracene	mg/kg dry wt	-	-	5.0	-	-
Benzo[a]pyrene (BAP)	mg/kg dry wt	-	-	5.5	-	-
Benzo[a]pyrene Potency Equivalency Factor (PEF) NES*	mg/kg dry wt	-	-	8.3	-	-
Benzo[a]pyrene Toxic Equivalence (TEF)*	mg/kg dry wt	-	-	8.1	-	-
Benzo[b]fluoranthene + Benzo[k] fluoranthene	mg/kg dry wt	-	-	6.5	-	-
Benzo[e]pyrene	mg/kg dry wt	-	-	3.1	-	-
Benzo[g,h,i]perylene	mg/kg dry wt	-	-	3.3	-	-
Benzo[k]fluoranthene	mg/kg dry wt	-	-	2.4	-	-
Chrysene	mg/kg dry wt	-	-	4.2	-	-
Dibenzo[a,h]anthracene	mg/kg dry wt	-	-	0.80	-	-
Fluoranthene	mg/kg dry wt	-	-	12.3	-	-
Fluorene	mg/kg dry wt	-	-	1.10	-	-
Indeno(1,2,3-c,d)pyrene	mg/kg dry wt	-	-	3.7	-	-
Naphthalene	mg/kg dry wt	-	-	0.13	-	-
Perylene	mg/kg dry wt	-	-	1.44	-	-
Phenanthrene	mg/kg dry wt	-	-	5.8	-	-
Pyrene	mg/kg dry wt	-	-	10.5	-	-
Total Petroleum Hydrocarbons in Soil						
C7 - C9	mg/kg dry wt	-	-	-	26	< 20
C10 - C14	mg/kg dry wt	-	-	-	8,200	< 20
C15 - C36	mg/kg dry wt	-	-	-	22,000	990
Total hydrocarbons (C7 - C36)	mg/kg dry wt	-	-	-	30,000	1,000
Sample Name:	TP12/2 04-Feb-2026	TP13/1 04-Feb-2026	TP13/2 04-Feb-2026	TP14/1 04-Feb-2026	TP14/2 04-Feb-2026	
Lab Number:	4090048.17	4090048.18	4090048.19	4090048.20	4090048.21	
Individual Tests						
Dry Matter	g/100g as rcvd	85	82	-	-	-
Heavy Metals with Mercury, Screen Level						
Total Recoverable Arsenic	mg/kg dry wt	9	7	9	8	4
Total Recoverable Cadmium	mg/kg dry wt	0.15	< 0.10	0.11	< 0.10	< 0.10
Total Recoverable Chromium	mg/kg dry wt	14	9	12	20	5
Total Recoverable Copper	mg/kg dry wt	18	15	23	23	6
Total Recoverable Lead	mg/kg dry wt	29	15.2	30	17.4	29
Total Recoverable Mercury	mg/kg dry wt	< 0.10	< 0.10	0.13	< 0.10	< 0.10
Total Recoverable Nickel	mg/kg dry wt	10	6	8	16	< 2
Total Recoverable Zinc	mg/kg dry wt	68	51	58	89	31
Polycyclic Aromatic Hydrocarbons Screening in Soil*						
Total of Reported PAHs in Soil	mg/kg dry wt	2.7	0.7	-	-	-
1-Methylnaphthalene	mg/kg dry wt	0.012	< 0.012	-	-	-
2-Methylnaphthalene	mg/kg dry wt	0.017	< 0.012	-	-	-
Acenaphthylene	mg/kg dry wt	< 0.012	< 0.012	-	-	-
Acenaphthene	mg/kg dry wt	< 0.012	< 0.012	-	-	-
Anthracene	mg/kg dry wt	0.031	< 0.012	-	-	-
Benzo[a]anthracene	mg/kg dry wt	0.156	0.039	-	-	-

Sample Type: Soil						
Sample Name:		TP12/2 04-Feb-2026	TP13/1 04-Feb-2026	TP13/2 04-Feb-2026	TP14/1 04-Feb-2026	TP14/2 04-Feb-2026
Lab Number:		4090048.17	4090048.18	4090048.19	4090048.20	4090048.21
Polycyclic Aromatic Hydrocarbons Screening in Soil*						
Benzo[a]pyrene (BAP)	mg/kg dry wt	0.26	0.062	-	-	-
Benzo[a]pyrene Potency Equivalency Factor (PEF) NES*	mg/kg dry wt	0.39	0.095	-	-	-
Benzo[a]pyrene Toxic Equivalence (TEF)*	mg/kg dry wt	0.39	0.094	-	-	-
Benzo[b]fluoranthene + Benzo[j] fluoranthene	mg/kg dry wt	0.35	0.082	-	-	-
Benzo[e]pyrene	mg/kg dry wt	0.192	0.051	-	-	-
Benzo[g,h,i]perylene	mg/kg dry wt	0.20	0.055	-	-	-
Benzo[k]fluoranthene	mg/kg dry wt	0.126	0.027	-	-	-
Chrysene	mg/kg dry wt	0.161	0.038	-	-	-
Dibenzo[a,h]anthracene	mg/kg dry wt	0.043	< 0.012	-	-	-
Fluoranthene	mg/kg dry wt	0.32	0.079	-	-	-
Fluorene	mg/kg dry wt	0.016	< 0.012	-	-	-
Indeno(1,2,3-c,d)pyrene	mg/kg dry wt	0.22	0.059	-	-	-
Naphthalene	mg/kg dry wt	< 0.06	< 0.06	-	-	-
Perylene	mg/kg dry wt	0.086	0.019	-	-	-
Phenanthrene	mg/kg dry wt	0.150	0.022	-	-	-
Pyrene	mg/kg dry wt	0.32	0.090	-	-	-
Total Petroleum Hydrocarbons in Soil						
C7 - C9	mg/kg dry wt	-	< 20	-	-	-
C10 - C14	mg/kg dry wt	-	< 20	-	-	-
C15 - C36	mg/kg dry wt	-	133	-	-	-
Total hydrocarbons (C7 - C36)	mg/kg dry wt	-	142	-	-	-
Sample Name:		TP14/3 04-Feb-2026	TP15/1 04-Feb-2026	TP15/2 04-Feb-2026	TP15/3 04-Feb-2026	AS02 04-Feb-2026
Lab Number:		4090048.22	4090048.23	4090048.24	4090048.25	4090048.26
Individual Tests						
Dry Matter	g/100g as rcvd	-	-	93	-	-
Heavy Metals with Mercury, Screen Level						
Total Recoverable Arsenic	mg/kg dry wt	< 5	7	8	< 4	20
Total Recoverable Cadmium	mg/kg dry wt	0.5	0.19	< 0.10	0.4	< 0.10
Total Recoverable Chromium	mg/kg dry wt	5	11	25	5	16
Total Recoverable Copper	mg/kg dry wt	14	23	35	21	20
Total Recoverable Lead	mg/kg dry wt	8.0	47	17.9	11.9	13.7
Total Recoverable Mercury	mg/kg dry wt	< 0.3	0.11	< 0.10	< 0.2	< 0.10
Total Recoverable Nickel	mg/kg dry wt	< 5	8	17	< 4	20
Total Recoverable Zinc	mg/kg dry wt	14	86	132	26	74
Polycyclic Aromatic Hydrocarbons Screening in Soil*						
Total of Reported PAHs in Soil	mg/kg dry wt	-	-	7.6	-	-
1-Methylnaphthalene	mg/kg dry wt	-	-	< 0.011	-	-
2-Methylnaphthalene	mg/kg dry wt	-	-	0.015	-	-
Acenaphthylene	mg/kg dry wt	-	-	0.023	-	-
Acenaphthene	mg/kg dry wt	-	-	0.015	-	-
Anthracene	mg/kg dry wt	-	-	0.062	-	-
Benzo[a]anthracene	mg/kg dry wt	-	-	0.55	-	-
Benzo[a]pyrene (BAP)	mg/kg dry wt	-	-	0.94	-	-
Benzo[a]pyrene Potency Equivalency Factor (PEF) NES*	mg/kg dry wt	-	-	1.38	-	-
Benzo[a]pyrene Toxic Equivalence (TEF)*	mg/kg dry wt	-	-	1.37	-	-
Benzo[b]fluoranthene + Benzo[j] fluoranthene	mg/kg dry wt	-	-	1.17	-	-
Benzo[e]pyrene	mg/kg dry wt	-	-	0.67	-	-
Benzo[g,h,i]perylene	mg/kg dry wt	-	-	0.63	-	-
Benzo[k]fluoranthene	mg/kg dry wt	-	-	0.43	-	-

