



27 August 2025

Rebecca Parish
Senior Property Development Manager
Foodstuffs South Island Limited
167 Main North Road,
CHRISTCHURCH 8051

Dear Rebecca

SOIL SAMPLING INVESTIGATION – Paddock Areas, 17 Hickory Place, Islington, Christchurch

1.0 Introduction

Pattle Delamore Partners Limited (PDP) has been engaged by Foodstuffs South Island Limited (Foodstuffs) to undertake surficial soil sampling over the northern paddock areas located to the rear of the current operational Foodstuffs Distribution Centre, 17 Hickory Place, Islington, Christchurch (i.e. the site). The site investigation area covers approximately 9.4 ha, as shown on Figure 1. The assessment has been undertaken to characterise the soil contamination status within the investigation site prior to potential subdivision and divestment. This letter includes a brief site history review, a test pit soil sampling investigation and consideration of soil disposal options as part of any future site redevelopment following subdivision.

The site formed part of wider paddock areas that were previously used by Heinz-Wattie's for the discharge by border-dyke flood irrigation of vegetable process water. Detailed Site Investigations (DSIs) carried out by Aurecon¹ (2019) and Eliot Sinclair² (2021/2022) undertaken over the wider property (within and adjacent to the current site) concluded that the surface organic detritus within and bordering the irrigation ditches was contaminated with asbestos fines (AF) and friable asbestos (FA) at concentrations that could pose a risk to human health. It is understood that the asbestos likely manifested through the degradation of the asbestos pipes that fed the bubble-up valves/concrete headstocks located in a general north-east to south-west orientation at four locations over the site.

The results of these previous soil sampling investigations show that the asbestos fines/friable asbestos are more likely to be present closer to the bubble-up valves/concrete headstocks. However, investigations undertaken on adjacent similar land to the west (owned and developed by Ngāi Tahu) have recorded detectable but acceptably low soil asbestos concentrations outside of these areas in isolated pockets.

¹ *Hornby Bottling Plant – Balance of Site, Preliminary and Detailed Site Investigation*, dated December 2019, Aurecon.

² *Remedial Action Plan, Mánia, 320 Shands Road and 637 Main South Road, Hornby*, dated March 2021, Eliot Sinclair. *Site Validation Report, 320 Shands Road, Hornby*, dated May 2022, Eliot Sinclair.



1.1 Proposed Subdivision

It is proposed for the site investigation area to be subdivided into three Lots with Lot 1 (approximate area of 5,358 m²), fronting State Highway 1, to be retained by Foodstuffs. The remaining two Lots located to the immediate south (Lot 2; approximate area of 5.01 ha and Lot 3; approximate area of 3.86 ha) will be divested and developed for commercial/industrial land use. A proposed subdivision plan has been provided by Eliot Sinclair Limited (attached) indicating an approximate 5,358 m² Lot 1 that will be retained by Foodstuffs.

2.0 Previous PDP Soil Sampling Investigation

As part of the previous works to relocate surplus soils from other Foodstuffs supermarket development sites within Christchurch at the site (refer to Section 6.3), PDP has previously undertaken a number of soil contaminant investigations within the northern part of the site (Block 1). The purpose of these earlier PDP soil sampling investigations was to aid in the final burial of relocated contaminated soils to a depth of approximately 5 m below ground level (bgl) and within an overlying bund to a maximum height of approximately 4 m above ground level, extending over a length of approximately 170 m and a width of up to approximately 25 m. These relocated soils were fully encapsulated in seam welded HDPE polyethylene sheeting and capped with topsoil in order to provide an effective barrier.

Taking into consideration the soil disturbance activities associated with the burial of the contaminated soils and bund creation, it is considered that the previously collected soil samples located within the south-eastern part of Block 1 (refer to blue box on Figure 1) are still representative of current site conditions in this part of the site. The results from these soil samples are presented in Section 5.4.

3.0 Current Soil Sampling Investigations

Two additional soil sampling investigations have been undertaken over the site to better characterise the extent of asbestos in site soils as a result of previous site activities. In addition to establishing the extent of asbestos, the first of the two additional investigations included an assessment of heavy metals and organochlorine pesticides (OCP), being general indicator contaminants.

3.1 March and April 2025 Investigation

PDP environmental geologists/scientists attended the site on 20 March, and 2 and 3 April 2025 to carry out the first phase of additional soil sampling, which included the collection of samples from the surface soils and at a depth of 0.2 m bgl from a series of sampling points over the site. The sampling plan was based on the findings of the previous investigations and to assess the lateral and vertical extent asbestos fines/friable asbestos likely to be present away from the bubble-up valves/concrete headstocks. Samples were also collected from the general paddock areas away from the 'upstream' bubble-up valves/concrete headstocks in order to provide soil contamination information over the wider site.

Each soil sample was placed directly into a glass jar with a food grade plastic sealed lid for heavy metals and organochlorine pesticides (OCP) (general indicator contaminants) supplied by Hill Laboratories (Hills). Soil collected for asbestos in soil analysis was placed into 500 mL asbestos tubs. A fresh pair of nitrile gloves was used at each sample location to prevent cross contamination of the soils and to protect the PDP site worker during sample collection.

Following collection, samples were placed immediately into chilly-bins containing frozen ice packs. The chilly-bins were sent with chain of custody documentation to Hills in Christchurch on the same day as collection.

A total of 47 selected samples were analysed for the presence of asbestos (semi-quantitative laboratory analysis), 26 samples for heavy metals analysis and one sample for OCP. It is noted that OCP analysis was

undertaken as part of the previous 2019 Aurecon investigation over the current investigation site and wider area, and individual compounds were not recorded above the laboratory limits of reporting.

3.2 August 2025 Investigation

A PDP environmental scientist attended the site on 7 and 8 August 2025 to carry out the second phase of additional soil sampling, which included the collection of samples from the surface soils and at a depth of 0.2 m bgl from a series of sampling points over the site for the presence of asbestos only. The sampling plan was based on the findings of the March and April investigations. Samples were also collected from within the north-western corner of the site adjacent to State Highway 1 (SH1) for completeness.

The soil samples were collected in the same manner as detailed in Section 3.1 and submitted with chain of custody documentation to Hills in Christchurch on the same day as collection.

A total of 54 selected samples were analysed for the presence of asbestos (semi-quantitative laboratory analysis).

A plan showing the sampling locations is attached as Figure 1 together with site photographs taken during the soil sampling investigations.

3.3 Field Observations

In general, each soil sample location in Block 1 and Block 2 comprised grass and roots underlain by moist, silty topsoil to 0.2 m bgl. Soil sample locations in Block 1, immediately adjacent to the encapsulated bund area, comprised compacted silty sand soils with some gravels evident as a result of the bund formation, with some locations having a sandier composition.

In addition, the following was also noted:

- ✧ Two stockpiles were noted within the north-eastern and central parts of Block 1 (refer to Section 6.5 for more detail); and
- ✧ Two small glass fragments and one piece of brick fragment were observed in BLK1_SS8 at 0.2 m bgl.

4.0 Offsite Soil Disposal Criteria

Following discussions with Foodstuffs, and based on the previously identified presence of asbestos within site soils, they have indicated that subsequent to the results of the additional soil sampling detailed in Section 3.0, their preferred remedial approach is to remove soils containing asbestos above BRANZ (2024), *New Zealand Guidelines for Assessing and Managing Asbestos in Soil* for all land uses including for commercial/industrial land use.

There are a number of different disposal facilities located within the Canterbury regional that are able to accept soils containing asbestos. It should be noted that the offsite disposal location for soils that contain asbestos will also be determined that the concentration of other contaminants, in this case heavy metals and OCP. Table 2 also provides the soil acceptance criteria for heavy metals for the landfills that are able to accept asbestos containing soils. The asbestos approved disposal facilities include:

- ✧ Protranz Earthmoving Limited, managed landfill, Leggett Road, Templeton, Christchurch;
- ✧ Frews Quarry Limited (Frews), managed landfill, Plantation Road, Hororata;
- ✧ Taiko Road, managed landfill, Cave, South Canterbury; and
- ✧ Kate Valley Regional Landfill, Waipara, North Canterbury.

For completeness, the soil sample results have also been compared to the following commercial/industrial land use standards/guidelines:

- ✧ *Methodology for Deriving Standards for Contaminants in Soil to Protect Human Health* (MfE, 2011);
- ✧ *Guideline on the Investigation Levels for Soil and Groundwater* (National Environmental Protection Council) (NEPC, 2013); and
- ✧ BRANZ, 2024. *New Zealand Guidelines for Assessing and Managing Asbestos in Soil*.

5.0 Soil Sampling Results and Comparison to Guideline Criteria

The soil sample test results are displayed on Table 1 (asbestos) and Table 2 (heavy metals). Copies of the laboratory reports and the chain of custody documentation are also attached. A summary of results is as follows:

5.1 Asbestos

A total of 101 soil samples were collected and analysed at the laboratory using the semi-quantitative analytical method, with the following results noted. Note that only results that recorded the positive presence of asbestos have been tabulated.

Block 1:

- ✧ Of the 47 samples collected from Block 1, 20 soil samples analysed using the semi-quantitative analytical method did not record the presence of asbestos.
- ✧ The remaining 27 samples recorded asbestos in the soil as ACM (asbestos containing material) debris and/or loose fibres. In all cases ACM was not measured above the laboratory limit of detection (0.001% w/w) in all soil samples. Asbestos as fibrous asbestos/asbestos fines was measured above the laboratory limit of detection in nine of the 27 samples up to 0.013% w/w (BLK1_SS1_0.05).
- ✧ Based on the semi-quantitative method, all 27 soil samples recording detectable asbestos contained asbestos as ACM below the BRANZ (2024) soil guideline value of 0.05% w/w for commercial/industrial land use.
- ✧ Based on the semi-quantitative method, nine of the 27 asbestos detectable soil samples contained fibrous asbestos/asbestos fines above the BRANZ (2024) soil guideline value of 0.001% w/w for all land uses.

Block 2:

- ✧ Of the 54 samples collected from Block 2, 37 soil samples analysed using the semi-quantitative analytical method did not record the presence of asbestos.
- ✧ The remaining 17 samples recorded asbestos in the soil as ACM (asbestos containing material) debris and/or loose fibres. In all cases ACM was not measured above the laboratory limit of detection (0.001% w/w) in all soil samples. Asbestos as fibrous asbestos/asbestos fines was measured above the laboratory limit of detection in ten of the 17 samples at 0.007% w/w (BLK2_SS12_0.05).
- ✧ Based on the semi-quantitative method, all 17 soil samples contained asbestos as ACM below the BRANZ (2024) soil guideline value of 0.05% w/w for commercial/industrial land use.

- Based on the semi-quantitative method, ten of the 17 asbestos detectable soil samples contained fibrous asbestos/asbestos fines above the BRANZ (2024) soil guideline value of 0.001% w/w for all land uses.

No suspected ACM fragments were observed on site during the site inspection and soil sampling investigations.

5.2 Heavy Metals

Heavy metal concentrations were generally measured at or around the Environment Canterbury (ECan; 2007) background concentrations for the local soil type (Regional – Recent) over both Blocks 1 and 2. However, slight exceedances of cadmium (six samples), lead (one sample) and zinc (19 samples) were recorded of the total of the 26 samples analysed.

For comparison purposes, all heavy metal concentrations were measured below the human health soil contaminant standards/guideline values in the context of commercial/industrial land use.

5.3 Organochlorine Pesticides

The single sample analysed for OCP compounds (BLK2_SS7_0.05) did not record any of the individual compounds above the laboratory limit of detection. As such, the sample recorded Σ DDT below the adopted ECan background concentration and in the context of a commercial/industrial land use setting. This sample result has not been tabulated.

5.4 Previous Soil Sampling Investigation (PDP; April 2022³)

A total of 13 samples were collected from nine locations within the south-eastern part of Block 1 (refer to blue box on Figure 1) and analysed for a suite of seven heavy metals and asbestos (semi-quantitative analysis). Samples were collected between the ground surface and 0.3 m bgl. In summary, asbestos was not measured in any of the 13 samples and individual heavy metal concentrations were all measured below the ECan (2007) background concentrations for the local soil type (Regional – Recent).

6.0 Offsite Soil Disposal Options

6.1 Asbestos Soil Containing Areas

As discussed in Section 4.0, the objective is to remediate soils that contain asbestos above the BRANZ (2024) acceptance criteria for all land uses, including commercial/industrial and dispose of at an approved disposal facility (excluding the buried and encapsulated bund soils).

Where asbestos has been recorded in soils over parts of the site, but below the laboratory level of detection, it meets the BRANZ (2024) acceptance criteria for all land uses including for commercial/industrial purposes. Therefore, these soils do not need to be removed from the site from a protection of human health perspective, even though they contain very low levels of asbestos.

Figure 1 has been annotated to show the proposed remedial areas based on the soil sampling undertaken to date at the site. It is important to note that additional soil sampling could be undertaken over parts of the site to better define the lateral and vertical extents of the non-complying soil asbestos concentrations. However, the expected non-complying soil asbestos areas, as shown on Figure 1, are likely to be well defined based on the current data, including how the asbestos fines were likely deposited over the site from the headstocks, and following a review of previous investigations undertaken on the neighbouring commercial/industrial development located to the immediate west, which is located over similarly contaminated land.

³ Soil Sampling Investigation at 17 Hickory Place, Islington, Christchurch, dated 10 May 2022.

The approximate volume of soils requiring offsite disposal to an approved facility are:

- ✧ **Block 1** (approx. 3,850 m²) – 962 m³, based on an average excavation depth of 0.25 m
- ✧ **Block 2** (approx. 2,900 m²) – 725 m³, based on an average excavation depth of 0.25 m

Furthermore, any remaining non-complying soil asbestos areas will be identified during the required validation soil sampling programme and remediated accordingly (refer to Section 7.0).

The bulk remedial earthworks will be undertaken in accordance with a Remedial Action Plan.

6.2 Offsite Soil Disposal Options

Accounting for the slight exceedance of heavy metals within the tested soils compared with the Regional Recent soil type, the asbestos containing soils would not be deemed acceptable for disposal at the Protranz Leggett Road facility, which is able to accept asbestos containing soils. However, these soils would be deemed acceptable for disposal at the Frews Hororata managed fill facility, subject to their approval.

In addition, based on the soil sampling results the asbestos containing soils would also be deemed acceptable for disposal at the Taiko Road, managed landfill, Cave, South Canterbury, subject to their approval. It is noted that ECan consent CRC224661 authorises the deposition of hazardous waste to land at the Taiko landfill facility. Table 1 of the consent's Waste Acceptance Criteria notes that if soil asbestos concentrations exceed all land uses (i.e. 0.05 % w/w bonded and 0.001 % w/w asbestos fines/fibrous asbestos) then additional controls will be required at the landfill during disposal including ensuring asbestos air monitoring results do not exceed 0.1 f/mL.

6.3 Encapsulated Bund and Buried Material

As noted in Section 2.0, the contaminated soils located in the current engineered bund along the site's northern boundary and beneath the bund have come from two Foodstuffs development sites (Pak'nSave Papanui and Durham St New World). These soils invariably contain asbestos and other contaminants, including heavy metals, petroleum hydrocarbon-based compounds and a range of volatile and semi-volatile compounds. It is possible that through the handling processes between the source site and final encapsulation the contaminants have been well mixed, therefore providing a degree of uniformity.

It is proposed for the engineered bund and associated buried soils to be contained within proposed Lot 1, to be retained under the ownership of Foodstuffs, as per the attached plan provided by Eliot Sinclair Limited. It is understood that there will be a minimum 3 m wide level strip of land to the immediate south of the bund extent to permit access for tractors and similar to maintain the current grassed surface capping of the bund. Access to the bund will be via a right of way extending around the western and northern perimeter of Lot 2 from Aruhe Road to the immediate west.

6.4 Non-Complying Asbestos Soil Containing Areas

Outside of the non-complying asbestos containing areas, the remaining soils do not need to be removed offsite from a human health protection perspective.

However, as part of any future commercial/industrial development, it is most likely that the topsoil/organic soils will need to be removed and disposed of at an approved facility. Due to several exceedances of the Regional Recent soil type background concentrations, which are the typical adopted cleanfill criteria within the greater Christchurch area, the soils would on the whole not be acceptable for general cleanfill disposal.

There are some areas over both Blocks that do contain heavy metals below the Regional Recent cleanfill acceptance criteria and further soil sampling could be undertaken to better define these extents to permit soils to be disposed of as cleanfill.

However, the option for disposal at the Fulton Hogan Roberts Road cleanfill⁴ could be considered, although it is noted that based on the sampling to date two soil samples collected from the wider area outside of the asbestos containing areas contain cadmium marginally above their disposal acceptance criteria. Whilst noting this, taking into consideration the mixing processes that would occur in bulk site excavation, placement onto trucks and final placement within the cleanfill then suitable dilution and mixing would occur to meet the cleanfill disposal acceptance criteria. Acceptance of non-asbestos containing soils at the Roberts Road cleanfill would need to be discussed with Fulton Hogan in the first instance.

Furthermore, it would be considered prudent to carry out confirmatory asbestos soil testing outside of the proposed remediated areas to ensure the absence of acceptably low asbestos soil concentrations prior to offsite disposal of surplus soils.

6.5 Offsite Disposal of Other Materials – North-East Part of Block 1

It is noted that a stockpile of soils, concrete blocks and a small volume of waste materials including plastic sheeting is located in the north-eastern corner of the site (refer to red box on Figure 1) and are surplus contaminated soils that were unable to be accommodated into the encapsulated bund. Information provided by Protranz has estimated the combined tonnage of this stockpile, accounting for the different materials, to be approximately 580 tonnes.

Laboratory testing of this material by PDP in July 2024 recorded a low-level detect of asbestos (one sample). In addition, low-level heavy metals and/or poly-cyclic aromatic hydrocarbon (PAH) concentrations were recorded in some samples above the ECan (2007) background concentrations for the local soil type (Regional – Recent) for cleanfill disposal.

We understand that Foodstuffs has received a separate costing from Protranz (email dated 6 September 2024) to remove this material from the site to approved disposal facilities.

An additional smaller stockpile of waste material is located in the central part of Block 1, including an empty 210 L drum, fencing wire, timber posts, etc. Noting the contents of this material it will need to be disposed of at the regional Kate Valley Landfill.

7.0 Validation Soil Sampling

Following the completion of the remedial earthworks, a validation soil sampling programme will be undertaken over the remaining exposed soils. Validation samples will be collected in a similar manner to the current investigation works and analysed for asbestos only, being the identified contaminant of concern.

As noted in Section 6.1, based on the soil sampling undertaken to date, there may be isolated areas in proximity to the headstocks that are not fully remediated, based on the current remedial works plan shown on Figure 1. However, it is anticipated that this will be captured through the validation process and non-complying soils remediated accordingly in order to meet commercial/industrial lands use.

⁴ Roberts Road cleanfill is able to accept slightly higher heavy metal concentrations compared with other traditional cleanfills located in the wider area, typically west of Christchurch Airport.

8.0 Other Considerations

We note that resource consent is currently being applied for from CCC in accordance with the *Resource Management (National Environment Standard for Assessing and Managing Contaminants in Soil to Protect Human Health) Regulations 2011* for the disturbance of soil as part of the remedial earthworks.

For those areas of the site that contain asbestos, and in particular above the guideline acceptance criteria in the context of commercial/industrial land use, the BRANZ (2024) and Health and Safety at Work (Asbestos) Regulations 2016 will need to be adhered to with regards to the bulk remedial earthworks.

9.0 Summary

Two soil sampling investigations have been conducted over an approximate 9.4 ha area of the Foodstuffs Distribution Centre paddock areas, 17 Hickory Place, Islington, Christchurch to characterise the soil contamination status prior to potential subdivision and divestment for commercial/industrial development.

The site history information has identified asbestos fines present in surficial site soils resulting from the historical discharge, via border-dyke flood irrigation, from the former neighbouring Heinz-Wattie's production facility. The recent soil sampling investigations aimed to better establish the lateral and vertical extent of asbestos and heavy metals over the site because of this former activity and to remove soils containing asbestos above BRANZ (2024) guidelines for all land uses to an approved waste disposal facility.

Based on the findings of the additional sampling investigations, remedial areas have been defined, as shown on Figure 1, together with landfill disposal options for the non-complying soils. Following the removal of the non-complying asbestos soils, and to ensure that remaining soils comply with BRANZ (2024) guidelines for all land uses, including commercial/industrial, a validation soil sampling programme will be completed. Should the validation sampling record remaining non-complying asbestos soil concentrations, then further remedial earthworks will be completed and the validation sampling programme completed.

In addition to the removal of the asbestos soil impacted areas over the site, there are two separate soil/waste stockpiles located within Block 1, which will also need to be disposed of to approved disposal facilities, as detailed in Section 6.5.

10.0 Limitations

This document has been prepared by Pattle Delamore Partners Limited (PDP) on the basis of information provided by Foodstuffs South Island Limited and others including Aurecon and Eliot Sinclair. PDP has not independently verified the provided information and has relied upon it being accurate and sufficient for use by PDP in preparing the document. PDP accepts no responsibility for errors or omissions in, or the currency or sufficiency of, the provided information.

This document has been prepared by PDP on the specific instructions of Foodstuffs South Island Limited for the limited purposes described in the document. PDP accepts no liability if the document is used for a different purpose or if it is used or relied on by any other person. Any such use or reliance will be solely at their own risk.

This document has been prepared based on: a review of site history information, field data gathered by PDP and the results from laboratory analyses of up to 101 soil samples. The site conditions as described in this document have been interpreted from, and are subject to, this information and its limitations and accordingly PDP does not represent that its interpretation accurately represents the full site conditions.

The advice and opinions expressed in this document are based on the observation and sampling of soils at the site. The geological and associated environmental conditions interpolated between the test holes are not guaranteed to be accurate.

