

File No.: 39630

10 February 2026

Sovereign Palms Ltd.
PO BOX 13 349
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Attention: Sean Monaghan

Email: monaghan@suburbanestates.co.nz

Dear Sean,

Topsoil investigation report – Stage 13 Oakbridge, 7th Release (subdivision of Lot 4000 DP 614632)

1.0 Introduction and scope

The Oakbridge residential subdivision is located on land with the previous address of 47 Hawkins Road and 7 Selkirk Place, Marshland, Christchurch (herein referred to as ‘the site’). Soil sampling was undertaken within Stage 13 of the Oakbridge subdivision by Davis Ogilvie & Partners Limited (Davis Ogilvie) in June and December 2025, on behalf of Sovereign Palms Ltd.

The soil sampling was completed to assess the recently placed site won topsoil across the site which previously contained trace elements (heavy metals) at concentrations above background levels, predominately copper and zinc. The soil sampling was completed to characterise the soil in each lot in order to assist with consenting requirements and soil disposal. Soil sampling in Stages 7-12 and 14 will be undertaken once earthworks have been completed and topsoil has been placed in those stages.

Davis Ogilvie previously completed a Detailed Site Investigation (DSI) of the Oakbridge subdivision in 2017¹. The DSI found concentrations of heavy metals, organochlorine pesticides (OCPs), and polycyclic aromatic hydrocarbons (PAHs) at and above the adopted background criteria were present across the site. Specifically, copper was present at concentrations exceeding background over the majority of the subdivision area. DDT, arsenic, chromium, and zinc were also detected at concentrations above background in a number of samples in locations around the subdivision.

¹ Davis Ogilvie report dated 26 May 2017; Detailed Site Investigation Report, Oakbridge, Reference 34300.

Hotspot areas within other stages containing contaminant concentrations exceeding the National Environmental Standard for Soil Contamination (NESCS) for residential (10% produce) land use have been remediated, and validation reports have been produced. Following remediation of the hotspot areas, the original topsoil across the Oakbridge subdivision was stripped, stockpiled, and later respread as the final stage of earthworks development in each stage. Therefore, the topsoil is considered to be well mixed with previous topsoil assessments showing a relatively uniform concentration for the trace elements in soil. A plan showing Stages 6-14 of the Oakbridge subdivision is shown in Figure 1.



Figure 1: Extract from the Oakbridge Scheme Plan – Stages 6-14 (overall plan) (DWG 354/K). Not to scale.

Soil samples were collected by Davis Ogilvie in December 2025 in Stage 13 (Lots 410 to 423). Samples were taken from the upper 100 to 150 mm of topsoil. The soil sampling methodology included the collection of four soil samples per residential lot which were analysed for a suite of heavy metals. Composite samples (a combination of the four samples per lot) were created by the laboratory, and each composite sample was then analysed by the laboratory for organochlorine pesticides (OCPs). The results were compared to the NESCS for residential 10% produce and background levels established by Environment Canterbury (ECan)² and ambient concentrations for OCPs³.

1.1 Assessment methodology

The following investigation and assessment methodology was undertaken:

- Soil sample locations evenly distributed within each residential lot to gain a suitable representation of the topsoil.
- Visual and olfactory inspection of each sample for indicators of contamination.
- Soil samples were collected directly by hand and from ground surface to a depth of 150 mm below existing ground level (EGL).

² ECan (2007). Background concentrations of selected trace elements in Canterbury Soils. Christchurch Gley and Recent Soils, Level 2-Table 2.

³ Ministry for the Environment (MfE) (1998) Ambient concentrations of selected organochlorines in soils.

- To reduce the potential for cross contamination, each sample was collected using disposable nitrile gloves that were discarded following the collection of each sample.
- All field work and sampling were undertaken in general accordance with the procedures for the appropriate handling of potentially contaminated soils as described in the MfE Contaminated Land Management Guidelines No.5: Site Investigation and Analysis of Soils.
- All samples were placed in laboratory supplied containers, which were then sealed, labelled with a unique identifier, and placed in chilled containers prior to transportation to the laboratory.
- Approximately four individual soil samples were taken per lot. All samples on each lot were subsequently composited by the laboratory and analysis was undertaken on that composited sample.
- Samples were transported to Hill Laboratory (Hill Labs) (an International Accredited New Zealand (IANZ) accredited laboratory) under the standard chain of custody procedures for laboratory analysis of potential contaminants of concern.
- Following receipt of the samples by Hill Labs, selected soil samples were scheduled for a selection of analytes including heavy metals (As, Cd, Cr, Cu, Pb, Ni, and Zn) and Organochlorine Pesticides (OCPs).
- Assessment of soil concentrations for contaminants of concern with applicable standards and soil acceptance criteria for the protection of human health and the environment.

The residential lots that were sampled are shown in Figure 2.



Figure 2: Modified extract from the Oakbridge Scheme Plan (overall plan) (DWG OSP.1/A) showing sampled areas as part of this investigation. Sampling was undertaken in lots shaded in green.

2.0 Regulatory framework and assessment criteria

The NES for Assessing and Managing Contaminants in Soil to Protect Human Health Regulations under the Resource Management Act (1991) came into effect on 1 January 2012. The NES Regulations apply to all land where a detailed site investigation exists that demonstrates that any contaminants in or on the piece of land are above background concentrations. The Davis Ogilvie (May 2017) DSI⁴ identified trace elements to be consistently present in the topsoil across the site.

An assessment of topsoil present on site was completed to evaluate the topsoil concentrations post stripping, stockpiling, and re-spreading to ensure suitable for residential land use and to evaluate possible NES Regulation and soil disposal implications for future landowners.

The NES introduced 12 soil contaminant standards (SCSs) for priority contaminants for the protection of human health in a variety of land use scenarios. The NES requires that the Contaminated Land Management Guideline No.2 – Hierarchy and Application in New Zealand of Environmental Guideline Values be used where an NESCS is not available. The 'Residential 10%' land use scenario has been adopted in this assessment.

Background levels for metal concentrations in soils in the area were obtained from ECan online GIS – Trace Level 2 concentrations. The values for the Regional GLEY and RECENT soil groups were adopted.

3.0 Analytical results

Laboratory reports are attached to this letter as are the assessment tables with results tabulated and compared against the relevant assessment criteria. The Stage 13 topsoil analytical results can be summarised as follows:

- Most soil samples from the 14 lots (Lots 410 to 423) contain copper concentrations that exceed the background concentration for this soil type. Zinc concentrations exceed the background concentration in two soil samples from Lot 414.
- All organochlorine pesticides (OCPs) analysed for were below ambient concentrations for the region.
- No analytes were detected in concentrations above Tier 1 soil contaminant standards protective of human health.