Sample Type: Soil					
Sample Name:	TP14/3 04-Feb-2026	TP15/1 04-Feb-2026	TP15/2 04-Feb-2026	TP15/3 04-Feb-2026	AS02 04-Feb-2026
Lab Number:	4090048.22	4090048.23	4090048.24	4090048.25	4090048.26
Polycyclic Aromatic Hydrocarbons Screening in Soil					
Chrysene	mg/kg dry wt	-	-	0.47	-
Dibenzo(a,h)anthracene	mg/kg dry wt	-	-	0.147	-
Fluoranthene	mg/kg dry wt	-	-	0.65	-
Fluorene	mg/kg dry wt	-	-	0.015	-
Indeno(1,2,3-c,d)pyrene	mg/kg dry wt	-	-	0.60	-
Naphthalene	mg/kg dry wt	-	-	< 0.06	-
Perylene	mg/kg dry wt	-	-	0.27	-
Phenanthrene	mg/kg dry wt	-	-	0.140	-
Pyrene	mg/kg dry wt	-	-	0.81	-
Sample Name:	AS03 04-Feb-2026	AS04 04-Feb-2026	AS05 04-Feb-2026	TP01/1 04-Feb-2026	TP01/2 04-Feb-2026
Lab Number:	4090048.27	4090048.28	4090048.29	4090048.30	4090048.31
Individual Tests					
Dry Matter	g/100g as rcvd	-	95	95	-
Heavy Metals with Mercury, Screen Level					
Total Recoverable Arsenic	mg/kg dry wt	8	-	17	5
Total Recoverable Cadmium	mg/kg dry wt	< 0.10	-	< 0.10	0.11
Total Recoverable Chromium	mg/kg dry wt	16	-	24	7
Total Recoverable Copper	mg/kg dry wt	20	-	29	13
Total Recoverable Lead	mg/kg dry wt	21	-	23	47
Total Recoverable Mercury	mg/kg dry wt	< 0.10	-	< 0.10	< 0.10
Total Recoverable Nickel	mg/kg dry wt	15	-	16	8
Total Recoverable Zinc	mg/kg dry wt	73	-	92	52
Total Petroleum Hydrocarbons in Soil					
C7 - C9	mg/kg dry wt	-	< 20	< 20	-
C10 - C14	mg/kg dry wt	-	61	95	-
C15 - C36	mg/kg dry wt	-	26,000	3,000	-
Total hydrocarbons (C7 - C36)	mg/kg dry wt	-	26,000	3,100	-
Sample Name:	TP01/3 04-Feb-2026	HA01/1 04-Feb-2026	TP02/1 04-Feb-2026	TP02/2 04-Feb-2026	AS06 04-Feb-2026
Lab Number:	4090048.32	4090048.33	4090048.34	4090048.35	4090048.36
Individual Tests					
Dry Matter	g/100g as rcvd	-	63	-	-
Heavy Metals with Mercury, Screen Level					
Total Recoverable Arsenic	mg/kg dry wt	4	23	7	7
Total Recoverable Cadmium	mg/kg dry wt	< 0.10	0.48	0.18	0.16
Total Recoverable Chromium	mg/kg dry wt	6	29	11	13
Total Recoverable Copper	mg/kg dry wt	6	62	20	16
Total Recoverable Lead	mg/kg dry wt	7.3	64	36	51
Total Recoverable Mercury	mg/kg dry wt	< 0.10	0.10	< 0.10	0.10
Total Recoverable Nickel	mg/kg dry wt	3	11	8	7
Total Recoverable Zinc	mg/kg dry wt	35	199	87	460
Haloethers in SVOC Soil Samples by GC-MS					
Bis(2-chloroethoxy) methane	mg/kg dry wt	-	< 0.5	-	-
Bis(2-chloroethyl) ether	mg/kg dry wt	-	< 0.5	-	-
Bis(2-chloroisopropyl) ether	mg/kg dry wt	-	< 0.5	-	-
4-Bromophenyl phenyl ether	mg/kg dry wt	-	< 0.5	-	-
4-Chlorophenyl phenyl ether	mg/kg dry wt	-	< 0.5	-	-
Nitrogen containing compounds in SVOC Soil Samples by GC-MS					
2,4-Dinitrotoluene	mg/kg dry wt	-	< 1.0	-	-
2,6-Dinitrotoluene	mg/kg dry wt	-	< 1.0	-	-
Nitrobenzene	mg/kg dry wt	-	< 0.5	-	-
N-Nitrosodi-n-propylamine	mg/kg dry wt	-	< 1.0	-	-

Sample Type: Soil						
Sample Name:		TP01/3 04-Feb-2026	HA01/1 04-Feb-2026	TP02/1 04-Feb-2026	TP02/2 04-Feb-2026	AS06 04-Feb-2026
Lab Number:		4090048.32	4090048.33	4090048.34	4090048.35	4090048.36
Nitrogen containing compounds in SVOC Soil Samples by GC-MS						
N-Nitrosodiphenylamine + Diphenylamine	mg/kg dry wt	-	< 1.0	-	-	-
Organochlorine Pesticides in SVOC Soil Samples by GC-MS						
Aldrin	mg/kg dry wt	-	< 0.5	-	-	-
alpha-BHC	mg/kg dry wt	-	< 0.5	-	-	-
beta-BHC	mg/kg dry wt	-	< 0.5	-	-	-
delta-BHC	mg/kg dry wt	-	< 0.5	-	-	-
gamma-BHC (Lindane)	mg/kg dry wt	-	< 0.5	-	-	-
4,4'-DDD	mg/kg dry wt	-	< 0.5	-	-	-
4,4'-DDE	mg/kg dry wt	-	< 0.5	-	-	-
4,4'-DDT	mg/kg dry wt	-	< 1.0	-	-	-
Dieldrin	mg/kg dry wt	-	< 0.5	-	-	-
Endosulfan I	mg/kg dry wt	-	< 1.0	-	-	-
Endosulfan II	mg/kg dry wt	-	< 2	-	-	-
Endosulfan sulphate	mg/kg dry wt	-	< 1.0	-	-	-
Endrin	mg/kg dry wt	-	< 1.0	-	-	-
Endrin ketone	mg/kg dry wt	-	< 1.0	-	-	-
Heptachlor	mg/kg dry wt	-	< 0.5	-	-	-
Heptachlor epoxide	mg/kg dry wt	-	< 0.5	-	-	-
Hexachlorobenzene	mg/kg dry wt	-	< 0.5	-	-	-
Polycyclic Aromatic Hydrocarbons in SVOC Soil Samples by GC-MS*						
Acenaphthene	mg/kg dry wt	-	< 0.5	-	-	-
Acenaphthylene	mg/kg dry wt	-	< 0.5	-	-	-
Anthracene	mg/kg dry wt	-	< 0.5	-	-	-
Benzo[a]anthracene	mg/kg dry wt	-	< 0.5	-	-	-
Benzo[a]pyrene (BAP)	mg/kg dry wt	-	< 0.5	-	-	-
Benzo[b]fluoranthene + Benzo[k]fluoranthene	mg/kg dry wt	-	< 0.5	-	-	-
Benzo[g,h,i]perylene	mg/kg dry wt	-	< 0.5	-	-	-
Benzo[k]fluoranthene	mg/kg dry wt	-	< 0.5	-	-	-
1,8,2-Chloronaphthalene	mg/kg dry wt	-	< 0.5	-	-	-
Chrysene	mg/kg dry wt	-	< 0.5	-	-	-
Dibenzo[a,h]anthracene	mg/kg dry wt	-	< 0.5	-	-	-
Fluoranthene	mg/kg dry wt	-	< 0.5	-	-	-
Fluorene	mg/kg dry wt	-	< 0.5	-	-	-
Indeno[1,2,3-c,d]pyrene	mg/kg dry wt	-	< 0.5	-	-	-
2-Methylnaphthalene	mg/kg dry wt	-	< 0.5	-	-	-
Naphthalene	mg/kg dry wt	-	< 0.5	-	-	-
Phenanthrene	mg/kg dry wt	-	< 0.5	-	-	-
Pyrene	mg/kg dry wt	-	< 0.5	-	-	-
Benzo[a]pyrene Potency Equivalency Factor (PEF) NES*	mg/kg dry wt	-	< 1.3	-	-	-
Benzo[a]pyrene Toxic Equivalence (TEF)*	mg/kg dry wt	-	< 1.3	-	-	-
Phenols in SVOC Soil Samples by GC-MS						
4-Chloro-3-methylphenol	mg/kg dry wt	-	< 5	-	-	-
2-Chlorophenol	mg/kg dry wt	-	< 1.0	-	-	-
2,4-Dichlorophenol	mg/kg dry wt	-	< 1.0	-	-	-
2,4-Dimethylphenol	mg/kg dry wt	-	< 3	-	-	-
3 & 4-Methylphenol (m- + p-cresol)	mg/kg dry wt	-	< 3	-	-	-
2-Methylphenol (o-cresol)	mg/kg dry wt	-	< 1.0	-	-	-
2-Nitrophenol	mg/kg dry wt	-	< 5	-	-	-
Pentachlorophenol (PCP)	mg/kg dry wt	-	< 30	-	-	-
Phenol	mg/kg dry wt	-	< 1.0	-	-	-
2,4,5-Trichlorophenol	mg/kg dry wt	-	< 1.0	-	-	-