The laboratory test results provide an approximation of the concentration of the tested analytes and are subject to the inherent limitations of the laboratory techniques used for the tests.

This assessment is limited to collection and analysis of soil samples from discrete sampling locations. Interpretations of subsurface conditions, including contaminant concentrations, are not guaranteed at distance away from the specific points of sampling.

If contaminants have been found at the site, it is possible that the contaminants could extend off-site, or that any contaminants existing on neighbouring sites might have contributed to the contamination that exists at the site. The presence or absence of contaminants off-site, and risks associated with any off-site contaminants, are not considered by this document.

The information contained within this document applies to sampling undertaken on the date stated in this document, or if none is stated, the date of this document. With time, the site conditions and environmental standards may change. Accordingly, the reported assessment and conclusions are not guaranteed to apply at a later date.

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Yours faithfully

PATTLE DELAMORE PARTNERS LIMITED

Prepared by



Finn Seeds

Environmental Scientist

Reviewed and Approved by

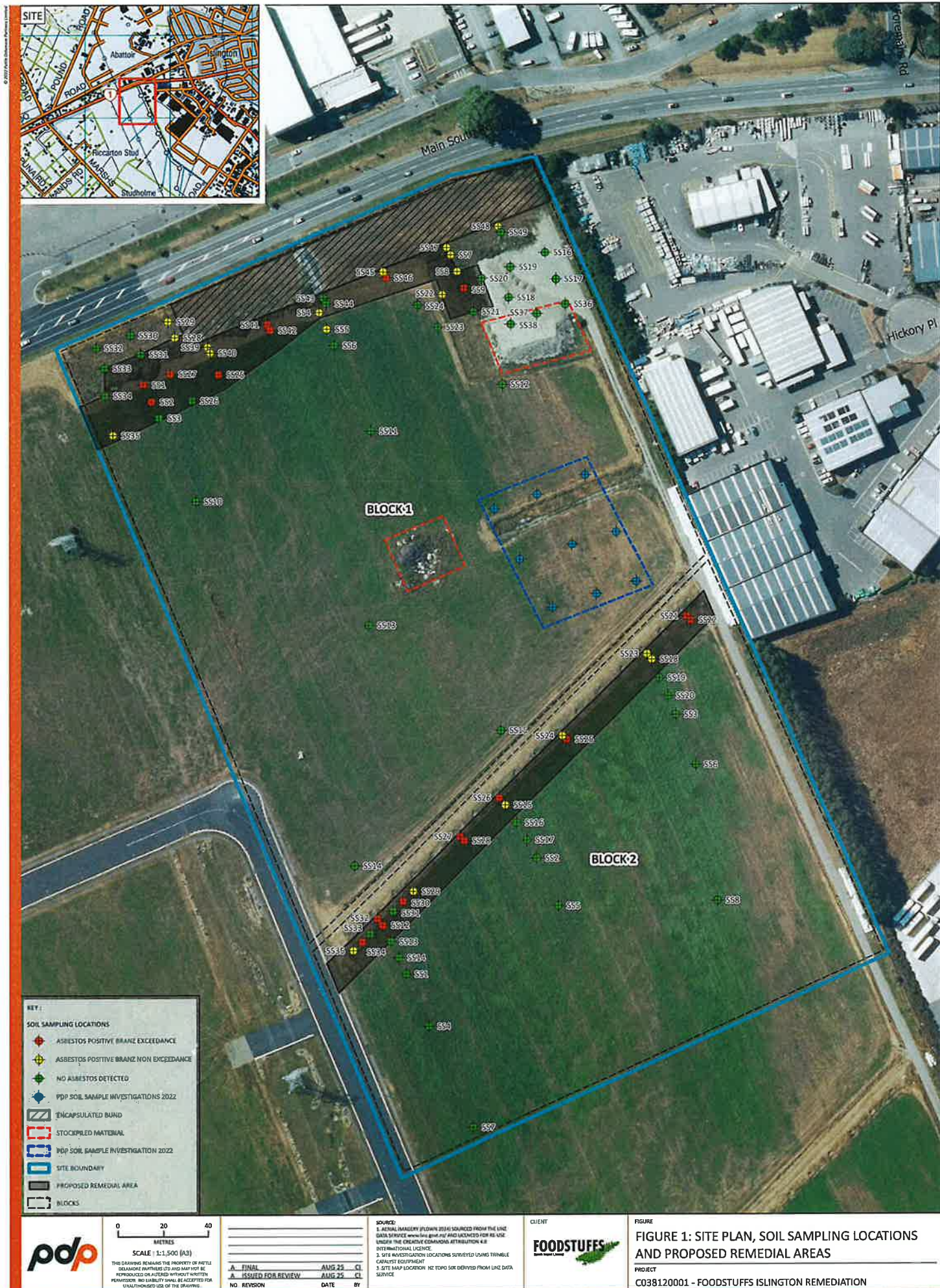


Guy Knoyle

Technical Director - Contaminated Land



Figures



REGULATIONS
© 2018 Sinclair and Partners Ltd. This drawing and all its
information is only to be used for its intended purpose,
all other use is prohibited.

SUPPORT INFORMATION	
SUPPLIER	SWP
SURVEY DATE	12.08.2015
COORDINATE	42001000
CIRCUIT	MS 715000
DATE	12.08.2015
ORIGIN OF LEVELS	32.860

NOTES

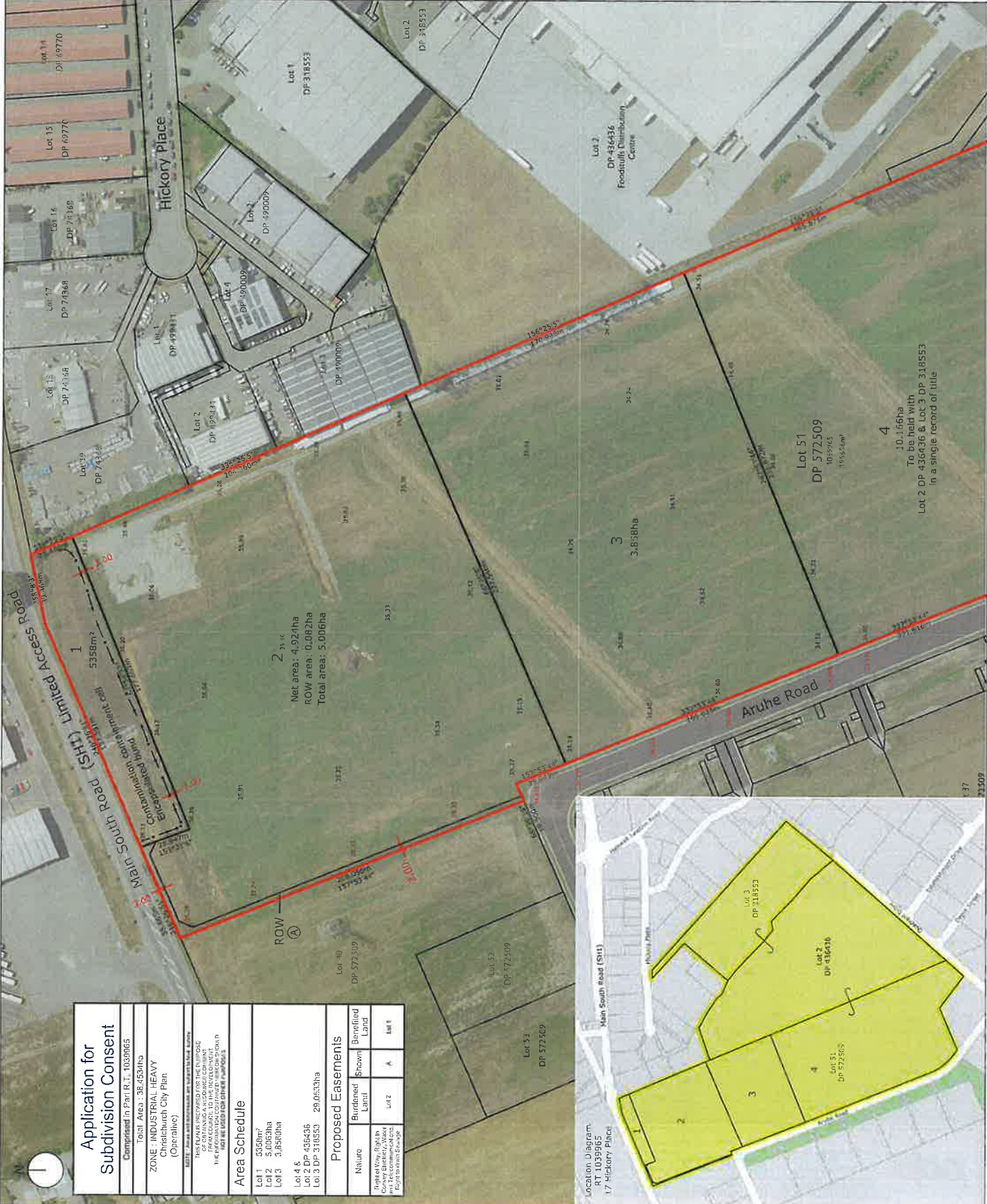
Application for Subdivision Consent

Comprising in Part R.T. 1039965
Total Area: 38.4534ha
ZONE: INDUSTRIAL HEAVY
Christchurch City Plan
(Operative)

NOTE: Areas and boundaries are subject to the Survey
and the Surveyor's Report. The Surveyor's Report
will be available for inspection at the Survey Office
prior to the subdivision consent process.

Area Schedule	
Lot 1	5350m ²
Lot 2	5.0063ha
Lot 3	3.8580ha
Lot 4	29.0632ha

Proposed Easements	
Nature	Benefited Land
Right of Way, Right to Install and Maintain and Operate Sewerage Pipes and Manholes	Lot 1



A. NWF 25.08.2015 Plot Issue

REV. DATE NOTE

CLIENT

FOODSTUFFS (SOUTH ISLAND)
PROPERTIES LTD.

DESIGNED	RWT
DRAWN	WDH
REVIEWED	WDH
APPROVED	WDH
STATUS	FOR INFORMATION
SCALE	1:2000 (A3)

Lot 51 DP 572509
PROPOSED SUBDIVISION
17 HICKORY PLACE, HOBART
CHRISTCHURCH
SUBDIVISION APPLICATION
PART RT 1039965

PROJECT	SET	SHEET	REV.
600011	V3	V100	A

eliot
sinclair



FOODSTUFFS SOUTH ISLAND LIMITED - SOIL SAMPLING INVESTIGATION - Paddock Areas, 17 Hickory
Place, Islington, Christchurch

Site Photographs



Photograph 1: View of Block 2 looking north-west (March/April 2025 Investigation).



Photograph 2: The soil profile of BLK2_SS2 consisting of grass underlain by silty topsoil to 0.2 m bgl. (March/April 2025 Investigation).



Photograph 3: View of the northern end of Block 1 looking north-east, showing the remaining headstocks in the western corner and the encapsulated bund centre picture. (March/April 2025 Investigation).



Photograph 4: A remaining headstock in Block 1. (March/April 2025 Investigation).



Photograph 5: Soil profile of BLK1_SS4 (next to encapsulated bund area) consisting of silty soils with sand down to 0.2 m bgl. (March/April 2025 Investigation).



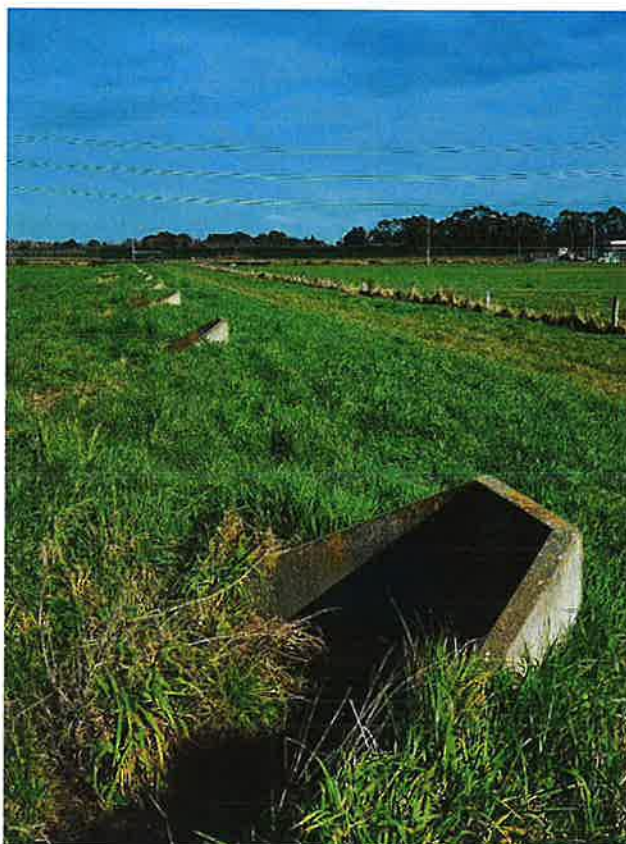
Photograph 6: Two small pieces of glass and one brick fragment were encountered in BLK1_SS8. (March/April 2025 Investigation).



Photograph 7: Soil sample location BLK1_SS8 comprising of silty with sand soil to 0.2 m bgl. A brick fragment was observed at 0.2 m bgl. (March/April 2025 Investigation).



Photograph 8: View of the encapsulated bund looking east. (March/April 2025 Investigation)



Photograph 9: Southern headstocks Block 2 looking west. (August 2025 Investigation).



Photograph 10: Stockpile in north-eastern part of the site (Block 1), viewed looking west. (August 2025 Investigation).



Photograph11: Stockpile in north-eastern part of the site (Block 1), viewed looking south. (August 2025 Investigation).



Photograph 12: Stockpile in north-eastern part of the site (Block 1), viewed looking east. (August 2025 Investigation).



Results Tables

Table 1: Soil Analytical Results - Asbestos - Foodstuffs DC, 17 Hickory Place, Ilington, Christchurch

Sample Name	BLK1_S51_0.05	BLK1_S51_0.2	BLK1_S51_0.05	BLK1_S51_0.2	BLK1_S54_0.05	BLK1_S54_0.2	BLK1_S55_0.05	BLK1_S57_0.05	BRANZ Commercial and Industrial ¹	Protranz Leggett Rd Managed Landfill	Frews Hororata Managed Landfill	Taiko Landfill Acceptance Criteria				
Laboratory Reference	3843460.1	3843460.3	3843460.4	3843460.5	3843460.7	3843460.8	3843460.9	3843460.12								
Sample Location	Block 1															
Sample Depth (m bgl)	0.05	0.2	0.05	0.2	0.05	0.2	0.05	0.05								
Asbestos in Soil																
Asbestos presence (Y/N) ²	Y - Amosite (Brown Asbestos) and Chrysotile (White Asbestos) detected	Y - Amosite (Brown Asbestos) and Chrysotile (White Asbestos) detected	Y - Amosite (Brown Asbestos) and Chrysotile (White Asbestos) detected	Y - Amosite (Brown Asbestos) and Chrysotile (White Asbestos) detected	Y - Chrysotile (White Asbestos) detected	Y - Chrysotile (White Asbestos) detected	Y - Chrysotile (White Asbestos) detected	Y - Chrysotile (White Asbestos) detected	-	-	-	-				
Description of Asbestos Form	ACM debris and loose fibres	ACM debris and loose fibres	loose fibres	loose fibres	loose fibres	loose fibres	loose fibres	loose fibres	-	-	-	-				
Asbestos as ACM ³	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	0.05	5	5	0.05				
Asbestos fines + Fibrous Asbestos ⁴	0.013	0.006	0.004	0.003	< 0.001	< 0.001	< 0.001	< 0.001	0.001	1	1	0.001				
Sample Name	BLK1_S57_0.2	BLK1_S58_0.05	BLK1_S59_0.05	BLK1_S521_0.05	BLK1_S529_0.05	BLK1_S527_0.05	BLK1_S527_0.2	BLK1_S528_0.05	BRANZ Commercial and Industrial ¹	Protranz Leggett Rd Managed Landfill	Frews Hororata Managed Landfill	Taiko Landfill Acceptance Criteria				
Laboratory Reference	3843460.13	3843460.14	3843460.16	3956642.19	3956642.18	3956642.14	3956642.15	3956642.17								
Sample Location	Block 1															
Sample Depth (m bgl)	0.2	0.05	0.05	0.05	0.05	0.05	0.2	0.05								
Asbestos in Soil																
Asbestos presence (Y/N) ²	Y - Chrysotile (White Asbestos) detected	Y - Amosite (Brown Asbestos) and Chrysotile (White Asbestos) detected	Y - Amosite (Brown Asbestos) and Chrysotile (White Asbestos) detected	Y - Chrysotile (White Asbestos) detected	Y - Chrysotile (White Asbestos) detected	Y - Chrysotile (White Asbestos) detected	Y - Amosite (Brown Asbestos) and Chrysotile (White Asbestos) detected	Y - Chrysotile (White Asbestos) detected	-	-	-	-				
Description of Asbestos Form	loose fibres	ACM debris and loose fibres	loose fibres	loose fibres	loose fibres	loose fibres	loose fibres	loose fibres	-	-	-	-				
Asbestos as ACM ³	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	0.05	5	5	0.05				
Asbestos fines + Fibrous Asbestos ⁴	< 0.001	< 0.001	0.018	< 0.001	< 0.001	< 0.001	0.002	< 0.001	0.001	1	1	0.001				
Sample Name	BLK1_S578_0.2	BLK1_S579_0.2	BLK1_S535_0.05	BLK1_S539_0.05	BLK1_S540_0.05	BLK1_S541_0.05	BLK1_S542_0.05	BLK1_S545_0.05	BRANZ Commercial and Industrial ¹	Protranz Leggett Rd Managed Landfill	Frews Hororata Managed Landfill	Taiko Landfill Acceptance Criteria				
Laboratory Reference	3956642.16	3956642.12	3956642.9	3956642.4	3956642.1	3957537.19	3957537.20	3957537.23								
Sample Location	Block 1															
Sample Depth (m bgl)	0.2	0.2	0.05	0.05	0.05	0.05	0.05	0.05								
Asbestos in Soil																
Asbestos presence (Y/N) ²	Y - Chrysotile (White Asbestos) detected	Y - Chrysotile (White Asbestos) detected	Y - Chrysotile (White Asbestos) detected	Y - Amosite (Brown Asbestos) and Chrysotile (White Asbestos) detected	Y - Chrysotile (White Asbestos) detected	Y - Amosite (Brown Asbestos) and Chrysotile (White Asbestos) detected	Y - Amosite (Brown Asbestos) and Chrysotile (White Asbestos) detected	Y - Chrysotile (White Asbestos) detected	-	-	-	-				
Description of Asbestos Form	loose fibres	loose fibres	loose fibres	loose fibres	loose fibres	loose fibres	loose fibres	loose fibres	-	-	-	-				
Asbestos as ACM ³	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	0.05	5	5	0.05				
Asbestos fines + Fibrous Asbestos ⁴	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	0.003	0.018	< 0.001	0.001	1	1	0.001				
Sample Name	BLK1_S548_0.05	BLK1_S547_0.05	BLK1_S548_0.05						BRANZ Commercial and Industrial ¹	Protranz Leggett Rd Managed Landfill	Frews Hororata Managed Landfill	Taiko Landfill Acceptance Criteria				
Laboratory Reference	3957537.24	3957537.25	3957537.26													
Sample Location	Block 1															
Sample Depth (m bgl)	0.05	0.05	0.05													
Asbestos in Soil																
Asbestos presence (Y/N) ²	Y - Amosite (Brown Asbestos) and Chrysotile (White Asbestos) detected	Y - Amosite (Brown Asbestos) and Chrysotile (White Asbestos) detected	Y - Chrysotile (White Asbestos) detected						-	-	-	-				
Description of Asbestos Form	loose fibres	loose fibres	loose fibres						-	-	-	-				
Asbestos as ACM ³	< 0.001	< 0.001	< 0.001						0.05	5	5	0.05				
Asbestos fines + Fibrous Asbestos ⁴	0.003	< 0.001	< 0.001						0.001	1	1	0.001				
Sample Name	BLK2_S512_0.05	BLK2_S515_0.05	BLK2_S518_0.05	BLK2_S518_0.2	BLK2_S521_0.05	BLK2_S522_0.05	BLK2_S523_0.05	BLK2_S524_0.05	BRANZ Commercial and Industrial ¹	Protranz Leggett Rd Managed Landfill	Frews Hororata Managed Landfill	Taiko Landfill Acceptance Criteria				
Laboratory Reference	3442103.1	3442103.6	3442103.11	3442103.12	3957537.1	3957537.2	3957537.3	3957537.4								
Sample Location	Block 2															
Sample Depth (m bgl)	0.05	0.05	0.05	0.2	0.05	0.05	0.05	0.05								
Asbestos in Soil																
Asbestos presence (Y/N) ²	Y - Chrysotile (White Asbestos) detected	Y - Chrysotile (White Asbestos) detected	Y - Chrysotile (White Asbestos) detected	Y - Chrysotile (White Asbestos) detected	Y - Amosite (Brown Asbestos) and Chrysotile (White Asbestos) detected	Y - Amosite (Brown Asbestos) and Chrysotile (White Asbestos) detected	Y - Amosite (Brown Asbestos) and Chrysotile (White Asbestos) detected	Y - Amosite (Brown Asbestos) and Chrysotile (White Asbestos) detected	-	-	-	-				
Description of Asbestos Form	ACM debris and loose fibres	loose fibres	ACM debris and loose fibres	loose fibres	loose fibres	loose fibres	loose fibres	loose fibres	-	-	-	-				
Asbestos as ACM ³	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	0.05	5	5	0.05				
Asbestos fines + Fibrous Asbestos ⁴	0.002	< 0.001	< 0.001	< 0.001	0.004	0.003	< 0.001	< 0.001	0.001	1	1	0.001				
Sample Name	BLK2_S525_0.05	BLK2_S526_0.05	BLK2_S527_0.05	BLK2_S528_0.05	BLK2_S529_0.05	BLK2_S530_0.05	BLK2_S532_0.05	BLK2_S534_0.05	BRANZ Commercial and Industrial ¹	Protranz Leggett Rd Managed Landfill	Frews Hororata Managed Landfill	Taiko Landfill Acceptance Criteria				
Laboratory Reference	3957537.5	3957537.6	3957537.7	3957537.8	3957537.9	3957537.10	3957537.12	3957537.14								
Sample Location	Block 2															
Sample Depth (m bgl)	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05								
Asbestos in Soil																
Asbestos presence (Y/N) ²	Y - Amosite (Brown Asbestos) and Chrysotile (White Asbestos) detected	Y - Amosite (Brown Asbestos) and Chrysotile (White Asbestos) detected	Y - Amosite (Brown Asbestos) and Chrysotile (White Asbestos) detected	Y - Amosite (Brown Asbestos) and Chrysotile (White Asbestos) detected	Y - Chrysotile (White Asbestos) detected	Y - Chrysotile (White Asbestos) detected	Y - Amosite (Brown Asbestos) and Chrysotile (White Asbestos) detected	Y - Amosite (Brown Asbestos) and Chrysotile (White Asbestos) detected	-	-	-	-				
Description of Asbestos Form	loose fibres	loose fibres	loose fibres	ACM debris and loose fibres	loose fibres	loose fibres	ACM debris and loose fibres	ACM debris and loose fibres	-	-	-	-				
Asbestos as ACM ³	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	0.05	5	5	0.05				
Asbestos fines + Fibrous Asbestos ⁴	0.004	0.018	0.016	0.042	< 0.001	0.002	0.004	0.005	0.001	1	1	0.001				
Sample Name	BLK2_S535_0.05								BRANZ Commercial and Industrial ¹	Protranz Leggett Rd Managed Landfill	Frews Hororata Managed Landfill	Taiko Landfill Acceptance Criteria				
Laboratory Reference	3957537.15															
Sample Location	Block 3															
Sample Depth (m bgl)	0.05															
Asbestos in Soil																
Asbestos presence (Y/N) ²	Y - Chrysotile (White Asbestos) detected								-	-	-	-				
Description of Asbestos Form	loose fibres								-	-	-	-				
Asbestos as ACM ³	< 0.001								0.05	5	5	0.05				
Asbestos fines + Fibrous Asbestos ⁴	< 0.001								0.001	1	1	0.001				
0.013 Concentration on above soil guideline values for asbestos for commercial and industrial areas and Taiko Landfill Acceptance Criteria. Ecan consent CR242661 Table 1 states if concentrations above the acceptance criteria then air monitoring criterion set at 0.013																

0.013 Concentration above soil guideline values for asbestos for commercial and industrial areas and Taiko Landfill Acceptance Criteria. Ecan consent CRC224661 Table 1 states if concentrations above the acceptance criteria then air monitoring criterion set at 0.1 I/Lm.