Canterbury Maps shows a boundary between two different background levels crossing the subdivision: these are 'GLEY' and 'RECENT'. The background levels for these two soil types are provided in the ECan 2007 background concentrations report⁵. Both GLEY (n = 6) and RECENT (n = 18) background levels are shown in Table 1 (attached). However, since all topsoil on site has been stockpiled, respread, and therefore mixed, it is not appropriate to compare the results spatially and the results have been compared to the highest background level RECENT.

⁴ Davis Ogilvie report dated 26 May 2017: Detailed Site Investigation Report, Oakbridge, Reference 34300

⁵ ECan (2007). Background concentrations of selected trace elements in Canterbury Soils. Christchurch Gley Recent Soils, Level 2-Table 2.

3.1 Quality assurance and quality control

The quality assurance / quality control (QA / QC) procedures undertaken during the works included:

- All fieldwork was managed by a Suitably Qualified and Experienced Practitioner (SQEP), and this report has been reviewed by a SQEP, as required by the NESCS.
- The use of standard sample registers and chain of custody records for all samples.
- Each soil sample was given a unique identification number, which consisted of a project number, lot number location and sample identifier (e.g., 410_1 to 4, denoting lot number and sample number per lot). In addition, the sample date was also included. Each composite sample was named with the lot number the samples were obtained from.
- All analysis was completed by Hill Laboratories who are an IANZ accredited laboratory.

4.0 Conclusions

Based on the topsoil sampling results across Stage 13 it is considered that the topsoil is suitable for residential land use and that the risk to human health is acceptable. However, as heavy metal results for copper consistently exceed background levels, the topsoil on site does not meet the definition of 'cleanfill'. Topsoil that leaves site must be taken to an accredited facility authorised to receive it.

According to the NES Regulations (8.3), the expected soil disturbance / removal volumes associated with the residential development of each lot is likely to exceed the criteria for a permitted activity and a resource consent is required to do so.

A global consent for the removal of contaminated soil has been received from Christchurch City Council (RMA/2025/3257) for the applicable lots. The site management plan is required as a condition of the global resource consent and should be followed when soil disturbance and / or removal volumes exceed the permitted activity allowance.

5.0 Closure

If you have any questions regarding the above, please do not hesitate to contact the undersigned.

Yours faithfully,

Davis Ogilvie & Partners Ltd.



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Enclosed:

- Oakbridge Stage 13: Soil Analytical Results - Tables 1 - 3
- Laboratory Results

Limitations

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Table 1: Oakbridge Stage 13: Soil Analytical Results (Heavy Metals) - 39630

Soil Samples	Depth (m)	Hills Laboratory No.	Sample description	Sample date	Heavy Metals (mg/kg dry weight)						
					Arsenic	Cadmium	Chromium	Copper	Lead	Nickel	Zinc
Background Concentrations (Gley, n=6) ¹					11	0.28	19.3	16.425	19.3	16.1	77.1
Background Concentrations (Recent, n=18)					12.58	0.19	22.7	20.3	40.96	20.7	93.94
NES:CS SCS for Residential (10% Produce) Land Use Scenario					20	3	460	>10 000	210	400	7400
Australian and New Zealand Guidelines for Fresh and Marine Water Quality - GV-high (mg/kg) ⁶					70	10	370	270	220	52	410
410_1	0.0-0.15	4061801.10	Topsoil	Dec-25	10	0.11	21	38	26	17	80
410_2	0.0-0.15	4061801.20	Topsoil	Dec-25	10	0.1	19	29	25	16	84
410_3	0.0-0.15	4061801.30	Topsoil	Dec-25	6	< 0.10	14	77	16.5	12	57
410_4	0.0-0.15	4061801.40	Topsoil	Dec-25	8	< 0.10	19	39	24	16	78
411_1	0.0-0.15	4061801.50	Topsoil	Dec-25	9	0.11	22	35	26	18	87
411_2	0.0-0.15	4061801.60	Topsoil	Dec-25	10	0.13	21	35	27	17	88
411_3	0.0-0.15	4061801.70	Topsoil	Dec-25	6	0.11	14	82	17.1	12	60
411_4	0.0-0.15	4061801.80	Topsoil	Dec-25	6	0.11	13	95	12.9	11	49
412_1	0.0-0.15	4061801.90	Topsoil	Dec-25	10	0.11	22	31	28	18	87
412_2	0.0-0.15	4061801.10	Topsoil	Dec-25	7	< 0.10	17	17	20	15	66
412_3	0.0-0.15	4061801.11	Topsoil	Dec-25	7	< 0.10	14	56	15.3	11	59
412_4	0.0-0.15	4061801.12	Topsoil	Dec-25	6	0.1	12	60	12.5	10	52
413_1	0.0-0.15	4061801.13	Topsoil	Dec-25	10	0.13	20	41	26	17	83
413_2	0.0-0.15	4061801.14	Topsoil	Dec-25	9	0.13	21	40	26	17	91
413_3	0.0-0.15	4061801.15	Topsoil	Dec-25	7	0.14	18	47	41	15	90
413_4	0.0-0.15	4061801.16	Topsoil	Dec-25	5	< 0.10	15	20	23	13	60
414_1	0.0-0.15	4061801.17	Topsoil	Dec-25	9	0.11	20	34	24	17	81
414_2	0.0-0.15	4061801.18	Topsoil	Dec-25	10	0.13	21	40	26	18	85
414_3	0.0-0.15	4061801.19	Topsoil	Dec-25	10	0.18	22	118	37	19	98
414_4	0.0-0.15	4061801.20	Topsoil	Dec-25	9	0.13	19	68	36	17	97
415_1	0.0-0.15	4061801.21	Topsoil	Dec-25	9	0.12	19	40	25	16	82
415_2	0.0-0.15	4061801.22	Topsoil	Dec-25	9	0.14	19	38	24	16	83
415_3	0.0-0.15	4061801.23	Topsoil	Dec-25	9	0.11	19	34	23	16	76
415_4	0.0-0.15	4061801.24	Topsoil	Dec-25	10	0.17	20	65	24	17	91
416_1	0.0-0.15	4061801.25	Topsoil	Dec-25	8	< 0.10	19	20	22	16	71
416_2	0.0-0.15	4061801.26	Topsoil	Dec-25	9	< 0.10	18	39	23	16	82
416_3	0.0-0.15	4061801.27	Topsoil	Dec-25	9	0.13	19	26	24	16	75
416_4	0.0-0.15	4061801.28	Topsoil	Dec-25	9	0.13	19	31	24	15	75
417_1	0.0-0.15	4061801.29	Topsoil	Dec-25	8	0.1	17	26	23	15	70
417_2	0.0-0.15	4061801.30	Topsoil	Dec-25	8	0.11	19	23	23	16	69
417_3	0.0-0.15	4061801.31	Topsoil	Dec-25	8	< 0.10	18	22	23	16	70
417_4	0.0-0.15	4061801.32	Topsoil	Dec-25	7	< 0.10	17	22	22	14	68
418_1	0.0-0.15	4061801.33	Topsoil	Dec-25	8	0.11	20	29	24	16	83