Lab No: 4090048-SPv4

Hill Labs

Page 6 of 18

Sample Type: Soil						
Sample Name:	TP01/3 04-Feb-2026	HA01/1 04-Feb-2026	TP02/1 04-Feb-2026	TP02/2 04-Feb-2026	AS06 04-Feb-2026	
Lab Number:	4090048.32	4090048.33	4090048.34	4090048.35	4090048.36	
Phenols in SVOC Soil Samples by GC-MS						
2,4,6-Trichlorophenol	mg/kg dry wt	-	< 1.0	-	-	-
Plasticisers in SVOC Soil Samples by GC-MS						
Bis(2-ethylhexyl)phthalate	mg/kg dry wt	-	< 5	-	-	-
Butylbenzylphthalate	mg/kg dry wt	-	< 1.0	-	-	-
Di(2-ethylhexyl)adipate	mg/kg dry wt	-	< 1.0	-	-	-
Diethylphthalate	mg/kg dry wt	-	< 1.0	-	-	-
Dimethylphthalate	mg/kg dry wt	-	< 1.0	-	-	-
Di-n-butylphthalate	mg/kg dry wt	-	< 1.0	-	-	-
Di-n-octylphthalate	mg/kg dry wt	-	< 1.0	-	-	-
Other Halogenated compounds in SVOC Soil Samples by GC-MS						
1,2-Dichlorobenzene	mg/kg dry wt	-	< 1.0	-	-	-
1,3-Dichlorobenzene	mg/kg dry wt	-	< 1.0	-	-	-
1,4-Dichlorobenzene	mg/kg dry wt	-	< 1.0	-	-	-
Hexachlorobutadiene	mg/kg dry wt	-	< 1.0	-	-	-
Hexachloroethane	mg/kg dry wt	-	< 1.0	-	-	-
1,2,4-Trichlorobenzene	mg/kg dry wt	-	< 0.5	-	-	-
Other compounds in SVOC Soil Samples by GC-MS						
Benzyl alcohol	mg/kg dry wt	-	< 10	-	-	-
Carbazole	mg/kg dry wt	-	< 0.5	-	-	-
Dibenzofuran	mg/kg dry wt	-	< 0.5	-	-	-
Isophorone	mg/kg dry wt	-	< 0.5	-	-	-
Sample Name:	TP03/1 04-Feb-2026	TP03/2 04-Feb-2026	TP04/1 04-Feb-2026	TP04/2 04-Feb-2026	TP05/1 04-Feb-2026	
Lab Number:	4090048.37	4090048.38	4090048.39	4090048.40	4090048.41	
Individual Tests						
Dry Matter	g/100g as rcvd	-	-	65	-	-
Heavy Metals with Mercury, Screen Level						
Total Recoverable Arsenic	mg/kg dry wt	6	5	14	6	12
Total Recoverable Cadmium	mg/kg dry wt	0.39	0.22	0.40	0.20	0.29
Total Recoverable Chromium	mg/kg dry wt	14	45	20	46	16
Total Recoverable Copper	mg/kg dry wt	33	42	46	46	33
Total Recoverable Lead	mg/kg dry wt	30	13.7	39	18.3	31
Total Recoverable Mercury	mg/kg dry wt	< 0.10	< 0.10	< 0.10	< 0.10	0.11
Total Recoverable Nickel	mg/kg dry wt	10	69	8	67	12
Total Recoverable Zinc	mg/kg dry wt	180	129	160	109	133
Haloethers in SVOC Soil Samples by GC-MS						
Bis(2-chloroethoxy) methane	mg/kg dry wt	-	-	< 0.5	-	-
Bis(2-chloroethyl)ether	mg/kg dry wt	-	-	< 0.5	-	-
Bis(2-chloroisopropyl)ether	mg/kg dry wt	-	-	< 0.5	-	-
4-Bromophenyl phenyl ether	mg/kg dry wt	-	-	< 0.5	-	-
4-Chlorophenyl phenyl ether	mg/kg dry wt	-	-	< 0.5	-	-
Nitrogen containing compounds in SVOC Soil Samples by GC-MS						
2,4-Dinitrotoluene	mg/kg dry wt	-	-	< 1.0	-	-
2,6-Dinitrotoluene	mg/kg dry wt	-	-	< 1.0	-	-
Nitrobenzene	mg/kg dry wt	-	-	< 0.5	-	-
N-Nitrosodi-n-propylamine	mg/kg dry wt	-	-	< 1.0	-	-
N-Nitrosodiphenylamine + Diphenylamine	mg/kg dry wt	-	-	< 1.0	-	-
Organochlorine Pesticides in SVOC Soil Samples by GC-MS						
Aldrin	mg/kg dry wt	-	-	< 0.5	-	-
alpha-BHC	mg/kg dry wt	-	-	< 0.5	-	-
beta-BHC	mg/kg dry wt	-	-	< 0.5	-	-
delta-BHC	mg/kg dry wt	-	-	< 0.5	-	-
gamma-BHC (Lindane)	mg/kg dry wt	-	-	< 0.5	-	-

Sample Type: Soil						
Sample Name:		TP03/1 04-Feb-2026	TP03/2 04-Feb-2026	TP04/1 04-Feb-2026	TP04/2 04-Feb-2026	TP05/1 04-Feb-2026
Lab Number:		4090048.37	4090048.38	4090048.39	4090048.40	4090048.41
Organochlorine Pesticides in SVOC Soil Samples by GC-MS						
4,4'-DDD	mg/kg dry wt	-	-	< 0.5	-	-
4,4'-DDE	mg/kg dry wt	-	-	< 0.5	-	-
4,4'-DDT	mg/kg dry wt	-	-	< 1.0	-	-
Dieldrin	mg/kg dry wt	-	-	< 0.5	-	-
Endosulfan I	mg/kg dry wt	-	-	< 1.0	-	-
Endosulfan II	mg/kg dry wt	-	-	< 2	-	-
Endosulfan sulphate	mg/kg dry wt	-	-	< 1.0	-	-
Endrin	mg/kg dry wt	-	-	< 1.0	-	-
Endrin ketone	mg/kg dry wt	-	-	< 1.0	-	-
Heptachlor	mg/kg dry wt	-	-	< 0.5	-	-
Heptachlor epoxide	mg/kg dry wt	-	-	< 0.5	-	-
Hexachlorobenzene	mg/kg dry wt	-	-	< 0.5	-	-
Polycyclic Aromatic Hydrocarbons in SVOC Soil Samples by GC-MS*						
Acenaphthene	mg/kg dry wt	-	-	< 0.5	-	-
Acenaphthylene	mg/kg dry wt	-	-	< 0.5	-	-
Anthracene	mg/kg dry wt	-	-	< 0.5	-	-
Benzo[a]anthracene	mg/kg dry wt	-	-	< 0.5	-	-
Benzo[a]pyrene (BAP)	mg/kg dry wt	-	-	< 0.5	-	-
Benzo[b]fluoranthene + Benzo[j]fluoranthene	mg/kg dry wt	-	-	< 0.5	-	-
Benzo[g,h,i]perylene	mg/kg dry wt	-	-	< 0.5	-	-
Benzo[k]fluoranthene	mg/kg dry wt	-	-	< 0.5	-	-
1&2-Chloronaphthalene	mg/kg dry wt	-	-	< 0.5	-	-
Chrysene	mg/kg dry wt	-	-	< 0.5	-	-
Dibenzo[a,h]anthracene	mg/kg dry wt	-	-	< 0.5	-	-
Fluoranthene	mg/kg dry wt	-	-	< 0.5	-	-
Fluorene	mg/kg dry wt	-	-	< 0.5	-	-
Indeno(1,2,3-c,d)pyrene	mg/kg dry wt	-	-	< 0.5	-	-
2-Methylnaphthalene	mg/kg dry wt	-	-	< 0.5	-	-
Naphthalene	mg/kg dry wt	-	-	< 0.5	-	-
Phenanthrene	mg/kg dry wt	-	-	< 0.5	-	-
Pyrene	mg/kg dry wt	-	-	< 0.5	-	-
Benzo[a]pyrene Potency Equivalency Factor (PEF) NES*	mg/kg dry wt	-	-	< 1.3	-	-
Benzo[a]pyrene Toxic Equivalence (TEF)*	mg/kg dry wt	-	-	< 1.3	-	-
Phenols in SVOC Soil Samples by GC-MS						
4-Chloro-3-methylphenol	mg/kg dry wt	-	-	< 5	-	-
2-Chlorophenol	mg/kg dry wt	-	-	< 1.0	-	-
2,4-Dichlorophenol	mg/kg dry wt	-	-	< 1.0	-	-
2,4-Dimethylphenol	mg/kg dry wt	-	-	< 3	-	-
3 & 4-Methylphenol (m- + p-cresol)	mg/kg dry wt	-	-	< 3	-	-
2-Methylphenol (o-cresol)	mg/kg dry wt	-	-	< 1.0	-	-
2-Nitrophenol	mg/kg dry wt	-	-	< 5	-	-
Pentachlorophenol (PCP)	mg/kg dry wt	-	-	< 30	-	-
Phenol	mg/kg dry wt	-	-	< 1.0	-	-
2,4,5-Trichlorophenol	mg/kg dry wt	-	-	< 1.0	-	-
2,4,6-Trichlorophenol	mg/kg dry wt	-	-	< 1.0	-	-
Plasticisers in SVOC Soil Samples by GC-MS						
Bis(2-ethylhexyl)phthalate	mg/kg dry wt	-	-	< 5	-	-
Butylbenzylphthalate	mg/kg dry wt	-	-	< 1.0	-	-
Di(2-ethylhexyl)adipate	mg/kg dry wt	-	-	< 1.0	-	-
Diethylphthalate	mg/kg dry wt	-	-	< 1.0	-	-
Dimethylphthalate	mg/kg dry wt	-	-	< 1.0	-	-
Di-n-butylphthalate	mg/kg dry wt	-	-	< 1.0	-	-

Lab No: 4090048-SPv4

Hill Labs

Page 8 of 18

Sample Type: Soil						
Sample Name:	TP03/1 04-Feb-2026	TP03/2 04-Feb-2026	TP04/1 04-Feb-2026	TP04/2 04-Feb-2026	TP05/1 04-Feb-2026	
Lab Number:	4090048.37	4090048.38	4090048.39	4090048.40	4090048.41	
Plasticisers in SVOC Soil Samples by GC-MS						
Di-n-octylphthalate	mg/kg dry wt	-	-	< 1.0	-	-
Other Halogenated compounds in SVOC Soil Samples by GC-MS						
1,2-Dichlorobenzene	mg/kg dry wt	-	-	< 1.0	-	-
1,3-Dichlorobenzene	mg/kg dry wt	-	-	< 1.0	-	-
1,4-Dichlorobenzene	mg/kg dry wt	-	-	< 1.0	-	-
Hexachlorobutadiene	mg/kg dry wt	-	-	< 1.0	-	-
Hexachloroethane	mg/kg dry wt	-	-	< 1.0	-	-
1,2,4-Trichlorobenzene	mg/kg dry wt	-	-	< 0.5	-	-
Other compounds in SVOC Soil Samples by GC-MS						
Benzyl alcohol	mg/kg dry wt	-	-	< 10	-	-
Carbazole	mg/kg dry wt	-	-	< 0.5	-	-
Dibenzofuran	mg/kg dry wt	-	-	< 0.5	-	-
Isophorone	mg/kg dry wt	-	-	< 0.5	-	-
Sample Name:	TP19/1 04-Feb-2026	TP19/2 04-Feb-2026	TP09/1 04-Feb-2026	TP09/2 04-Feb-2026	TP18/1 04-Feb-2026	
Lab Number:	4090048.42	4090048.43	4090048.44	4090048.45	4090048.46	
Individual Tests						
Dry Matter	g/100g as rcvd	94	-	-	-	78
Heavy Metals with Mercury, Screen Level						
Total Recoverable Arsenic	mg/kg dry wt	6	7	6	10	9
Total Recoverable Cadmium	mg/kg dry wt	< 0.10	0.14	< 0.10	< 0.10	0.10
Total Recoverable Chromium	mg/kg dry wt	14	8	9	7	11
Total Recoverable Copper	mg/kg dry wt	17	10	7	5	19
Total Recoverable Lead	mg/kg dry wt	12.6	29	9.3	8.1	38
Total Recoverable Mercury	mg/kg dry wt	< 0.10	0.11	< 0.10	< 0.10	0.12
Total Recoverable Nickel	mg/kg dry wt	13	3	4	3	6
Total Recoverable Zinc	mg/kg dry wt	64	55	34	27	68
Polycyclic Aromatic Hydrocarbons Screening in Soil*						
Total of Reported PAHs in Soil	mg/kg dry wt	-	-	-	-	1.6
1-Methylnaphthalene	mg/kg dry wt	-	-	-	-	< 0.013
2-Methylnaphthalene	mg/kg dry wt	-	-	-	-	< 0.013
Acenaphthylene	mg/kg dry wt	-	-	-	-	0.017
Acenaphthene	mg/kg dry wt	-	-	-	-	< 0.013
Anthracene	mg/kg dry wt	-	-	-	-	0.025
Benzo[a]anthracene	mg/kg dry wt	-	-	-	-	0.105
Benzo[a]pyrene (BAP)	mg/kg dry wt	-	-	-	-	0.138
Benzo[a]pyrene Potency Equivalency Factor (PEF) NES*	mg/kg dry wt	-	-	-	-	0.194
Benzo[a]pyrene Toxic Equivalence (TEF)*	mg/kg dry wt	-	-	-	-	0.191
Benzo[b]fluoranthene + Benzo[j] fluoranthene	mg/kg dry wt	-	-	-	-	0.144
Benzo[e]pyrene	mg/kg dry wt	-	-	-	-	0.079
Benzo[g,h,i]perylene	mg/kg dry wt	-	-	-	-	0.102
Benzo[k]fluoranthene	mg/kg dry wt	-	-	-	-	0.060
Chrysene	mg/kg dry wt	-	-	-	-	0.103
Dibenzo[a,h]anthracene	mg/kg dry wt	-	-	-	-	< 0.013
Fluoranthene	mg/kg dry wt	-	-	-	-	0.28
Fluorene	mg/kg dry wt	-	-	-	-	< 0.013
Indeno[1,2,3-c,d]pyrene	mg/kg dry wt	-	-	-	-	0.109
Naphthalene	mg/kg dry wt	-	-	-	-	< 0.07
Perylene	mg/kg dry wt	-	-	-	-	0.043
Phenanthrene	mg/kg dry wt	-	-	-	-	0.120
Pyrene	mg/kg dry wt	-	-	-	-	0.28