Notes:

- Criteria from New Zealand Guidelines for Assessing and Managing Asbestos in Soil - Commercial and Industrial (BRANZ guidelines, 2024).
- Asbestos presence / absence from analytical testing (Y = yes or N = no).
- Weight of asbestos in ACM as a percent of the total sample (weight for weight percent (w/w %)).
- Combined fibrous asbestos and asbestos fines as weight for weight percentage (w/w %) of the total sample.
- Ecan consent CRC224661 Table 1 states if concentrations above the acceptance criteria then air monitoring criterion set at 0.1 I/Lm.
- All other soil samples analysed for asbestos across Block 1 and Block 2 had results that were less than the laboratory limit of detection and therefore have not been tabulated. All laboratory reports are attached.

Table 2: Soil Analytical Results - Heavy Metals - Foodstuffs DC, 17 Hickory Place, Islington, Christchurch

Sample Name	BLK1_S51_0.05	BLK1_S52_0.2	BLK1_S53_0.05	BLK1_S54_0.2	BLK1_S55_0.05	BLK1_S57_0.05	BLK1_S58_0.2	Human Health Based Soil Contaminant Standard Commercial/Industrial Outdoor Worker (Unpaved)	Proport Leggett Rd Acceptance Criteria ¹	Takko Landfill Acceptance Criteria	Freem Hospital Acceptance Criteria
Laboratory Reference	3843459.1	3843459.2	3843459.3	3843459.4	3843459.5	3843459.6	3843459.8				
Sample Location	Block 1										
Sample Depth (m bgl)	0.05	0.2	0.05	0.2	0.05	0.05	0.2	0.2	0.2	0.2	
Heavy Metals (Total)											
Arsenic	3	3	4	4	3	4	4	20 ¹	12.58	70	140
Cadmium	0.10	0.21	0.22	0.15	0.22	0.13	0.15	3 ^{1,2}	0.19	10	55
Chromium	12	15	15	13	16	15	14	460 ^{1,2}	22.70	150	375
Copper	10	13	11	9	15	12	12	>10,000 ¹	20.30	260	500
Lead	11.1	18.3	20	67	23	29	37	210 ¹	40.96	460	500
Manganese	162	210	240	240	210	260	240	40,000 ²	594.5	-	600
Nickel	8	11	10	10	12	10	11	400 ¹	20.70	320	2,000
Zinc	56	95	113	99	100	86	98	7,400 ¹	93.94	1,200	1,800
Sample Name											
Laboratory Reference	3843459.9	3843459.10	3843459.11	3843459.12							
Sample Location	Block 1										
Sample Depth (m bgl)	0.05	0.05	0.05	0.05							
Heavy Metals (Total)											
Arsenic	3	3	4	4							
Cadmium	0.13	0.19	0.15	0.14							
Chromium	17	25	14	14							
Copper	16	11	9	9							
Lead	19.2	22	26	19.5							
Manganese	172	230	260	270							
Nickel	11	11	11	11							
Zinc	69	113	104	95							
Sample Name											
Laboratory Reference	3822455.1	3822455.2	3822455.3	3822455.4	3822455.6	3841985.1	3841985.2	Human Health Based Soil Contaminant Standard Commercial/Industrial Outdoor Worker (Unpaved)	Proport Leggett Rd Acceptance Criteria ¹	Takko Landfill Acceptance Criteria	Freem Hospital Acceptance Criteria
Sample Location	Block 2										
Sample Depth (m bgl)	0.05	0.05	0.05	0.05	0.05	0.05	0.2	0.05	0.2	0.05	
Heavy Metals (Total)											
Arsenic	4	3	4	4	3	3	4	20 ¹	12.58	70	140
Cadmium	0.17	0.15	0.18	0.16	0.19	0.20	0.19	3 ^{1,2}	0.19	10	55
Chromium	16	14	15	14	18	16	17	460 ^{1,2}	22.70	150	375
Copper	11	9	12	10	30	14	12	>10,000 ¹	20.30	260	500
Lead	27	15.9	37	15.1	26	30	30	210 ¹	40.96	460	500
Manganese	290	210	360	270	230	240	260	40,000 ²	594.5	-	600
Nickel	12	10	13	10	12	10	13	400 ¹	20.70	320	2,000
Zinc	113	95	115	95	91	116	112	7,400 ¹	93.94	1,200	1,800
Sample Name											
Laboratory Reference	BLK2_S516_0.05	BLK2_S516_0.2	BLK2_S518_0.05	BLK2_S518_0.2	BLK2_S519_0.2	BLK2_S520_0.05					
Sample Location	3841985.4	3841985.5	3841985.6	3841985.7	3841985.8	3841985.9					
Sample Depth (m bgl)	0.05	0.2	0.05	0.2	0.2	0.05					
Heavy Metals (Total)											
Arsenic	3	4	3	4	3	3					
Cadmium	0.21	0.14	0.18	0.19	0.17	0.20					
Chromium	18	15	17	16	16	16					
Copper	13	9	12	11	11	10					
Lead	18.0	14.7	19.4	26	19.3	17.0					
Manganese	230	240	365	220	210	210					
Nickel	12	11	10	10	11	11					
Zinc	113	81	93	110	109	105					

Concentrations above Typical Christchurch Cleanfill Acceptance Criteria - i.e. for Proport Leggett Rd disposal option.

Notes

All results in mg/kg

1. Methodology for Deriving Standards for Contaminants in Soil to Protect Human Health (MfE, 2011) - Commercial/Industrial Outdoor Worker (Unpaved)

2. Guideline on Investigation Levels for Soil and Groundwater (Assessment of Site Contamination Amendment Measure 2013) (MfE, 2013) - Residential Land Use.

3. Acceptance Criteria for typical Christchurch Cleanfill (western Christchurch) based on Environment Canterbury Regional Background Concentrations for Regional - Recent soil type. Background concentration value based on maximum plus half inter-quartile range.

4. Based on a default pH of 5.

5. Soil contaminant standard for Cr-VI used as a conservative approach.



FOODSTUFFS SOUTH ISLAND LIMITED • SOIL SAMPLING INVESTIGATION – Paddock Areas, 17 Hickory
Place, Islington, Christchurch

Laboratory Reports

Certificate of Analysis

Page 1 of 3

Client:	Pattle Delamore Partners Limited	Lab No:	3822454	A2Pv1.1
Contact:	Mr G Knoyle C/- Pattle Delamore Partners Limited PO Box 389 Christchurch 8140	Date Received:	20-Mar-2025	
		Date Reported:	22-Aug-2025	
		Quote No:	81087	
		Order No:	C03812100	
		Client Reference:	C03812100	
		Submitted By:	Miriam Clark	

Sample Type: Soil

Sample Name:	BLK2_SS1_0.05 20-Mar-2025	BLK2_SS1_0.2 20-Mar-2025	BLK2_SS2_0.05 20-Mar-2025	BLK2_SS2_0.2 20-Mar-2025	BLK2_SS3_0.05 20-Mar-2025
Lab Number:	3822454.1	3822454.2	3822454.3	3822454.4	3822454.5
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 703.9	g 815.9	g 666.7	g 783.0	g 702.7
Dry Weight	g 532.0	g 659.5	g 499.7	g 633.3	g 573.7
Moisture*	% 24	% 19	% 25	% 19	% 18
Sample Fraction >10mm	g dry wt 0.4	g dry wt < 0.1	g dry wt 0.6	g dry wt < 0.1	g dry wt 0.6
Sample Fraction <10mm to >2mm	g dry wt 5.3	g dry wt 8.9	g dry wt 11.1	g dry wt 2.8	g dry wt 12.1
Sample Fraction <2mm	g dry wt 524.9	g dry wt 649.3	g dry wt 486.8	g dry wt 629.5	g dry wt 559.9
<2mm Subsample Weight	g dry wt 50.2	g dry wt 51.0	g dry wt 51.9	g dry wt 51.1	g dry wt 50.2
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:	BLK2_SS3_0.2 20-Mar-2025	BLK2_SS4_0.05 20-Mar-2025	BLK2_SS5_0.05 20-Mar-2025	BLK2_SS6_0.05 20-Mar-2025	BLK2_SS7_0.05 20-Mar-2025
Lab Number:	3822454.6	3822454.7	3822454.8	3822454.9	3822454.10
Asbestos Presence / Absence	Asbestos NOT detected.	Asbestos NOT detected.	Asbestos NOT detected.	Asbestos NOT detected.	Asbestos NOT detected.
Description of Asbestos Form	-	-	-	-	-
Asbestos in ACM as % of Total Sample*	% w/w < 0.001	% w/w < 0.001	% w/w < 0.001	% w/w < 0.001	% w/w < 0.001
Combined Fibrous Asbestos + Asbestos Fines as % of Total Sample*	% w/w < 0.001	% w/w < 0.001	% w/w < 0.001	% w/w < 0.001	% w/w < 0.001
Asbestos as Fibrous Asbestos as % of Total Sample*	% w/w < 0.001	% w/w < 0.001	% w/w < 0.001	% w/w < 0.001	% w/w < 0.001
Asbestos as Asbestos Fines as % of Total Sample*	% w/w < 0.001	% w/w < 0.001	% w/w < 0.001	% w/w < 0.001	% w/w < 0.001
As Received Weight	g 776.6	g 670.7	g 703.6	g 677.8	g 695.7
Dry Weight	g 646.4	g 500.6	g 484.5	g 522.0	g 515.0
Moisture*	% 17	% 25	% 31	% 23	% 26



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

Sample Type: Soil					
Sample Name:		BLK2_SS3_0.2 20-Mar-2025	BLK2_SS4_0.05 20-Mar-2025	BLK2_SS5_0.05 20-Mar-2025	BLK2_SS6_0.05 20-Mar-2025
Lab Number:		3822454.6	3822454.7	3822454.8	3822454.9
Sample Fraction >10mm	g dry wt	0.1	1.6	< 0.1	0.7
Sample Fraction <10mm to >2mm	g dry wt	0.8	30.0	5.6	8.6
Sample Fraction <2mm	g dry wt	644.4	467.7	478.1	511.8
<2mm Subsample Weight	g dry wt	53.0	50.2	50.7	53.4
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:		BLK2_SS8_0.05 20-Mar-2025			
Lab Number:		3822454.11			
Asbestos Presence / Absence		Asbestos NOT detected.			
Description of Asbestos Form					
Asbestos in ACM as % of Total Sample*	% w/w	< 0.001			
Combined Fibrous Asbestos + Asbestos Fines as % of Total Sample*	% w/w	< 0.001			
Asbestos as Fibrous Asbestos as % of Total Sample*	% w/w	< 0.001			
Asbestos as Asbestos Fines as % of Total Sample*	% w/w	< 0.001			
As Received Weight	g	635.4			
Dry Weight	g	468.6			
Moisture*	%	26			
Sample Fraction >10mm	g dry wt	0.8			
Sample Fraction <10mm to >2mm	g dry wt	9.7			
Sample Fraction <2mm	g dry wt	457.1			
<2mm Subsample Weight	g dry wt	50.3			
Weight of Asbestos in ACM (Non-Friable)	g dry wt	< 0.00001			
Weight of Asbestos as Fibrous Asbestos (Friable)	g dry wt	< 0.00001			
Weight of Asbestos as Asbestos Fines (Friable)*	g dry wt	< 0.00001			

Glossary of Terms

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

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

The following assumptions have been made:

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

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

Analyst's Comments
This certificate of analysis contains information extracted from 3822454-A2Pv1 issued on 25-Mar-2025 at 1:39 pm.

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.

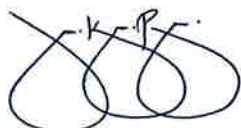
Sample Type: Soil			
Test	Method Description	Default Detection Limit	Sample No
New Zealand Guidelines Semi Quantitative Asbestos in Soil			
As Received Weight	Measurement on analytical balance. Analysed at Hill Laboratories - Asbestos; Unit 1, 17 Print Place, Middleton, Christchurch.	0.1 g	1-11
Dry Weight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

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

Testing was completed on 25-Mar-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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John Keneth Paglingayen BAPSc
Laboratory Technician - Asbestos

Certificate of Analysis

Page 1 of 4

Client:	Pattle Delamore Partners Limited	Lab No:	3842103	A2Pv1.1
Contact:	Mr G Knoyle C/- Pattle Delamore Partners Limited PO Box 389 Christchurch 8140	Date Received:	02-Apr-2025	
		Date Reported:	22-Aug-2025	
		Quote No:	81087	
		Order No:		
		Client Reference:	C03812100	
		Submitted By:	Miriam Clark	

Sample Type: Soil

Sample Name:	BLK2_SS12_0.05	BLK2_SS12_0.2	BLK2_SS13_0.05	BLK2_SS13_0.2	BLK2_SS14_0.05
	02-Apr-2025	02-Apr-2025	02-Apr-2025	02-Apr-2025	02-Apr-2025
Lab Number:	3842103.1	3842103.2	3842103.3	3842103.4	3842103.5
Asbestos Presence / Absence	Chrysotile (White Asbestos) detected.	Asbestos NOT detected.	Asbestos NOT detected.	Asbestos NOT detected.	Asbestos NOT detected.
Description of Asbestos Form	ACM debris and Loose fibres	-	-	-	-
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	0.007	< 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	0.007	< 0.001	< 0.001	< 0.001
As Received Weight	g	613.6	605.8	501.0	634.9
Dry Weight	g	518.1	516.0	409.0	532.8
Moisture*	%	16	15	18	16
Sample Fraction >10mm	g dry wt	< 0.1	8.5	< 0.1	< 0.1
Sample Fraction <10mm to >2mm	g dry wt	0.4	2.1	0.4	1.6
Sample Fraction <2mm	g dry wt	516.4	503.7	407.0	529.5
<2mm Subsample Weight	g dry wt	51.7	53.5	58.0	55.3
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	0.03414	< 0.00001	< 0.00001	< 0.00001

Sample Name:	BLK2_SS15_0.05	BLK2_SS15_0.2	BLK2_SS16_0.05	BLK2_SS16_0.2	BLK2_SS17_0.05
	02-Apr-2025	02-Apr-2025	02-Apr-2025	02-Apr-2025	02-Apr-2025
Lab Number:	3842103.6	3842103.7	3842103.8	3842103.9	3842103.10
Asbestos Presence / Absence	Chrysotile (White Asbestos) detected.	Asbestos NOT detected.	Asbestos NOT detected.	Asbestos NOT detected.	Asbestos NOT detected.
Description of Asbestos Form	Loose fibres	-	-	-	-
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	566.7	641.7	585.3	787.7
Dry Weight	g	461.7	528.1	473.5	676.4



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Sample Type: Soil						
Sample Name:		BLK2_SS15_0.05 02-Apr-2025	BLK2_SS15_0.2 02-Apr-2025	BLK2_SS16_0.05 02-Apr-2025	BLK2_SS16_0.2 02-Apr-2025	BLK2_SS17_0.05 02-Apr-2025
Lab Number:		3842103.6	3842103.7	3842103.8	3842103.9	3842103.10
Moisture*	%	19	18	19	14	20
Sample Fraction >10mm	g dry wt	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Sample Fraction <10mm to >2mm	g dry wt	0.2	0.1	10.2	< 0.1	0.6
Sample Fraction <2mm	g dry wt	459.7	526.9	461.4	674.9	365.2
<2mm Subsample Weight	g dry wt	54.9	51.4	58.8	57.5	54.5
Weight of Asbestos in ACM (Non-Friable)	g dry wt	< 0.00001	< 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	< 0.00001
Weight of Asbestos as Asbestos Fines (Friable)*	g dry wt	0.00084	< 0.00001	< 0.00001	< 0.00001	< 0.00001

Sample Name:		BLK2_SS18_0.05 02-Apr-2025	BLK2_SS18_0.2 02-Apr-2025	BLK2_SS19_0.05 02-Apr-2025	BLK2_SS19_0.2 02-Apr-2025	BLK2_SS20_0.05 02-Apr-2025
Lab Number:		3842103.11	3842103.12	3842103.13	3842103.14	3842103.15
Asbestos Presence / Absence		Chrysotile (White Asbestos) detected.	Chrysotile (White Asbestos) detected.	Asbestos NOT detected.	Asbestos NOT detected.	Asbestos NOT detected.
Description of Asbestos Form		ACM debris and Loose fibres	Loose fibres	-	-	-
Asbestos in ACM as % of Total Sample*	% w/w	< 0.001	< 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	< 0.001
Asbestos as Fibrous Asbestos as % of Total Sample*	% w/w	< 0.001	< 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	< 0.001
As Received Weight	g	666.3	700.0	559.5	627.1	631.6
Dry Weight	g	551.3	597.6	446.7	520.0	534.8
Moisture*	%	17	15	20	17	15
Sample Fraction >10mm	g dry wt	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Sample Fraction <10mm to >2mm	g dry wt	0.3	8.1	< 0.1	0.2	0.6
Sample Fraction <2mm	g dry wt	549.4	587.6	445.4	518.5	533.1
<2mm Subsample Weight	g dry wt	58.6	53.7	51.1	58.4	59.8
Weight of Asbestos in ACM (Non-Friable)	g dry wt	< 0.00001	< 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	< 0.00001
Weight of Asbestos as Asbestos Fines (Friable)*	g dry wt	0.00418	0.00055	< 0.00001	< 0.00001	< 0.00001

Glossary of Terms

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

For further details, please contact the Asbestos Team.

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

The following assumptions have been made:

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

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

Analyst's Comments

This certificate of analysis contains information extracted from 3842103-A2Pv1 issued on 07-Apr-2025 at 3:13 pm.

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.

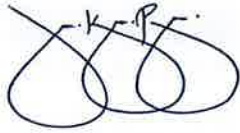
Sample Type: Soil			
Test	Method Description	Default Detection Limit	Sample No
New Zealand Guidelines Semi Quantitative Asbestos in Soil			
As Received Weight	Measurement on analytical balance. Analysed at Hill Laboratories - Asbestos; Unit 1, 17 Print Place, Middleton, Christchurch.	0.1 g	1-15
Dry Weight	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	1-15
Moisture*	Sample dried at 100 to 105°C. Calculation = (As received weight - Dry weight) / as received weight x 100.	1 %	1-15
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	1-15
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	1-15
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	1-15
Asbestos Presence / Absence	Examination using Low Powered Stereomicroscopy followed by 'Polarised Light Microscopy' including 'Dispersion Staining Techniques'. Analysed at Hill Laboratories - Asbestos; Unit 1, 17 Print Place, Middleton, Christchurch. AS 4964 (2004) - Method for the Qualitative Identification of Asbestos in Bulk Samples.	0.01%	1-15
Description of Asbestos Form	Description of asbestos form and/or shape if present.	-	1-15
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	1-15
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	1-15
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	1-15
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	1-15
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	1-15
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	1-15
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	1-15

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

Testing was completed between 04-Apr-2025 and 07-Apr-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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A handwritten signature in black ink, appearing to read 'John Keneth Paglingayen', with a stylized flourish at the end.