418_2	0.0-0.15	4061801.34	Topsoil	Dec-25	8	0.12	18	29	23	16	76
418_3	0.0-0.15	4061801.35	Topsoil	Dec-25	8	0.11	18	24	23	15	74
418_4	0.0-0.15	4061801.36	Topsoil	Dec-25	8	0.12	18	27	22	15	76
419_1	0.0-0.15	4061801.37	Topsoil	Dec-25	9	< 0.10	19	25	24	16	75
419_2	0.0-0.15	4061801.38	Topsoil	Dec-25	9	0.11	19	34	24	16	78
419_3	0.0-0.15	4061801.39	Topsoil	Dec-25	8	0.12	17	32	22	15	71
419_4	0.0-0.15	4061801.40	Topsoil	Dec-25	8	0.1	18	32	23	14	73
420_1	0.0-0.15	4061801.41	Topsoil	Dec-25	9	0.1	19	23	23	16	76
420_2	0.0-0.15	4061801.42	Topsoil	Dec-25	8	0.12	18	26	23	16	75
420_3	0.0-0.15	4061801.43	Topsoil	Dec-25	8	< 0.10	16	26	20	13	61
420_4	0.0-0.15	4061801.44	Topsoil	Dec-25	8	0.1	16	28	21	13	67
421_1	0.0-0.15	4061801.45	Topsoil	Dec-25	10	0.12	21	36	26	18	87
421_2	0.0-0.15	4061801.46	Topsoil	Dec-25	9	0.12	20	27	26	17	83
421_3	0.0-0.15	4061801.47	Topsoil	Dec-25	9	< 0.10	19	36	25	16	82
421_4	0.0-0.15	4061801.48	Topsoil	Dec-25	9	0.14	19	31	24	15	79
422_1	0.0-0.15	4061801.49	Topsoil	Dec-25	8	< 0.10	18	20	22	15	69
422_2	0.0-0.15	4061801.50	Topsoil	Dec-25	9	0.1	19	29	24	16	79
422_3	0.0-0.15	4061801.51	Topsoil	Dec-25	10	< 0.10	21	28	26	18	84
422_4	0.0-0.15	4061801.52	Topsoil	Dec-25	7	< 0.10	13	19	16.7	9	51
423_1	0.0-0.15	4061801.53	Topsoil	Dec-25	10	0.11	19	21	26	16	83
423_2	0.0-0.15	4061801.54	Topsoil	Dec-25	9	0.15	19	27	26	16	92
423_3	0.0-0.15	4061801.55	Topsoil	Dec-25	9	0.12	20	32	24	16	80
423_4	0.0-0.15	4061801.56	Topsoil	Dec-25	9	0.12	20	28	26	17	82

1. ECan (2007). Background concentrations of selected trace elements in Canterbury Soils. Christchurch Gley Recent Soils, Level 2-Table 2.

2. Resource Management (National Environmental Standard for Assessing and managing Contaminants in Soil to Protect Human Health) Regulation 2012 (NES:CS) - Soil contaminant standards (SCS) applicable to residential (10% produce) have been selected.

3. National Environment Protection Council (NEPC) (2013). National Environmental Protection Measure (Assessment of Site Contamination) as amended in 2013 Schedule B1, Health Investigation Levels (HIL) for soil contaminants based on Residential land use. Table 1A (1).

4. Assumes soil pH of 5.

5. Criteria for Chromium VI were conservatively selected.

6. Australian and New Zealand Guidelines for Fresh and Marine Water Quality Guidelines. Recommended default guideline values for toxicants in sediment. Guideline values - High.

BOLD Value exceeds the adopted background concentration
BOLD: Value exceeds the ANZG-GV-high criteria/adopted background concentration
ND Not detected
- Not analysed

Table 2: Oakbridge Stage 13: Soil Analytical Results (Organochlorine Pesticides) - 39630