Sample Type: Soil						
Sample Name:	TP19/1 04-Feb-2026	TP19/2 04-Feb-2026	TP09/1 04-Feb-2026	TP09/2 04-Feb-2026	TP16/1 04-Feb-2026	
Lab Number:	4090048.42	4090048.43	4090048.44	4090048.45	4090048.46	
Total Petroleum Hydrocarbons in Soil						
C7 - C9	mg/kg dry wt	< 20	-	-	-	-
C10 - C14	mg/kg dry wt	< 20	-	-	-	-
C15 - C36	mg/kg dry wt	600	-	-	-	-
Total hydrocarbons (C7 - C36)	mg/kg dry wt	610	-	-	-	-
Sample Name:	TP17/1 04-Feb-2026	TP17/2 04-Feb-2026	LM07/1 05-Feb-2026	LM07/2 05-Feb-2026	LM08/1 05-Feb-2026	
Lab Number:	4090048.47	4090048.48	4090048.49	4090048.50	4090048.51	
Individual Tests						
Dry Matter	g/100g as rcvd	-	-	-	-	81
Heavy Metals with Mercury, Screen Level						
Total Recoverable Arsenic	mg/kg dry wt	8	< 4	11	13	9
Total Recoverable Cadmium	mg/kg dry wt	< 0.10	< 0.2	0.19	0.22	0.15
Total Recoverable Chromium	mg/kg dry wt	9	< 4	19	26	11
Total Recoverable Copper	mg/kg dry wt	11	8	29	29	17
Total Recoverable Lead	mg/kg dry wt	21	5.2	53	41	43
Total Recoverable Mercury	mg/kg dry wt	0.11	< 0.2	0.13	0.12	< 0.10
Total Recoverable Nickel	mg/kg dry wt	4	< 4	14	6	5
Total Recoverable Zinc	mg/kg dry wt	34	< 8	191	118	85
Polycyclic Aromatic Hydrocarbons Screening in Soil*						
Total of Reported PAHs in Soil	mg/kg dry wt	-	-	-	-	3.5
1-Methylnaphthalene	mg/kg dry wt	-	-	-	-	< 0.012
2-Methylnaphthalene	mg/kg dry wt	-	-	-	-	< 0.012
Acenaphthylene	mg/kg dry wt	-	-	-	-	0.020
Acenaphthene	mg/kg dry wt	-	-	-	-	0.013
Anthracene	mg/kg dry wt	-	-	-	-	0.046
Benzo[a]anthracene	mg/kg dry wt	-	-	-	-	0.25
Benzo[a]pyrene (BAP)	mg/kg dry wt	-	-	-	-	0.35
Benzo[a]pyrene Potency Equivalency Factor (PEF) NES*	mg/kg dry wt	-	-	-	-	0.51
Benzo[a]pyrene Toxic Equivalence (TEF)*	mg/kg dry wt	-	-	-	-	0.50
Benzo[b]fluoranthene + Benzo[k] fluoranthene	mg/kg dry wt	-	-	-	-	0.39
Benzo[e]pyrene	mg/kg dry wt	-	-	-	-	0.21
Benzo[g,h,i]perylene	mg/kg dry wt	-	-	-	-	0.23
Benzo[k]fluoranthene	mg/kg dry wt	-	-	-	-	0.157
Chrysene	mg/kg dry wt	-	-	-	-	0.24
Dibenzo[a,h]anthracene	mg/kg dry wt	-	-	-	-	0.044
Fluoranthene	mg/kg dry wt	-	-	-	-	0.50
Fluorene	mg/kg dry wt	-	-	-	-	0.013
Indeno(1,2,3-c,d)pyrene	mg/kg dry wt	-	-	-	-	0.24
Naphthalene	mg/kg dry wt	-	-	-	-	< 0.06
Perylene	mg/kg dry wt	-	-	-	-	0.097
Phenanthrene	mg/kg dry wt	-	-	-	-	0.145
Pyrene	mg/kg dry wt	-	-	-	-	0.51
Sample Name:	LM09/1 05-Feb-2026	LM11/1 05-Feb-2026	LM12/1 05-Feb-2026	LM14/1 05-Feb-2026	LM14/2 05-Feb-2026	
Lab Number:	4090048.52	4090048.53	4090048.54	4090048.55	4090048.56	
Individual Tests						
Dry Matter	g/100g as rcvd	-	-	83	-	-
Heavy Metals with Mercury, Screen Level						
Total Recoverable Arsenic	mg/kg dry wt	6	8	8	< 2	4
Total Recoverable Cadmium	mg/kg dry wt	< 0.10	0.11	< 0.10	< 0.10	< 0.10
Total Recoverable Chromium	mg/kg dry wt	10	14	11	2	6
Total Recoverable Copper	mg/kg dry wt	14	21	17	4	12

Sample Type: Soil						
Sample Name:		LM09/1 05-Feb-2026	LM11/1 05-Feb-2026	LM12/1 05-Feb-2026	LM14/1 05-Feb-2026	LM14/2 05-Feb-2026
Lab Number:		4090048.52	4090048.53	4090048.54	4090048.55	4090048.56
Heavy Metals with Mercury, Screen Level						
Total Recoverable Lead	mg/kg dry wt	17.3	50	22	11.4	20
Total Recoverable Mercury	mg/kg dry wt	0.10	0.12	0.15	< 0.10	< 0.10
Total Recoverable Nickel	mg/kg dry wt	5	6	9	< 2	4
Total Recoverable Zinc	mg/kg dry wt	75	86	71	48	38
Haloethers in SVOC Soil Samples by GC-MS						
Bis(2-chloroethoxy) methane	mg/kg dry wt	-	-	< 0.5	-	-
Bis(2-chloroethyl) ether	mg/kg dry wt	-	-	< 0.5	-	-
Bis(2-chloroisopropyl) ether	mg/kg dry wt	-	-	< 0.5	-	-
4-Bromophenyl phenyl ether	mg/kg dry wt	-	-	< 0.4	-	-
4-Chlorophenyl phenyl ether	mg/kg dry wt	-	-	< 0.5	-	-
Nitrogen containing compounds in SVOC Soil Samples by GC-MS						
2,4-Dinitrotoluene	mg/kg dry wt	-	-	< 1.0	-	-
2,6-Dinitrotoluene	mg/kg dry wt	-	-	< 1.0	-	-
Nitrobenzene	mg/kg dry wt	-	-	< 0.5	-	-
N-Nitrosodi-n-propylamine	mg/kg dry wt	-	-	< 0.8	-	-
N-Nitrosodiphenylamine + Diphenylamine	mg/kg dry wt	-	-	< 0.8	-	-
Organochlorine Pesticides in SVOC Soil Samples by GC-MS						
Aldrin	mg/kg dry wt	-	-	< 0.5	-	-
alpha-BHC	mg/kg dry wt	-	-	< 0.5	-	-
beta-BHC	mg/kg dry wt	-	-	< 0.5	-	-
delta-BHC	mg/kg dry wt	-	-	< 0.5	-	-
gamma-BHC (Lindane)	mg/kg dry wt	-	-	< 0.5	-	-
4,4'-DDD	mg/kg dry wt	-	-	< 0.5	-	-
4,4'-DDE	mg/kg dry wt	-	-	< 0.5	-	-
4,4'-DDT	mg/kg dry wt	-	-	< 1.0	-	-
Dieldrin	mg/kg dry wt	-	-	< 0.5	-	-
Endosulfan I	mg/kg dry wt	-	-	< 1.0	-	-
Endosulfan II	mg/kg dry wt	-	-	< 2	-	-
Endosulfan sulphate	mg/kg dry wt	-	-	< 1.0	-	-
Endrin	mg/kg dry wt	-	-	< 0.8	-	-
Endrin ketone	mg/kg dry wt	-	-	< 1.0	-	-
Heptachlor	mg/kg dry wt	-	-	< 0.5	-	-
Heptachlor epoxide	mg/kg dry wt	-	-	< 0.5	-	-
Hexachlorobenzene	mg/kg dry wt	-	-	< 0.5	-	-
Polycyclic Aromatic Hydrocarbons in SVOC Soil Samples by GC-MS*						
Acenaphthene	mg/kg dry wt	-	-	< 0.5	-	-
Acenaphthylene	mg/kg dry wt	-	-	< 0.5	-	-
Anthracene	mg/kg dry wt	-	-	< 0.5	-	-
Benzo[a]anthracene	mg/kg dry wt	-	-	< 0.5	-	-
Benzo[a]pyrene (BAP)	mg/kg dry wt	-	-	< 0.5	-	-
Benzo[b]fluoranthene + Benzo[j]fluoranthene	mg/kg dry wt	-	-	< 0.5	-	-
Benzo[g,h,i]perylene	mg/kg dry wt	-	-	< 0.5	-	-
Benzo[k]fluoranthene	mg/kg dry wt	-	-	< 0.5	-	-
1,8,2-Chloronaphthalene	mg/kg dry wt	-	-	< 0.5	-	-
Chrysene	mg/kg dry wt	-	-	< 0.5	-	-
Dibenzo[a,h]anthracene	mg/kg dry wt	-	-	< 0.5	-	-
Fluoranthene	mg/kg dry wt	-	-	< 0.5	-	-
Fluorene	mg/kg dry wt	-	-	< 0.5	-	-
Indeno(1,2,3-c,d)pyrene	mg/kg dry wt	-	-	< 0.5	-	-
2-Methylnaphthalene	mg/kg dry wt	-	-	< 0.5	-	-
Naphthalene	mg/kg dry wt	-	-	< 0.5	-	-
Phenanthrene	mg/kg dry wt	-	-	< 0.5	-	-
Pyrene	mg/kg dry wt	-	-	< 0.5	-	-