John Keneth Paglingayen BApSc
Laboratory Technician - Asbestos

Certificate of Analysis

Page 1 of 4

Client:	Pattle Delamore Partners Limited	Lab No:	3843460	A2Pv1
Contact:	Mr G Knoyle C/- Pattle Delamore Partners Limited PO Box 389 Christchurch 8140	Date Received:	03-Apr-2025	
		Date Reported:	08-Apr-2025	
		Quote No:	81087	
		Order No:		
		Client Reference:	C03812100	
		Submitted By:	Miriam Clark	

Sample Type: Soil

Sample Name:	BLK1_SS1_0.05 03-Apr-2025	BLK1_SS1_0.2 03-Apr-2025	BLK1_SS2_0.05 03-Apr-2025	BLK1_SS2_0.2 03-Apr-2025	BLK1_SS3_0.05 03-Apr-2025
Lab Number:	3843460.1	3843460.3	3843460.4	3843460.5	3843460.6
Asbestos Presence / Absence	Amosite (Brown Asbestos) and Chrysotile (White Asbestos) detected.	Amosite (Brown Asbestos) and Chrysotile (White Asbestos) detected.	Amosite (Brown Asbestos) and Chrysotile (White Asbestos) detected.	Amosite (Brown Asbestos) and Chrysotile (White Asbestos) detected.	Asbestos NOT detected.
Description of Asbestos Form	ACM debris and Loose fibres	ACM debris and Loose fibres	Loose fibres	Loose fibres	-
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	0.013	0.006	0.004	0.002
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	0.013	0.006	0.004	0.002
As Received Weight	g	651.2	752.3	604.0	643.3
Dry Weight	g	485.1	605.5	534.5	547.6
Moisture*	%	26	20	12	15
Sample Fraction >10mm	g dry wt	10.2	42.7	4.4	< 0.1
Sample Fraction <10mm to >2mm	g dry wt	37.7	87.0	64.3	55.4
Sample Fraction <2mm	g dry wt	435.0	473.1	463.2	489.2
<2mm Subsample Weight	g dry wt	56.0	51.7	52.4	56.9
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	0.06231	0.03730	0.02312	0.01206

Sample Name:	BLK1_SS4_0.05 03-Apr-2025	BLK1_SS4_0.2 03-Apr-2025	BLK1_SS5_0.05 03-Apr-2025	BLK1_SS5_0.2 03-Apr-2025	BLK1_SS6_0.05 03-Apr-2025
Lab Number:	3843460.7	3843460.8	3843460.9	3843460.10	3843460.11
Asbestos Presence / Absence	Chrysotile (White Asbestos) detected.	Chrysotile (White Asbestos) detected.	Chrysotile (White Asbestos) detected.	Asbestos NOT detected.	Asbestos NOT detected.
Description of Asbestos Form	Loose fibres	Loose fibres	Loose fibres	-	-
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



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Sample Type: Soil						
Sample Name:		BLK1_SS4_0.05 03-Apr-2025	BLK1_SS4_0.2 03-Apr-2025	BLK1_SS5_0.05 03-Apr-2025	BLK1_SS5_0.2 03-Apr-2025	BLK1_SS6_0.05 03-Apr-2025
Lab Number:		3843460.7	3843460.8	3843460.9	3843460.10	3843460.11
As Received Weight	g	838.4	751.9	643.5	710.7	557.6
Dry Weight	g	664.3	643.7	516.4	593.3	453.2
Moisture*	%	21	14	20	17	19
Sample Fraction >10mm	g dry wt	7.4	4.1	5.5	5.4	21.3
Sample Fraction <10mm to >2mm	g dry wt	122.3	18.4	135.2	122.8	82.3
Sample Fraction <2mm	g dry wt	532.5	619.9	372.4	463.1	348.7
<2mm Subsample Weight	g dry wt	57.1	52.6	58.9	52.3	57.5
Weight of Asbestos in ACM (Non-Friable)	g dry wt	< 0.00001	< 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	< 0.00001
Weight of Asbestos as Asbestos Fines (Friable)*	g dry wt	0.00563	0.00020	0.00020	< 0.00001	< 0.00001

Sample Name:		BLK1_SS7_0.05 03-Apr-2025	BLK1_SS7_0.2 03-Apr-2025	BLK1_SS8_0.05 03-Apr-2025	BLK1_SS8_0.2 03-Apr-2025	BLK1_SS9_0.05 03-Apr-2025
Lab Number:		3843460.12	3843460.13	3843460.14	3843460.15	3843460.16
Asbestos Presence / Absence		Chrysotile (White Asbestos) detected.	Chrysotile (White Asbestos) detected.	Amosite (Brown Asbestos) and Chrysotile (White Asbestos) detected.	Asbestos NOT detected.	Amosite (Brown Asbestos) and Chrysotile (White Asbestos) detected.
Description of Asbestos Form		Loose fibres	Loose fibres	ACM debris and Loose fibres	-	Loose fibres
Asbestos in ACM as % of Total Sample*	% w/w	< 0.001	< 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	0.010
Asbestos as Fibrous Asbestos as % of Total Sample*	% w/w	< 0.001	< 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	0.010
As Received Weight	g	644.0	745.2	782.9	836.6	590.8
Dry Weight	g	535.5	658.0	643.6	746.0	449.0
Moisture*	%	17	12	18	11	24
Sample Fraction >10mm	g dry wt	120.4	88.0	42.4	< 0.1	2.6
Sample Fraction <10mm to >2mm	g dry wt	178.0	108.7	178.8	77.4	86.2
Sample Fraction <2mm	g dry wt	236.3	459.8	421.2	667.1	359.0
<2mm Subsample Weight	g dry wt	52.3	54.7	51.1	51.8	53.3
Weight of Asbestos in ACM (Non-Friable)	g dry wt	< 0.00001	< 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	< 0.00001
Weight of Asbestos as Asbestos Fines (Friable)*	g dry wt	0.00404	0.00010	0.00252	< 0.00001	0.04584

Sample Name:		BLK1_SS10_0.05 03-Apr-2025	BLK1_SS11_0.05 03-Apr-2025	BLK1_SS12_0.05 03-Apr-2025	BLK1_SS13_0.05 03-Apr-2025	BLK1_SS14_0.05 03-Apr-2025
Lab Number:		3843460.17	3843460.18	3843460.19	3843460.20	3843460.21
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	< 0.001
Combined Fibrous Asbestos + Asbestos Fines as % of Total Sample*	% w/w	< 0.001	< 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	< 0.001
Asbestos as Asbestos Fines as % of Total Sample*	% w/w	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
As Received Weight	g	512.3	666.9	515.7	655.2	663.0
Dry Weight	g	417.3	517.3	390.3	502.2	511.3

Sample Type: Soil					
Sample Name:		BLK1_SS10_0.05	BLK1_SS11_0.05	BLK1_SS12_0.05	BLK1_SS13_0.05
		03-Apr-2025	03-Apr-2025	03-Apr-2025	03-Apr-2025
Lab Number:		3843460.17	3843460.18	3843460.19	3843460.20
					3843460.21
Moisture*	%	19	22	24	23
Sample Fraction >10mm	g dry wt	3.3	< 0.1	0.2	2.7
Sample Fraction <10mm to >2mm	g dry wt	35.9	19.0	12.5	79.9
Sample Fraction <2mm	g dry wt	376.7	496.9	376.8	418.4
<2mm Subsample Weight	g dry wt	58.9	51.2	52.0	55.6
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:		BLK1_SS15_0.05 03-Apr-2025			
Lab Number:		3843460.22			
Asbestos Presence / Absence		Asbestos NOT detected.			
Description of Asbestos Form		-			
Asbestos in ACM as % of Total Sample*	% w/w	< 0.001			
Combined Fibrous Asbestos + Asbestos Fines as % of Total Sample*	% w/w	< 0.001			
Asbestos as Fibrous Asbestos as % of Total Sample*	% w/w	< 0.001			
Asbestos as Asbestos Fines as % of Total Sample*	% w/w	< 0.001			
As Received Weight	g	580.2			
Dry Weight	g	455.8			
Moisture*	%	21			
Sample Fraction >10mm	g dry wt	0.5			
Sample Fraction <10mm to >2mm	g dry wt	66.7			
Sample Fraction <2mm	g dry wt	387.4			
<2mm Subsample Weight	g dry wt	52.6			
Weight of Asbestos in ACM (Non-Friable)	g dry wt	< 0.00001			
Weight of Asbestos as Fibrous Asbestos (Friable)	g dry wt	< 0.00001			
Weight of Asbestos as Asbestos Fines (Friable)*	g dry wt	< 0.00001			

Glossary of Terms

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

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

The following assumptions have been made:

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

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

Summary of Methods

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

Sample Type: Soil			
Test	Method Description	Default Detection Limit	Sample No
New Zealand Guidelines Semi Quantitative Asbestos in Soil			
As Received Weight	Measurement on analytical balance. Analysed at Hill Laboratories - Asbestos; Unit 1, 17 Print Place, Middleton, Christchurch.	0.1 g	1, 3-22
Dry Weight	Sample dried at 100 to 105°C, measurement on balance. Analysed at Hill Laboratories - Asbestos; Unit 1, 17 Print Place, Middleton, Christchurch.	0.1 g	1, 3-22
Moisture*	Sample dried at 100 to 105°C. Calculation = (As received weight - Dry weight) / as received weight x 100.	1 %	1, 3-22
Sample Fraction >10mm	Sample dried at 100 to 105°C, 10mm sieve, measurement on analytical balance. Analysed at Hill Laboratories - Asbestos; Unit 1, 17 Print Place, Middleton, Christchurch.	0.1 g dry wt	1, 3-22
Sample Fraction <10mm to >2mm	Sample dried at 100 to 105°C, 10mm and 2mm sieve, measurement on analytical balance. Analysed at Hill Laboratories - Asbestos; Unit 1, 17 Print Place, Middleton, Christchurch.	0.1 g dry wt	1, 3-22
Sample Fraction <2mm	Sample dried at 100 to 105°C, 2mm sieve, measurement on analytical balance. Analysed at Hill Laboratories - Asbestos; Unit 1, 17 Print Place, Middleton, Christchurch.	0.1 g dry wt	1, 3-22
Asbestos Presence / Absence	Examination using Low Powered Stereomicroscopy followed by 'Polarised Light Microscopy' including 'Dispersion Staining Techniques'. Analysed at Hill Laboratories - Asbestos; Unit 1, 17 Print Place, Middleton, Christchurch. AS 4964 (2004) - Method for the Qualitative Identification of Asbestos in Bulk Samples.	0.01%	1, 3-22
Description of Asbestos Form	Description of asbestos form and/or shape if present.	-	1, 3-22
Weight of Asbestos in ACM (Non-Friable)	Measurement on analytical balance, from the >10mm Fraction. Weight of asbestos based on assessment of ACM form. Analysed at Hill Laboratories - Asbestos; Unit 1, 17 Print Place, Middleton, Christchurch. New Zealand Guidelines for Assessing and Managing Asbestos in Soil, November 2017.	0.00001 g dry wt	1, 3-22
Asbestos in ACM as % of Total Sample*	Calculated from weight of asbestos in ACM and sample dry weight. New Zealand Guidelines for Assessing and Managing Asbestos in Soil, November 2017.	0.001 % w/w	1, 3-22
Weight of Asbestos as Fibrous Asbestos (Friable)	Measurement on analytical balance, from the >10mm Fraction. Analysed at Hill Laboratories - Asbestos; Unit 1, 17 Print Place, Middleton, Christchurch. New Zealand Guidelines for Assessing and Managing Asbestos in Soil, November 2017.	0.00001 g dry wt	1, 3-22
Asbestos as Fibrous Asbestos as % of Total Sample*	Calculated from weight of fibrous asbestos and sample dry weight. New Zealand Guidelines for Assessing and Managing Asbestos in Soil, November 2017.	0.001 % w/w	1, 3-22
Weight of Asbestos as Asbestos Fines (Friable)*	Measurement on analytical balance, from the <10mm Fractions. Analysed at Hill Laboratories - Asbestos; Unit 1, 17 Print Place, Middleton, Christchurch. New Zealand Guidelines for Assessing and Managing Asbestos in Soil, November 2017.	0.00001 g dry wt	1, 3-22
Asbestos as Asbestos Fines as % of Total Sample*	Calculated from weight of asbestos fines and sample dry weight. New Zealand Guidelines for Assessing and Managing Asbestos in Soil, November 2017.	0.001 % w/w	1, 3-22
Combined Fibrous Asbestos + Asbestos Fines as % of Total Sample*	Calculated from weight of fibrous asbestos plus asbestos fines and sample dry weight. New Zealand Guidelines for Assessing and Managing Asbestos in Soil, November 2017.	0.001 % w/w	1, 3-22

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

Testing was completed between 07-Apr-2025 and 08-Apr-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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Dexter Paguirigan Dip Chem Engineering Tech
Laboratory Technician - Asbestos

Certificate of Analysis

Page 1 of 5

Client:	Pattle Delamore Partners Limited	Lab No:	3956642	A2Pv1
Contact:	Mr G Knoyle C/- Pattle Delamore Partners Limited PO Box 389 Christchurch 8140	Date Received:	07-Aug-2025	
		Date Reported:	12-Aug-2025	
		Quote No:	81087	
		Order No:		
		Client Reference:	C038120001	
		Submitted By:	Finn Seeds	

Sample Type: Soil

Sample Name:	BLK1_SS40_0.05	BLK1_SS30_0.05	BLK1_SS33_0.05	BLK1_SS39_0.05	BLK1_SS32_0.05
	07-Aug-2025	07-Aug-2025	07-Aug-2025	07-Aug-2025	07-Aug-2025
Lab Number:	3956642.1	3956642.2	3956642.3	3956642.4	3956642.5
Asbestos Presence / Absence	Chrysotile (White Asbestos) detected.	Asbestos NOT detected.	Asbestos NOT detected.	Amosite (Brown Asbestos) and Chrysotile (White Asbestos) detected.	Asbestos NOT detected.
Description of Asbestos Form	Loose fibres	-	-	Loose fibres	-
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	718.8	819.2	721.3	755.2
Dry Weight	g	587.8	693.9	547.3	606.9
Moisture*	%	18	15	24	20
Sample Fraction >10mm	g dry wt	7.5	5.1	< 0.1	< 0.1
Sample Fraction <10mm to >2mm	g dry wt	9.4	41.0	23.4	5.8
Sample Fraction <2mm	g dry wt	568.4	645.6	521.3	598.7
<2mm Subsample Weight	g dry wt	55.5	53.6	54.0	57.8
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	0.00007	< 0.00001	< 0.00001	0.00346

Sample Name:	BLK1_SS34_0.05	BLK1_SS34_0.2	BLK1_SS31_0.05	BLK1_SS35_0.05	BLK1_SS29_0.05
	07-Aug-2025	07-Aug-2025	07-Aug-2025	07-Aug-2025	07-Aug-2025
Lab Number:	3956642.6	3956642.7	3956642.8	3956642.9	3956642.10
Asbestos Presence / Absence	Asbestos NOT detected.	Asbestos NOT detected.	Asbestos NOT detected.	Chrysotile (White Asbestos) detected.	Asbestos NOT detected.
Description of Asbestos Form	-	-	-	Loose fibres	-
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	553.2	658.4	800.6	577.3



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

Sample Type: Soil					
Sample Name:		BLK1_SS34_0.05 07-Aug-2025	BLK1_SS34_0.2 07-Aug-2025	BLK1_SS31_0.05 07-Aug-2025	BLK1_SS35_0.05 07-Aug-2025
Lab Number:		3956642.6	3956642.7	3956642.8	3956642.9
Dry Weight	g	370.1	498.3	686.0	409.3
Moisture*	%	33	24	14	29
Sample Fraction >10mm	g dry wt	< 0.1	< 0.1	20.8	< 0.1
Sample Fraction <10mm to >2mm	g dry wt	5.0	2.2	89.4	15.5
Sample Fraction <2mm	g dry wt	363.3	494.4	573.0	391.6
<2mm Subsample Weight	g dry wt	52.0	57.9	56.6	50.8
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	0.00031

Sample Name:		BLK1_SS26_0.05 07-Aug-2025	BLK1_SS29_0.2 07-Aug-2025	BLK1_SS1_0.2 07-Aug-2025	BLK1_SS27_0.05 07-Aug-2025
Lab Number:		3956642.11	3956642.12	3956642.13	3956642.14
Asbestos Presence / Absence		Asbestos NOT detected.	Chrysotile (White Asbestos) detected.	Chrysotile (White Asbestos) detected.	Chrysotile (White Asbestos) detected.
Description of Asbestos Form		-	Loose fibres	Loose fibres	Loose fibres
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	0.002
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	0.002
As Received Weight	g	591.6	649.1	679.2	753.3
Dry Weight	g	433.7	525.8	504.8	585.3
Moisture*	%	27	19	26	22
Sample Fraction >10mm	g dry wt	< 0.1	8.4	< 0.1	< 0.1
Sample Fraction <10mm to >2mm	g dry wt	0.3	56.3	6.6	1.8
Sample Fraction <2mm	g dry wt	432.0	458.9	496.2	581.6
<2mm Subsample Weight	g dry wt	50.1	59.6	56.7	54.1
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	0.00010	0.00067	0.00257

Sample Name:		BLK1_SS28_0.2 07-Aug-2025	BLK1_SS28_0.05 07-Aug-2025	BLK1_SS25_0.05 07-Aug-2025	BLK1_SS22_0.05 07-Aug-2025
Lab Number:		3956642.16	3956642.17	3956642.18	3956642.19
Asbestos Presence / Absence		Chrysotile (White Asbestos) detected.	Chrysotile (White Asbestos) detected.	Chrysotile (White Asbestos) detected.	Chrysotile (White Asbestos) detected.
Description of Asbestos Form		Loose fibres	Loose fibres	Loose fibres	Loose fibres
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	716.6	704.9	602.3	619.5
Dry Weight	g	587.3	563.0	443.4	454.2
Moisture*	%	18	20	26	27

Sample Type: Soil						
Sample Name:		BLK1_SS28_0.2 07-Aug-2025	BLK1_SS28_0.05 07-Aug-2025	BLK1_SS25_0.05 07-Aug-2025	BLK1_SS22_0.05 07-Aug-2025	BLK1_SS16_0.05 07-Aug-2025
Lab Number:		3956642.16	3956642.17	3956642.18	3956642.19	3956642.20
Sample Fraction >10mm	g dry wt	10.1	15.6	< 0.1	< 0.1	7.2
Sample Fraction <10mm to >2mm	g dry wt	114.1	27.0	0.6	4.6	67.0
Sample Fraction <2mm	g dry wt	460.9	518.0	441.0	448.5	560.4
<2mm Subsample Weight	g dry wt	56.1	58.2	51.3	54.6	58.4
Weight of Asbestos in ACM (Non-Friable)	g dry wt	< 0.00001	< 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	< 0.00001
Weight of Asbestos as Asbestos Fines (Friable)*	g dry wt	0.00026	0.00089	0.00510	0.00009	< 0.00001

Sample Name:		BLK1_SS18_0.05 07-Aug-2025	BLK1_SS21_0.05 07-Aug-2025	BLK1_SS19_0.05 07-Aug-2025	BLK1_SS23_0.05 07-Aug-2025	BLK1_SS24_0.05 07-Aug-2025
Lab Number:		3956642.21	3956642.22	3956642.23	3956642.24	3956642.25
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	< 0.001
Combined Fibrous Asbestos + Asbestos Fines as % of Total Sample*	% w/w	< 0.001	< 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	< 0.001
Asbestos as Asbestos Fines as % of Total Sample*	% w/w	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
As Received Weight	g	783.7	556.3	749.1	596.5	588.2
Dry Weight	g	644.7	410.3	620.0	475.8	447.3
Moisture*	%	18	26	17	20	24
Sample Fraction >10mm	g dry wt	115.1	28.8	96.6	< 0.1	< 0.1
Sample Fraction <10mm to >2mm	g dry wt	183.0	67.1	175.4	25.0	48.4
Sample Fraction <2mm	g dry wt	345.6	313.6	346.9	450.1	397.8
<2mm Subsample Weight	g dry wt	55.1	56.6	54.5	53.4	52.1
Weight of Asbestos in ACM (Non-Friable)	g dry wt	< 0.00001	< 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	< 0.00001
Weight of Asbestos as Asbestos Fines (Friable)*	g dry wt	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001

Sample Name:		BLK1_SS17_0.05 07-Aug-2025	BLK1_SS20_0.05 07-Aug-2025
Lab Number:		3956642.26	3956642.27
Asbestos Presence / Absence		Asbestos NOT detected.	Asbestos NOT detected.
Description of Asbestos Form		-	-
Asbestos in ACM as % of Total Sample*	% w/w	< 0.001	< 0.001
Combined Fibrous Asbestos + Asbestos Fines as % of Total Sample*	% w/w	< 0.001	< 0.001
Asbestos as Fibrous Asbestos as % of Total Sample*	% w/w	< 0.001	< 0.001
Asbestos as Asbestos Fines as % of Total Sample*	% w/w	< 0.001	< 0.001
As Received Weight	g	783.0	767.2
Dry Weight	g	673.5	660.7
Moisture*	%	14	14
Sample Fraction >10mm	g dry wt	92.4	60.3
Sample Fraction <10mm to >2mm	g dry wt	182.5	67.4
Sample Fraction <2mm	g dry wt	396.6	531.5
<2mm Subsample Weight	g dry wt	51.0	51.2
Weight of Asbestos in ACM (Non-Friable)	g dry wt	< 0.00001	< 0.00001

Sample Type: Soil			
Sample Name:		BLK1_SS17_0.05 07-Aug-2025	BLK1_SS20_0.05 07-Aug-2025
Lab Number:		3956642.26	3956642.27
Weight of Asbestos as Fibrous Asbestos (Friable)	g dry wt	< 0.00001	< 0.00001
Weight of Asbestos as Asbestos Fines (Friable)*	g dry wt	< 0.00001	< 0.00001