Sample Depth (m)	Ambient Concentrations ¹	NES:CS SCS for Residential (10%) Land Use Scenario	410	411	412	413	414	415	416	417	418	419	
			0.0-0.15	0.0-0.15	0.0-0.15	0.0-0.15	0.0-0.15	0.0-0.15	0.0-0.15	0.0-0.15	0.0-0.15	0.0-0.15	0.0-0.15
			Dec-25	Dec-25	Dec-25	Dec-25	Dec-25	Dec-25	Dec-25	Dec-25	Dec-25	Dec-25	Dec-25
Sample Date			4061801.57	4061801.58	4061801.59	4061801.6	4061801.61	4061801.62	4061801.63	4061801.64	4061801.65	4061801.66	
Laboratory sample number			Organochlorine Pesticides in Soil (mg/kg dry wt)										
Aldrin	-	0.029 ²	< 0.012	< 0.012	< 0.012	< 0.012	< 0.012	< 0.012	< 0.012	< 0.013	< 0.013	< 0.013	< 0.013
alpha-BHC	-	-	< 0.012	< 0.012	< 0.012	< 0.012	< 0.012	< 0.012	< 0.012	< 0.013	< 0.013	< 0.013	< 0.013
beta-BHC	-	-	< 0.012	< 0.012	< 0.012	< 0.012	< 0.012	< 0.012	< 0.012	< 0.013	< 0.013	< 0.013	< 0.013
delta-BHC	-	-	< 0.012	< 0.012	< 0.012	< 0.012	< 0.012	< 0.012	< 0.012	< 0.013	< 0.013	< 0.013	< 0.013
gamma-BHC (Lindane)	-	-	< 0.012	< 0.012	< 0.012	< 0.012	< 0.012	< 0.012	< 0.012	< 0.013	< 0.013	< 0.013	< 0.013
cis-Chlordane	-	-	< 0.012	< 0.012	< 0.012	< 0.012	< 0.012	< 0.012	< 0.012	< 0.013	< 0.013	< 0.013	< 0.013
trans-Chlordane	-	-	< 0.012	< 0.012	< 0.012	< 0.012	< 0.012	< 0.012	< 0.012	< 0.013	< 0.013	< 0.013	< 0.013
2,4'-DDD	-	-	< 0.012	< 0.012	< 0.012	< 0.012	< 0.012	< 0.012	< 0.012	< 0.013	< 0.013	< 0.013	< 0.013
4,4'-DDD	-	-	< 0.012	< 0.012	< 0.012	< 0.012	< 0.012	< 0.012	< 0.012	< 0.013	< 0.013	< 0.013	< 0.013
2,4'-DDE	-	-	< 0.012	< 0.012	< 0.012	< 0.012	< 0.012	< 0.012	< 0.012	< 0.013	< 0.013	< 0.013	< 0.013
4,4'-DDE	0.23	-	0.015	0.017	0.015	0.017	0.02	0.021	< 0.013	< 0.013	0.021	0.017	
2,4'-DDT	0.0235	-	< 0.012	< 0.012	< 0.012	< 0.012	< 0.012	< 0.012	< 0.012	< 0.013	< 0.013	< 0.013	< 0.013
4,4'-DDT	0.172	-	< 0.012	< 0.012	< 0.012	< 0.012	< 0.012	< 0.012	< 0.012	< 0.013	< 0.013	< 0.013	< 0.013
Total DDT Isomers	0.431	70	< 0.08	< 0.08	< 0.07	< 0.08	< 0.08	< 0.08	< 0.08	< 0.08	< 0.08	< 0.08	< 0.08
Dieldrin	0.00131	2.6	0.014	0.039	0.043	< 0.012	< 0.012	< 0.012	< 0.012	< 0.013	< 0.013	< 0.013	< 0.013
Endosulfan I	-	-	< 0.012	< 0.012	< 0.012	< 0.012	< 0.012	< 0.012	< 0.012	< 0.013	< 0.013	< 0.013	< 0.013
Endosulfan II	-	-	< 0.012	< 0.012	< 0.012	< 0.012	< 0.012	< 0.012	< 0.012	< 0.013	< 0.013	< 0.013	< 0.013
Endosulfan sulphate	-	-	< 0.012	< 0.012	< 0.012	< 0.012	< 0.012	< 0.012	< 0.012	< 0.013	< 0.013	< 0.013	< 0.013
Endrin	-	18 ²	< 0.012	< 0.012	< 0.012	< 0.012	< 0.012	< 0.012	< 0.012	< 0.013	< 0.013	< 0.013	< 0.013
Endrin aldehyde	-	-	< 0.012	< 0.012	< 0.012	< 0.012	< 0.012	< 0.012	< 0.012	< 0.013	< 0.013	< 0.013	< 0.013
Endrin ketone	-	-	< 0.012	< 0.012	< 0.012	< 0.012	< 0.012	< 0.012	< 0.012	< 0.013	< 0.013	< 0.013	< 0.013
Heptachlor	-	0.10 ⁷	< 0.012	< 0.012	< 0.012	< 0.012	< 0.012	< 0.012	< 0.012	< 0.013	< 0.013	< 0.013	< 0.013
Heptachlor epoxide	-	0.05 ²	< 0.012	< 0.012	< 0.012	< 0.012	< 0.012	< 0.012	< 0.012	< 0.013	< 0.013	< 0.013	< 0.013
Hexachlorobenzene	-	0.3 ²	< 0.012	< 0.012	< 0.012	< 0.012	< 0.012	< 0.012	< 0.012	< 0.013	< 0.013	< 0.013	< 0.013
Methoxychlor	-	310 ²	< 0.012	< 0.012	< 0.012	< 0.012	< 0.012	< 0.012	< 0.012	< 0.013	< 0.013	< 0.013	< 0.013

1. MfE (1998) Ambient concentrations of selected organochlorines in soils.
2. Regional Screening Levels for Chemical Contaminants at Superfund Sites (US EPA regions 3, 6 and 9 (accessed Oct 2012))
3. Supplemental Guidance for Developing Soil Screening Levels at Superfund Sites (US EPA, 2021)

BOLD Value exceeds the adopted ambient concentration
 < Value below the laboratory limit of detection
 - Value Not Available

Table 3: Oakbridge Stage 13: Soil Analytical Results (Organochlorine Pesticides) - 39630

Lot No.	Ambient Concentrations ¹	NES:CS SCS for Residential (10%) Land Use Scenario	420	421	422	423
Sample Depth (m)			0.0-0.15	0.0-0.15	0.0-0.15	0.0-0.15
Sample Date			Dec-25	Dec-25	Dec-25	Dec-25
Laboratory sample number			4061801.67	4061801.68	4061801.69	4061801.7
Organochlorine Pesticides in Soil (mg/kg dry wt)						
Aldrin	-	0.029 ²	< 0.012	< 0.013	< 0.013	< 0.013
alpha-BHC	-	-	< 0.012	< 0.013	< 0.013	< 0.013
beta-BHC	-	-	< 0.012	< 0.013	< 0.013	< 0.013
delta-BHC	-	-	< 0.012	< 0.013	< 0.013	< 0.013
gamma-BHC (Lindane)	-	-	< 0.012	< 0.013	< 0.013	< 0.013
cis-Chlordane	-	-	< 0.012	< 0.013	< 0.013	< 0.013
trans-Chlordane	-	-	< 0.012	< 0.013	< 0.013	< 0.013
2,4'-DDD	-	-	< 0.012	< 0.013	< 0.013	< 0.013
4,4'-DDD	-	-	< 0.012	< 0.013	< 0.013	< 0.013
2,4'-DDE	-	-	< 0.012	< 0.013	< 0.013	< 0.013
4,4'-DDE	0.23	-	0.016	0.023	0.012	0.015
2,4'-DDT	0.0235	-	< 0.012	< 0.013	< 0.013	< 0.013
4,4'-DDT	0.172	-	< 0.012	< 0.013	< 0.013	< 0.013
Total DDT Isomers	0.431	70	< 0.08	< 0.08	< 0.08	< 0.08
Dieldrin	0.00131	2.6	< 0.012	< 0.013	< 0.013	< 0.013
Endosulfan I	-	-	< 0.012	< 0.013	< 0.013	< 0.013
Endosulfan II	-	-	< 0.012	< 0.013	< 0.013	< 0.013
Endosulfan sulphate	-	-	< 0.012	< 0.013	< 0.013	< 0.013
Endrin	-	18 ²	< 0.012	< 0.013	< 0.013	< 0.013
Endrin aldehyde	-	-	< 0.012	< 0.013	< 0.013	< 0.013
Endrin ketone	-	-	< 0.012	< 0.013	< 0.013	< 0.013
Heptachlor	-	0.10 ³	< 0.012	< 0.013	< 0.013	< 0.013
Heptachlor epoxide	-	0.05 ²	< 0.012	< 0.013	< 0.013	< 0.013
Hexachlorobenzene	-	0.3 ²	< 0.012	< 0.013	< 0.013	< 0.013
Methoxychlor	-	310 ²	< 0.012	< 0.013	< 0.013	< 0.013