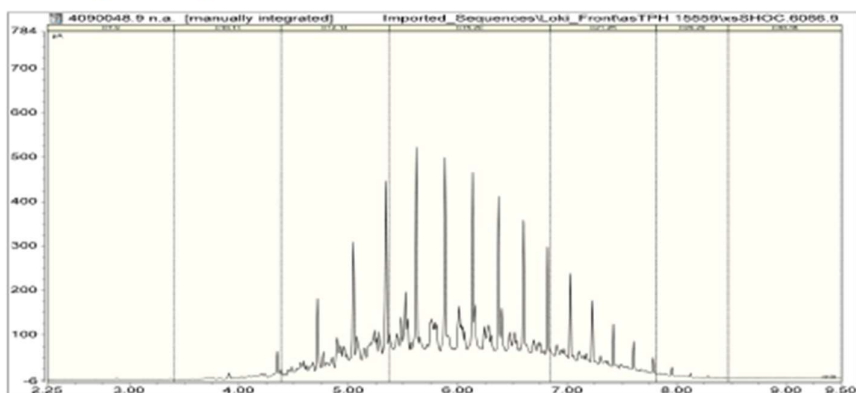
Sample Type: Soil						
Sample Name:	LM09/1 05-Feb-2026	LM11/1 05-Feb-2026	LM12/1 05-Feb-2026	LM14/1 05-Feb-2026	LM14/2 05-Feb-2026	LM14/2 05-Feb-2026
Lab Number:	4090048.52	4090048.53	4090048.54	4090048.55	4090048.56	4090048.56
Polycyclic Aromatic Hydrocarbons in SVOC Soil Samples by GC-MS*						
Benzo[a]pyrene Potency Equivalency Factor (PEF) NES*	mg/kg dry wt	-	-	< 1.3	-	-
Benzo[a]pyrene Toxic Equivalence (TEF)*	mg/kg dry wt	-	-	< 1.3	-	-
Phenols in SVOC Soil Samples by GC-MS						
4-Chloro-3-methylphenol	mg/kg dry wt	-	-	< 5	-	-
2-Chlorophenol	mg/kg dry wt	-	-	< 1.0	-	-
2,4-Dichlorophenol	mg/kg dry wt	-	-	< 1.0	-	-
2,4-Dimethylphenol	mg/kg dry wt	-	-	< 3	-	-
3 & 4-Methylphenol (m- + p- cresol)	mg/kg dry wt	-	-	< 3	-	-
2-Methylphenol (o-cresol)	mg/kg dry wt	-	-	< 1.0	-	-
2-Nitrophenol	mg/kg dry wt	-	-	< 5	-	-
Pentachlorophenol (PCP)	mg/kg dry wt	-	-	< 30	-	-
Phenol	mg/kg dry wt	-	-	< 1.0	-	-
2,4,5-Trichlorophenol	mg/kg dry wt	-	-	< 1.0	-	-
2,4,6-Trichlorophenol	mg/kg dry wt	-	-	< 1.0	-	-
Plasticisers in SVOC Soil Samples by GC-MS						
Bis(2-ethylhexyl)phthalate	mg/kg dry wt	-	-	< 5	-	-
Butylbenzylphthalate	mg/kg dry wt	-	-	< 1.0	-	-
Di(2-ethylhexyl)adipate	mg/kg dry wt	-	-	< 1.0	-	-
Diethylphthalate	mg/kg dry wt	-	-	< 1.0	-	-
Dimethylphthalate	mg/kg dry wt	-	-	< 1.0	-	-
Di-n-butylphthalate	mg/kg dry wt	-	-	< 1.0	-	-
Di-n-octylphthalate	mg/kg dry wt	-	-	< 1.0	-	-
Other Halogenated compounds in SVOC Soil Samples by GC-MS						
1,2-Dichlorobenzene	mg/kg dry wt	-	-	< 0.8	-	-
1,3-Dichlorobenzene	mg/kg dry wt	-	-	< 0.8	-	-
1,4-Dichlorobenzene	mg/kg dry wt	-	-	< 0.8	-	-
Hexachlorobutadiene	mg/kg dry wt	-	-	< 0.8	-	-
Hexachloroethane	mg/kg dry wt	-	-	< 0.8	-	-
1,2,4-Trichlorobenzene	mg/kg dry wt	-	-	< 0.5	-	-
Other compounds in SVOC Soil Samples by GC-MS						
Benzyl alcohol	mg/kg dry wt	-	-	< 10	-	-
Carbazole	mg/kg dry wt	-	-	< 0.5	-	-
Dibenzofuran	mg/kg dry wt	-	-	< 0.5	-	-
Isophorone	mg/kg dry wt	-	-	< 0.5	-	-
Sample Name:	LM14/3 05-Feb-2026	LM18/1 05-Feb-2026	LM19/1 05-Feb-2026	LM19/2 05-Feb-2026	LM01/1 05-Feb-2026	LM01/1 05-Feb-2026
Lab Number:	4090048.57	4090048.58	4090048.59	4090048.60	4090048.61	4090048.61
Individual Tests						
Dry Matter	g/100g as rcvd	-	-	77	-	-
Heavy Metals with Mercury, Screen Level						
Total Recoverable Arsenic	mg/kg dry wt	10	3	26	19	4
Total Recoverable Cadmium	mg/kg dry wt	0.13	< 0.10	0.31	0.31	< 0.10
Total Recoverable Chromium	mg/kg dry wt	10	6	53	43	5
Total Recoverable Copper	mg/kg dry wt	17	6	47	49	5
Total Recoverable Lead	mg/kg dry wt	39	14.7	104	430	20
Total Recoverable Mercury	mg/kg dry wt	0.11	< 0.10	0.34	0.20	< 0.10
Total Recoverable Nickel	mg/kg dry wt	7	3	28	24	2
Total Recoverable Zinc	mg/kg dry wt	70	38	280	280	79
Polycyclic Aromatic Hydrocarbons Screening in Soil*						
Total of Reported PAHs in Soil	mg/kg dry wt	-	-	1.9	-	-
1-Methylnaphthalene	mg/kg dry wt	-	-	< 0.013	-	-
2-Methylnaphthalene	mg/kg dry wt	-	-	< 0.013	-	-

Sample Type: Soil						
Sample Name:		LM14/3 05-Feb-2026	LM18/1 05-Feb-2026	LM19/1 05-Feb-2026	LM19/2 05-Feb-2026	LM01/1 05-Feb-2026
Lab Number:		4090048.57	4090048.58	4090048.59	4090048.60	4090048.61
Polycyclic Aromatic Hydrocarbons Screening in Soil*						
Acenaphthylene	mg/kg dry wt	-	-	< 0.013	-	-
Acenaphthene	mg/kg dry wt	-	-	< 0.013	-	-
Anthracene	mg/kg dry wt	-	-	0.018	-	-
Benzo[a]anthracene	mg/kg dry wt	-	-	0.128	-	-
Benzo[a]pyrene (BAP)	mg/kg dry wt	-	-	0.197	-	-
Benzo[a]pyrene Potency Equivalency Factor (PEF) NES*	mg/kg dry wt	-	-	0.29	-	-
Benzo[a]pyrene Toxic Equivalence (TEF)*	mg/kg dry wt	-	-	0.28	-	-
Benzo[b]fluoranthene + Benzo[j] fluoranthene	mg/kg dry wt	-	-	0.22	-	-
Benzo[e]pyrene	mg/kg dry wt	-	-	0.128	-	-
Benzo[g,h,i]perylene	mg/kg dry wt	-	-	0.143	-	-
Benzo[k]fluoranthene	mg/kg dry wt	-	-	0.086	-	-
Chrysene	mg/kg dry wt	-	-	0.121	-	-
Dibenzo[a,h]anthracene	mg/kg dry wt	-	-	0.029	-	-
Fluoranthene	mg/kg dry wt	-	-	0.22	-	-
Fluorene	mg/kg dry wt	-	-	< 0.013	-	-
Indeno(1,2,3-c,d)pyrene	mg/kg dry wt	-	-	0.138	-	-
Naphthalene	mg/kg dry wt	-	-	< 0.07	-	-
Perylene	mg/kg dry wt	-	-	0.048	-	-
Phenanthrene	mg/kg dry wt	-	-	0.118	-	-
Pyrene	mg/kg dry wt	-	-	0.26	-	-