Glossary of Terms

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

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

The following assumptions have been made:

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

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

Summary of Methods

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

Sample Type: Soil			
Test	Method Description	Default Detection Limit	Sample No
New Zealand Guidelines Semi Quantitative Asbestos in Soil			
As Received Weight	Measurement on analytical balance. Analysed at Hill Laboratories - Asbestos; Unit 1, 17 Print Place, Middleton, Christchurch.	0.1 g	1-27
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	1-27
Moisture*	Sample dried at 100 to 105°C. Calculation = (As received weight - Dry weight) / as received weight x 100.	1 %	1-27
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	1-27
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	1-27
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	1-27
Asbestos Presence / Absence	Examination using Low Powered Stereomicroscopy followed by 'Polarised Light Microscopy' including 'Dispersion Staining Techniques'. Analysed at Hill Laboratories - Asbestos; Unit 1, 17 Print Place, Middleton, Christchurch. AS 4964 (2004) - Method for the Qualitative Identification of Asbestos in Bulk Samples.	0.01%	1-27
Description of Asbestos Form	Description of asbestos form and/or shape if present.	-	1-27
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	1-27
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	1-27
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	1-27

Sample Type: Soil			
Test	Method Description	Default Detection Limit	Sample No
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	1-27
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	1-27
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	1-27
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	1-27

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

Testing was completed between 11-Aug-2025 and 12-Aug-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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Dexter Paguirigan Dip Chem Engineering Tech
Laboratory Technician - Asbestos

Certificate of Analysis

Page 1 of 5

Client:	Pattle Delamore Partners Limited	Lab No:	3957537	A2Pv1
Contact:	Mr G Knoyle C/- Pattle Delamore Partners Limited PO Box 389 Christchurch 8140	Date Received:	08-Aug-2025	
		Date Reported:	13-Aug-2025	
		Quote No:	81087	
		Order No:		
		Client Reference:	C038120001	
		Submitted By:	Finn Seeds	

Sample Type: Soil

Sample Name:	BLK2_SS21_0.05	BLK2_SS22_0.05	BLK2_SS23_0.05	BLK2_SS24_0.05	BLK2_SS25_0.05
	08-Aug-2025	08-Aug-2025	08-Aug-2025	08-Aug-2025	08-Aug-2025
Lab Number:	3957537.1	3957537.2	3957537.3	3957537.4	3957537.5
Asbestos Presence / Absence	Amosite (Brown Asbestos) and Chrysotile (White Asbestos) detected.	Amosite (Brown Asbestos) and Chrysotile (White Asbestos) detected.	Amosite (Brown Asbestos) and Chrysotile (White Asbestos) detected.	Amosite (Brown Asbestos) and Chrysotile (White Asbestos) detected.	Amosite (Brown Asbestos) and Chrysotile (White Asbestos) detected.
Description of Asbestos Form	Loose fibres	Loose fibres	Loose fibres	Loose fibres	Loose fibres
Asbestos in ACM as % of Total Sample*	% w/w < 0.001	% w/w < 0.001	% w/w < 0.001	% w/w < 0.001	% w/w < 0.001
Combined Fibrous Asbestos + Asbestos Fines as % of Total Sample*	% w/w 0.004	% w/w 0.009	% w/w < 0.001	% w/w < 0.001	% w/w 0.004
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 0.004	% w/w 0.009	% w/w < 0.001	% w/w < 0.001	% w/w 0.004
As Received Weight	g 635.3	g 625.8	g 695.8	g 654.7	g 674.0
Dry Weight	g 470.5	g 466.3	g 527.0	g 498.3	g 492.6
Moisture*	% 26	% 25	% 24	% 24	% 27
Sample Fraction >10mm	g dry wt < 0.1	g dry wt < 0.1	g dry wt < 0.1	g dry wt 2.3	g dry wt < 0.1
Sample Fraction <10mm to >2mm	g dry wt 54.8	g dry wt 95.3	g dry wt 87.3	g dry wt 98.3	g dry wt 109.1
Sample Fraction <2mm	g dry wt 414.5	g dry wt 369.5	g dry wt 438.5	g dry wt 396.9	g dry wt 382.4
<2mm Subsample Weight	g dry wt 53.9	g dry wt 53.5	g dry wt 58.2	g dry wt 55.0	g dry wt 56.9
Weight of Asbestos in ACM (Non-Friable)	g dry wt < 0.00001	g dry wt < 0.00001	g dry wt < 0.00001	g dry wt < 0.00001	g dry wt < 0.00001
Weight of Asbestos as Fibrous Asbestos (Friable)	g dry wt < 0.00001	g dry wt < 0.00001	g dry wt < 0.00001	g dry wt < 0.00001	g dry wt < 0.00001
Weight of Asbestos as Asbestos Fines (Friable)*	g dry wt 0.01941	g dry wt 0.04374	g dry wt 0.00401	g dry wt 0.00010	g dry wt 0.01945

Sample Name:	BLK2_SS26_0.05	BLK2_SS27_0.05	BLK2_SS28_0.05	BLK2_SS29_0.05	BLK2_SS30_0.05
	08-Aug-2025	08-Aug-2025	08-Aug-2025	08-Aug-2025	08-Aug-2025
Lab Number:	3957537.6	3957537.7	3957537.8	3957537.9	3957537.10
Asbestos Presence / Absence	Amosite (Brown Asbestos) and Chrysotile (White Asbestos) detected.	Amosite (Brown Asbestos) and Chrysotile (White Asbestos) detected.	Amosite (Brown Asbestos) and Chrysotile (White Asbestos) detected.	Chrysotile (White Asbestos) detected.	Chrysotile (White Asbestos) detected.
Description of Asbestos Form	Loose fibres	Loose fibres	ACM debris and Loose fibres	Loose fibres	Loose fibres
Asbestos in ACM as % of Total Sample*	% w/w < 0.001	% w/w < 0.001	% w/w < 0.001	% w/w < 0.001	% w/w < 0.001
Combined Fibrous Asbestos + Asbestos Fines as % of Total Sample*	% w/w 0.018	% w/w 0.056	% w/w 0.042	% w/w < 0.001	% w/w 0.007
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



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Sample Type: Soil						
Sample Name:		BLK2_SS26_0.05 08-Aug-2025	BLK2_SS27_0.05 08-Aug-2025	BLK2_SS28_0.05 08-Aug-2025	BLK2_SS29_0.05 08-Aug-2025	BLK2_SS30_0.05 08-Aug-2025
Lab Number:		3957537.6	3957537.7	3957537.8	3957537.9	3957537.10
Asbestos as Asbestos Fines as % of Total Sample*	% w/w	0.018	0.056	0.042	< 0.001	0.007
As Received Weight	g	640.8	625.7	594.0	601.7	650.5
Dry Weight	g	493.8	436.3	435.8	417.2	472.4
Moisture*	%	23	30	27	31	27
Sample Fraction >10mm	g dry wt	4.8	0.6	< 0.1	< 0.1	< 0.1
Sample Fraction <10mm to >2mm	g dry wt	28.6	4.6	6.4	5.2	7.6
Sample Fraction <2mm	g dry wt	459.4	429.6	428.0	410.1	463.2
<2mm Subsample Weight	g dry wt	59.6	59.1	58.0	59.4	57.6
Weight of Asbestos in ACM (Non-Friable)	g dry wt	< 0.00001	< 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	< 0.00001
Weight of Asbestos as Asbestos Fines (Friable)*	g dry wt	0.08706	0.2464	0.18215	0.00123	0.03435
Sample Name:		BLK2_SS31_0.05 08-Aug-2025	BLK2_SS32_0.05 08-Aug-2025	BLK2_SS33_0.05 08-Aug-2025	BLK2_SS34_0.05 08-Aug-2025	BLK2_SS35_0.05 08-Aug-2025
Lab Number:		3957537.11	3957537.12	3957537.13	3957537.14	3957537.15
Asbestos Presence / Absence		Asbestos NOT detected.	Amosite (Brown Asbestos) and Chrysotile (White Asbestos) detected.	Asbestos NOT detected.	Amosite (Brown Asbestos) and Chrysotile (White Asbestos) detected.	Chrysotile (White Asbestos) detected.
Description of Asbestos Form		-	ACM debris and Loose fibres	-	ACM debris and Loose fibres	Loose fibres
Asbestos in ACM as % of Total Sample*	% w/w	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
Combined Fibrous Asbestos + Asbestos Fines as % of Total Sample*	% w/w	< 0.001	0.004	< 0.001	0.005	< 0.001
Asbestos as Fibrous Asbestos as % of Total Sample*	% w/w	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
Asbestos as Asbestos Fines as % of Total Sample*	% w/w	< 0.001	0.004	< 0.001	0.005	< 0.001
As Received Weight	g	600.0	632.6	578.7	621.7	696.6
Dry Weight	g	404.7	461.2	428.0	454.6	489.2
Moisture*	%	33	27	26	27	30
Sample Fraction >10mm	g dry wt	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Sample Fraction <10mm to >2mm	g dry wt	0.4	3.4	0.8	3.5	1.9
Sample Fraction <2mm	g dry wt	403.1	456.5	426.0	449.7	485.1
<2mm Subsample Weight	g dry wt	53.9	59.2	53.3	56.8	59.7
Weight of Asbestos in ACM (Non-Friable)	g dry wt	< 0.00001	< 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	< 0.00001
Weight of Asbestos as Asbestos Fines (Friable)*	g dry wt	< 0.00001	0.01786	< 0.00001	0.02183	0.00092
Sample Name:		BLK1_SS36_0.05 08-Aug-2025	BLK1_SS37_0.05 08-Aug-2025	BLK1_SS38_0.05 08-Aug-2025	BLK1_SS41_0.05 08-Aug-2025	BLK1_SS42_0.05 08-Aug-2025
Lab Number:		3957537.16	3957537.17	3957537.18	3957537.19	3957537.20
Asbestos Presence / Absence		Asbestos NOT detected.	Asbestos NOT detected.	Asbestos NOT detected.	Amosite (Brown Asbestos) and Chrysotile (White Asbestos) detected.	Amosite (Brown Asbestos) and Chrysotile (White Asbestos) detected.
Description of Asbestos Form		-	-	-	Loose fibres	Loose fibres
Asbestos in ACM as % of Total Sample*	% w/w	< 0.001	< 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	0.003	0.010
Asbestos as Fibrous Asbestos as % of Total Sample*	% w/w	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001

Sample Type: Soil					
Sample Name:		BLK1_SS36_0.05	BLK1_SS37_0.05	BLK1_SS38_0.05	BLK1_SS41_0.05
		08-Aug-2025	08-Aug-2025	08-Aug-2025	08-Aug-2025
Lab Number:		3957537.16	3957537.17	3957537.18	3957537.19
					3957537.20
Asbestos as Asbestos Fines as % of Total Sample*	% w/w	< 0.001	< 0.001	< 0.001	0.003
As Received Weight	g	736.4	692.0	778.4	765.8
Dry Weight	g	659.3	576.8	676.3	605.1
Moisture*	%	10	17	13	21
Sample Fraction >10mm	g dry wt	29.7	27.1	27.1	8.6
Sample Fraction <10mm to >2mm	g dry wt	284.2	166.0	64.3	34.4
Sample Fraction <2mm	g dry wt	342.2	382.5	583.8	559.6
<2mm Subsample Weight	g dry wt	54.8	56.0	53.3	56.0
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	0.01552
					0.05570
Sample Name:		BLK1_SS43_0.05	BLK1_SS44_0.05	BLK1_SS45_0.05	BLK1_SS46_0.05
		08-Aug-2025	08-Aug-2025	08-Aug-2025	08-Aug-2025
Lab Number:		3957537.21	3957537.22	3957537.23	3957537.24
					3957537.25
Asbestos Presence / Absence		Asbestos NOT detected.	Asbestos NOT detected.	Chrysotile (White Asbestos) detected.	Amosite (Brown Asbestos) and Chrysotile (White Asbestos) detected.
Description of Asbestos Form		-	-	Loose fibres	Loose fibres
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	0.003
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	0.003
As Received Weight	g	768.0	745.0	782.4	684.9
Dry Weight	g	627.3	612.7	660.2	550.0
Moisture*	%	18	18	16	20
Sample Fraction >10mm	g dry wt	3.1	1.6	7.2	3.6
Sample Fraction <10mm to >2mm	g dry wt	75.6	4.2	46.7	23.9
Sample Fraction <2mm	g dry wt	546.2	604.1	604.6	520.4
<2mm Subsample Weight	g dry wt	55.3	53.5	54.6	53.2
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	0.00049	0.01614
					0.00060
Sample Name:		BLK1_SS48_0.05 08-Aug-2025		BLK1_SS49_0.05 08-Aug-2025	
Lab Number:		3957537.26		3957537.27	
Asbestos Presence / Absence		Chrysotile (White Asbestos) detected.		Asbestos NOT detected.	
Description of Asbestos Form		Loose fibres		-	
Asbestos in ACM as % of Total Sample*	% w/w	< 0.001		< 0.001	
Combined Fibrous Asbestos + Asbestos Fines as % of Total Sample*	% w/w	< 0.001		< 0.001	
Asbestos as Fibrous Asbestos as % of Total Sample*	% w/w	< 0.001		< 0.001	
Asbestos as Asbestos Fines as % of Total Sample*	% w/w	< 0.001		< 0.001	
As Received Weight	g	701.8		804.9	
Dry Weight	g	546.1		694.9	

Sample Type: Soil			
Sample Name:		BLK1_SS48_0.05 08-Aug-2025	BLK1_SS49_0.05 08-Aug-2025
Lab Number:		3957537.26	3957537.27
Moisture*	%	22	14
Sample Fraction >10mm	g dry wt	20.5	4.0
Sample Fraction <10mm to >2mm	g dry wt	49.0	86.2
Sample Fraction <2mm	g dry wt	473.8	601.8
<2mm Subsample Weight	g dry wt	55.8	54.0
Weight of Asbestos in ACM (Non-Friable)	g dry wt	< 0.00001	< 0.00001
Weight of Asbestos as Fibrous Asbestos (Friable)	g dry wt	< 0.00001	< 0.00001
Weight of Asbestos as Asbestos Fines (Friable)*	g dry wt	0.00264	< 0.00001

Glossary of Terms

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

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

The following assumptions have been made:

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

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

Summary of Methods

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

Sample Type: Soil			
Test	Method Description	Default Detection Limit	Sample No
New Zealand Guidelines Semi Quantitative Asbestos in Soil			
As Received Weight	Measurement on analytical balance. Analysed at Hill Laboratories - Asbestos; Unit 1, 17 Print Place, Middleton, Christchurch.	0.1 g	1-27
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	1-27
Moisture*	Sample dried at 100 to 105°C. Calculation = (As received weight - Dry weight) / as received weight x 100.	1 %	1-27
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	1-27
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	1-27
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	1-27
Asbestos Presence / Absence	Examination using Low Powered Stereomicroscopy followed by 'Polarised Light Microscopy' including 'Dispersion Staining Techniques'. Analysed at Hill Laboratories - Asbestos; Unit 1, 17 Print Place, Middleton, Christchurch. AS 4964 (2004) - Method for the Qualitative Identification of Asbestos in Bulk Samples.	0.01%	1-27
Description of Asbestos Form	Description of asbestos form and/or shape if present.	-	1-27

Sample Type: Soil			
Test	Method Description	Default Detection Limit	Sample No
Weight of Asbestos in ACM (Non-Friable)	Measurement on analytical balance, from the >10mm Fraction. Weight of asbestos based on assessment of ACM form. Analysed at Hill Laboratories - Asbestos; Unit 1, 17 Print Place, Middleton, Christchurch. New Zealand Guidelines for Assessing and Managing Asbestos in Soil, November 2017.	0.00001 g dry wt	1-27
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	1-27
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	1-27
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	1-27
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	1-27
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	1-27
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	1-27

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

Testing was completed between 12-Aug-2025 and 13-Aug-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.



Dexter Paguirigan Dip Chem Engineering Tech
Laboratory Technician - Asbestos

Certificate of Analysis

Page 1 of 2

Client:	Pattle Delamore Partners Limited	Lab No:	3822455	SPV2.2
Contact:	Mr G Knoyle	Date Received:	20-Mar-2025	
	C/- Pattle Delamore Partners Limited	Date Reported:	26-Aug-2025	
	PO Box 389	Quote No:	81087	
	Christchurch 8140	Order No:	C03812100	
		Client Reference:	C03812100	
		Submitted By:	Miriam Clark	

Sample Type: Soil

Sample Name:	BLK2_SS1_0.05	BLK2_SS3_0.05	BLK2_SS4_0.05	BLK2_SS5_0.05	BLK2_SS7_0.05
	20-Mar-2025	20-Mar-2025	20-Mar-2025	20-Mar-2025	20-Mar-2025
Lab Number:	3822455.1	3822455.2	3822455.3	3822455.4	3822455.5

Individual Tests

Dry Matter	g/100g as rcvd	-	-	-	-	73
Total Recoverable Manganese	mg/kg dry wt	290	210	360	270	-

Heavy Metals, Screen Level

Total Recoverable Arsenic	mg/kg dry wt	4	3	4	3	-
Total Recoverable Cadmium	mg/kg dry wt	0.17	0.15	0.18	0.16	-
Total Recoverable Chromium	mg/kg dry wt	16	14	15	14	-
Total Recoverable Copper	mg/kg dry wt	11	9	12	10	-
Total Recoverable Lead	mg/kg dry wt	27	15.9	37	15.1	-
Total Recoverable Nickel	mg/kg dry wt	12	10	13	10	-
Total Recoverable Zinc	mg/kg dry wt	113	95	115	95	-

Organochlorine Pesticides Screening in Soil

Aldrin	mg/kg dry wt	-	-	-	-	< 0.014
alpha-BHC	mg/kg dry wt	-	-	-	-	< 0.014
beta-BHC	mg/kg dry wt	-	-	-	-	< 0.014
delta-BHC	mg/kg dry wt	-	-	-	-	< 0.014
gamma-BHC (Lindane)	mg/kg dry wt	-	-	-	-	< 0.014
cis-Chlordane	mg/kg dry wt	-	-	-	-	< 0.014
trans-Chlordane	mg/kg dry wt	-	-	-	-	< 0.014
2,4'-DDD	mg/kg dry wt	-	-	-	-	< 0.014
4,4'-DDD	mg/kg dry wt	-	-	-	-	< 0.014
2,4'-DDE	mg/kg dry wt	-	-	-	-	< 0.014
4,4'-DDE	mg/kg dry wt	-	-	-	-	< 0.014
2,4'-DDT	mg/kg dry wt	-	-	-	-	< 0.014
4,4'-DDT	mg/kg dry wt	-	-	-	-	< 0.014
Total DDT Isomers	mg/kg dry wt	-	-	-	-	< 0.09
Dieldrin	mg/kg dry wt	-	-	-	-	< 0.014
Endosulfan I	mg/kg dry wt	-	-	-	-	< 0.014
Endosulfan II	mg/kg dry wt	-	-	-	-	< 0.014
Endosulfan sulphate	mg/kg dry wt	-	-	-	-	< 0.014
Endrin	mg/kg dry wt	-	-	-	-	< 0.014
Endrin aldehyde	mg/kg dry wt	-	-	-	-	< 0.014
Endrin ketone	mg/kg dry wt	-	-	-	-	< 0.014
Heptachlor	mg/kg dry wt	-	-	-	-	< 0.014
Heptachlor epoxide	mg/kg dry wt	-	-	-	-	< 0.014
Hexachlorobenzene	mg/kg dry wt	-	-	-	-	< 0.014
Methoxychlor	mg/kg dry wt	-	-	-	-	< 0.014



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Sample Type: Soil		
Sample Name:		BLK2_SS8_0.05 20-Mar-2025
Lab Number:		3822455.6
Individual Tests		
Total Recoverable Manganese	mg/kg dry wt	230
Heavy Metals, Screen Level		
Total Recoverable Arsenic	mg/kg dry wt	3
Total Recoverable Cadmium	mg/kg dry wt	0.14
Total Recoverable Chromium	mg/kg dry wt	14
Total Recoverable Copper	mg/kg dry wt	10
Total Recoverable Lead	mg/kg dry wt	15.3
Total Recoverable Nickel	mg/kg dry wt	10
Total Recoverable Zinc	mg/kg dry wt	91

Analyst's Comments

This certificate of analysis contains information extracted from 3822455-SPv2 issued on 25-Aug-2025 at 4:44 pm.

Summary of Methods

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

Sample Type: Soil			
Test	Method Description	Default Detection Limit	Sample No
Environmental Solids Sample Drying*	Air dried at 35°C Used for sample preparation. May contain a residual moisture content of 2-5%. (Free water removed before analysis, non-soil objects such as sticks, leaves, grass and stones also removed).	-	1-4, 6
Heavy Metals, Screen Level	Dried sample, < 2mm fraction. Nitric/Hydrochloric acid digestion. Complies with NES Regulations. ICP-MS screen level, interference removal by Kinetic Energy Discrimination if required. US EPA 200.2 (modified), APHA 3125 B: Online Edition.	0.10 - 4 mg/kg dry wt	1-4, 6
Organochlorine Pesticides Screening in Soil	Sonication extraction, GC-ECD analysis. Tested on as received sample. In-house based on US EPA 8081.	0.010 - 0.06 mg/kg dry wt	5
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	5
Total Recoverable Manganese	Dried sample, sieved as specified (if required). Nitric/Hydrochloric acid digestion, ICP-MS, screen level. US EPA 200.2 (modified), APHA 3125 B: Online Edition.	1.0 mg/kg dry wt	1-4, 6

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

Testing was completed between 21-Mar-2025 and 25-Aug-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.