1. MfE (1998) Ambient concentrations of selected organochlorines in soils.
2. Regional Screening Levels for Chemical Contaminants at Superfund Sites (US EPA regions 3, 6 and 9 (accessed Oct 2012))
3. Supplemental Guidance for Developing Soil Screening Levels at Superfund Sites (US EPA, 2021)

BOLD Value exceeds the adopted ambient concentration
 < Value below the laboratory limit of detection
 - Value Not Available

Certificate of Analysis

Client:	Andy Bunce	Lab No:	4061801	SPV1
Contact:	Andy Bunce C/- Davis Ogilvie & Partners Limited PO Box 589 Addington Christchurch 8140	Date Received:	18-Dec-2025	
		Date Reported:	23-Dec-2025	
		Quote No:	82763	
		Order No:	39630	
		Client Reference:		
		Submitted By:	Andy Bunce	

Sample Type: Soil

Sample Name:	39630_410_1 18-Dec-2025	39630_410_2 18-Dec-2025	39630_410_3 18-Dec-2025	39630_410_4 18-Dec-2025	39630_411_1 18-Dec-2025
Lab Number:	4061801.1	4061801.2	4061801.3	4061801.4	4061801.5

Heavy Metals, Screen Level						
Total Recoverable Arsenic	mg/kg dry wt	10	10	6	8	9
Total Recoverable Cadmium	mg/kg dry wt	0.11	0.10	< 0.10	< 0.10	0.11
Total Recoverable Chromium	mg/kg dry wt	21	19	14	19	22
Total Recoverable Copper	mg/kg dry wt	38	29	77	39	35
Total Recoverable Lead	mg/kg dry wt	26	25	16.5	24	26
Total Recoverable Nickel	mg/kg dry wt	17	16	12	16	18
Total Recoverable Zinc	mg/kg dry wt	80	84	57	78	87

Sample Name:	39630_411_2 18-Dec-2025	39630_411_3 18-Dec-2025	39630_411_4 18-Dec-2025	39630_412_1 18-Dec-2025	39630_412_2 18-Dec-2025
Lab Number:	4061801.6	4061801.7	4061801.8	4061801.9	4061801.10

Heavy Metals, Screen Level						
Total Recoverable Arsenic	mg/kg dry wt	10	6	6	10	7
Total Recoverable Cadmium	mg/kg dry wt	0.13	0.11	0.11	0.11	< 0.10
Total Recoverable Chromium	mg/kg dry wt	21	14	13	22	17
Total Recoverable Copper	mg/kg dry wt	35	82	95	31	17
Total Recoverable Lead	mg/kg dry wt	27	17.1	12.9	28	20
Total Recoverable Nickel	mg/kg dry wt	17	12	11	18	15
Total Recoverable Zinc	mg/kg dry wt	88	60	49	87	66

Sample Name:	39630_412_3 18-Dec-2025	39630_412_4 18-Dec-2025	39630_413_1 18-Dec-2025	39630_413_2 18-Dec-2025	39630_413_3 18-Dec-2025
Lab Number:	4061801.11	4061801.12	4061801.13	4061801.14	4061801.15

Heavy Metals, Screen Level						
Total Recoverable Arsenic	mg/kg dry wt	7	6	10	9	7
Total Recoverable Cadmium	mg/kg dry wt	< 0.10	0.10	0.13	0.13	0.14
Total Recoverable Chromium	mg/kg dry wt	14	12	20	21	18
Total Recoverable Copper	mg/kg dry wt	56	60	41	40	47
Total Recoverable Lead	mg/kg dry wt	15.3	12.5	26	26	41
Total Recoverable Nickel	mg/kg dry wt	11	10	17	17	15
Total Recoverable Zinc	mg/kg dry wt	59	52	83	91	90

Sample Name:	39630_413_4 18-Dec-2025	39630_414_1 18-Dec-2025	39630_414_2 18-Dec-2025	39630_414_3 18-Dec-2025	39630_414_4 18-Dec-2025
Lab Number:	4061801.16	4061801.17	4061801.18	4061801.19	4061801.20

Heavy Metals, Screen Level						
Total Recoverable Arsenic	mg/kg dry wt	5	9	10	10	9
Total Recoverable Cadmium	mg/kg dry wt	< 0.10	0.11	0.13	0.18	0.13
Total Recoverable Chromium	mg/kg dry wt	15	20	21	22	19
Total Recoverable Copper	mg/kg dry wt	20	34	40	118	68
Total Recoverable Lead	mg/kg dry wt	23	24	26	37	36



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:	39630_413_4 18-Dec-2025	39630_414_1 18-Dec-2025	39630_414_2 18-Dec-2025	39630_414_3 18-Dec-2025	39630_414_4 18-Dec-2025
Lab Number:	4061801.16	4061801.17	4061801.18	4061801.19	4061801.20

Heavy Metals, Screen Level						
Total Recoverable Nickel	mg/kg dry wt	13	17	18	19	17
Total Recoverable Zinc	mg/kg dry wt	60	81	85	98	97

Sample Name:	39630_415_1 18-Dec-2025	39630_415_2 18-Dec-2025	39630_415_3 18-Dec-2025	39630_415_4 18-Dec-2025	39630_416_1 18-Dec-2025
Lab Number:	4061801.21	4061801.22	4061801.23	4061801.24	4061801.25

Heavy Metals, Screen Level						
Total Recoverable Arsenic	mg/kg dry wt	9	9	9	10	8
Total Recoverable Cadmium	mg/kg dry wt	0.12	0.14	0.11	0.17	< 0.10
Total Recoverable Chromium	mg/kg dry wt	19	19	19	20	19
Total Recoverable Copper	mg/kg dry wt	40	38	34	65	20
Total Recoverable Lead	mg/kg dry wt	25	24	23	24	22
Total Recoverable Nickel	mg/kg dry wt	16	16	16	17	16
Total Recoverable Zinc	mg/kg dry wt	82	83	76	91	71