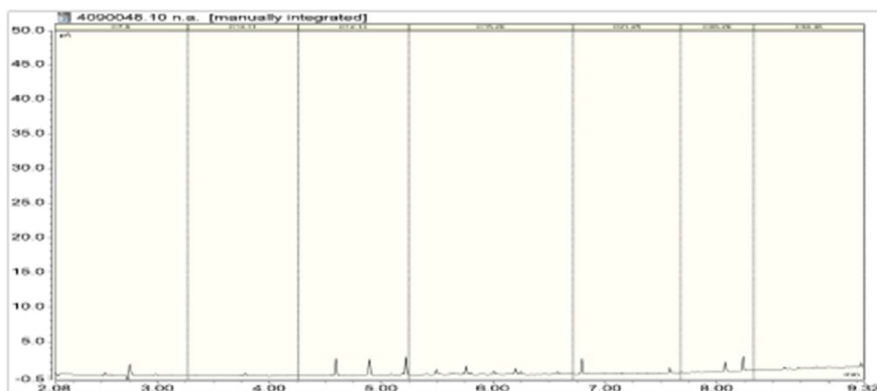
Sample Name:		LM01/2 05-Feb-2026	LM02/1 05-Feb-2026	LM02/2 05-Feb-2026	LM03/1 05-Feb-2026	LM03/2 05-Feb-2026
Lab Number:		4090048.62	4090048.63	4090048.64	4090048.65	4090048.66
Heavy Metals with Mercury, Screen Level						
Total Recoverable Arsenic	mg/kg dry wt	4	7	7	6	8
Total Recoverable Cadmium	mg/kg dry wt	< 0.10	< 0.10	< 0.10	0.19	0.11
Total Recoverable Chromium	mg/kg dry wt	5	6	7	8	11
Total Recoverable Copper	mg/kg dry wt	6	8	17	14	22
Total Recoverable Lead	mg/kg dry wt	18.8	10.4	11.5	21	16.7
Total Recoverable Mercury	mg/kg dry wt	< 0.10	< 0.10	< 0.10	0.12	< 0.10
Total Recoverable Nickel	mg/kg dry wt	2	3	4	5	8
Total Recoverable Zinc	mg/kg dry wt	61	33	37	53	57

Sample Name:		LM04/1 05-Feb-2026	LM04/2 05-Feb-2026	LM06/1 05-Feb-2026
Lab Number:		4090048.67	4090048.68	4090048.69
Heavy Metals with Mercury, Screen Level				
Total Recoverable Arsenic	mg/kg dry wt	9	8	10
Total Recoverable Cadmium	mg/kg dry wt	0.22	< 0.10	0.41
Total Recoverable Chromium	mg/kg dry wt	11	11	16
Total Recoverable Copper	mg/kg dry wt	31	11	34
Total Recoverable Lead	mg/kg dry wt	75	30	128
Total Recoverable Mercury	mg/kg dry wt	0.11	< 0.10	0.17
Total Recoverable Nickel	mg/kg dry wt	8	6	18
Total Recoverable Zinc	mg/kg dry wt	117	72	350

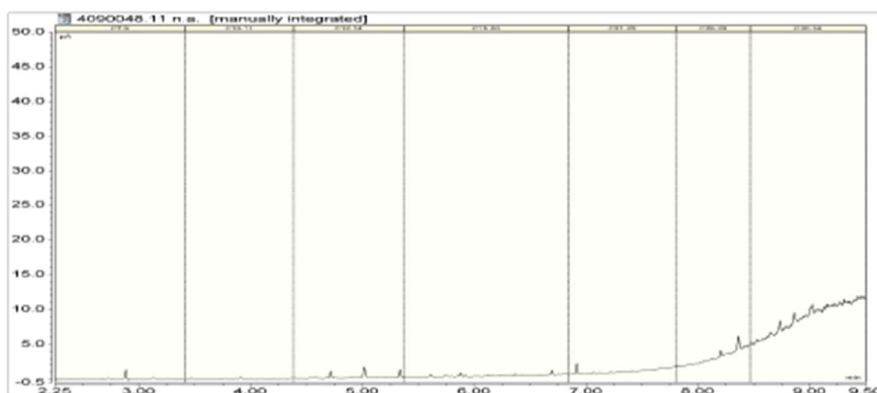
4090048.9
TP10/1 04-Feb-2026
Client Chromatogram for TPH by FID



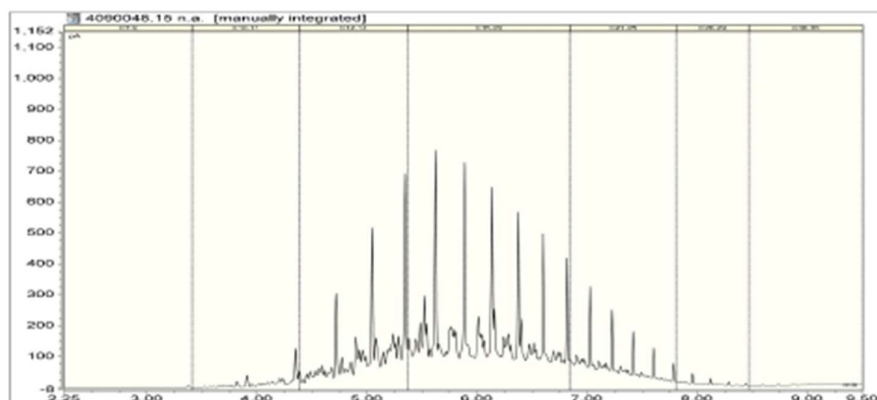
4090048.10
TP10/2 04-Feb-2026
Client Chromatogram for TPH by FID



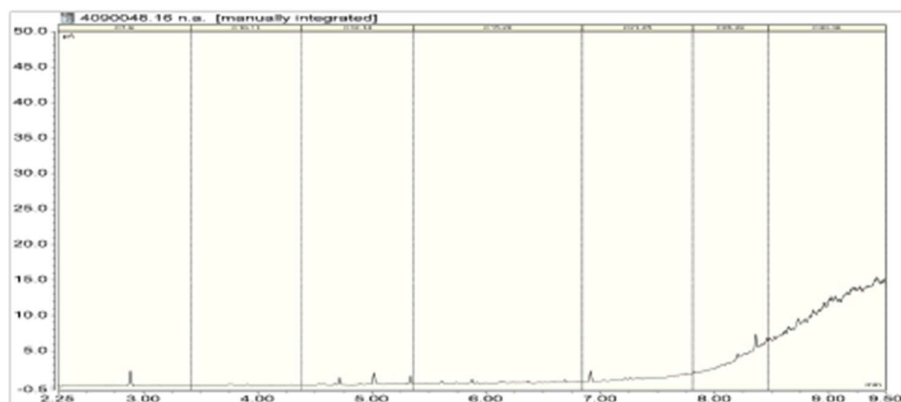
4090048.11
TP11/1 04-Feb-2026
Client Chromatogram for TPH by FID



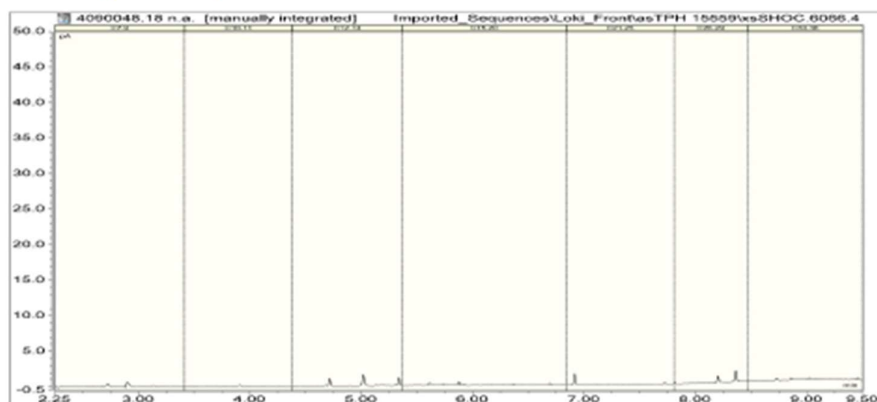
4090048.15
AS01 04-Feb-2026
Client Chromatogram for TPH by FID



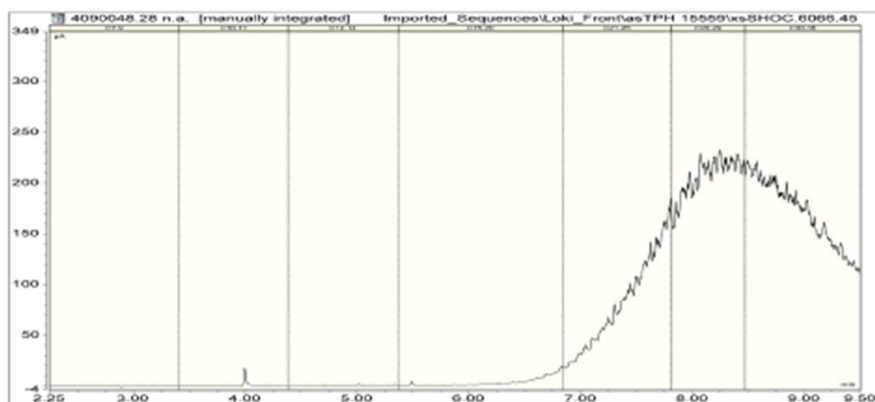
4090048.16
TP12/1 04-Feb-2026
Client Chromatogram for TPH by FID