Ara Heron BSc (Tech)
Client Services Manager - Environmental

Certificate of Analysis

Page 1 of 2

Client:	Pattle Delamore Partners Limited	Lab No:	3841985	SPV2.3
Contact:	Mr G Knoyle C/- Pattle Delamore Partners Limited PO Box 389 Christchurch 8140	Date Received:	02-Apr-2025	
		Date Reported:	26-Aug-2025	
		Quote No:	81087	
		Order No:		
		Client Reference:	C03812100	
		Submitted By:	Miriam Clark	

Sample Type: Soil

Sample Name:	BLK2_SS12_0.05	BLK2_SS12_0.2	BLK2_SS14_0.05	BLK2_SS16_0.05	BLK2_SS16_0.2
	02-Apr-2025	02-Apr-2025	02-Apr-2025	02-Apr-2025	02-Apr-2025
Lab Number:	3841985.1	3841985.2	3841985.3	3841985.4	3841985.5

Individual Tests

Total Recoverable Manganese	mg/kg dry wt	240	260	280	230	240
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Heavy Metals, Screen Level

Total Recoverable Arsenic	mg/kg dry wt	3	4	4	3	4
Total Recoverable Cadmium	mg/kg dry wt	0.19	0.20	0.19	0.21	0.14
Total Recoverable Chromium	mg/kg dry wt	18	16	17	18	15
Total Recoverable Copper	mg/kg dry wt	14	12	14	13	9
Total Recoverable Lead	mg/kg dry wt	26	30	30	18.0	14.7
Total Recoverable Nickel	mg/kg dry wt	12	12	13	12	11
Total Recoverable Zinc	mg/kg dry wt	116	112	121	113	81

Sample Name:	BLK2_SS18_0.05	BLK2_SS18_0.2	BLK2_SS19_0.2	BLK2_SS20_0.05
	02-Apr-2025	02-Apr-2025	02-Apr-2025	02-Apr-2025
Lab Number:	3841985.6	3841985.7	3841985.8	3841985.9

Individual Tests

Total Recoverable Manganese	mg/kg dry wt	185	220	210	210
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Heavy Metals, Screen Level

Total Recoverable Arsenic	mg/kg dry wt	3	4	3	3
Total Recoverable Cadmium	mg/kg dry wt	0.18	0.19	0.17	0.20
Total Recoverable Chromium	mg/kg dry wt	17	16	16	16
Total Recoverable Copper	mg/kg dry wt	12	11	11	10
Total Recoverable Lead	mg/kg dry wt	19.4	26	19.3	17.0
Total Recoverable Nickel	mg/kg dry wt	10	12	11	11
Total Recoverable Zinc	mg/kg dry wt	93	110	108	105

Analyst's Comments

This certificate of analysis contains information extracted from 3841985-SPv2 issued on 26-Aug-2025 at 11:39 am.

Summary of Methods

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

Sample Type: Soil			
Test	Method Description	Default Detection Limit	Sample No
Environmental Solids Sample Drying*	Air dried at 35°C Used for sample preparation. May contain a residual moisture content of 2-5%. (Free water removed before analysis, non-soil objects such as sticks, leaves, grass and stones also removed).	-	1-9



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

Sample Type: Soil			
Test	Method Description	Default Detection Limit	Sample No
Heavy Metals, Screen Level	Dried sample, < 2mm fraction. Nitric/Hydrochloric acid digestion. Complies with NES Regulations. ICP-MS screen level, interference removal by Kinetic Energy Discrimination if required. US EPA 200.2 (modified), APHA 3125 B: Online Edition.	0.10 - 4 mg/kg dry wt	1-9
Total Recoverable Manganese	Dried sample, sieved as specified (if required). Nitric/Hydrochloric acid digestion, ICP-MS, screen level. US EPA 200.2 (modified), APHA 3125 B: Online Edition.	1.0 mg/kg dry wt	1-9

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

Testing was completed between 03-Apr-2025 and 26-Aug-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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Ara Heron BSc (Tech)
Client Services Manager - Environmental

Certificate of Analysis

Page 1 of 2

Client:	Pattle Delamore Partners Limited	Lab No:	3843459	SPv2
Contact:	Mr G Knoyle C/- Pattle Delamore Partners Limited PO Box 389 Christchurch 8140	Date Received:	03-Apr-2025	
		Date Reported:	25-Aug-2025	(Amended)
		Quote No:	81087	
		Order No:		
		Client Reference:	C03812100	
		Submitted By:	Miriam Clark	

Sample Type: Soil

Sample Name:	BLK1_SS1_0.05	BLK1_SS2_0.2	BLK1_SS3_0.05	BLK1_SS4_0.2	BLK1_SS5_0.05
	03-Apr-2025	03-Apr-2025	03-Apr-2025	03-Apr-2025	03-Apr-2025
Lab Number:	3843459.1	3843459.2	3843459.3	3843459.4	3843459.5

Individual Tests

Total Recoverable Manganese	mg/kg dry wt	162	210	240	240	210
Heavy Metals, Screen Level						
Total Recoverable Arsenic	mg/kg dry wt	3	3	4	4	3
Total Recoverable Cadmium	mg/kg dry wt	0.10	0.21	0.22	0.15	0.22
Total Recoverable Chromium	mg/kg dry wt	12	15	15	13	18
Total Recoverable Copper	mg/kg dry wt	10	13	11	9	15
Total Recoverable Lead	mg/kg dry wt	11.1	18.3	20	67	23
Total Recoverable Nickel	mg/kg dry wt	8	11	11	10	12
Total Recoverable Zinc	mg/kg dry wt	56	95	113	99	100

Sample Name:	BLK1_SS7_0.05	BLK1_SS7_0.2	BLK1_SS8_0.2	BLK1_SS9_0.05	BLK1_SS11_0.05
	03-Apr-2025	03-Apr-2025	03-Apr-2025	03-Apr-2025	03-Apr-2025
Lab Number:	3843459.6	3843459.7	3843459.8	3843459.9	3843459.10

Individual Tests

Total Recoverable Manganese	mg/kg dry wt	260	240	250	172	230
Heavy Metals, Screen Level						
Total Recoverable Arsenic	mg/kg dry wt	4	4	4	3	3
Total Recoverable Cadmium	mg/kg dry wt	0.13	0.14	0.15	0.13	0.19
Total Recoverable Chromium	mg/kg dry wt	15	14	14	17	15
Total Recoverable Copper	mg/kg dry wt	12	12	10	16	11
Total Recoverable Lead	mg/kg dry wt	29	32	37	19.2	22
Total Recoverable Nickel	mg/kg dry wt	10	11	11	11	11
Total Recoverable Zinc	mg/kg dry wt	84	78	98	69	113

Sample Name:	BLK1_SS13_0.05 03-Apr-2025	BLK1_SS14_0.05 03-Apr-2025
Lab Number:	3843459.11	3843459.12

Individual Tests

Total Recoverable Manganese	mg/kg dry wt	260	270
Heavy Metals, Screen Level			
Total Recoverable Arsenic	mg/kg dry wt	4	4
Total Recoverable Cadmium	mg/kg dry wt	0.15	0.14
Total Recoverable Chromium	mg/kg dry wt	14	14
Total Recoverable Copper	mg/kg dry wt	9	9
Total Recoverable Lead	mg/kg dry wt	26	19.5
Total Recoverable Nickel	mg/kg dry wt	11	11
Total Recoverable Zinc	mg/kg dry wt	104	95



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.

Analyst's Comments

Amended Report: This certificate of analysis replaces report '3843459-SPv1' issued on 08-Apr-2025 at 4:00 pm.
Reason for amendment: Manganese added.

Summary of Methods

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

Sample Type: Soil			
Test	Method Description	Default Detection Limit	Sample No
Environmental Solids Sample Drying*	Air dried at 35°C Used for sample preparation. May contain a residual moisture content of 2-5%. (Free water removed before analysis, non-soil objects such as sticks, leaves, grass and stones also removed).	-	1-12
Heavy Metals, Screen Level	Dried sample, < 2mm fraction. Nitric/Hydrochloric acid digestion. Complies with NES Regulations. ICP-MS screen level, interference removal by Kinetic Energy Discrimination if required. US EPA 200.2 (modified), APHA 3125 B: Online Edition.	0.10 - 4 mg/kg dry wt	1-12
Total Recoverable Manganese	Dried sample, sieved as specified (if required). Nitric/Hydrochloric acid digestion, ICP-MS, screen level. US EPA 200.2 (modified), APHA 3125 B: Online Edition.	1.0 mg/kg dry wt	1-12

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

Testing was completed between 04-Apr-2025 and 25-Aug-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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Martin Cowell - BSc
Client Services Manager - Environmental



FOODSTUFFS SOUTH ISLAND LIMITED • SOIL SAMPLING INVESTIGATION – Paddock AREAS, 17 HICKORY
PLACE, ISLINGTON, CHRISTCHURCH

Chain of Custody Documentation



NOTE: Please acknowledge receipt of these samples by signing this form and emailing to submitter.

Quote No.:
PDP Job No.: C0381210

3138224548

Results required by: / /

☐ Other:

Sample type:	S Soil	GW Groundwater	SAL Saline	FW Freshwater	GEO Geothermal	SW Stormwater
	SED Sediment	BIO Biota	WW Wastewater	P Potable	O Other:	

PDP Christchurch
Tel: +64 3 345 7100

Page 1 of 1

Job Information Summary

Page 1 of 2

Client:	Pattle Delamore Partners Limited	Lab No:	3822454
Contact:	Mr G Knoyle C/- Pattle Delamore Partners Limited PO Box 389 Christchurch 8140	Date Registered:	20-Mar-2025 3:58 pm
		Priority:	High
		Quote No:	81087
		Order No:	C03812100
		Client Reference:	C03812100
		Add. Client Ref:	
		Submitted By:	Miriam Clark
		Charge To:	Pattle Delamore Partners Limited
		Target Date:	24-Mar-2025 4:30 pm

Samples

No	Sample Name	Sample Type	Containers	Tests Requested
1	BLK2_SS1_0.05 20-Mar-2025	Soil	PSoil500Asb	New Zealand Guidelines Semi Quantitative Asbestos in Soil
2	BLK2_SS1_0.2 20-Mar-2025	Soil	PSoil500Asb	New Zealand Guidelines Semi Quantitative Asbestos in Soil
3	BLK2_SS2_0.05 20-Mar-2025	Soil	PSoil500Asb	New Zealand Guidelines Semi Quantitative Asbestos in Soil
4	BLK2_SS2_0.2 20-Mar-2025	Soil	PSoil500Asb	New Zealand Guidelines Semi Quantitative Asbestos in Soil
5	BLK2_SS3_0.05 20-Mar-2025	Soil	PSoil500Asb	New Zealand Guidelines Semi Quantitative Asbestos in Soil
6	BLK2_SS3_0.2 20-Mar-2025	Soil	PSoil500Asb	New Zealand Guidelines Semi Quantitative Asbestos in Soil
7	BLK2_SS4_0.05 20-Mar-2025	Soil	PSoil500Asb	New Zealand Guidelines Semi Quantitative Asbestos in Soil
8	BLK2_SS5_0.05 20-Mar-2025	Soil	PSoil500Asb	New Zealand Guidelines Semi Quantitative Asbestos in Soil
9	BLK2_SS6_0.05 20-Mar-2025	Soil	PSoil500Asb	New Zealand Guidelines Semi Quantitative Asbestos in Soil
10	BLK2_SS7_0.05 20-Mar-2025	Soil	PSoil500Asb	New Zealand Guidelines Semi Quantitative Asbestos in Soil
11	BLK2_SS8_0.05 20-Mar-2025	Soil	PSoil500Asb	New Zealand Guidelines Semi Quantitative Asbestos in Soil
12	BLK2_SS9_0.05 20-Mar-2025	Soil	PSoil500Asb	New Zealand Guidelines Semi Quantitative Asbestos in Soil
13	BLK2_SS10_0.05 20-Mar-2025	Soil	PSoil500Asb	New Zealand Guidelines Semi Quantitative Asbestos in Soil
14	BLK2_SS11_0.05 20-Mar-2025	Soil	PSoil500Asb	New Zealand Guidelines Semi Quantitative Asbestos in Soil

Summary of Methods

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

Sample Type: Soil

Test	Method Description	Default Detection Limit	Sample No
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	1-14
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	1-14
Moisture	Sample dried at 100 to 105°C. Calculation = (As received weight - Dry weight) / as received weight x 100.	1 %	1-14

Sample Type: Soil			
Test	Method Description	Default Detection Limit	Sample No
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	1-14
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	1-14
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	1-14
Asbestos Presence / Absence	Examination using Low Powered Stereomicroscopy followed by 'Polarised Light Microscopy' including 'Dispersion Staining Techniques'. Analysed at Hill Laboratories - Asbestos; Unit 1, 17 Print Place, Middleton, Christchurch. AS 4964 (2004) - Method for the Qualitative Identification of Asbestos in Bulk Samples.	0.01%	1-14
Description of Asbestos Form	Description of asbestos form and/or shape if present.	-	1-14
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	1-14
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	1-14
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	1-14
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	1-14
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	1-14
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	1-14
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	1-14



PATTLE DELAMORE PARTNERS LTD

Request for Analyses

NOTE: Please acknowledge receipt of these samples by signing this form and emailing to submitter.

From: Pattle Delamore Partners Ltd

Office: ☐ Auckland ☐ Tauranga ☐ Wellington ☒ ChristchurchSubmitted by: Miriam Clark Ph No.: 0224519662To: Hill LabsQuote No.: 1PDP Job No.: C03812100

Chain of Custody Record

Sent:

Name: Miriam ClarkSignature: [Signature]Date and time: 2/4/25Received: ☐ Room temp. ☐ Chilled Temp.: ____ °C☐ Frozen

Name: _____

Signature: _____

Date and time: _____

Add Job No: Date Recv: 02-Apr-25 16:07

384 2103Received by: Kate Sullivan

3138421039

Results to:

☐ lab.samples@pdp.co.nz☒ Email submitter: miriam.clark

@pdp.co.nz

☒ Email other: guy.knoyle

@pdp.co.nz

Priority: ☐ Normal ☒ High ☐ Urgent

Results required by: ____ / ____ / ____

Invoice to:

☒ PDP☐ Other: _____

Sample ID	Date	Time	Sample type	Analyses Requested	Notes
BLK2-SS12-0.05	2/4/25		S	"semi-quant asbestos"	
-0.2					
BLK2-SS13-0.05					
-0.2					
BLK2-SS14-0.05					
BLK2-SS15-0.05					
-0.2					
BLK2-SS16-0.05					
-0.2					
BLK2-SS17-0.05					
BLK2-SS18-0.05					
-0.2					
BLK2-SS19-0.05					
-0.2					
BLK2-SS20-0.05					
BLK2-SS10A-0.05					
-0.2					
BLK2-SS10B-0.05					
BLK2-SS10C-0.05					
-0.2					
BLK2-SS10D-0.05					

Sample type:

☒ S Soil☐ GW Groundwater☐ SAL Saline☐ FW Freshwater☐ GEO Geothermal☐ SW Stormwater☐ SED Sediment☐ BIO Biota☐ WW Wastewater☐ P Potable☐ O Other: _____For physical address see www.pdp.co.nz**Note: Samples may contain dangerous or hazardous substances**Page 1 of 2PDP Auckland
Tel: +64 9 523 6900PDP Tauranga
Tel: +64 7 985 6440PDP Wellington
Tel: +64 4 471 4130PDP Christchurch
Tel: +64 3 345 7100

Job Information Summary

Page 1 of 3

Client:	Pattle Delamore Partners Limited	Lab No:	3842103
Contact:	Mr G Knoyle C/- Pattle Delamore Partners Limited PO Box 389 Christchurch 8140	Date Registered:	02-Apr-2025 4:27 pm
		Priority:	High
		Quote No:	81087
		Order No:	
		Client Reference:	C03812100
		Add. Client Ref:	
		Submitted By:	Miriam Clark
		Charge To:	Pattle Delamore Partners Limited
		Target Date:	04-Apr-2025 4:30 pm

Samples

No	Sample Name	Sample Type	Containers	Tests Requested
1	BLK2_SS12_0.05 02-Apr-2025	Soil	PSoil500Asb	New Zealand Guidelines Semi Quantitative Asbestos in Soil
2	BLK2_SS12_0.2 02-Apr-2025	Soil	PSoil500Asb	New Zealand Guidelines Semi Quantitative Asbestos in Soil
3	BLK2_SS13_0.05 02-Apr-2025	Soil	PSoil500Asb	New Zealand Guidelines Semi Quantitative Asbestos in Soil
4	BLK2_SS13_0.2 02-Apr-2025	Soil	PSoil500Asb	New Zealand Guidelines Semi Quantitative Asbestos in Soil
5	BLK2_SS14_0.05 02-Apr-2025	Soil	PSoil500Asb	New Zealand Guidelines Semi Quantitative Asbestos in Soil
6	BLK2_SS15_0.05 02-Apr-2025	Soil	PSoil500Asb	New Zealand Guidelines Semi Quantitative Asbestos in Soil
7	BLK2_SS15_0.2 02-Apr-2025	Soil	PSoil500Asb	New Zealand Guidelines Semi Quantitative Asbestos in Soil
8	BLK2_SS16_0.05 02-Apr-2025	Soil	PSoil500Asb	New Zealand Guidelines Semi Quantitative Asbestos in Soil
9	BLK2_SS16_0.2 02-Apr-2025	Soil	PSoil500Asb	New Zealand Guidelines Semi Quantitative Asbestos in Soil
10	BLK2_SS17_0.05 02-Apr-2025	Soil	PSoil500Asb	New Zealand Guidelines Semi Quantitative Asbestos in Soil
11	BLK2_SS18_0.05 02-Apr-2025	Soil	PSoil500Asb	New Zealand Guidelines Semi Quantitative Asbestos in Soil
12	BLK2_SS18_0.2 02-Apr-2025	Soil	PSoil500Asb	New Zealand Guidelines Semi Quantitative Asbestos in Soil
13	BLK2_SS19_0.05 02-Apr-2025	Soil	PSoil500Asb	New Zealand Guidelines Semi Quantitative Asbestos in Soil
14	BLK2_SS19_0.2 02-Apr-2025	Soil	PSoil500Asb	New Zealand Guidelines Semi Quantitative Asbestos in Soil
15	BLK2_SS20_0.05 02-Apr-2025	Soil	PSoil500Asb	New Zealand Guidelines Semi Quantitative Asbestos in Soil
16	BLK2_SS10A_0.05 02-Apr-2025	Soil	PSoil500Asb	New Zealand Guidelines Semi Quantitative Asbestos in Soil
17	BLK2_SS10A_0.2 02-Apr-2025	Soil	PSoil500Asb	New Zealand Guidelines Semi Quantitative Asbestos in Soil
18	BLK2_SS10B_0.05 02-Apr-2025	Soil	PSoil500Asb	New Zealand Guidelines Semi Quantitative Asbestos in Soil
19	BLK2_SS10C_0.05 02-Apr-2025	Soil	PSoil500Asb	New Zealand Guidelines Semi Quantitative Asbestos in Soil
20	BLK2_SS10C_0.2 02-Apr-2025	Soil	PSoil500Asb	New Zealand Guidelines Semi Quantitative Asbestos in Soil
21	BLK2_SS10D_0.05 02-Apr-2025	Soil	PSoil500Asb	New Zealand Guidelines Semi Quantitative Asbestos in Soil
22	BLK2_SS10E_0.05 02-Apr-2025	Soil	PSoil500Asb	New Zealand Guidelines Semi Quantitative Asbestos in Soil

Samples				
No	Sample Name	Sample Type	Containers	Tests Requested
23	BLK2_SS10E_0.2 02-Apr-2025	Soil	PSoil500Asb	New Zealand Guidelines Semi Quantitative Asbestos in Soil
24	BLK2_SS10F_0.05 02-Apr-2025	Soil	PSoil500Asb	New Zealand Guidelines Semi Quantitative Asbestos in Soil
25	BLK2_SS10G_0.05 02-Apr-2025	Soil	PSoil500Asb	New Zealand Guidelines Semi Quantitative Asbestos in Soil
26	BLK2_SS10G_0.2 02-Apr-2025	Soil	PSoil500Asb	New Zealand Guidelines Semi Quantitative Asbestos in Soil
27	BLK2_SS10H_0.05 02-Apr-2025	Soil	PSoil500Asb	New Zealand Guidelines Semi Quantitative Asbestos in Soil
28	BLK2_SS10B_0.2 02-Apr-2025	Soil	PSoil500Asb	Hold Cold
29	BLK2_SS10D_0.2 02-Apr-2025	Soil	PSoil500Asb	Hold Cold
30	BLK2_SS10F_0.2 02-Apr-2025	Soil	PSoil500Asb	Hold Cold
31	BLK2_SS10H_0.2 02-Apr-2025	Soil	PSoil500Asb	Hold Cold

Summary of Methods

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

Sample Type: Soil			
Test	Method Description	Default Detection Limit	Sample No
New Zealand Guidelines Semi Quantitative Asbestos in Soil			
As Received Weight	Measurement on analytical balance. Analysed at Hill Laboratories - Asbestos; Unit 1, 17 Print Place, Middleton, Christchurch.	0.1 g	1-27
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	1-27
Moisture	Sample dried at 100 to 105°C. Calculation = (As received weight - Dry weight) / as received weight x 100.	1 %	1-27
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	1-27
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	1-27
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	1-27
Asbestos Presence / Absence	Examination using Low Powered Stereomicroscopy followed by 'Polarised Light Microscopy' including 'Dispersion Staining Techniques'. Analysed at Hill Laboratories - Asbestos; Unit 1, 17 Print Place, Middleton, Christchurch. AS 4964 (2004) - Method for the Qualitative Identification of Asbestos in Bulk Samples.	0.01%	1-27
Description of Asbestos Form	Description of asbestos form and/or shape if present.	-	1-27
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	1-27
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	1-27
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	1-27
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	1-27

Sample Type: Soil			
Test	Method Description	Default Detection Limit	Sample No
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	1-27
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	1-27
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	1-27



PATTLE DELAMORE PARTNERS LTD

Request for Analyses

NOTE: Please acknowledge receipt of these samples by signing this form and emailing to submitter.