Sample Name:	39630_416_2 18-Dec-2025	39630_416_3 18-Dec-2025	39630_416_4 18-Dec-2025	39630_417_1 18-Dec-2025	39630_417_2 18-Dec-2025
Lab Number:	4061801.26	4061801.27	4061801.28	4061801.29	4061801.30

Heavy Metals, Screen Level						
Total Recoverable Arsenic	mg/kg dry wt	9	9	9	8	8
Total Recoverable Cadmium	mg/kg dry wt	< 0.10	0.13	0.13	0.10	0.11
Total Recoverable Chromium	mg/kg dry wt	18	19	19	17	19
Total Recoverable Copper	mg/kg dry wt	39	26	31	26	23
Total Recoverable Lead	mg/kg dry wt	23	24	24	23	23
Total Recoverable Nickel	mg/kg dry wt	16	16	15	15	16
Total Recoverable Zinc	mg/kg dry wt	82	75	75	70	69

Sample Name:	39630_417_3 18-Dec-2025	39630_417_4 18-Dec-2025	39630_418_1 18-Dec-2025	39630_418_2 18-Dec-2025	39630_418_3 18-Dec-2025
Lab Number:	4061801.31	4061801.32	4061801.33	4061801.34	4061801.35

Heavy Metals, Screen Level						
Total Recoverable Arsenic	mg/kg dry wt	8	7	8	8	8
Total Recoverable Cadmium	mg/kg dry wt	< 0.10	< 0.10	0.11	0.12	0.11
Total Recoverable Chromium	mg/kg dry wt	18	17	20	18	18
Total Recoverable Copper	mg/kg dry wt	22	22	29	29	24
Total Recoverable Lead	mg/kg dry wt	23	22	24	23	23
Total Recoverable Nickel	mg/kg dry wt	16	14	16	16	15
Total Recoverable Zinc	mg/kg dry wt	70	68	83	76	74

Sample Name:	39630_418_4 18-Dec-2025	39630_419_1 18-Dec-2025	39630_419_2 18-Dec-2025	39630_419_3 18-Dec-2025	39630_419_4 18-Dec-2025
Lab Number:	4061801.36	4061801.37	4061801.38	4061801.39	4061801.40

Heavy Metals, Screen Level						
Total Recoverable Arsenic	mg/kg dry wt	8	9	9	8	8
Total Recoverable Cadmium	mg/kg dry wt	0.12	< 0.10	0.11	0.12	0.10
Total Recoverable Chromium	mg/kg dry wt	18	19	19	17	18
Total Recoverable Copper	mg/kg dry wt	27	25	34	32	32
Total Recoverable Lead	mg/kg dry wt	22	24	24	22	23
Total Recoverable Nickel	mg/kg dry wt	15	16	16	15	14
Total Recoverable Zinc	mg/kg dry wt	76	75	78	71	73

Sample Name:	39630_420_1 18-Dec-2025	39630_420_2 18-Dec-2025	39630_420_3 18-Dec-2025	39630_420_4 18-Dec-2025	39630_421_1 18-Dec-2025
Lab Number:	4061801.41	4061801.42	4061801.43	4061801.44	4061801.45

Heavy Metals, Screen Level						
Total Recoverable Arsenic	mg/kg dry wt	9	8	8	8	10
Total Recoverable Cadmium	mg/kg dry wt	0.10	0.12	< 0.10	0.10	0.12
Total Recoverable Chromium	mg/kg dry wt	19	18	16	16	21
Total Recoverable Copper	mg/kg dry wt	23	26	26	28	36

Sample Type: Soil						
Sample Name:		39630_420_1 18-Dec-2025	39630_420_2 18-Dec-2025	39630_420_3 18-Dec-2025	39630_420_4 18-Dec-2025	39630_421_1 18-Dec-2025
Lab Number:		4061801.41	4061801.42	4061801.43	4061801.44	4061801.45
Heavy Metals, Screen Level						
Total Recoverable Lead	mg/kg dry wt	23	23	20	21	26
Total Recoverable Nickel	mg/kg dry wt	16	16	13	13	18
Total Recoverable Zinc	mg/kg dry wt	76	75	61	67	87
Sample Name:		39630_421_2 18-Dec-2025	39630_421_3 18-Dec-2025	39630_421_4 18-Dec-2025	39630_422_1 18-Dec-2025	39630_422_2 18-Dec-2025
Lab Number:		4061801.46	4061801.47	4061801.48	4061801.49	4061801.50
Heavy Metals, Screen Level						
Total Recoverable Arsenic	mg/kg dry wt	9	9	9	8	9
Total Recoverable Cadmium	mg/kg dry wt	0.12	< 0.10	0.14	< 0.10	0.10
Total Recoverable Chromium	mg/kg dry wt	20	19	19	18	19
Total Recoverable Copper	mg/kg dry wt	27	36	31	20	29
Total Recoverable Lead	mg/kg dry wt	26	25	24	22	24
Total Recoverable Nickel	mg/kg dry wt	17	16	15	15	16
Total Recoverable Zinc	mg/kg dry wt	83	82	79	69	79
Sample Name:		39630_422_3 18-Dec-2025	39630_422_4 18-Dec-2025	39630_423_1 18-Dec-2025	39630_423_2 18-Dec-2025	39630_423_3 18-Dec-2025
Lab Number:		4061801.51	4061801.52	4061801.53	4061801.54	4061801.55
Heavy Metals, Screen Level						
Total Recoverable Arsenic	mg/kg dry wt	10	7	10	9	9
Total Recoverable Cadmium	mg/kg dry wt	< 0.10	< 0.10	0.11	0.15	0.12
Total Recoverable Chromium	mg/kg dry wt	21	13	19	19	20
Total Recoverable Copper	mg/kg dry wt	28	19	21	27	32
Total Recoverable Lead	mg/kg dry wt	26	16.7	26	26	24
Total Recoverable Nickel	mg/kg dry wt	18	9	16	16	16
Total Recoverable Zinc	mg/kg dry wt	84	51	83	92	80
Sample Name:		39630_423_4 18-Dec-2025	Composite of 39630_410_1, 39630_410_2, 39630_410_3 & 39630_410_4	Composite of 39630_411_1, 39630_411_2, 39630_411_3 & 39630_411_4	Composite of 39630_412_1, 39630_412_2, 39630_412_3 & 39630_412_4	Composite of 39630_413_1, 39630_413_2, 39630_413_3 & 39630_413_4
Lab Number:		4061801.56	4061801.57	4061801.58	4061801.59	4061801.60
Individual Tests						
Dry Matter	g/100g as rcvd	-	82	83	83	81
Heavy Metals, Screen Level						
Total Recoverable Arsenic	mg/kg dry wt	9	-	-	-	-
Total Recoverable Cadmium	mg/kg dry wt	0.12	-	-	-	-
Total Recoverable Chromium	mg/kg dry wt	20	-	-	-	-
Total Recoverable Copper	mg/kg dry wt	28	-	-	-	-
Total Recoverable Lead	mg/kg dry wt	26	-	-	-	-
Total Recoverable Nickel	mg/kg dry wt	17	-	-	-	-
Total Recoverable Zinc	mg/kg dry wt	82	-	-	-	-
Organochlorine Pesticides Screening in Soil						
Aldrin	mg/kg dry wt	-	< 0.012	< 0.012	< 0.012	< 0.012
alpha-BHC	mg/kg dry wt	-	< 0.012	< 0.012	< 0.012	< 0.012
beta-BHC	mg/kg dry wt	-	< 0.012	< 0.012	< 0.012	< 0.012
delta-BHC	mg/kg dry wt	-	< 0.012	< 0.012	< 0.012	< 0.012
gamma-BHC (Lindane)	mg/kg dry wt	-	< 0.012	< 0.012	< 0.012	< 0.012
cis-Chlordane	mg/kg dry wt	-	< 0.012	< 0.012	< 0.012	< 0.012
trans-Chlordane	mg/kg dry wt	-	< 0.012	< 0.012	< 0.012	< 0.012
2,4'-DDD	mg/kg dry wt	-	< 0.012	< 0.012	< 0.012	< 0.012
4,4'-DDD	mg/kg dry wt	-	< 0.012	< 0.012	< 0.012	< 0.012
2,4'-DDE	mg/kg dry wt	-	< 0.012	< 0.012	< 0.012	< 0.012
4,4'-DDE	mg/kg dry wt	-	0.015	0.017	0.015	0.017
2,4'-DDT	mg/kg dry wt	-	< 0.012	< 0.012	< 0.012	< 0.012
4,4'-DDT	mg/kg dry wt	-	< 0.012	< 0.012	< 0.012	< 0.012