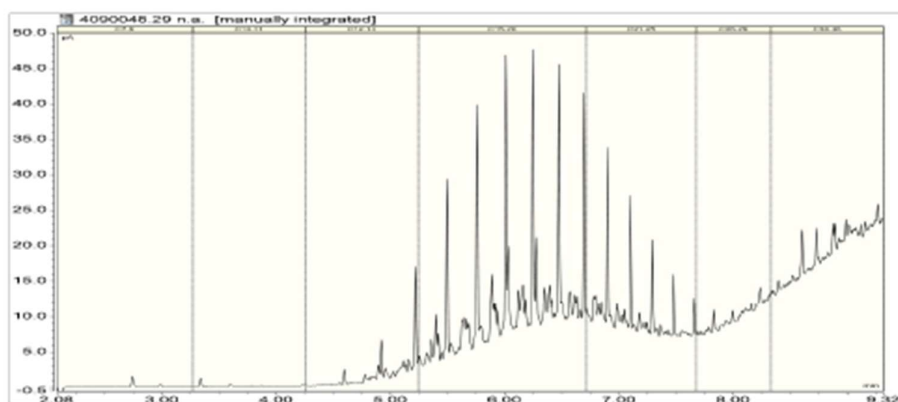
4090048.18
TP13/1 04-Feb-2026
Client Chromatogram for TPH by FID



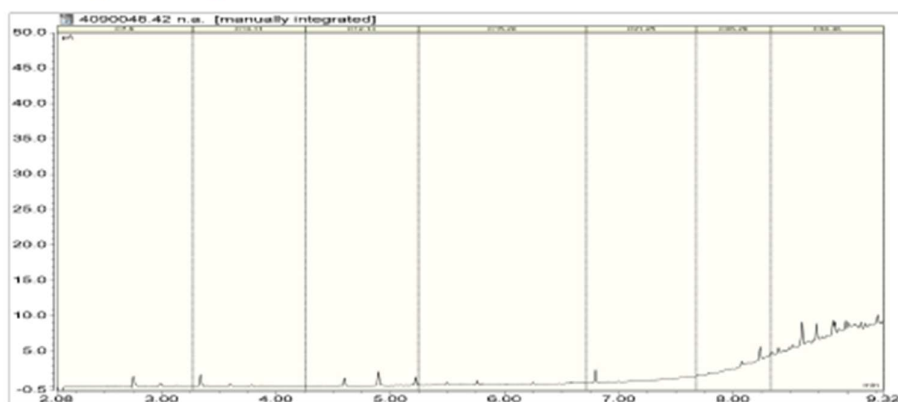
4090048.28
AS04 04-Feb-2026
Client Chromatogram for TPH by FID



4090048.29
AS05 04-Feb-2026
Client Chromatogram for TPH by FID



4090048.42
TP19/1 04-Feb-2026
Client Chromatogram for TPH by FID



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, Franklin, 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).	-	1-7, 9-69
Total of Reported PAHs in Soil	Sonication extraction, GC-MS/MS analysis. In-house based on US EPA 8270.	0.03 mg/kg dry wt	1-2, 5-6, 14, 17-18, 24, 46, 51, 59
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	1-2, 5-6, 9-11, 14-18, 24, 28-29, 33, 39, 42, 46, 51, 54, 59
Benzo(a)pyrene Potency Equivalency Factor (PEF) NES*	BaP Potency Equivalence calculated from: Benzo(a)anthracene x 0.1 + Benzo(b)fluoranthene x 0.1 + Benzo(j)fluoranthene x 0.1 + Benzo(k)fluoranthene x 0.1 + Benzo(a)pyrene x 1.0 + Chrysene x 0.01 + Dibenzo(a,h)anthracene x 1.0 + Fluoranthene x 0.01 + Indeno(1,2,3-c,d)pyrene x 0.1. Ministry for the Environment. 2011. Methodology for Deriving Standards for Contaminants in Soil to Protect Human Health. Wellington: Ministry for the Environment.	0.024 mg/kg dry wt	1-2, 5-6, 14, 17-18, 24, 46, 51, 59
Benzo(a)pyrene Toxic Equivalence (TEF)*	Benzo(a)pyrene Toxic Equivalence (TEF) calculated from: Benzo(a)pyrene x 1.0 + Benzo(a)anthracene x 0.1 + Benzo(b)fluoranthene x 0.1 + Benzo(k)fluoranthene x 0.1 + Chrysene x 0.01 + Dibenzo(a,h)anthracene x 1.0 + Indeno(1,2,3-c,d)pyrene x 0.1. Guidelines for assessing and managing contaminated gasworks sites in New Zealand (GMG) (MfE, 1997).	0.024 mg/kg dry wt	1-2, 5-6, 14, 17-18, 24, 46, 51, 59
TPH Oil Industry Profile + PAHscreen	Sonication extraction, GC-FID and GC-MS/MS analysis. Tested on as received sample. In-house based on US EPA 8015 and US EPA 8270.	0.010 - 70 mg/kg dry wt	18
Heavy Metals with Mercury, 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	1-7, 9-27, 29-69
Polycyclic Aromatic Hydrocarbons Screening in Soil*	Sonication extraction, GC-MS/MS analysis. Tested on as received sample. In-house based on US EPA 8270.	0.010 - 0.05 mg/kg dry wt	1-2, 5-6, 14, 17, 24, 46, 51, 59
Semivolatile Organic Compounds Screening in Soil by GC-MS	Sonication extraction, GC-MS analysis. Tested on as received sample. In-house based on US EPA 8270.	0.024 - 30 mg/kg dry wt	33, 39, 54
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.	-	9-11, 15-16, 18, 28-29, 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	9-11, 15-16, 18, 28-29, 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	9-11, 15-16, 18, 28-29, 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	9-11, 15-16, 18, 28-29, 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	9-11, 15-16, 18, 28-29, 42

APPENDIX E: Site Photographs



Farm drain running through pasture



Suspected ACM debris in pasture in vicinity to toe of Latham's Mountain



Former building in pasture in vicinity to toe of Latham's Mountain



Filling activities within transport yard



Pasture/grazing



Filling activities within transport yard



Filling activities within transport yard



Les Harrison Transport Yard



Les Harrison Transport Yard



Les Harrison Transport Yard



Pothole in Les Harrison Transport Yard



Les Harrison Transport Yard



Les Harrison Transport Yard



Les Harrison Transport Yard



Les Harrison Transport Yard



Les Harrison Transport Yard



Access road to cleanfill site



Cleanfill pile





Cleanfill site



Adjacent watercourse



Storage yards



Test pitting in storage yards



Hydrocarbon staining in storage yards



Storage yards



Fuel storage



Hydrocarbon staining



Bitumen truck storage





APPENDIX F: Summary of Results

Sample	Depth (m bgl)	Arsenic	Cadmium	Chromium	Copper	Lead	Mercury	Nickel	Zinc	Asbestos Type	Asbestos Containing Material in Soil (ACM)	Asbestos Fines/Friable Asbestos (AF/FA)
B01 (Bulk Sample)	Surface	-	-	-	-	-	-	-	-	Asbestos NOT detected	-	-
B02 (Bulk Sample)	Surface	-	-	-	-	-	-	-	-	Asbestos NOT detected	-	-
B03 (Bulk Sample)	Surface	-	-	-	-	-	-	-	-	Asbestos NOT detected	-	-
B04 (Bulk Sample)	Surface	-	-	-	-	-	-	-	-	Asbestos NOT detected	-	-
B05 (Bulk Sample)	Surface	-	-	-	-	-	-	-	-	Asbestos NOT detected	-	-
S01	0.1	-	-	-	-	-	-	-	-	Asbestos NOT detected	-	-
S03	0.1	-	-	-	-	-	-	-	-	Asbestos NOT detected	-	-
S05	0.1	-	-	-	-	-	-	-	-	Asbestos NOT detected	-	-
S07	0.1	-	-	-	-	-	-	-	-	Asbestos NOT detected	-	-
S11	0.1	-	-	-	-	-	-	-	-	Asbestos NOT detected	-	-
HA04/1	0.1	8	0.1	12	18	17	<0.1	6	52	Asbestos NOT detected	-	-
HA04/2	0.5	10	<0.1	13	20	14.4	<0.1	7	56	Asbestos NOT detected	-	-
HA05/1	0.1	7	0.11	17	30	32	0.17	7	73	Asbestos NOT detected	-	-
HA05/2	0.3	6	0.3	9	20	16.5	<0.2	4	42	Asbestos NOT detected	-	-
HA06/1	-	-	-	-	-	-	-	-	-	Asbestos NOT detected	-	-
HA07/1	0.1	6	<0.1	8	10	27	0.11	4	59	-	-	-
HA07/2	0.3	6	<0.1	9	10	12.3	>0.1	6	48	Asbestos NOT detected	-	-
TP10/1	0.1	12	<0.1	15	18	24	<0.1	9	600	-	-	-
TP10/2	0.3	9	0.13	19	29	30	<0.1	9	1080	-	-	-
TP11/1	0.1	9	0.14	14	22	13.4	<0.1	10	73	-	-	-
TP11/2	0.4	7	<0.1	10	13	21	0.11	5	54	-	-	-
TP18/1	0.1	27	<0.1	37	41	15.2	<0.1	20	99	-	-	-
TP18/2	0.5	10	<0.1	17	19	17.9	0.1	10	57	-	-	-

AS01	0.1	6	<0.1	11	20	9.1	<0.1	8	60	-	-	-
TP12/1	0.1	7	0.11	14	19	16.7	<0.1	11	87	-	-	-
TP12/2	0.3	9	0.15	14	18	29	<0.1	10	68	-	-	-
TP13/1	0.1	7	<0.1	9	15	15.2	<0.16	6	51	-	-	-
TP13/2	0.4	9	0.11	12	23	30	0.13	8	58	-	-	-
TP14/1	0.1	8	<0.1	20	23	17.4	<0.1	16	89	-	-	-
TP14/2	0.3	4	<0.1	5	6	29	<0.1	<2	31	-	-	-
TP12/2	0.3	9	0.15	14	18	29	<0.1	10	68	-	-	-
TP14/3	1.0	<5	0.5	5	14	8	<0.3	<0.5	14	-	-	-
TP15/1	0.1	7	0.19	11	23	47	0.11	8	86	-	-	-
TP15/2	0.3	8	<0.1	25	35	17.9	<0.1	17	132	-	-	-
TP15/3	1.0	<4	0.4	5	21	11.9	<0.2	<4	26	-	-	-
AS02	0.2	20	<0.1	16	20	13.7	<0.1	20	74	-	-	-
AS03	0.1	8	<0.1	16	20	21	<0.1	15	73	-	-	-
AS04	0.2	-	-	-	-	-	-	-	-	-	-	-
AS05	0.1	17	<0.1	24	29	23	<0.1	16	92	-	-	-
TP01/1	0.1	5	0.11	7	13	47	<0.1	8	52	-	-	-
TP01/2	0.3	16	0.16	12	38	97	<0.1	15	104	-	-	-
TP01/3	0.9	4	<0.1	6	6	7.3	<0.1	3	35	-	-	-
HA01/1	0.1	23	0.48	29	62	64	0.1	11	199	Asbestos NOT detected	-	-
TP02/1	0.3	7	0.18	11	20	36	<0.1	8	87	-	-	-
TP02/2	0.3	7	0.16	13	16	51	0.1	7	460	-	-	-
AS06	0.1	24	0.88	38	183	82	0.12	13	230	Asbestos NOT detected	-	-
TP03/1	0.1	6	0.39	14	33	30	<0.1	10	180	-	-	-
TP03/2	0.3	5	0.22	45	42	13.7	<0.1	69	129	-	-	-
TP04/1	0.1	14	0.4	20	46	39	<0.1	8	160	-	-	-
TP04/2	0.4	6	0.2	46	46	18.3	<0.1	67	109	-	-	-