From: Pattle Delamore Partners Ltd

Office: ☐ Auckland ☐ Tauranga ☐ Wellington ☒ ChristchurchSubmitted by: Miriam Clark Ph No.: 0224519662To: Hill Labs

Quote No.:

PDP Job No.: C03812100

Chain of Custody Record

Additional Job No: Date Recv: 03-Apr-25 14:34

Sent:

Name: Miriam ClarkSignature: [Signature]Date and time: 3/4/25Received: ☐ Room temp. ☐ Chilled Temp.: ____ °C
☐ Frozen

Name: _____

Signature: _____

Date and time: _____

384 3460

Received by: Findabair Joynes



3138434606

Results to: ☐ lab.samples@pdp.co.nz☒ Email submitter: miriam.clark

@pdp.co.nz

☒ Email other: guy.knoyie

@pdp.co.nz

Priority: ☐ Normal ☒ High ☐ Urgent

Results required by: ____ / ____ / ____

Invoice to:

☒ PDP☐ Other: _____

Sample ID	Date	Time	Sample type	Analyses Requested	Notes
BLK1-SS1-0.05	3/4/25		S	"semi-quant asbestos"	
-0.1				"hold cold"	
-0.2				"semi-quant asbestos"	
BLK1-SS2-0.05					
-0.2					
BLK1-SS3-0.05					
BLK1-SS4-0.05					
-0.2					
BLK1-SS5-0.05					
-0.2					
BLK1-SS6-0.05					
BLK1-SS7-0.05					
-0.2					
BLK1-SS8-0.05					
-0.2					
BLK1-SS9-0.05					
BLK1-SS10-0.05					
BLK1-SS11-0.05					
BLK1-SS12-0.05					
BLK1-SS13-0.05					
BLK1-SS14-0.05					
BLK1-SS15-0.05					

Sample type:

☒ S Soil☐ GW Groundwater☐ SAL Saline☐ FW Freshwater☐ GEO Geothermal☐ SW Stormwater☐ SED Sediment☐ BIO Biota☐ WW Wastewater☐ P Potable☐ O Other: _____

For physical address see www.pdp.co.nz

Note: Samples may contain dangerous or hazardous substances

Page 1

PDP Auckland

PDP Tauranga

PDP Wellington

PDP Christchurch

Job Information Summary

Page 1 of 2

Client:	Pattle Delamore Partners Limited	Lab No:	3843460
Contact:	Mr G Knoyle C/- Pattle Delamore Partners Limited PO Box 389 Christchurch 8140	Date Registered:	03-Apr-2025 3:28 pm
		Priority:	High
		Quote No:	81087
		Order No:	
		Client Reference:	C03812100
		Add. Client Ref:	
		Submitted By:	Miriam Clark
		Charge To:	Pattle Delamore Partners Limited
		Target Date:	07-Apr-2025 4:30 pm

Samples

No	Sample Name	Sample Type	Containers	Tests Requested
1	BLK1_SS1_0.05 03-Apr-2025	Soil	PSoil500Asb	New Zealand Guidelines Semi Quantitative Asbestos in Soil
2	BLK1_SS1_0.1 03-Apr-2025	Soil	PSoil500Asb	Hold Cold
3	BLK1_SS1_0.2 03-Apr-2025	Soil	PSoil500Asb	New Zealand Guidelines Semi Quantitative Asbestos in Soil
4	BLK1_SS2_0.05 03-Apr-2025	Soil	PSoil500Asb	New Zealand Guidelines Semi Quantitative Asbestos in Soil
5	BLK1_SS2_0.2 03-Apr-2025	Soil	PSoil500Asb	New Zealand Guidelines Semi Quantitative Asbestos in Soil
6	BLK1_SS3_0.05 03-Apr-2025	Soil	PSoil500Asb	New Zealand Guidelines Semi Quantitative Asbestos in Soil
7	BLK1_SS4_0.05 03-Apr-2025	Soil	PSoil500Asb	New Zealand Guidelines Semi Quantitative Asbestos in Soil
8	BLK1_SS4_0.2 03-Apr-2025	Soil	PSoil500Asb	New Zealand Guidelines Semi Quantitative Asbestos in Soil
9	BLK1_SS5_0.05 03-Apr-2025	Soil	cPSoil500Asb	New Zealand Guidelines Semi Quantitative Asbestos in Soil
10	BLK1_SS5_0.2 03-Apr-2025	Soil	PSoil500Asb	New Zealand Guidelines Semi Quantitative Asbestos in Soil
11	BLK1_SS6_0.05 03-Apr-2025	Soil	PSoil500Asb	New Zealand Guidelines Semi Quantitative Asbestos in Soil
12	BLK1_SS7_0.05 03-Apr-2025	Soil	PSoil500Asb	New Zealand Guidelines Semi Quantitative Asbestos in Soil
13	BLK1_SS7_0.2 03-Apr-2025	Soil	PSoil500Asb	New Zealand Guidelines Semi Quantitative Asbestos in Soil
14	BLK1_SS8_0.05 03-Apr-2025	Soil	PSoil500Asb	New Zealand Guidelines Semi Quantitative Asbestos in Soil
15	BLK1_SS8_0.2 03-Apr-2025	Soil	PSoil500Asb	New Zealand Guidelines Semi Quantitative Asbestos in Soil
16	BLK1_SS9_0.05 03-Apr-2025	Soil	PSoil500Asb	New Zealand Guidelines Semi Quantitative Asbestos in Soil
17	BLK1_SS10_0.05 03-Apr-2025	Soil	PSoil500Asb	New Zealand Guidelines Semi Quantitative Asbestos in Soil
18	BLK1_SS11_0.05 03-Apr-2025	Soil	PSoil500Asb	New Zealand Guidelines Semi Quantitative Asbestos in Soil
19	BLK1_SS12_0.05 03-Apr-2025	Soil	PSoil500Asb	New Zealand Guidelines Semi Quantitative Asbestos in Soil
20	BLK1_SS13_0.05 03-Apr-2025	Soil	PSoil500Asb	New Zealand Guidelines Semi Quantitative Asbestos in Soil
21	BLK1_SS14_0.05 03-Apr-2025	Soil	PSoil500Asb	New Zealand Guidelines Semi Quantitative Asbestos in Soil
22	BLK1_SS15_0.05 03-Apr-2025	Soil	PSoil500Asb	New Zealand Guidelines Semi Quantitative Asbestos in Soil

Summary of Methods

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

Sample Type: Soil			
Test	Method Description	Default Detection Limit	Sample No
New Zealand Guidelines Semi Quantitative Asbestos in Soil			
As Received Weight	Measurement on analytical balance. Analysed at Hill Laboratories - Asbestos; Unit 1, 17 Print Place, Middleton, Christchurch.	0.1 g	1, 3-22
Dry Weight	Sample dried at 100 to 105°C, measurement on balance. Analysed at Hill Laboratories - Asbestos; Unit 1, 17 Print Place, Middleton, Christchurch.	0.1 g	1, 3-22
Moisture	Sample dried at 100 to 105°C. Calculation = (As received weight - Dry weight) / as received weight x 100.	1 %	1, 3-22
Sample Fraction >10mm	Sample dried at 100 to 105°C, 10mm sieve, measurement on analytical balance. Analysed at Hill Laboratories - Asbestos; Unit 1, 17 Print Place, Middleton, Christchurch.	0.1 g dry wt	1, 3-22
Sample Fraction <10mm to >2mm	Sample dried at 100 to 105°C, 10mm and 2mm sieve, measurement on analytical balance. Analysed at Hill Laboratories - Asbestos; Unit 1, 17 Print Place, Middleton, Christchurch.	0.1 g dry wt	1, 3-22
Sample Fraction <2mm	Sample dried at 100 to 105°C, 2mm sieve, measurement on analytical balance. Analysed at Hill Laboratories - Asbestos; Unit 1, 17 Print Place, Middleton, Christchurch.	0.1 g dry wt	1, 3-22
Asbestos Presence / Absence	Examination using Low Powered Stereomicroscopy followed by 'Polarised Light Microscopy' including 'Dispersion Staining Techniques'. Analysed at Hill Laboratories - Asbestos; Unit 1, 17 Print Place, Middleton, Christchurch. AS 4964 (2004) - Method for the Qualitative Identification of Asbestos in Bulk Samples.	0.01%	1, 3-22
Description of Asbestos Form	Description of asbestos form and/or shape if present.	-	1, 3-22
Weight of Asbestos in ACM (Non-Friable)	Measurement on analytical balance, from the >10mm Fraction. Weight of asbestos based on assessment of ACM form. Analysed at Hill Laboratories - Asbestos; Unit 1, 17 Print Place, Middleton, Christchurch. New Zealand Guidelines for Assessing and Managing Asbestos in Soil, November 2017.	0.00001 g dry wt	1, 3-22
Asbestos in ACM as % of Total Sample	Calculated from weight of asbestos in ACM and sample dry weight. New Zealand Guidelines for Assessing and Managing Asbestos in Soil, November 2017.	0.001 % w/w	1, 3-22
Weight of Asbestos as Fibrous Asbestos (Friable)	Measurement on analytical balance, from the >10mm Fraction. Analysed at Hill Laboratories - Asbestos; Unit 1, 17 Print Place, Middleton, Christchurch. New Zealand Guidelines for Assessing and Managing Asbestos in Soil, November 2017.	0.00001 g dry wt	1, 3-22
Asbestos as Fibrous Asbestos as % of Total Sample	Calculated from weight of fibrous asbestos and sample dry weight. New Zealand Guidelines for Assessing and Managing Asbestos in Soil, November 2017.	0.001 % w/w	1, 3-22
Weight of Asbestos as Asbestos Fines (Friable)	Measurement on analytical balance, from the <10mm Fractions. Analysed at Hill Laboratories - Asbestos; Unit 1, 17 Print Place, Middleton, Christchurch. New Zealand Guidelines for Assessing and Managing Asbestos in Soil, November 2017.	0.00001 g dry wt	1, 3-22
Asbestos as Asbestos Fines as % of Total Sample	Calculated from weight of asbestos fines and sample dry weight. New Zealand Guidelines for Assessing and Managing Asbestos in Soil, November 2017.	0.001 % w/w	1, 3-22
Combined Fibrous Asbestos + Asbestos Fines as % of Total Sample	Calculated from weight of fibrous asbestos plus asbestos fines and sample dry weight. New Zealand Guidelines for Assessing and Managing Asbestos in Soil, November 2017.	0.001 % w/w	1, 3-22



PATTLE DELAMORE PARTNERS LTD

Request for Analyses

NOTE: Please acknowledge receipt of these samples by signing this form and emailing to submitter.

From: Pattle Delamore Partners Ltd

To: Hill Labs

Office: ☐ Auckland ☐ Hamilton ☐ Tauranga ☐ Wellington ☒ Christchurch ☐ Invercargill

Quote No.:

Submitted by: Finn Seeds

Ph No.: 021 812 962

PDP Job No.: C038120001

Chain of Custody Record

Sent:

Received: ☐ Room temp. ☐ Chilled Temp.: ____ °C
☐ Frozen

Name: Finn Seeds

Name:

Signature: F. Seeds

Signature:

Date and time: 7/8/25

Date and time:

Ad Job No: Date Recv: 07-Aug-25 16:57

395 6642

Received by: Danielle McNeilly



16.4

Results to:

☐ lab.samples@pdp.co.nz☒ Email submitter: Finn Seeds

@pdp.co.nz

☒ Email other: guy.knoyle

@pdp.co.nz

Priority:

☐ Normal ☒ High☐ Urgent

Results required by: / /

Invoice to:

☒ PDP☐ Other:

Sample ID	Date	Time	Sample type	Analyses Requested	Notes
BLK1-SS40-0.05	7/8/25		S	"semi-quant asbestos"	
BLK1-SS30-0.05					
BLK1-SS33-0.05					
BLK1-SS39-0.05					
BLK1-SS32-0.05					
BLK1-SS34-0.05					
-0.2					
BLK1-SS31-0.05					
BLK1-SS35-0.05					
BLK1-SS29-0.05					
BLK1-SS26-0.05					
BLK1-SS29-0.05					
BLK1-SS1-0.2					
BLK1-SS27-0.05					
-0.2					
BLK1-SS28-0.2					
-0.45					
BLK1-SS25-0.05					
BLK1-SS22-0.05					
BLK1-SS16-0.05					
BLK1-SS18-0.05					
Sample type: ☒ S Soil ☐ GW Groundwater ☐ SAL Saline ☐ FW Freshwater ☐ GEO Geothermal ☐ SW Stormwater ☐ SED Sediment ☐ BIO Biota ☐ WW Wastewater ☐ P Potable ☐ O Other:					

For physical address see www.pdp.co.nz

Note: Samples may contain dangerous or hazardous substances

Page 1 of 2

PDP Auckland
Tel: +64 9 523 6900PDP Hamilton
Tel: +64 7 949 7880PDP Tauranga
Tel: +64 7 985 6440PDP Wellington
Tel: +64 4 471 4130PDP Christchurch
Tel: +64 3 345 7100PDP Invercargill
Tel: +64 3 422 1690

Request for Analyses

NOTE: Please acknowledge receipt of these samples by signing this form and emailing to submitter.

From: Pattle Delamore Partners Ltd

To: Hill Labs

Office: ☐ Auckland ☐ Hamilton ☐ Tauranga ☐ Wellington ☒ Christchurch ☐ Invercargill

Quote No.:

Submitted by: Finn Seeds

Ph No.: 021 812 962

PDP Job No.: **CG38120001**

Chain of Custody Record

Additional Information

Sent:

Received: ☐ Room temp. ☐ Chilled Temp.: °C

Name: Finn Seeds

Name: _____

Signature: J. [Signature]

Signature: _____

Date and time: 7/8/25

Date and time: _____

Results to:

☐ lab.samples@pdp.co.nz

☒ Email submitter: finn.seeds

@pdp.co.nz

☒ Email other: guy.knoyle

info@pdp.co.nz

Priority: ☐ Normal ☒ High ☐ Urgent

Results required by: / /

Invoice to:☒ PDP☐ Other:[illegible]

For physical address see www.pdp.co.nz

Note: Samples may contain dangerous or hazardous substances

Page 2 of 2

PDP Auckland
Tel: +64 9 523 6900

PDP Hamilton
Tel: +64 7 949 7880

PDP Tauranga
Tel: +64 7 985 6440

PDP Wellington
Tel: +64 4 471 4130

PDP Christchurch
Tel: +64 3 345 7100

PDP Invercargill
Tel: +64 3 422 1690

Job Information Summary

Page 1 of 3

Client:	Pattle Delamore Partners Limited	Lab No:	3956642
Contact:	Mr G Knoyle	Date Registered:	08-Aug-2025 9:51 am
	C/- Pattle Delamore Partners Limited	Priority:	High
	PO Box 389	Quote No:	81087
	Christchurch 8140	Order No:	
		Client Reference:	C038120001
		Add. Client Ref:	
		Submitted By:	Finn Seeds
		Charge To:	Pattle Delamore Partners Limited
		Target Date:	12-Aug-2025 4:30 pm

Samples

No	Sample Name	Sample Type	Containers	Tests Requested
1	BLK1_SS40_0.05 07-Aug-2025	Soil	PSoil500Asb	New Zealand Guidelines Semi Quantitative Asbestos in Soil
2	BLK1_SS30_0.05 07-Aug-2025	Soil	PSoil500Asb	New Zealand Guidelines Semi Quantitative Asbestos in Soil
3	BLK1_SS33_0.05 07-Aug-2025	Soil	PSoil500Asb	New Zealand Guidelines Semi Quantitative Asbestos in Soil
4	BLK1_SS39_0.05 07-Aug-2025	Soil	PSoil500Asb	New Zealand Guidelines Semi Quantitative Asbestos in Soil
5	BLK1_SS32_0.05 07-Aug-2025	Soil	PSoil500Asb	New Zealand Guidelines Semi Quantitative Asbestos in Soil
6	BLK1_SS34_0.05 07-Aug-2025	Soil	PSoil500Asb	New Zealand Guidelines Semi Quantitative Asbestos in Soil
7	BLK1_SS34_0.2 07-Aug-2025	Soil	PSoil500Asb	New Zealand Guidelines Semi Quantitative Asbestos in Soil
8	BLK1_SS31_0.05 07-Aug-2025	Soil	PSoil500Asb	New Zealand Guidelines Semi Quantitative Asbestos in Soil
9	BLK1_SS35_0.05 07-Aug-2025	Soil	PSoil500Asb	New Zealand Guidelines Semi Quantitative Asbestos in Soil
10	BLK1_SS29_0.05 07-Aug-2025	Soil	PSoil500Asb	New Zealand Guidelines Semi Quantitative Asbestos in Soil
11	BLK1_SS26_0.05 07-Aug-2025	Soil	PSoil500Asb	New Zealand Guidelines Semi Quantitative Asbestos in Soil
12	BLK1_SS29_0.2 07-Aug-2025	Soil	PSoil500Asb	New Zealand Guidelines Semi Quantitative Asbestos in Soil
13	BLK1_SS1_0.2 07-Aug-2025	Soil	PSoil500Asb	New Zealand Guidelines Semi Quantitative Asbestos in Soil
14	BLK1_SS27_0.05 07-Aug-2025	Soil	PSoil500Asb	New Zealand Guidelines Semi Quantitative Asbestos in Soil
15	BLK1_SS27_0.2 07-Aug-2025	Soil	PSoil500Asb	New Zealand Guidelines Semi Quantitative Asbestos in Soil
16	BLK1_SS28_0.2 07-Aug-2025	Soil	PSoil500Asb	New Zealand Guidelines Semi Quantitative Asbestos in Soil
17	BLK1_SS28_0.05 07-Aug-2025	Soil	PSoil500Asb	New Zealand Guidelines Semi Quantitative Asbestos in Soil
18	BLK1_SS25_0.05 07-Aug-2025	Soil	PSoil500Asb	New Zealand Guidelines Semi Quantitative Asbestos in Soil
19	BLK1_SS22_0.05 07-Aug-2025	Soil	PSoil500Asb	New Zealand Guidelines Semi Quantitative Asbestos in Soil
20	BLK1_SS16_0.05 07-Aug-2025	Soil	PSoil500Asb	New Zealand Guidelines Semi Quantitative Asbestos in Soil
21	BLK1_SS18_0.05 07-Aug-2025	Soil	PSoil500Asb	New Zealand Guidelines Semi Quantitative Asbestos in Soil
22	BLK1_SS21_0.05 07-Aug-2025	Soil	PSoil500Asb	New Zealand Guidelines Semi Quantitative Asbestos in Soil

Samples				
No	Sample Name	Sample Type	Containers	Tests Requested
23	BLK1_SS19_0.05 07-Aug-2025	Soil	PSoil500Asb	New Zealand Guidelines Semi Quantitative Asbestos in Soil
24	BLK1_SS23_0.05 07-Aug-2025	Soil	PSoil500Asb	New Zealand Guidelines Semi Quantitative Asbestos in Soil
25	BLK1_SS24_0.05 07-Aug-2025	Soil	PSoil500Asb	New Zealand Guidelines Semi Quantitative Asbestos in Soil
26	BLK1_SS17_0.05 07-Aug-2025	Soil	PSoil500Asb	New Zealand Guidelines Semi Quantitative Asbestos in Soil
27	BLK1_SS20_0.05 07-Aug-2025	Soil	PSoil500Asb	New Zealand Guidelines Semi Quantitative Asbestos in Soil

Summary of Methods

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

Sample Type: Soil			
Test	Method Description	Default Detection Limit	Sample No
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	1-27
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	1-27
Moisture	Sample dried at 100 to 105°C. Calculation = (As received weight - Dry weight) / as received weight x 100.	1 %	1-27
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	1-27
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	1-27
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	1-27
Asbestos Presence / Absence	Examination using Low Powered Stereomicroscopy followed by 'Polarised Light Microscopy' including 'Dispersion Staining Techniques'. Analysed at Hill Laboratories - Asbestos; Unit 1, 17 Print Place, Middleton, Christchurch. AS 4964 (2004) - Method for the Qualitative Identification of Asbestos in Bulk Samples.	0.01%	1-27
Description of Asbestos Form	Description of asbestos form and/or shape if present.	-	1-27
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	1-27
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	1-27
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	1-27
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	1-27
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	1-27
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	1-27

Sample Type: Soil			
Test	Method Description	Default Detection Limit	Sample No
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	1-27



PATTLE DELAMORE PARTNERS LTD

Request for Analyses

NOTE: Please acknowledge receipt of these samples by signing this form and emailing to submitter.

From: Pattle Delamore Partners Ltd

To: Hill Labs

Office: ☐ Auckland ☐ Hamilton ☐ Tauranga ☐ Wellington ☒ Christchurch ☐ Invercargill

Quote No.:

Submitted by: Finn Seeds

Ph No.: 021 812 962

PDP Job No.: C038120001

Chain of Custody Record

Additional Information

Sent:

Name: Finn Seeds

Signature: J. Seeds

Date and time: 8/8/25 15:15

Received: ☐ Room temp. ☐ Chilled Temp.: °C☐ Frozen

Name:

Signature:

Date and time:

Please email
ccc + summary to
submitter + other.