Sample Type: Soil

Sample Name:	39630_423_4 18-Dec-2025	Composite of 39630_410_1, 39630_410_2, 39630_410_3 & 39630_410_4	Composite of 39630_411_1, 39630_411_2, 39630_411_3 & 39630_411_4	Composite of 39630_412_1, 39630_412_2, 39630_412_3 & 39630_412_4	Composite of 39630_413_1, 39630_413_2, 39630_413_3 & 39630_413_4
Lab Number:	4061801.56	4061801.57	4061801.58	4061801.59	4061801.60

Organochlorine Pesticides Screening in Soil						
Total DDT Isomers	mg/kg dry wt	-	< 0.08	< 0.08	< 0.07	< 0.08
Dieldrin	mg/kg dry wt	-	0.014	0.039	0.043	< 0.012
Endosulfan I	mg/kg dry wt	-	< 0.012	< 0.012	< 0.012	< 0.012
Endosulfan II	mg/kg dry wt	-	< 0.012	< 0.012	< 0.012	< 0.012
Endosulfan sulphate	mg/kg dry wt	-	< 0.012	< 0.012	< 0.012	< 0.012
Endrin	mg/kg dry wt	-	< 0.012	< 0.012	< 0.012	< 0.012
Endrin aldehyde	mg/kg dry wt	-	< 0.012	< 0.012	< 0.012	< 0.012
Endrin ketone	mg/kg dry wt	-	< 0.012	< 0.012	< 0.012	< 0.012
Heptachlor	mg/kg dry wt	-	< 0.012	< 0.012	< 0.012	< 0.012
Heptachlor epoxide	mg/kg dry wt	-	< 0.012	< 0.012	< 0.012	< 0.012
Hexachlorobenzene	mg/kg dry wt	-	< 0.012	< 0.012	< 0.012	< 0.012
Methoxychlor	mg/kg dry wt	-	< 0.012	< 0.012	< 0.012	< 0.012

Sample Name:	Composite of 39630_414_1, 39630_414_2, 39630_414_3 & 39630_414_4	Composite of 39630_415_1, 39630_415_2, 39630_415_3 & 39630_415_4	Composite of 39630_416_1, 39630_416_2, 39630_416_3 & 39630_416_4	Composite of 39630_417_1, 39630_417_2, 39630_417_3 & 39630_417_4	Composite of 39630_418_1, 39630_418_2, 39630_418_3 & 39630_418_4
Lab Number:	4061801.61	4061801.62	4061801.63	4061801.64	4061801.65