TP05/1	0.2	12	0.29	16	33	31	0.11	12	133	Asbestos NOT detected	-	-
TP19/1	0.1	6	<0.1	14	17	12.6	<0.1	13	64	-	-	-
TP19/2	0.3	7	0.14	8	10	29	0.11	3	55	-	-	-
TP09/1	0.1	6	<0.1	9	7	9.3	<0.1	4	34	-	-	-
TP09/2	0.3	10	<0.1	7	5	8.1	<0.1	3	27	-	-	-
TP16/1	0.1	9	0.1	11	19	38	0.12	6	68	-	-	-
TP17/1	0.1	8	<0.1	9	11	21	0.11	4	34	Asbestos NOT detected	-	-
TP17/2	0.3	<4	<0.2	<4	8	5.2	<0.2	<4	<8	-	-	-
LM07/1	0.5	11	0.19	19	29	53	0.13	14	191	Asbestos NOT detected	-	-
LM07/2	3.0	13	0.22	26	29	41	0.12	6	118	Asbestos NOT detected	-	-
LM08/1	0.5	9	0.15	11	17	43	<0.1	5	85	Asbestos NOT detected	-	-
LM09/1	0.5	6	<0.1	10	14	17,3	0.1	5	75	Asbestos NOT detected	-	-
LM11/1	0.5	8	0.11	14	21	50	0.12	6	86	Asbestos NOT detected	-	-
LM12/1	0.5	8	<0.1	11	17	22	0.15	9	71	Asbestos NOT detected	-	-
LM14/1	0.5	<2	<0.1	2	4	11.4	<0.1	<0.2	48	-	-	-
LM14/2	3.5	4	<0.1	6	12	20	<0.1	4	38	-	-	-
LM14/3	3.0	10	0.13	10	17	39	0.11	7	70	-	-	-
LM18/1	0.5	3	<0.1	6	6	14.7	<0.1	3	38	-	-	-
LM19/1	0.5	26	0.31	53	47	104	0.34	28	260	Asbestos NOT detected	-	-
LM19/2	1.0	19	0.31	43	49	430	0.2	24	280	Asbestos NOT detected	-	-
LM01/1	0.5	4	<0.1	5	5	20	<0.1	2	79	Asbestos NOT detected	-	-
LM01/2	1.5	4	<0.1	5	6	18.8	<0.1	2	61	Asbestos NOT detected	-	-
LM02/1	0.5	7	<0.1	6	8	10.4	<0.1	3	33	Asbestos NOT detected	-	-
LM02/2	2.0	7	<0.1	7	17	11.5	<0.1	4	37	Asbestos NOT detected	-	-
LM03/1	0.5	6	0.19	8	14	21	0.12	5	53	Asbestos NOT detected	-	-
LM03/2	3.0	8	0.11	11	22	16.7	<0.1	8	57	Asbestos NOT detected	-	-
LM04/1	0.5	9	0.22	11	31	75	0.11	8	117	Asbestos NOT detected	-	-

LM04/2	2.0	8	<0.1	11	11	30	<0.1	6	72	Asbestos NOT detected		
LM06/1	0.5	10	0.41	16	34	128	0.17	18	350	Chrysotile	<0.001	<0.001
PACM-01 (Bulk Sample)	-	-	-	-	-	-	-	-	-	Chrysotile	-	-
PACM-02 (Bulk Sample)	-	-	-	-	-	-	-	-	-	Amosite Chrysotile	-	-
PACM-03 (Bulk Sample)	-	-	-	-	-	-	-	-	-	Asbestos NOT detected	-	-
PACM-19 (Bulk Sample)	-	-	-	-	-	-	-	-	-	Asbestos NOT detected	-	-
		Arsenic	Cadmium	Chromium	Copper	Lead	Mercury	Nickel	Zinc	Asbestos Type	Asbestos Containing Material in Soil (ACM)	Asbestos Fines/Friable Asbestos (AF/FA)
Background Criteria ¹⁴¹⁵		27.21	0.6	17.18	49	150		11,9	162.7	-	-	-
		6.8	0.22	30	25	20		7.6	53			
Human Health Criteria (Commercial/Industrial) ¹⁶		70	1,300	6,300	≥10,000	3,300		6,000	400,000	-	-	-
Environmental Criteria (Commercial/Industrial) ¹⁷		150	33	650	420	2,500		-	480	-	-	-
Asbestos Guidelines ¹⁸		-	-	-	-	-		-	-	-	0.01% Residential 0.05% Commercial/indu strial	0.001%

Soil Sample ID	HA04/1	HA04/2	HA07/1	HA07/2	TP18/2	TP12/2	TP13/1	TP15/2	TP04/1	TP16/1	LM08/1	LM19/1	TP10/1	TP10/2	TP11/1	AS01	TP12/1	TP13/1	AS04	AS05
	0.1m bgl	0.3m bgl	0.1m bgl	0.3m bgl	0.5m bgl	0.3m bgl	0.1m bgl	0.3m bgl	0.1m bgl	0.1m bgl	0.5m bgl	0.5m bgl	0.1m bgl	0.3m bgl	0.1m bgl	0.1m bgl	0.1m bgl	0.1m bgl	0.1m bgl	0.2m bgl

¹⁴ Criteria from Appendices (Waikato Surface Soils Background Data), Internal Document: Caldwell, J. 2017. Waikato Regional Council Standard Operating Policies for Defining Cleanfill Acceptance Criteria. Document # 10581789.

¹⁵ Criteria from Waikato Regional Council 'Natural background concentrations in the Waikato region' - 95% upper limit background concentrations for selected elements in soil of the Waikato region -.

¹⁶ Resource Management (National Environmental Standard for Assessing and Managing Contaminants in Soil to Protect Human Health) Regulations 2011 (Commercial/Industrial land use).

¹⁷ Landcare Research: Technical Document. Eco-Soil Guideline Value for typical soil, aged contamination source, and a commercial/industrial land use.

¹⁸ NZ Guidelines for Assessing and Managing Asbestos in Soil, BRANZ 2017

Soil Sample ID	HA04/1	HA04/2	HA07/1	HA07/2	TP18/2	TP12/2	TP13/1	TP15/2	TP04/1	TP16/1	LM08/1	LM19/1	TP10/1	TP10/2	TP11/1	AS01	TP12/1	TP13/1	AS04	AS05
Polycyclic Aromatic Hydrocarbons																				
Pyrene	0.026	0.058	0.63	0.071	10.5	0.32	0.090	0.81	<0.5	0.28	0.51	0.26	-	-	-	-	-	-	-	-
Naphthalene	<0.06	<0.06	<0.06	<0.06	0.13	<0.06	<0.06	<0.06	<0.06	<0.07	<0.06	<0.07	-	-	-	-	-	-	-	-
Benzo[a]pyrene Toxic Equivalence (NES)	<0.029	0.055	0.055	0.177	8.3	0.39	0.095	1.38	<1.3	0.194	0.51	0.29	-	-	-	-	-	-	-	-
Total Petroelum Hydrocarbons																				
C7-C9	-	-	-	-	-	-	-	-	-	-	-	-	<0.20	<0.20	<0.20	26	<0.20	<0.20	<0.20	<0.20
C10-C14	-	-	-	-	-	-	-	-	-	-	-	-	4,900	<0.20	<0.20	8,200	<0.20	<0.20	61	95
C15-C36	-	-	-	-	-	-	-	-	-	-	-	-	14,800	110	880	22,000	990	133	26,000	3,000
Total Hydrocarbons (C7-C36)	-	-	-	-	-	-	-	-	-	-	-	-	19,700	117	890	30,000	1,000	142	26,000	3,100

Hydrocarbon	<1m	<1m	Eco-SGV ¹⁹
	Sand	Peat	
PAHs			
Pyrene	NA ²⁰	NA	-
Napthalene	(190)	(8,000)	-
Benzo{a}pyrene Toxic Equivalence (NES)	(11)	(11)	47
TPH			
C7-C9	120	6,700	170
C10-C14	(1,500)	NA	140
C15-C36	NA	NA	1,700 ²¹
Total Hydrocarbons (C7-C36)	-	-	-

¹⁹ Criteria from Tables 53-55 of Manaaki Whenua Landcare Research 'UPDATED Development of soil guideline values for the protection of ecological receptors (Eco-SGVs): Technical document' (MWLR, 2019) - Commercial/industrial (80%). Values for typical, aged soil have been conservatively adopted for copper and zinc.

²⁰ Values from 'Guidelines for Assessing and Managing Petroleum Hydrocarbon Contaminated Sites in New Zealand' (MfE, 2011) for sand and peat at < 1m depth, for all pathways. Values for commercial/industrial land use.

NA indicates estimated criterion exceeds 20,000 mg/kg. At 20,000 mg/kg residual separate phase is expected to have formed in soil matrix.

²¹ Criteria for coarse grained soils (those which contain greater than 50% by mass of particles great than 75 µm mean diameter) have been adopted.