Results to:

☐ lab.samples@pdp.co.nz☒ Email submitter: finn.seeds

@pdp.co.nz

☒ Email other: guy.knoyle

@pdp.co.nz

Priority: ☐ Normal ☒ High ☐ Urgent

Results required by: / /

Invoice to:

☒ PDP☐ Other:

Sample ID	Date	Time	Sample type	Analyses Requested	Notes
Blk2-SS21-0.05	8/8/25		S	"Semi-quant asbestos"	
Blk2-SS22-0.05					
Blk2-SS23-0.05					
Blk2-SS24-0.05					
Blk2-SS25-0.05					
Blk2-SS26-0.05					
Blk2-SS27-0.05					
Blk2-SS28-0.05					
Blk2-SS29-0.05					
Blk2-SS30-0.05					
Blk2-SS31-0.05					
Blk2-SS32-0.05					
Blk2-SS33-0.05					
Blk2-SS34-0.05					
Blk2-SS35-0.05					
Blk1-SS36-0.05					
Blk1-SS37-0.05					
Blk1-SS38-0.05					
Blk1-SS41-0.05					
Blk1-SS42-0.05					
Blk1-SS43-0.05					

Job No: Date Recv: 08-Aug-25 15:20
395 7537
 Received by: Eila-Rose Jones

3139575379

Sample type: S Soil GW Groundwater SAL Saline FW Freshwater GEO Geothermal SW Stormwater
 SED Sediment BIO Biota WW Wastewater P Potable O Other:

For physical address see www.pdp.co.nz

Note: Samples may contain dangerous or hazardous substances

Page 1 of 1

PDP Auckland
Tel: +64 9 523 6900PDP Hamilton
Tel: +64 7 949 7880PDP Tauranga
Tel: +64 7 985 6440PDP Wellington
Tel: +64 4 471 4130PDP Christchurch
Tel: +64 3 345 7100PDP Invercargill
Tel: +64 3 422 1690



NOTE: Please acknowledge receipt of these samples by signing this form and emailing to submitter.

PDP Invercargill
Tel: +64 3 422 1690

Job Information Summary

Page 1 of 3

Client:	Pattle Delamore Partners Limited	Lab No:	3957537
Contact:	Mr G Knoyle C/- Pattle Delamore Partners Limited PO Box 389 Christchurch 8140	Date Registered:	08-Aug-2025 3:45 pm
		Priority:	High
		Quote No:	81087
		Order No:	
		Client Reference:	C038120001
		Add. Client Ref:	
		Submitted By:	Finn Seeds
		Charge To:	Pattle Delamore Partners Limited
		Target Date:	12-Aug-2025 4:30 pm

Samples				
No	Sample Name	Sample Type	Containers	Tests Requested
1	BLK2_SS21_0.05 08-Aug-2025	Soil	PSoil500Asb	New Zealand Guidelines Semi Quantitative Asbestos in Soil
2	BLK2_SS22_0.05 08-Aug-2025	Soil	PSoil500Asb	New Zealand Guidelines Semi Quantitative Asbestos in Soil
3	BLK2_SS23_0.05 08-Aug-2025	Soil	cPSoil500Asb	New Zealand Guidelines Semi Quantitative Asbestos in Soil
4	BLK2_SS24_0.05 08-Aug-2025	Soil	PSoil500Asb	New Zealand Guidelines Semi Quantitative Asbestos in Soil
5	BLK2_SS25_0.05 08-Aug-2025	Soil	PSoil500Asb	New Zealand Guidelines Semi Quantitative Asbestos in Soil
6	BLK2_SS26_0.05 08-Aug-2025	Soil	PSoil500Asb	New Zealand Guidelines Semi Quantitative Asbestos in Soil
7	BLK2_SS27_0.05 08-Aug-2025	Soil	PSoil500Asb	New Zealand Guidelines Semi Quantitative Asbestos in Soil
8	BLK2_SS28_0.05 08-Aug-2025	Soil	PSoil500Asb	New Zealand Guidelines Semi Quantitative Asbestos in Soil
9	BLK2_SS29_0.05 08-Aug-2025	Soil	PSoil500Asb	New Zealand Guidelines Semi Quantitative Asbestos in Soil
10	BLK2_SS30_0.05 08-Aug-2025	Soil	PSoil500Asb	New Zealand Guidelines Semi Quantitative Asbestos in Soil
11	BLK2_SS31_0.05 08-Aug-2025	Soil	PSoil500Asb	New Zealand Guidelines Semi Quantitative Asbestos in Soil
12	BLK2_SS32_0.05 08-Aug-2025	Soil	PSoil500Asb	New Zealand Guidelines Semi Quantitative Asbestos in Soil
13	BLK2_SS33_0.05 08-Aug-2025	Soil	PSoil500Asb	New Zealand Guidelines Semi Quantitative Asbestos in Soil
14	BLK2_SS34_0.05 08-Aug-2025	Soil	PSoil500Asb	New Zealand Guidelines Semi Quantitative Asbestos in Soil
15	BLK2_SS35_0.05 08-Aug-2025	Soil	PSoil500Asb	New Zealand Guidelines Semi Quantitative Asbestos in Soil
16	BLK1_SS36_0.05 08-Aug-2025	Soil	PSoil500Asb	New Zealand Guidelines Semi Quantitative Asbestos in Soil
17	BLK1_SS37_0.05 08-Aug-2025	Soil	PSoil500Asb	New Zealand Guidelines Semi Quantitative Asbestos in Soil
18	BLK1_SS38_0.05 08-Aug-2025	Soil	PSoil500Asb	New Zealand Guidelines Semi Quantitative Asbestos in Soil
19	BLK1_SS41_0.05 08-Aug-2025	Soil	PSoil500Asb	New Zealand Guidelines Semi Quantitative Asbestos in Soil
20	BLK1_SS42_0.05 08-Aug-2025	Soil	PSoil500Asb	New Zealand Guidelines Semi Quantitative Asbestos in Soil
21	BLK1_SS43_0.05 08-Aug-2025	Soil	PSoil500Asb	New Zealand Guidelines Semi Quantitative Asbestos in Soil
22	BLK1_SS44_0.05 08-Aug-2025	Soil	PSoil500Asb	New Zealand Guidelines Semi Quantitative Asbestos in Soil

Samples

No	Sample Name	Sample Type	Containers	Tests Requested
23	BLK1_SS45_0.05 08-Aug-2025	Soil	PSoil500Asb	New Zealand Guidelines Semi Quantitative Asbestos in Soil
24	BLK1_SS46_0.05 08-Aug-2025	Soil	PSoil500Asb	New Zealand Guidelines Semi Quantitative Asbestos in Soil
25	BLK1_SS47_0.05 08-Aug-2025	Soil	cPSoil500Asb	New Zealand Guidelines Semi Quantitative Asbestos in Soil
26	BLK1_SS48_0.05 08-Aug-2025	Soil	PSoil500Asb	New Zealand Guidelines Semi Quantitative Asbestos in Soil
27	BLK1_SS49_0.05 08-Aug-2025	Soil	PSoil500Asb	New Zealand Guidelines Semi Quantitative Asbestos in Soil

Summary of Methods

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

Sample Type: Soil			
Test	Method Description	Default Detection Limit	Sample No
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	1-27
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	1-27
Moisture	Sample dried at 100 to 105°C. Calculation = (As received weight - Dry weight) / as received weight x 100.	1 %	1-27
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	1-27
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	1-27
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	1-27
Asbestos Presence / Absence	Examination using Low Powered Stereomicroscopy followed by 'Polarised Light Microscopy' including 'Dispersion Staining Techniques'. Analysed at Hill Laboratories - Asbestos; Unit 1, 17 Print Place, Middleton, Christchurch. AS 4964 (2004) - Method for the Qualitative Identification of Asbestos in Bulk Samples.	0.01%	1-27
Description of Asbestos Form	Description of asbestos form and/or shape if present.	-	1-27
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	1-27
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	1-27
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	1-27
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	1-27
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	1-27
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	1-27

Sample Type: Soil			
Test	Method Description	Default Detection Limit	Sample No
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	1-27

Request for Analyses

NOTE: Please acknowledge receipt of these samples by signing this form and emailing to submitter.

From: Pattle Delamore Partners Ltd

Office: ☐ Auckland ☐ Tauranga ☐ Wellington ☒ Christchurch

Submitted by: Miriam Clark Ph No.: 0224519662

To: Hill Labs

Quote No.:

PDP Job No.: C03812100

Chain of Custody Record

Sent:

Name: Miriam Clark

Signature: _____

Date and time: 14:30 20/3/25

Received: ☐ Room temp. ☐ Chilled Temp.: 25 °C
☐ Frozen

Name:

Signature:

Date and time:

Additional Information

Job No: Date Recv: 20-Mar-25 14:38

382 2455

Received by: Brianna McLachlan



3138224551

Results to:

☐ lab.samples@pdp.co.nz

☒ Email submitter:

☒ Email other:

miriam. clark

@pdp.co.nz

Priority:

☐ Normal ☒ High☐ Urgent

Results required by:

/ /

Invoice to:☒ PDP☐ Other:

guy. knoyle

@pdp.co.nz

[illegible]

or physical address see www.pdp.co.nz

Note: Samples may contain dangerous or hazardous substances

Page 1 of 1

DP Auckland
Tel: +64 9 523 6900

PDP Tauranga
Tel: +64 7 985 6440

PDP Wellington
Tel: +64 4 471 4130

PDP Christchurch
Tel: +64 3 345 7100

Job Information Summary

Page 1 of 1

Client:	Pattle Delamore Partners Limited	Lab No:	3822455
Contact:	Mr G Knoyle C/- Pattle Delamore Partners Limited PO Box 389 Christchurch 8140	Date Registered:	20-Mar-2025 3:47 pm
		Priority:	High
		Quote No:	81087
		Order No:	C03812100
		Client Reference:	C03812100
		Add. Client Ref:	
		Submitted By:	Miriam Clark
		Charge To:	Pattle Delamore Partners Limited
		Target Date:	25-Aug-2025 4:30 pm

Samples

No	Sample Name	Sample Type	Containers	Tests Requested
1	BLK2_SS1_0.05 20-Mar-2025	Soil	GSoil300, GSoil300	Heavy Metals, Screen Level, Total Recoverable Manganese
2	BLK2_SS3_0.05 20-Mar-2025	Soil	GSoil300, GSoil300	Heavy Metals, Screen Level, Total Recoverable Manganese
3	BLK2_SS4_0.05 20-Mar-2025	Soil	GSoil300, GSoil300	Heavy Metals, Screen Level, Total Recoverable Manganese
4	BLK2_SS5_0.05 20-Mar-2025	Soil	GSoil300, GSoil300	Heavy Metals, Screen Level, Total Recoverable Manganese
5	BLK2_SS7_0.05 20-Mar-2025	Soil	GSoil300, GSoil300	Organochlorine Pesticides Screening in Soil
6	BLK2_SS8_0.05 20-Mar-2025	Soil	GSoil300, GSoil300	Heavy Metals, Screen Level, Total Recoverable Manganese
7	BLK2_SS10_0.05 20-Mar-2025	Soil	GSoil300, GSoil300	Heavy Metals, Screen Level, Total Recoverable Manganese
8	BLK2_SS11_0.05 20-Mar-2025	Soil	GSoil300, GSoil300	Organochlorine Pesticides Screening in Soil

Summary of Methods

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

Sample Type: Soil			
Test	Method Description	Default Detection Limit	Sample No
Environmental Solids Sample Drying	Air dried at 35°C Used for sample preparation. May contain a residual moisture content of 2-5%. (Free water removed before analysis, non-soil objects such as sticks, leaves, grass and stones also removed).		1-4, 6-7
Heavy Metals, Screen Level	Dried sample, < 2mm fraction. Nitric/Hydrochloric acid digestion. Complies with NES Regulations. ICP-MS screen level, interference removal by Kinetic Energy Discrimination if required. US EPA 200.2 (modified), APHA 3125 B: Online Edition.	0.10 - 4 mg/kg dry wt	1-4, 6-7
Organochlorine Pesticides Screening in Soil	Sonication extraction, GC-ECD analysis. Tested on as received sample. In-house based on US EPA 8081.	0.010 - 0.06 mg/kg dry wt	5, 8
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	5, 8
Total Recoverable Manganese	Dried sample, sieved as specified (if required). Nitric/Hydrochloric acid digestion, ICP-MS, screen level. US EPA 200.2 (modified), APHA 3125 B: Online Edition.	1.0 mg/kg dry wt	1-4, 6-7



NOTE: Please acknowledge receipt of these samples by signing this form and emailing to submitter.

To: Hill Labs

Quote No.:

PDP Job No.: C03812100

Additional Information

Received: ☐ Room temp. ☐ Chilled Temp.: ____°C
☐ Frozen

Name: _____

Signature: _____

Date and time: _____

Job No: Date Recv: 02-Apr-25 15:34

Date Recv. 02-Apr-25 15:34

384 1985

Received by: Kate Sullivan



3138419858

17.9

☐ lab.samples@pdp.co.nz

☒ Email submitter:

☒ Email other:

miniam. clark
guy. knogle

@pdp.co.nz

...@pdp.co.nz

Priority:

☐ Normal ☒ High☐ Urgent

Results required by:

/ /

☒ PDP

☐ Other _____

Sample type:	<u>S Soil</u>	GW Groundwater	SAL Saline	FW Freshwater	GEO Geothermal	SW Stormwater
	SED Sediment	BIO Biota	WW Wastewater	P Potable	O Other:	

Note: Samples may contain dangerous or hazardous substances

Page 1 of 1

PDP Wellington
Tel: +64 4 471 4130

PDP Christchurch
Tel: +64 3 345 7100

Job Information Summary

Page 1 of 2

Client:	Pattle Delamore Partners Limited	Lab No:	3841985
Contact:	Mr G Knoyle C/- Pattle Delamore Partners Limited PO Box 389 Christchurch 8140	Date Registered:	02-Apr-2025 4:18 pm
		Priority:	High
		Quote No:	81087
		Order No:	
		Client Reference:	C03812100
		Add. Client Ref:	
		Submitted By:	Miriam Clark
		Charge To:	Pattle Delamore Partners Limited
		Target Date:	25-Aug-2025 4:30 pm

Samples

No	Sample Name	Sample Type	Containers	Tests Requested
1	BLK2_SS12_0.05 02-Apr-2025	Soil	GSoil300, GSoil300	Heavy Metals, Screen Level, Total Recoverable Manganese
2	BLK2_SS12_0.2 02-Apr-2025	Soil	GSoil300, GSoil300	Heavy Metals, Screen Level, Total Recoverable Manganese
3	BLK2_SS14_0.05 02-Apr-2025	Soil	GSoil300, GSoil300	Heavy Metals, Screen Level, Total Recoverable Manganese
4	BLK2_SS16_0.05 02-Apr-2025	Soil	GSoil300, GSoil300	Heavy Metals, Screen Level, Total Recoverable Manganese
5	BLK2_SS16_0.2 02-Apr-2025	Soil	GSoil300, GSoil300	Heavy Metals, Screen Level, Total Recoverable Manganese
6	BLK2_SS18_0.05 02-Apr-2025	Soil	GSoil300, GSoil300	Heavy Metals, Screen Level, Total Recoverable Manganese
7	BLK2_SS18_0.2 02-Apr-2025	Soil	GSoil300, GSoil300	Heavy Metals, Screen Level, Total Recoverable Manganese
8	BLK2_SS19_0.2 02-Apr-2025	Soil	GSoil300, GSoil300	Heavy Metals, Screen Level, Total Recoverable Manganese
9	BLK2_SS20_0.05 02-Apr-2025	Soil	GSoil300, GSoil300	Heavy Metals, Screen Level, Total Recoverable Manganese
10	BLK2_SS10A_0.05 02-Apr-2025	Soil	GSoil300, GSoil300	Heavy Metals, Screen Level, Total Recoverable Manganese
11	BLK2_SS10A_0.2 02-Apr-2025	Soil	GSoil300, GSoil300	Heavy Metals, Screen Level, Total Recoverable Manganese
12	BLK2_SS10C_0.2 02-Apr-2025	Soil	GSoil300, GSoil300	Heavy Metals, Screen Level, Total Recoverable Manganese
13	BLK2_SS10D_0.05 02-Apr-2025	Soil	GSoil300, GSoil300	Heavy Metals, Screen Level, Total Recoverable Manganese
14	BLK2_SS10E_0.05 02-Apr-2025	Soil	GSoil300, GSoil300	Heavy Metals, Screen Level, Total Recoverable Manganese
15	BLK2_SS10E_0.2 02-Apr-2025	Soil	GSoil300, GSoil300	Heavy Metals, Screen Level, Total Recoverable Manganese
16	BLK2_SS10G_0.2 02-Apr-2025	Soil	GSoil300, GSoil300	Heavy Metals, Screen Level, Total Recoverable Manganese
17	BLK2_SS10H_0.05 02-Apr-2025	Soil	GSoil300, GSoil300	Heavy Metals, Screen Level, Total Recoverable Manganese

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

Sample Type: Soil			
Test	Method Description	Default Detection Limit	Sample No
Environmental Solids Sample Drying	Air dried at 35°C Used for sample preparation. May contain a residual moisture content of 2-5%. (Free water removed before analysis, non-soil objects such as sticks, leaves, grass and stones also removed).	-	1-17
Heavy Metals, Screen Level	Dried sample, < 2mm fraction. Nitric/Hydrochloric acid digestion. Complies with NES Regulations. ICP-MS screen level, interference removal by Kinetic Energy Discrimination if required. US EPA 200.2 (modified), APHA 3125 B: Online Edition.	0.10 - 4 mg/kg dry wt	1-17
Total Recoverable Manganese	Dried sample, sieved as specified (if required). Nitric/Hydrochloric acid digestion, ICP-MS, screen level. US EPA 200.2 (modified), APHA 3125 B: Online Edition.	1.0 mg/kg dry wt	1-17



NOTE: Please acknowledge receipt of these samples by signing this form and emailing to submitter.

To: Hill Labs

Quote No.:

PDP Job No.: 003812100

Additional Information

Job No: 221 Date Recv: 03-Apr-25 14:33

Name: _____

Signature: _____

Date and time: _____

Received by: Findabair Joynes



@pdp.co.nz

@pdp.co.nz

Results required by: / /

[illegible]

Sample type:

S Soil

GW Groundwater

SAL Saline

FW Freshwater

GEO Geothermal

SW Stormwater

SED Sediment

BIO Biota

WW Wastewater

P Potable

0 Other:

For physical address see www.pdp.co.nz

Note: Samples may contain dangerous or hazardous substances

Page /

PDP Auckland

PDP Tauranga

PDP Wellington

PDP Christchurch

Job Information Summary

Page 1 of 1

Client:	Pattle Delamore Partners Limited	Lab No:	3843459
Contact:	Mr G Knoyle C/- Pattle Delamore Partners Limited PO Box 389 Christchurch 8140	Date Registered:	03-Apr-2025 3:06 pm
		Priority:	High
		Quote No:	81087
		Order No:	
		Client Reference:	C03812100
		Add. Client Ref:	
		Submitted By:	Miriam Clark
		Charge To:	Pattle Delamore Partners Limited
		Target Date:	25-Aug-2025 4:30 pm

Samples

No	Sample Name	Sample Type	Containers	Tests Requested
1	BLK1_SS1_0.05 03-Apr-2025	Soil	GSoil300, GSoil300	Heavy Metals, Screen Level, Total Recoverable Manganese
2	BLK1_SS2_0.2 03-Apr-2025	Soil	GSoil300, GSoil300	Heavy Metals, Screen Level, Total Recoverable Manganese
3	BLK1_SS3_0.05 03-Apr-2025	Soil	GSoil300, GSoil300	Heavy Metals, Screen Level, Total Recoverable Manganese
4	BLK1_SS4_0.2 03-Apr-2025	Soil	GSoil300, cGSoil	Heavy Metals, Screen Level, Total Recoverable Manganese
5	BLK1_SS5_0.05 03-Apr-2025	Soil	GSoil300, GSoil300	Heavy Metals, Screen Level, Total Recoverable Manganese
6	BLK1_SS7_0.05 03-Apr-2025	Soil	GSoil300, GSoil300	Heavy Metals, Screen Level, Total Recoverable Manganese
7	BLK1_SS7_0.2 03-Apr-2025	Soil	GSoil300, GSoil300	Heavy Metals, Screen Level, Total Recoverable Manganese
8	BLK1_SS8_0.2 03-Apr-2025	Soil	GSoil300, GSoil300	Heavy Metals, Screen Level, Total Recoverable Manganese
9	BLK1_SS9_0.05 03-Apr-2025	Soil	GSoil300, GSoil300	Heavy Metals, Screen Level, Total Recoverable Manganese
10	BLK1_SS11_0.05 03-Apr-2025	Soil	GSoil300, GSoil300	Heavy Metals, Screen Level, Total Recoverable Manganese
11	BLK1_SS13_0.05 03-Apr-2025	Soil	GSoil300, GSoil300	Heavy Metals, Screen Level, Total Recoverable Manganese
12	BLK1_SS14_0.05 03-Apr-2025	Soil	GSoil300, GSoil300	Heavy Metals, Screen Level, Total Recoverable Manganese

Summary of Methods

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

Sample Type: Soil			
Test	Method Description	Default Detection Limit	Sample No
Environmental Solids Sample Drying	Air dried at 35°C Used for sample preparation. May contain a residual moisture content of 2-5%. (Free water removed before analysis, non-soil objects such as sticks, leaves, grass and stones also removed).	-	1-12
Heavy Metals, Screen Level	Dried sample, < 2mm fraction. Nitric/Hydrochloric acid digestion. Complies with NES Regulations. ICP-MS screen level, interference removal by Kinetic Energy Discrimination if required. US EPA 200.2 (modified), APHA 3125 B: Online Edition.	0.10 - 4 mg/kg dry wt	1-12
Total Recoverable Manganese	Dried sample, sieved as specified (if required). Nitric/Hydrochloric acid digestion. ICP-MS, screen level. US EPA 200.2 (modified), APHA 3125 B: Online Edition.	1.0 mg/kg dry wt	1-12