Individual Tests						
Dry Matter	g/100g as rcvd	80	82	77	78	79

Organochlorine Pesticides Screening in Soil						
Aldrin	mg/kg dry wt	< 0.012	< 0.012	< 0.013	< 0.013	< 0.013
alpha-BHC	mg/kg dry wt	< 0.012	< 0.012	< 0.013	< 0.013	< 0.013
beta-BHC	mg/kg dry wt	< 0.012	< 0.012	< 0.013	< 0.013	< 0.013
delta-BHC	mg/kg dry wt	< 0.012	< 0.012	< 0.013	< 0.013	< 0.013
gamma-BHC (Lindane)	mg/kg dry wt	< 0.012	< 0.012	< 0.013	< 0.013	< 0.013
cis-Chlordane	mg/kg dry wt	< 0.012	< 0.012	< 0.013	< 0.013	< 0.013
trans-Chlordane	mg/kg dry wt	< 0.012	< 0.012	< 0.013	< 0.013	< 0.013
2,4'-DDD	mg/kg dry wt	< 0.012	< 0.012	< 0.013	< 0.013	< 0.013
4,4'-DDD	mg/kg dry wt	< 0.012	< 0.012	< 0.013	< 0.013	< 0.013
2,4'-DDE	mg/kg dry wt	< 0.012	< 0.012	< 0.013	< 0.013	< 0.013
4,4'-DDE	mg/kg dry wt	0.020	0.021	< 0.013	< 0.013	0.021
2,4'-DDT	mg/kg dry wt	< 0.012	< 0.012	< 0.013	< 0.013	< 0.013
4,4'-DDT	mg/kg dry wt	< 0.012	< 0.012	< 0.013	< 0.013	< 0.013
Total DDT Isomers	mg/kg dry wt	< 0.08	< 0.08	< 0.08	< 0.08	< 0.08
Dieldrin	mg/kg dry wt	< 0.012	< 0.012	< 0.013	< 0.013	< 0.013
Endosulfan I	mg/kg dry wt	< 0.012	< 0.012	< 0.013	< 0.013	< 0.013
Endosulfan II	mg/kg dry wt	< 0.012	< 0.012	< 0.013	< 0.013	< 0.013
Endosulfan sulphate	mg/kg dry wt	< 0.012	< 0.012	< 0.013	< 0.013	< 0.013
Endrin	mg/kg dry wt	< 0.012	< 0.012	< 0.013	< 0.013	< 0.013
Endrin aldehyde	mg/kg dry wt	< 0.012	< 0.012	< 0.013	< 0.013	< 0.013
Endrin ketone	mg/kg dry wt	< 0.012	< 0.012	< 0.013	< 0.013	< 0.013
Heptachlor	mg/kg dry wt	< 0.012	< 0.012	< 0.013	< 0.013	< 0.013
Heptachlor epoxide	mg/kg dry wt	< 0.012	< 0.012	< 0.013	< 0.013	< 0.013
Hexachlorobenzene	mg/kg dry wt	< 0.012	< 0.012	< 0.013	< 0.013	< 0.013
Methoxychlor	mg/kg dry wt	< 0.012	< 0.012	< 0.013	< 0.013	< 0.013

Sample Name:	Composite of 39630_419_1, 39630_419_2, 39630_419_3 & 39630_419_4	Composite of 39630_420_1, 39630_420_2, 39630_420_3 & 39630_420_4	Composite of 39630_421_1, 39630_421_2, 39630_421_3 & 39630_421_4	Composite of 39630_422_1, 39630_422_2, 39630_422_3 & 39630_422_4	Composite of 39630_423_1, 39630_423_2, 39630_423_3 & 39630_423_4
Lab Number:	4061801.66	4061801.67	4061801.68	4061801.69	4061801.70

Sample Type: Soil						
Sample Name:	Composite of 39630_419_1, 39630_419_2, 39630_419_3 & 39630_419_4	Composite of 39630_420_1, 39630_420_2, 39630_420_3 & 39630_420_4	Composite of 39630_421_1, 39630_421_2, 39630_421_3 & 39630_421_4	Composite of 39630_422_1, 39630_422_2, 39630_422_3 & 39630_422_4	Composite of 39630_423_1, 39630_423_2, 39630_423_3 & 39630_423_4	
Lab Number:	4061801.66	4061801.67	4061801.68	4061801.69	4061801.70	
Individual Tests						
Dry Matter	g/100g as rcvd	79	82	78	80	78
Organochlorine Pesticides Screening in Soil						
Aldrin	mg/kg dry wt	< 0.013	< 0.012	< 0.013	< 0.013	< 0.013
alpha-BHC	mg/kg dry wt	< 0.013	< 0.012	< 0.013	< 0.013	< 0.013
beta-BHC	mg/kg dry wt	< 0.013	< 0.012	< 0.013	< 0.013	< 0.013
delta-BHC	mg/kg dry wt	< 0.013	< 0.012	< 0.013	< 0.013	< 0.013
gamma-BHC (Lindane)	mg/kg dry wt	< 0.013	< 0.012	< 0.013	< 0.013	< 0.013
cis-Chlordane	mg/kg dry wt	< 0.013	< 0.012	< 0.013	< 0.013	< 0.013
trans-Chlordane	mg/kg dry wt	< 0.013	< 0.012	< 0.013	< 0.013	< 0.013
2,4'-DDD	mg/kg dry wt	< 0.013	< 0.012	< 0.013	< 0.013	< 0.013
4,4'-DDD	mg/kg dry wt	< 0.013	< 0.012	< 0.013	< 0.013	< 0.013
2,4'-DDE	mg/kg dry wt	< 0.013	< 0.012	< 0.013	< 0.013	< 0.013
4,4'-DDE	mg/kg dry wt	0.017	0.016	0.023	0.012	0.015
2,4'-DDT	mg/kg dry wt	< 0.013	< 0.012	< 0.013	< 0.013	< 0.013
4,4'-DDT	mg/kg dry wt	< 0.013	< 0.012	< 0.013	< 0.013	< 0.013
Total DDT Isomers	mg/kg dry wt	< 0.08	< 0.08	< 0.08	< 0.08	< 0.08
Dieldrin	mg/kg dry wt	< 0.013	< 0.012	< 0.013	< 0.013	< 0.013
Endosulfan I	mg/kg dry wt	< 0.013	< 0.012	< 0.013	< 0.013	< 0.013
Endosulfan II	mg/kg dry wt	< 0.013	< 0.012	< 0.013	< 0.013	< 0.013
Endosulfan sulphate	mg/kg dry wt	< 0.013	< 0.012	< 0.013	< 0.013	< 0.013
Endrin	mg/kg dry wt	< 0.013	< 0.012	< 0.013	< 0.013	< 0.013
Endrin aldehyde	mg/kg dry wt	< 0.013	< 0.012	< 0.013	< 0.013	< 0.013
Endrin ketone	mg/kg dry wt	< 0.013	< 0.012	< 0.013	< 0.013	< 0.013
Heptachlor	mg/kg dry wt	< 0.013	< 0.012	< 0.013	< 0.013	< 0.013
Heptachlor epoxide	mg/kg dry wt	< 0.013	< 0.012	< 0.013	< 0.013	< 0.013
Hexachlorobenzene	mg/kg dry wt	< 0.013	< 0.012	< 0.013	< 0.013	< 0.013
Methoxychlor	mg/kg dry wt	< 0.013	< 0.012	< 0.013	< 0.013	< 0.013

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).	-	1-56
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	1-56
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	57-70
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	57-70
Composite Environmental Solid Samples*	Individual sample fractions mixed together to form a composite fraction.	-	1-56

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

Testing was completed between 18-Dec-2025 and 23-Dec-2025. For completion dates of individual analyses please contact the laboratory.

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

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

A handwritten signature in blue ink, appearing to read 'Graham Corban', is positioned above the printed name.

Graham Corban MSc Tech (Hons)
Client Services Manager - Environmental